File No. 210923 **Committee Item No.** _____
Board Item No. 43

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: _____ **Date:** _____
Board of Supervisors Meeting **Date:** October 5, 2021

Cmte Board

Cmte	Board	
☐	☐	**Motion**
☐	☐	**Resolution**
☐	☐	**Ordinance**
☐	☐	**Legislative Digest**
☐	☐	**Budget and Legislative Analyst Report**
☐	☐	**Youth Commission Report**
☐	☒	**Introduction Form**
☐	☐	**Department/Agency Cover Letter and/or Report**
☐	☐	**MOU**
☐	☐	**Grant Information Form**
☐	☐	**Grant Budget**
☐	☐	**Subcontract Budget**
☐	☐	**Contract/Agreement**
☐	☐	**Form 126 – Ethics Commission**
☐	☐	**Award Letter**
☐	☐	**Application**
☐	☒	**Public Correspondence**

OTHER

☐	☒	Appeal Letter - 8/30/21
☐	☒	Project Sponsor Response - 9/30/21
☐	☒	Planning Department Response - 9/27/21
☐	☒	Appellant Supplemental Info - 9/24/21
☐	☒	Planning Dept. Mitigated Negative Declaration - 7/29/21
☐	☒	Planning Dept. FMND Appendices
☐	☒	Clerical Documents
☐	☐	

Prepared by: Lisa Lew **Date:** October 1, 2021
Prepared by: _____ **Date:** _____

ZACKS, FREEDMAN & PATTERSON
A PROFESSIONAL CORPORATION

601 Montgomery Street, Suite 400
San Francisco, California 94111
Telephone (415) 956-8100
Facsimile (415) 288-9755
www.zfplaw.com

August 30, 2021

VIA ELECTRONIC SUBMISSION

President Shamann Walton and Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102

Re: Appeal of Mitigated Negative Declaration
530 Sansome Street (Case No. 2019-017481ENV)

Dear President Walton and Supervisors:

Our office represents 447 Partners, LLC, owner of the property located at 447 Battery Street, which is adjacent to the 530 Sansome project. We submit this letter pursuant to Administrative Code § 31.16(d) to appeal the Mitigated Negative Declaration ("MND") for the proposed project at 530 Sansome (Case No. 2019-017481ENV). The appellants filed an appeal of the preliminary MND during the public comment period. The Planning Commission approved the preliminary MND on July 29, 2021 by a vote of 4-2. The appellants oppose the 530 Sansome project on the grounds that the project violates the California Environmental Quality Act ("CEQA"). The MND violates CEQA because the Planning Department did not provide adequate notice of the availability of the preliminary MND; the project description is not accurate, stable, or finite; the project will have significant adverse environmental impacts; and the MND inappropriately defers mitigation until some future time.

1. The Planning Department Did Not Provide Adequate Notice of the Availability of the MND

Courts are clear that procedural issues are subject to strict judicial review, and when determining whether an agency has employed the correct procedures, courts "scrupulously enforce all legislatively mandated CEQA requirements." (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.)

As a threshold matter, the Planning Department did not provide legally adequate notice to the property owner at 447 Battery Street. San Francisco Administrative Code § 31.11 requires notice to be mailed to all owners of all real property within 300 feet of the exterior boundaries of the project area sufficiently prior to adoption of the negative declaration to allow a review period of not less than 20 days. The property owners at 447 Battery Street are within 300 feet of the project area, yet received the notice in the mail on May 17, just one day before the end of the public review period. Robert Canepa, Senior Vice President of 447 Partners, LLC, has submitted a declaration confirming that the notice was not received until May 17. (See attached Declaration of Robert Canepa). In addition, at least one tenant of 447 Battery Street did not receive notice until after the comment period had ended. Finally, Wilad Properties LLC, owners of 423 Washington, which is just north of 447 Battery Street, also commented during the Planning Commission hearing that they too did not receive the mailed notice until days before the review period ended.

The mailed notice did not provide the public with 20 days to review and comment on the preliminary MND as legally required. The owners were unable to provide meaningful comments regarding the project's potential environmental effects, and the MND is therefore based on incomplete information. The Planning Department must reissue the notice, provide the legally required 20-day review period, and consider any comments submitted during the legally required review period.

2. <u>The Project Description is Not Accurate, Stable, or Finite</u>

Courts have consistently stated that "an accurate, stable and finite project description" is an essential component of an informative and legally sufficient environmental document. (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193; CEQA Guidelines § 15378.) On the other hand, "a project description that gives conflicting signals to decision makers and the public about the nature and scope of the project is fundamentally inadequate and misleading. (*Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 84.) The City's Administrative Code only allows a single MND to be used for more than one project when "all such projects are essentially the same in terms of environmental effects." (See Admin. Code § 31.20)

The project description in the MND states the project could potentially include 6,470 square feet of retail/restaurant space; 40,490 square feet of office space; 35,230 square feet of fitness center space; 146,065 square feet of hotel space with 200 guest rooms; and 48 vehicle parking spaces. Alternatively, the project could potentially instead include 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses with three additional stories cantilevered over the third floor and three below-grade levels to provide 82 vehicle parking spaces. In other words, the MND describes two completely different projects with distinctly different environmental impacts to traffic, land use, housing, population, emissions, public services, and more. The projects would be subject to different Planning Code requirements and state laws, requiring different variances and local approvals. The two opposite project descriptions preclude informed decision making and informed public comment regarding the project because the public does not know which project is going to be approved.

The City-owned property at 530 Sansome has long been identified by the City as an underutilized space and prime candidate for the development of affordable housing and has been subject to numerous resolutions urging the construction of housing units at this property. (see Board of Supervisors Resolution Nos. 244-17 and 143-18.) Without understanding which project will be built, the public cannot determine whether the project is compatible with prior City actions and existing General Plan Policies, such as Housing Policy 1.3, which states the City will "Work proactively to identify and secure opportunity sites for permanently affordable housing," Housing Policy 7.4, which requires the City to "Facilitate affordable housing development through land subsidy programs, such as land trusts and land dedication," and Downtown Area Plan Policy 7.2, which requires the City to "Facilitate conversion of underused industrial and commercial areas to residential use." The project sponsor should identify which project will be constructed so the public can fully understand how this City-owned property will be utilized and whether the project is consistent with San Francisco's General Plan.

The public's confusion regarding the project was evident during the Planning Commission hearing, with some commentors supporting the new hotel or opposing additional office space, while others advocating for the project because of the need for more housing. Commissioners themselves were also unclear on what they were voting for, with Commissioner Moore stating that she "shares the public's confusion about what project we are talking about"

and explaining that she could not make a determination on an MND for "two projects that have very different impacts." Commissioner Imperial also noted that the two different projects "confuses me how to respond to the MND." The two different projects sent decisionmakers and the public conflicting signals about the nature and scope of the project, which is fundamentally inconsistent with an informative and legally sufficient environmental document.

Because the project does not identify one specific project and the projects are not the same in terms of environmental effects, a single MND for the two different projects is inconsistent with Administrative Code § 31.20, and the project description is not accurate, stable, and finite as legally required by CEQA. The Planning Department must reissue the MND with either a revised project description that chooses one project or issue a separate MND for each project.

3. <u>The Project Will Have a Significant Effect on Historic Resources</u>

A mitigated negative declaration is proper only where the conditions imposed on the project "avoid the effects or mitigate the effects to a point where ***clearly no significant effect*** on the environment would occur." (CEQA Guidelines § 15070, emphasis added.) An environmental impact report (EIR) is required, rather than an MND, if there is even a "fair argument" that a proposed project ***may*** have any adverse environmental impacts. (*Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310, 319-320.) Here, there is a fair argument that the proposed project would have significant environmental impacts that were not adequately addressed in the MND.

The MND largely ignores the significant impacts the project will have on the potential historic resource at 447 Battery Street. A resolution initiating a landmarking designation was passed by the Board of Supervisors on January 12, 2021. The studies conducted for the 530 Sansome project largely assume that the building at 447 Battery will be demolished and therefore do not account for the potential impacts to the 447 Battery property. Not a single study identifies the 447 Battery building as a potential landmark nor analyzes potential impacts to a landmarked building. The Historic Resource Evaluation ("HRE") that was prepared for the project identifies the 447 Battery building as a potential contributor but does not identify 447 Battery as a potential landmark, which is subject to higher level of protection than other historic resources. The Planning Department's HRE Response for the 530 Sansome project does not even mention the

potential landmark at 447 Battery, even though the preliminary project assessment noted the project should utilize "building materials that are compatible or complement building materials of surrounding buildings, particularly the historical resources." Due to the failure to recognize a potential landmark, the HRE and HRE Response fail to analyze whether the project would impact 447 Battery by altering the surrounding development pattern, blocking public views of the building, or substantially reducing light and increasing shadows over the building. None of these potential impacts was identified, analyzed, or mitigated in the MND.

Additionally, the HRE that was prepared for the project is inadequate to analyze the historic resources on the project site. The HRE analyzed the existing buildings at 425 and 439-445 Washington Street, which are both proposed for complete demolition. The HRE explained that these buildings were originally built in 1906; retain some original façade and brickwork on Merchant Street; exemplify the simple industrial design of the post-1906 earthquake reconstruction era; are associated with the wholesale poultry and fish industry that was a significant and important part of San Francisco's history; and are located near, and share some the historic context and architectural features, as contributors to the Jackson Square Historic District. Notably, these are all similar historical attributes that were cited in the resolution initiating a landmarking designation for the building at 447 Battery.

The landmarking legislation for 447 states that it is potentially eligible because it is a "rare remaining example of a brick commercial building and warehouse in the present-day Financial District." Along Merchant Street, 447 Battery and two of the 530 Sansome project buildings (425 Washington and 439-445 Washington) are directly adjacent to each other and are all remaining examples of a brick commercial building in the present-day Financial District. All three buildings were constructed in the same period, share a common history, and contain similar architectural features. Again, the HRE did not identify the 447 Battery building as a potential landmark and consequently did not evaluate the buildings at 425 and 439-445 Washington in that context. Either the 447 Battery building is not a landmark, or all three common buildings are potentially landmark eligible and should be preserved to retain their relationship and common features.

Moreover, the landmarking designation process for 447 has not yet concluded, and the potential character-defining features of the building have not been finalized. Approval of the

PMND is simply premature because it is not possible to evaluate whether the 530 Sansome project adequately protects the character-defining features of 447 Battery when those character-defining features have not been finalized. Additional evaluation and analysis is therefore necessary and can only be completed once the landmarking process for 447 Battery concludes.

The Geotechnical Investigation that was completed for the project also assumes that the 447 Battery building will be demolished and makes recommendations on shoring to protect the *proposed* building rather than the existing building. Without additional information confirming that the proposed 50 feet of excavation in an area with liquefiable soil and significant groundwater will not adversely impact a potential historic resource, the MND cannot conclude that the project will ***clearly*** have no significant effect on the environment.

To the contrary, there is a significant risk that the proposed project would cause irreparable harm to the building at 447 Battery. Geotechnical expert Eddy Lau reviewed the geotechnical reports for 530 Sansome, conducted a site visit, and completed a report demonstrating that the project would likely have a significant impact on the 447 Battery building. (See Eddy Lau, Geotechnical Engineer *Potential Impact of Construction of the 530 Sansome Project*, July 28, 2021.) Mr. Lau's report explains that the 447 Battery building is either supported by timber piles or spread footings on timber ribbing. The 530 Sansome project would require 50 feet of excavation that will require shoring and dewatering of the site. If the building is on timber piles, dewatering would cause dry rot, and impose downdrag loading and if the building is on spread footings, dewatering would result in additional building settlement. Mr. Lau's report concludes that regardless of the type of foundation, the proposed dewatering will have significant impacts to the building at 447 Battery. These impacts were not identified in the project's geotechnical report, likely because the report assumed that the 447 building would be demolished.

4. <u>The Project May Have a Significant Effect on Traffic, Circulation, and Pedestrian Safety</u>

Much like all of the other reports for this project, the transportation study assumes that the building at 447 Battery will be demolished and the proposed project at the 447 Battery site will be constructed. The conclusions and analysis of that report relies on this basic assumption, and serious doubt has been raised regarding the conclusions of that analysis now that the landmarking designation has been initiated for the 447 Battery property.

The transportation study explains that the proposed sidewalk width on Washington Street does not meet Better Streets Plan standards, and relies on the Privately Owned Public Open Space ("POPOS") improvements along Merchant Street to accommodate the additional pedestrians anticipated from the project. The report relies on other 447 Battery POPOS features that are "intended to reduce potentially hazardous conditions for people walking," such as a raised crosswalk across the intersection of Merchant and Battery. However, these POPOS features would only be constructed if the 447 Battery project moves forward. The transportation study even acknowledges that additional environmental review would likely be necessary if the proposed POPOS on Merchant Street is infeasible. Footnote 3 of the report states that if "Merchant Street cannot be a shared street meeting the POPOS requirement, the project sponsor will need to provide POPOS on the project site, ***which will likely require building design change*** and coordination with [the Urban Design Advisory Team] ***and potentially additional environmental review."*** (Emphasis added.)

There is not enough information to determine whether the proposed POPOS Street is feasible, including because the City's Street Design Advisory Team (SDAT) has not reviewed the most current proposal. SDAT's primary function is to ensure that street and sidewalk changes are built to the highest possible standards in terms of safety, accessibility, and functionality. SDAT specifically stated in its initial review of this project that "an alternative location for the project's POPOS may need to be contemplated should Merchant Street need to accommodate the project's loading needs." After this initial review, the project was modified and Merchant Street is proposed to be used as a passenger loading zone. Despite SDAT specifically raising concerns about mixing loading and POPOS, SDAT was never provided the opportunity to review the changes. In fact, SDAT identified five different issues that needed to be addressed *prior* to

receiving any entitlements, yet there was never a second SDAT review even after the project was significantly redesigned.

Moreover, the transportation study fails to analyze the impacts of removing all current metered parking spaces along Washington Street. The proposed project relocates the existing fire station entrance from Sansome Street to Washington Street, which is a one-way street. This will require the installation of a fire lane on Washington that will require the removal of all 21 metered parking spaces and the one-handicapped space. The transportation study does not evaluate, and barely acknowledges, the removal of this parking because CEQA does not require the evaluation of parking for certain projects in transit priority areas. However, CEQA does require the analysis of transportation impacts as they relate to safety. The transportation report already acknowledges that the proposed freight loading spaces may be inadequate to meet demand and that the existing loading spaces along Washington are already often utilized for general parking, a problem that will only be exacerbated by the removal of all existing general parking spaces. The removal of all parking along Washington Street may interfere with emergency access if trucks or passenger cars are forced to park in the emergency lane due to the lack of parking, will exacerbate the inadequacy of the on-site freight loading spaces, and cause serious safety concerns. SDAT flagged the lack of analysis regarding the interaction of fire access, loading, and on street parking and requested additional information prior to receiving any entitlements. However, SDAT never had the opportunity to review of the project after it raised these concerns.

The existing transportation study fails to analyze the potential impacts of the project if 447 Battery is not redeveloped and fails to fully consider the impacts to safety from relocating the fire station entrance onto a one-way street and removing all parking. SDAT, the City's advisory body specifically created to ensure pedestrian and street safety, never reviewed the loading analysis or the POPOS as currently proposed. The analysis is therefore insufficient to support a determination that the project will clearly have no significant effect on the environment.

5. <u>The MND inappropriately defers mitigation until some future time</u>

"The basic purpose of an EIR is to 'provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the

environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.'" (*Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 511.) Because the basic function of CEQA is to provide information before a project is approved, CEQA Guidelines § 15126.4 states that "[f]ormulation of mitigation measures should not be deferred until some future time." Thus courts have found as a general rule that "it is inappropriate to postpone the formulation of mitigation measures." (*POET, LLC v. State Air Resources Bd.*, (2013) 218 Cal.App.4th 681, 735.) While an agency may specify performance standards and identify potential mitigation alternatives, "an agency goes too far when it simply requires a project applicant to obtain a [] report and then comply with any recommendations that may be made in the report." (*Defend the Bay v. City of Irvine*, (2004) 119 Cal.App.4th 1261, 1275.)

The MND here inappropriately defers the formulation of mitigation measures by relying on future reports and recommendations from those reports, without specifying specific performance standards or identifying alternatives. As such, the MND's conclusions are not supported by substantial evidence and does not ensure that the project will clearly have no significant effect on the environment as required by CEQA.

A. Vibration Management and Monitoring Plan

The PMND states that construction vibration may cause damage to the neighboring potential historic structure at 447 Battery Street. However, the PMND merely states that the project sponsor will mitigate the potential impact by conducting a Pre-Construction Survey and submitting a Vibration Management and Monitoring Plan at some point in the future. The PMND recommends, but does not actually require, a specific maximum vibration level. The specific maximum vibration level will be determined by the Project Sponsor's consultants at some future date without any input from the public or the owners of 447 Battery. The PMND does not specify the type of vibration generating-equipment that may be used, does not identify potential construction methods or techniques, does not identify any monitoring standards, and does not specify the inspection intervals that should be required.

Moreover, the PMND only requires the project to stay below the to-be-determined-later maximum vibration level "to the extent feasible." Because the maximum vibration levels have not been set and the construction methods have not been identified, there is not substantial evidence

to show that the proposed mitigation measure is even possible. The PMND notes that typical maximum vibration levels to avoid impacts to a historic structure are .25 inches per second peak particle velocity (PPV). (Preliminary Mitigated Negative Declaration 530 Sansome Street, p. 104) Yet the PMND also states that common construction equipment will all create vibrations far above that threshold, explaining that a compactor would cause 1.23 inches per second PPV at 447 Battery and a caisson drill would cause .523 inches per second PPV. (Id.) Even the use of loaded trucks would cause .44 inches per second PPV at 447 Battery, almost twice the maximum recommended PPV for historic structures. (Id.) The PMND does not identify the construction techniques or equipment that the 530 Sansome project will utilize in order to demolish three structures, excavate 40 feet below ground, and construct a 236-foot-tall building without the use of compactors, drills, or loaded trucks. The PMND inappropriately omits all the specific mitigation measures to protect a potential landmark building until some future date. Without providing any level of specificity, the public and the owners of the building at 447 have no basis to determine whether the project would clearly have no significant effect on the 447 Battery building, as required by CEQA. The information provided in the PMND show the opposite.

B. Geotechnical Recommendations

Additionally, the geotechnical analysis does not adequately address the measures that will be taken to ensure that the building at 447 Battery will be protected during excavation and construction. The report does not include the type of foundation that will be used. The report explains that "[f]urther investigation into the type and depth of foundations as well as the basement configuration of the adjacent buildings should be performed to better understand constraints on the proposed shoring system and permanent basement walls." (Langan Engineering, *Geotechnical Investigation 530 Sansome Street 425 and 435-445 Washington Street San Francisco, California,* p. 15.) The report identifies multiple additional tests that should be performed and evaluated before finalizing the design. The project inappropriately defers the final design until a future date and without that information, there is no basis to determine whether the project would clearly have no significant effect on the environment.

Moreover, Geotechnical expert Eddy Lau has submitted a report (see **Exhibit B**) that concludes no matter what type of foundation is present at 447 Battery, the proposed dewatering of the site will have significant adverse impacts to this building. Deferring the necessary testing,

evaluation, and design until after the MND is certified will not provide the public or the owner's of 447 Battery to determine whether potential impacts can be mitigated to the point there the project would clearly have no significant effect as required by CEQA.

C. Historic Sculpture Relocation Plan

The project will also completely remove and relocate a historical sculpture currently located on the existing fire station. The HRE response notes that the "current plans and supporting documentation fail to confirm the definite location of the sculpture and fail to identify the methods by which the sculpture can be safely removed, stored, and reinstalled in a manner and location that would not result in irreparable damage to its distinctive materials." (*530 Sansome Street Historic Resource Evaluation Response Part II*, p. 3) Despite acknowledging that no alternatives have actually been identified, the MND states the potential impacts will be mitigated simply because a relocation plan will be submitted and the recommendations of the future plan will be followed. The HRE does not identify potential appropriate locations or provide standards for how the sculpture should be handled and stored. This future relocation plan inappropriately defers mitigation and is inadequate to ensure that the proposed project will clearly have no significant effect on the environment.

D. Transportation Safety Measures

Similarly, the transportation study also relies on future final designs to reach conclusion that the project will not have a significant effect on the environment. The report states that the "project sponsor would be required to include design features that ensure that the proposed project's POPOS operations would not create potentially hazardous conditions as a part of the POPOS condition of approval, subject to SFMTA and Planning Department approval." (Fehr & Peers, *530 Sansome Street Transportation Study*, p. 52) However, the report fails to actually identify any of these design features or provide alternatives to avoid creating hazardous conditions. The report merely states that those features will be figured out later, assuming that the POPOS is even feasible without the project at 447 Battery. As explained above, SDAT was never provided the opportunity to review the proposed design and noted that the POPOS may need to be relocated if Merchant Street were needed for loading purposes. The project will utilize Merchant Street as a passenger loading zone, which may create a hazardous condition that will force the proposed POPOS to be relocated and redesigned at some future date. Without the final

details of the POPOS program, there is no basis to determine that the project would clearly have no significant effect on the environment.

E. Hazardous Materials

The MND also notes that several underground storage tanks were previously removed from the project site and that contaminated soil and groundwater may be present at the site. Rather than investigating this issue further, the MND defers investigation of this issue to the future. The MND states that, based on the initial site assessment, the "project sponsor would be required to conduct soil and groundwater sampling and analysis" and "would be required to submit a site mitigation plan to the health department" to remediate any site contamination. (*Preliminary Mitigated Negative Declaration 530 Sansome Street*, p. 173) In other words, there is not enough information to determine whether the project would clearly have no significant effect on the environment. The MND defers that to a future date when more testing is conducted.

The Planning Department must collect all necessary pre-construction testing, surveys, and information prior to issuing the MND. Based on the results of that information, specific mitigation measures and alternatives must be identified prior to approval. Without additional investigation, the MND is inadequate to sufficiently inform the public of the environmental effects of the project, does not allow the public to meaningfully review the effectiveness of the mitigation measures, and does not ensure that the project would clearly have no significant effect on the environment.

6. <u>Conclusion</u>

This environmental review of this project violates CEQA for multiple reasons. The Planning Department failed to provide adequate public notice, and the project lacks an accurate, stable, and finite project description. The MND fails to sufficiently analyze the significant environmental impacts regulated by CEQA. The MND's analysis and conclusions are all premised on the assumption that the building at 447 Battery will be demolished, a presumption that has been put in serious doubt due to the initiation of a landmarking designation on the 447 Battery property. We strongly urge that a more rigorous evaluation of the project be conducted through a full Environmental Impact Report. At a minimum, the Board of Supervisors should reject the MND and require additional analysis regarding the potential impacts and the

identification of specific mitigation measures in order to satisfy the requirements of CEQA and fully inform the public about the project and its impacts.

Very truly yours,

ZACKS, FREEDMAN & PATTERSON, PC

Ryan J. Patterson

RYAN J. PATTERSON (SBN 277971)
BRIAN J. O'NEILL (SBN 298108)
ZACKS, FREEDMAN & PATTERSON, PC
601 Montgomery Street, Suite 400
San Francisco, CA 94111
Tel: (415) 956-8100
Fax: (415) 288-9755
ryan@zfplaw.com
brian@zfplaw.com

Attorneys for Appellant:
447 Partners, LLC

SAN FRANCISCO PLANNING COMMISSION

Case Number: 2019-017481ENV

DECLARATION OF ROBERT CANEPA IN SUPPORT OF APPEAL OF PRELIMINARY MITIGATED NEGATIVE DECLARATION

Date: July 23, 2021
Time: 4:04 PM

I, Robert Canepa, declare as follows:

1. I am Senior Vice President of 447 Partners, LLC, the appellant in Case No. 2019-017481ENV. I make this declaration based on my own personal knowledge of the following facts, except to those matters state on information and belief, and as to those matters, I believe them to be true. If called as a witness to testify, I could and would testify thereto.

2. 447 Partners, LLC owns the property located at 447 Battery Street. To my knowledge, the property is located within 300 feet of the exterior boundaries of the 530 Sansome Street project area.

3. I received a Notice of Availability and Intent to Adopt a Mitigated Negative Declaration for the 530 Sansome Street project (Case No. 2019-017481ENV) from the San Francisco Planning Department in the mail on May 17, 2021.

4. The Notice of Availability I received in the mail on May 17, 2021 stated that the review period for the Preliminary Mitigated Negative Declaration for the 530 Sansome Project would end at 5 p.m. on May 18, 2021.

ZACKS, FREEDMAN & PATTERSON, PC
601 MONTGOMERY STREET, SUITE 400
SAN FRANCISCO, CALIFORNIA 94111

5. I spoke with Danielle Kuzinich, owner of the Wine Society and current tenant at the 447 Battery Street building, regarding the Notice of Availability. Ms. Kuzinich confirmed that she received the Notice of Availability a week or so after we received our Notice for the review period, and again, the Preliminary Mitigated Negative Declaration for the 530 Sansome Project had already ended. I personally received the mail from the mailperson and hand delivered it to her that day.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on July 23rd, 2021 in San Francisco, CA.

By: Robert Canepa
Senior Vice President
447 Partners, LLC

ZACKS, FREEDMAN & PATTERSON, PC
601 MONTGOMERY STREET, SUITE 400
SAN FRANCISCO, CALIFORNIA 94111

EDDY T. LAU
GEOTECHNICAL ENGINEER

P O BOX 24874, OAKLAND, CALIFORNIA 94623-1874
TELEPHONE: (415) 505-5538

July 28, 2021

Our Job No. 1839-001

Zacks Freedman & Patterson PC
600 Montgomery Street, Suite 400
San Francisco, California 94111-2607

Attention: Brian O'Neill, ESQ.

Ladies and Gentlemen:

Report
Geotechnical Consultation
Potential Impact of Construction of the 530 Sansome Street Hotel project to the 447 Battery Street building
447 Battery Street
San Francisco, California

This letter report presents the results of our geotechnical consultation in connection with the evaluation of the potential impact of the construction of proposed 530 Sansome Street hotel to the 447 Battery Street building in San Francisco, California.

The 447 Battery Street building is located at the northwest corner of the intersection of Battery Street and Merchant Street. The rectangular shaped site measures approximately 74 feet by 97 feet with plan dimensions and is presently occupied by a three-story brick building with a basement. The subject building is reportedly constructed circa 1907.

We were provided with the following five documents:

- Noise and Vibration Technical Memorandum - 530 Sansome Street Project, prepared by ESA, and dated March 31, 2021.

- Report entitled, "Geotechnical Investigation, 530 Sansome Street, 425 AND 435-445 Washington Street, San Francisco, California," prepared by Langan Engineering and Environmental Services, Inc., and dated December 20, 2019, Project No. 731728602.

- "530 Sansome Street Plan, San Francisco, CA," prepared by SOM, updated April 23, 2021.

- Report entitled, "Geotechnical Investigation, 447 Battery Street, San Francisco, CA 94111" prepared by Langan Engineering and Environmental Services, Inc., and dated April 10, 2018, Project No. 731680201.

- Microfilmed drawings for the Earthquake Retrofit under the UMB Special Procedures, prepared by BMP and Vahdani & Associates, Inc. - San Francisco Department of Building Inspection Permits # 9610935 and 9824233.

PROPOSED CONSTRUCTION

The site of the proposed 530 Sansome Street hotel project consists of three lots (530 Sansome Street, 425 Washington Street and 439-445 Washington Street) located on the western portion of the block bounded by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south. The site is located on the east side of Sansome Street between Merchant Street and Washington Street, and extends in an easterly direction from Sansome Street to the west property line of the 447 Battery Street.

The hotel project site is currently improved with three buildings: the 425 Washington Street, a three-story building with a basement, the 439-445 Washington Street, a two-story building with a basement, and the 530 Sansome Street, a two-story San Francisco Fire Station # 13 with a basement.

Present plan of the hotel project calls for demolition of the three existing buildings and construction of a 19-story building and a four-story replacement fire station fronting Washington Street, with three below-grade levels under both buildings.

A deep foundation system will be required to support both the 19-story building and the four-story replacement fire station. Underpinning of the 447 Battery Street building and shoring to support the excavation for the below-grade levels along with dewatering, among others, will be required for the construction of the three below-grade levels.

PURPOSE AND SCOPE OF SERVICES

The purpose of our services was to provide geotechnical consultation to you, your client, and other engineering consultants, where appropriate, in the evaluation of the potential impact of the hotel project during construction to the 447 Battery Street building.

The scope of our services included a review of the five documents cited above, in particular on issues dealing with vibration and dewatering during construction, and a site visit to the 447 Battery Street building.

DISCUSSIONS AND CONCLUSION

EXISTING CONDITIONS

Generalized Subsurface Soil Conditions

Elevation +2 Ft	Street Grade
Elevation -5 Ft	Basement
Elevation -12 Ft	Bottom of Fill
Elevation -17 Ft	Bottom of Marine Sand
Elevation -39 Ft to -49 Ft	Bottom of Bay Mud
Elevation -87 Ft	Bottom of - Dense to Dense Clayey Sand, Medium stiff to Hard Sandy Clay and Dense to Very Dense Sand
Elevation -10 Ft	Groundwater level

All elevations are referenced to the City and County of San Francisco datum

447 Battery Street Building

The brick building was reportedly constructed circa 1907; however, no record was found or available. The building was seismically retrofitted to reduce the risk of death or injury in the event of a major earthquake pursuant to Chapters 14 and 15 0f the 1992 San Francisco Building Code.

The April 10, 2018 LANGAN report indicated that the building is reportedly supported on timber piles. The construction drawings for the Earthquake Retrofit under the UMB Special Procedures, prepared by BMP and Vahdani & Associates, Inc. do not show a pile-supported structure, and the Vahdani drawings call for adding new concrete footing.

In our July 27, 2021 site visit of the 447 Battery Street building, no obvious distress and building settlement were observed. We are not in a position to ascertain the foundation support without additional investigation including field exploration.

The site along with the vicinity was reclaimed from the San Francisco Bay. It is our opinion that settlement due to consolidation of the Bay Mud, resulting from the weight of the existing fill and building loads, if any, has been substantially completed.

In the event that the 447 Battery Street building is concluded to be supported on timber piles. We believe that the timber piles could be on the order of 45 feet long, with pile tip about 6-inch to 7-inch in diameter, tapered to about 10-inch or 12-inch in diameter at the pile butt. These timber piles were probably driven with a drop hammer, to refusal into the dense to very dense clayey sand below the Bay Mud.

If the 447 Battery Street building is found to be supported on spread footings. They could be on timber ribbing, probably redwood or treated wood.

IMPACT OF 530 SANSOME STREET CONSTRUCTION

The December 20, 2019 LANGAN report indicated that the lowest basement level could extend about 50 feet below the existing street grade. Accordingly, underpinning of the existing foundation footings would be required if it is determined that the 447 Battery Street building is supported on spread footings.

Shoring to support the excavation for the proposed basements would be required, and appropriate dewatering would also be required. The December 20, 2019 LANGAN report recommended design groundwater level at Elevation -7 feet and to be lowered to at least 3 feet below the bottom of the deepest planned excavation during construction. This could be on the order of 30 feet or more below the design groundwater level.

An impervious shoring system is required to minimize drawdown of the groundwater level within the 447 Battery Street footprint. If groundwater is lowered, the 447 Battery Street building would be substantially impacted. Additional building settlement would occur due to consolidation of the Bay Mud as a result of increase in the fill loading from buoyant weight to actual weight, if the building is supported on spread footings. For a pile supported structure, the timber piles could experience dry rot due to lowering of the groundwater level and could be imposing downdrag loading resulting from the compression of the Bay Mud.

With respect to the tiebacks required to restrain the shoring, it is our opinion that an internal strut system should be considered rather than the proposed tiebacks which would encroach into the 447 Battery Street property.

CLOSURE

Our services have been performed with the usual thoroughness and competence of the engineering profession. No other warranty or representation, whether expressed or implied, is included or intended in our proposal, contract or report.

We thank you for the opportunity to participation on this project. If you have any questions or require additional information, please contact us

Yours very truly,

Eddy T. Lau

Eddy T. Lau, P.E.
Reg. Civil Engineer 019897
Reg. Geotechnical Engineer 506
Expiration 9/30/2021

August 24, 2021

Re: 530 Sansome Street (Case No. 2019-017481ENV)
Letter of Authorization for Agent

To Whom It May Concern:

I hereby authorize the attorneys of Zacks, Freedman & Patterson, PC to file a California Environmental Quality Act Negative Declaration appeal to the Board of Supervisors for 530 Sansome Street (Case No. 2019-017481ENV).

Very truly yours,

447 Partners, LLC

DocuSigned by:
Raj Maniar
8C5B5363E3AB453...

By: Raj Maniar
Its: President

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

PLANNING COMMISSION MOTION NO. 20953

HEARING DATE: JULY 29, 2021

Case No.:	2019-017481ENV
Project Address:	530 SANSOME STREET
Zoning:	C-3-O (Downtown Office) Use District 200-S Special Height and Bulk District
Block/Lot:	0206/013, 014, 017
Project Sponsors:	James Abrams, J. Abrams Law on behalf of EQX Jackson SQ Holdco LLC 415.999.4402, jabrams@jabramslaw.com Josh Keene, San Francisco Bureau of Real Estate 415.554.9859, joshua.keene@sfgov.org Assistant Deputy Chief Dawn DeWitt, San Francisco Fire Department 415.674.5066, dawn.dewitt@sfgov.org
Property Owners:	EQX Jackson SQ Holdco LLC 44 Montgomery Street, Suite 1300 San Francisco, CA 94104 City and County of San Francisco Real Estate Division 25 Van Ness Avenue, Suite 400 San Francisco, CA 94102
Staff Contact:	Alana Callagy 628.652.7540, alana.callagy@sfgov.org

ADOPTING FINDINGS RELATED TO THE APPEAL OF THE 530 SANSOME STREET PRELIMINARY MITIGATED NEGATIVE DECLARATION, FILE NUMBER 2019-017481ENV, FOR THE PROPOSED DEVELOPMENT THAT WOULD DEMOLISH THREE EXISTING BUILDINGS AND CONSTRUCT A FOUR-STORY REPLACEMENT FIRE STATION FOR SAN FRANCISCO FIRE DEPARTMENT STATION 13 AND A 19-STORY MIXED-USE HOTEL BUILDING, WITH THREE BELOW-GRADE LEVELS UNDER BOTH BUILDINGS. MERCHANT STREET ADJACENT TO THE PROJECT SITE WOULD BE CONVERTED INTO A SHARED STREET/LIVING ALLEY WITH PRIVATELY OWNED PUBLIC OPEN SPACE. THE SPONSORS ALSO PROPOSE A RESIDENTIAL VARIANT WHICH WOULD REPLACE THE FIRE STATION CONSISTENT WITH THE PROPOSED PROJECT BUT WOULD BUILD APPROXIMATELY 256 RESIDENTIAL UNITS IN A 21-STORY BUILDING (APPROXIMATELY SAME HEIGHT) INSTEAD OF A MIXED-USE HOTEL. THE PROJECT SITE IS IN A C-3-O (DOWNTOWN OFFICE) USE DISTRICT AND A 200-S HEIGHT AND BULK DISTRICT.

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby AFFIRMS the decision to issue a Mitigated Negative Declaration, based on the following findings:

1. On December 20, 2019, pursuant to the provisions of the California Environmental Quality Act ("CEQA"), the State CEQA Guidelines, and chapter 31 of the San Francisco Administrative Code, the San Francisco Planning Department ("Department") received an Environmental Evaluation Application form for the proposed project, in order that it might conduct an initial evaluation to determine whether the Project might have a significant impact on the environment.
2. On or around September 15, 2020, the project sponsors delivered to the Department plan materials necessary for the study of a residential variant of the proposed project, which included similar building design, height and bulk, as well as a replacement fire station, but would include approximately 256 residential units in a 21-story building instead of hotel, office, fitness center and retail/restaurant uses.
3. On April 28, 2021, the Department determined that neither the proposed project nor the residential variant, as proposed, could have a significant effect on the environment.
4. On April 28, 2021, a notice of availability and intent to adopt a Mitigated Negative Declaration (MND) was issued for the 530 Sansome Street Project and was duly published in a newspaper of general circulation in the City, and the Preliminary MND (PMND) was posted on the Department website and distributed in accordance with law. In addition, posters advising the public of the notice of availability and intent to adopt an MND were posted on the Merchant Street, Sansome Street and Washington Street frontages of the Project site. The posters were regularly inspected by representatives of the project sponsors to ensure none were damaged or removed during the 20 days following posting.
5. On May 18, 2021, an appeal of the determination of no significant effect on the environment was filed by Ryan Patterson, on behalf of 447 Partners, LLC.
6. A staff memorandum, dated June 16, 2021, addresses and responds to all points raised by appellant in the appeal letter. That memorandum is attached as Exhibit A and staff's findings regarding those points are incorporated by reference herein as the Commission's own findings. Copies of that memorandum have been delivered to the Commission, and a copy of that memorandum is on file and available for public review at 49 South Van Ness Avenue, Suite 1400, San Francisco, California.
7. On July 29, 2021, amendments were made to the MND to update footers in the document and a new Section G.2 to address a comment letter on the PMND. Such amendments do not include new, undisclosed environmental impacts and do not change the conclusions reached in the MND. The changes do not require "substantial revision" of the PMND, and therefore recirculation of the MND is would not be required.
8. On July 29, 2021, the Commission held a duly noticed and advertised public hearing on the appeal of the PMND, at which testimony on the merits of the appeal, both in favor of and in opposition to, was received.
9. All points raised in the appeal of the PMND at the July 29, 2021, hearing have been addressed either in the memorandum or orally at the public hearing.
10. After consideration of the points raised by appellant, both in writing and at the July 29, 2021, hearing, the Department reaffirms its conclusion that neither the proposed project nor the residential variant could have a significant effect upon the environment.

11. In reviewing the PMND issued for the proposed project, the Commission has had available for its review and consideration all information pertaining to the proposed project in the Department's case file.
12. The Commission finds that Department's determination on the MND reflects the Department's independent judgment and analysis.
13. The Commission Secretary is the custodian of records; the File for Record No. 2019-017481ENV is located at 49 South Van Ness Avenue, Suite 1400, San Francisco, California.

DECISION

The Commission HEREBY DOES FIND that neither the proposed project nor the residential variant could have a significant effect on the environment, as shown in the analysis of the Mitigated Negative Declaration, and HEREBY DOES AFFIRM the decision to issue a Mitigated Negative Declaration, as prepared by the Department.

I hereby certify that the Commission ADOPTED the foregoing Motion on July 29, 2021.

Jonas P. Ionin
Commission Secretary

AYES: Tanner, Fung, Diamond, Koppel

NAYS: Moore, Imperial

ABSENT: Chan

ADOPTED: July 29, 2021

FRAUDARMOR

NORTHERN CALIFORNIA
LEGAL SUPPORT SERVICES, INC.
200 WEBSTER STREET, SUITE 201
OAKLAND, CA 94607

81384

11-35/1210

8/30 20 21

PAY TO THE ORDER OF SF PLANNING DEPARTMENT $ 681.00

SIX HUNDRED EIGHTY ONE 00/100 DOLLARS

Security features are included. Details on back.

BANK OF AMERICA

NOT TO EXCEED $2500
FOR DEPOSIT ONLY

FOR 530 SANSOME PMND APPEAL

MP

Order Online at www.ctmbusiness.com

From:	BOS Legislation, (BOS)
To:	BOS Legislation, (BOS); "Ryan Patterson"; James Abrams; Penick, Andrico; DeWitt, Dawn (FIR)
Cc:	PEARSON, ANNE (CAT); STACY, KATE (CAT); JENSEN, KRISTEN (CAT); Hillis, Rich (CPC); Teague, Corey (CPC); Sanchez, Scott (CPC); Gibson, Lisa (CPC); Jain, Devyani (CPC); Navarrete, Joy (CPC); Lewis, Don (CPC); Varat, Adam (CPC); Sider, Dan (CPC); Starr, Aaron (CPC); Ionin, Jonas (CPC); Callagy, Alana (CPC); Kern, Chris (CPC); Rosenberg, Julie (BOA); Longaway, Alec (BOA); BOS-Supervisors; BOS-Legislative Aides; Calvillo, Angela (BOS); Somera, Alisa (BOS); Mchugh, Eileen (BOS)
Subject:	UPDATED PROJECT SPONSOR RESPONSE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021
Date:	Thursday, September 30, 2021 3:21:49 PM
Attachments:	image001.png

Greetings,

The Office of the Clerk of the Board is in receipt of an updated response sent by James Abrams of J. Abrams Law, P.C., on behalf of the project sponsor EQX Jackson SQ Holdco LLC, for an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project. Kindly disregard the previous version which had a typographical error on the first page and utilize the updated version.

Project Sponsor Response (Updated) - September 30, 2021

Best,

Lisa Lew
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T 415-554-7718 | F 415-554-5163
lisa.lew@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.
Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services.

Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

From: BOS Legislation, (BOS) <bos.legislation@sfgov.org>
Sent: Thursday, September 30, 2021 1:35 PM
To: 'Ryan Patterson' <ryan@zfplaw.com>; James Abrams <jabrams@jabramslaw.com>; Penick, Andrico <andrico.penick@sfgov.org>; DeWitt, Dawn (FIR) <dawn.dewitt@sfgov.org>
Cc: PEARSON, ANNE (CAT) <Anne.Pearson@sfcityatty.org>; STACY, KATE (CAT) <Kate.Stacy@sfcityatty.org>; JENSEN, KRISTEN (CAT) <Kristen.Jensen@sfcityatty.org>; Hillis, Rich (CPC) <rich.hillis@sfgov.org>; Teague, Corey (CPC) <corey.teague@sfgov.org>; Sanchez, Scott (CPC) <scott.sanchez@sfgov.org>; Gibson, Lisa (CPC) <lisa.gibson@sfgov.org>; Jain, Devyani (CPC)

<devyani.jain@sfgov.org>; Navarrete, Joy (CPC) <joy.navarrete@sfgov.org>; Lewis, Don (CPC) <don.lewis@sfgov.org>; Varat, Adam (CPC) <adam.varat@sfgov.org>; Sider, Dan (CPC) <dan.sider@sfgov.org>; Starr, Aaron (CPC) <aaron.starr@sfgov.org>; Ionin, Jonas (CPC) <jonas.ionin@sfgov.org>; Callagy, Alana (CPC) <alana.callagy@sfgov.org>; Kern, Chris (CPC) <chris.kern@sfgov.org>; Rosenberg, Julie (BOA) <julie.rosenberg@sfgov.org>; Longaway, Alec (BOA) <alec.longaway@sfgov.org>; BOS-Supervisors <bos-supervisors@sfgov.org>; BOS-Legislative Aides <bos-legislative_aides@sfgov.org>; Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Somera, Alisa (BOS) <alisa.somera@sfgov.org>; Mchugh, Eileen (BOS) <eileen.e.mchugh@sfgov.org>; BOS Legislation, (BOS) <bos.legislation@sfgov.org>
Subject: PROJECT SPONSOR RESPONSE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021

Greetings,

The Office of the Clerk of the Board is in receipt of a response memo sent by James Abrams of J. Abrams Law, P.C., on behalf of the project sponsor EQX Jackson SQ Holdco LLC, for an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project.

Project Sponsor Response - September 30, 2021

I invite you to review the entire matters on our Legislative Research Center by following the link below:

Board of Supervisors File No. 210923

Best regards,

Lisa Lew
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T 415-554-7718 | F 415-554-5163
lisa.lew@sfgov.org | www.sfbos.org

J. ABRAMS LAW, P.C.

538 Hayes Street
San Francisco, CA 94102

Jim Abrams
Jabrams@jabramslaw.com
(415) 999-4402

September 29, 2021

VIA ELECTRONIC SUBMISSION

President Shamann Walton and Supervisors
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, CA 94102-4689

Re: Appeal of Mitigated Negative Declaration
530 Sansome Street (Case No. 2019-017481ENV)

Dear President Walton and Supervisors:

This firm represents EQX Jackson SQ Holdco LLC, a sponsor of the 530 Sansome Street Development Project (the "Project"). We write this letter to summarize the reasons the Board of Supervisors ("Board") should deny the appeal filed by 447 Partners, LLC ("Appellant") of the Project's Mitigated Negative Declaration ("MND") (Planning Case No. 2019-017481ENV).

The Project is of major importance to the City and the public welfare, as it would construct a much-needed replacement Fire Station 13 for the San Francisco Fire Department ("SFFD"), at a site adjacent to the existing fire station.

Appellant and its 447 Battery Street Project

We note at the outset that Appellant is the owner of 447 Battery Street, the property immediately adjacent to the Project, which is improved with a historic building that the San Francisco Planning Department has determined to be individually eligible for listing on the California Register of Historic Places and therefore a historic resource under the California Environmental Quality Act.[1] Within the past year, legislation was introduced to locally landmark the building, which, if enacted, would subject all future alterations to the building to review under Planning Code Article 10.[2]

In its appeal of the Project to this Board, Appellant by and large puts forward the same meritless arguments raised and already appropriately refuted by Planning Department and the Planning

[1] San Francisco Planning Department, Historic Resource Evaluation Response, 447 Battery Street, December 18, 2017, Case No. 2014.1036E.
[2] Board of Supervisors File No. 201298.

Commission, including in Exhibit A to the Planning Commission's motion denying the appeal (the "Planning Staff Report").

Notably, many of Appellant's claims about the Project's supposed impacts to its historic building are surprising, given that Appellant has proposed since at least 2016 to largely demolish the historic building and redevelop 447 Battery Street with an approximately 200-foot-tall hotel. Appellant's proposal has been undergoing environmental review pursuant to the California Environmental Quality Act ("CEQA") since approximately 2016 and is subject to a Draft Environmental Impact Report published on October 21, 2020 (the "447 Battery DEIR").[3]

Summary of Arguments

This letter is intended to serve as a supplement to the Planning Staff Report, refuting the few novel (though equally flawed) arguments raised in their appeal to the Board.

Specifically, we wish to respond to Appellant's misleading arguments regarding:

- Geotechnical Analysis. The geotechnical engineering comment letters commissioned by Appellant largely restate rather than refute the MND's Geotechnical Evaluation, which provides that the existing 447 Battery building may remain in place during construction of the Project. The MND considers rather than (as suggested by Appellant) ignores "the depth of the proposed excavation and presence of shallow groundwater and soils susceptible to caving".[4] Confoundingly, as part of its own project, Appellant proposes to construct a subsurface garage with four subterranean levels, relying on a substantially similar geotechnical analysis prepared by the same geotechnical consultant as the Project.

- Standards for Historic Resource Analysis under CEQA. Appellant misconstrues CEQA's requirements for the analysis of historic resources. CEQA defines a historic resource as "a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources" (Cal. Pub. Res. Code Section 21084.1). The MND reflects the conclusion of the 447 Battery DEIR that the 447 Battery building is eligible for the California Register.[5] The MND analyzes the potential effects of the Project on the historic building, thereby satisfying the requirements of CEQA. That 447 Battery Street is also currently being considered by the Board of Supervisors for local landmarking does not alter CEQA's requirements or otherwise effect the adequacy of the MND.

- Historic Resource Evaluation of 425 and 439 Washington Street. Contrary to Appellant's assertions, the MND clearly establishes why the buildings at 425 and 439 Washington Street are not individually significant historic resources, including because the facades of

[3] San Francisco Planning Department, 447 Battery Street Project Draft Environmental Impact Report, October 2020, Case No. 2014.1036E. State Clearinghouse No. 2019080137.
[4] Langan Engineering and Environmental Services, Inc., "Geotechnical Evaluation 530 Sansome Street 425 and 435-445 Washington Street San Francisco, California", December 20, 2019, p. 16.
[5] San Francisco Planning Department, Historic Resource Evaluation Response, 447 Battery Street, December 18, 2017, Case No. 2014.1036E.

both buildings were subject to "extensive alterations completed in 1967"[6] and because "the first 23 feet of the Washington side of [425 Washington Street] was demolished."[7]

- Merchant Street Improvements. Citing no evidence, Appellant asserts that the Project's Merchant Street improvements would only be built if the 447 Battery Street project moves forward. This statement is simply false—the MND states that the Project would "convert the western portion of Merchant Street in front of the project site into a shared street/living alley" and that these improvements "would extend from Sansome Street to the eastern edge of the project site" (emphasis added).[8] The MND does not state in any instance that these improvements are dependent on the 447 Battery Project, nor that the Project would construct street improvements on any portion of Merchant Street in front of 447 Battery Street.

- SDAT Review. Again, citing no relevant evidence, Appellant asserts that the Project's improvements to Merchant and Washington Street were not thoroughly analyzed by the MND and applicable City agencies through the Street Design Advisory Taskforce ("SDAT"). In fact, due to the critical importance of street access and public safety to a new fire station in a downtown area, the Project was subject to iterative interagency review throughout 2020 and spring of 2021, prior to the Project's approval in July 2021. Even after the Project received its second formal SDAT review letter on November 25, 2020, members of applicable City agencies (including the SFMTA, Planning, and SFFD) met regularly to review and refine the Project's proposed street improvements prior to the publication of the MND.[9] Although the SDAT process is separate from the CEQA process, and the number of times that SDAT or City agencies met to discuss the Project is irrelevant to the MND's adequacy under CEQA, Appellant's claims are mistaken and suggest that the City did not carefully consider public safety when designing a critical new fire station.

Background

The Project would demolish three existing buildings at 425 Washington, 439 Washington, and 530 Sansome streets and construct a four-story replacement fire station for SFFD Station 13 and an approximately 218-foot high-rise tower and a three-level basement garage under both buildings. The Project includes two distinct possible land use programs (both described in a highly detailed manner in the MND) for the high-rise tower—one land use program that would provide a new 200-room hotel, approximately 40,000 square feet of office, a large fitness facility and ground floor restaurant space (the "Commercial Variant") and one that would instead of commercial uses provide 256 rental apartments (the "Residential Variant"). While the Commercial Variant and

[6] MND, p. 54.
[7] San Francisco Planning Department, Preservation Team Review Form, 425 and 439-445 Washington Street, February 11, 2018, Case No. 2015-015553ENV.
[8] MND, p. 2. Similarly, the FMMD states on page 18 that "The proposed project would convert a portion of Merchant Street into a shared street/living alley with approximately 4,810 square feet of POPOS that would extend from Sansome Street to the eastern edge of the project site."
[9] For example, the minutes for the Project's weekly progress meeting on December 8, 2021, show that meeting attendees included, among other members of City staff, Kei Zushi (Planning), Chief Jose Velo (SFFD), Chief Dawn DeWitt (SFFD), Karina Lairet (SFDPW), Adam Smith (SFMTA), Daniel Sheeter (SFMTA), Paul Kniha (SFMTA).

Residential Variant would institute different land use, the design of the high-rise tower would be largely the same, with only minor deviations detailed and analyzed in the MND. Under both variants, the Project would construct shared-street improvements along the site's Merchant Street frontage.

On April 28, 2021, the Planning Department issued a preliminary MND determining the Project could have a significant impact on the environment. A 20-day public review and appeal period followed after public notice required under CEQA and applicable City law was mailed, included in a newspaper of general circulation and posted on the Project site.

On May 18, 2021, Appellant filed an appeal of the preliminary MND. At a July 29, 2021, public hearing, the Planning Commission denied the appeal, relying in part on the detailed Planning Staff Report, as well as a presentation made by Planning Department staff at the hearing.

On August 30, 2021, Appellant appealed the Planning Commission's decision to uphold the MND to the Board.

Arguments Previously Addressed by the Planning Department

Appellant's brief primarily restates arguments already raised to the Planning Commission and accurately refuted in the Planning Staff Report. In short, these are:

1. That the Planning Department did not complete adequate notice, which the Planning Department thoroughly refuted in Response 1 of the Planning Staff Report.

2. That CEQA does not allow the analysis of two different land use programming scenarios for a project in the same CEQA document, which the Planning Department refuted in Response 2 of the Planning Staff Report. We would note in addition, however, that Appellant continues to ignore recent California Court of Appeals case precedent—regarding a project in San Francisco no less—which dismantles Appellant's argument. See *South of Market Community Action Network v. City and County of San Francisco*, 33, Cal.App.5th 321, 332–36 (Cal. Ct. App. 1st Dist, 2019) (describing as "specious" the plaintiffs' argument that a project description containing two potential development scheme violated CEQA's requirement for a finite description of a single project).

3. That the MND does not adequately analyze the Project's potential impacts on the historic resource at 447 Battery Street, which the Planning Department thoroughly refuted in Response 3 of the Planning Staff Report.

4. That the MND inappropriately defers formulation of mitigation measures, which the Planning Department thoroughly refuted in Response 4 of the Planning Staff Report. Appellant again ignores important case law—again in part pertaining to a project in San Francisco—that address and refute Appellant's claims. A mitigation measure may include a performance standard if it identifies the specific criteria the agency will apply in determining that the impact will be mitigated. *Sierra Club v County of Fresno* (2018) 6

C5th 502, 525; C*itizens for a Sustainable Treasure Island v City & County of San Francisco* (2014) 227 CA4th 1036, 1059; *Friends of Oroville v City of Oroville* (2013) 219 CA4th 832, 838; *North Coast Rivers Alliance v Marin Mun. Water Dist.* (2013) 216 CA4th 614, 630. The mitigation measures contained in the MND meet this requirement.

Response to Arguments Not Addressed in Planning Staff Report

Appellant's appeal to the Board includes certain legal and factual contentions that were not raised in its Planning Commission appeal. We wish to briefly address each contention to further demonstrate that Appellant has not raised any meritorious argument and that its appeal should be denied.

A. Conjectural Geotechnical Engineering Comment Letters Restate MND Analysis

Less than 24 hours before the Planning Commission's hearing on the instant appeal, Appellant submitted a "geotechnical consultation" letter from Mr. Eddy Lau, which Appellant argues somehow supports that the Project would likely have a significant impact on the existing historic building at 447 Battery Street, apparently in part because the Project's geotechnical investigation assumed the existing 447 Battery Street building would be demolished prior to Project construction. In fact, Mr. Lau's letter essentially restates the conclusions of the MND's Geotechnical Evaluation.

A subsequent letter from Mr. Robert Pyke was submitted by Appellants to the Board on September 24th, 2021.[10] Mr. Pyke says, "I essentially concur with Mr. Lau's findings", adds no additional facts, and again restates rather than refutes the substance of the MND's Geotechnical Evaluation.

As an initial matter, it is false that the MND's Geotechnical Evaluation assumed the existing 447 Battery Street building would be demolished prior to Project construction,[11] a fact that is set forth in Appellant's very own letter from Mr. Lau. The MND's Geotechnical Evaluation instead makes recommendations addressing both the scenario that the Project will be constructed next to the existing 447 Battery Street building and the scenario that it will be built after the proposed 447 Battery Street Project has been constructed.[12]

Further, far from supporting the potential for a significant impact, the letter from Mr. Lau opaquely states that "an impervious shoring system is required to minimize drawdown of the groundwater level within the 447 Battery Street footprint" and that "if groundwater is lowered, the 447 Battery Street building would be substantially impacted" because "additional building settlement would occur" or, if the 447 Battery Street building is a timber pile supported structure, that dryrot and downdrag loading could occur. Mr. Lau's analysis merely rewords considerations clearly analyzed

[10] Robert Pyke, Consulting Engineer, letter to Zacks Freedman & Patterson PC 600 Montgomery Street, Suite 400 San Francisco CA 94111-260, titled "Re: Potential Impact of the Construction of the 530 Sansome Street Hotel Project to the 447 Battery Street Building, San Francisco CA".

[11] Page 15 of the MND's Geotechnical Evaluation states that "The proposed excavation will likely extend deeper than the bottom of the foundations of the adjacent structures, with the exception of the piles supporting the building at 447 Battery Street."

[12] Langan Engineering and Environmental Services, Inc., "Geotechnical Evaluation 530 Sansome Street 425 and 435-445 Washington Street San Francisco, California", December 20, 2019, pp. 12-19.

and addressed in the MND's Geotechnical Evaluation regarding dewatering, excavation shoring, and adjacent building settlement. As an example, the MND's Geotechnical Evaluation provides, among other statements related to ensuring the stability of the adjacent property:

> The amount of dewatering required to install a soldier pile and lagging system would likely cause significant groundwater drawdown in the surrounding areas, which could induce excessive settlement of adjacent structures and improvements. In addition, the shoring will need to be designed to prevent base heave and bottom blowout instability. This will require a continuous shoring wall, such as a DSM wall, secant pile wall, or concrete diaphragm wall that extends below the sand layer that is present below the Bay Mud.[13]

The MND's Geotechnical Evaluation further provides:

> If a DSM shoring wall is installed, only internal dewatering should be required, and, provided the shoring extends a sufficient depth into Old Bay Clay or bedrock, there should not be significant lowering of the groundwater level outside of the excavation. A performance specification should be provided as part of the shoring and dewatering bid documents requiring these systems be designed such that groundwater not be lowered more than two feet below the pre-construction baseline level outside the excavation.[14]

The MND includes express findings under Impact GE-3 and describes how the MND's Geotechnical Evaluation would inform the San Francisco Department of Building Inspection's review of the Project's construction documents.[15]

Appellant's complaints regarding the sufficiency of the MND's Geotechnical Evaluation are puzzling, given that the DEIR prepared for Appellant's 447 Battery Project relies on a substantially similar geotechnical evaluation prepared by the same geotechnical consultant as the Project.[16] In fact, the 447 Battery Project DEIR's geotechnical evaluation includes the same sentence verbatim that Appellant cites in its appeal brief as evidencing a violation of CEQA ("Further investigation into the type and depth of foundations as well as the basement configuration of the adjacent buildings should be performed to better understand constraints on the proposed shoring system and permanent basement walls"[17]).

As such, without analyzing, much less questioning the adequacy of the MND's Geotechnical Evaluation, Appellant's argument and letters from Mr. Lau and Mr. Pyke do not raise a fair argument challenging the MND's impact conclusions.

[13] *Id*., p. 16.
[14] *Id*., p. 18.
[15] See, e.g., MND, pp. 158-160.
[16] Langan Engineering and Environmental Services, Inc., "Geotechnical Investigation 447 Battery Street, San Francisco, California", April 10, 2018.
[17] *Id*., p. 13.

B. Appellant Misrepresents Relationship Between Local Landmarking Legislation and CEQA Historic Resource Analysis

Ignoring that the MND analyzes potential impacts to the historic 447 Battery Street building, Appellant puts forward a fundamentally conflating and confusing argument that, because there is pending local landmarking legislation regarding 447 Battery Street, the MND did not adequately analyze the Project's potential impacts on the historic building. This argument shows a clear misunderstanding by Appellant regarding historic resource analysis required by CEQA.

CEQA defines a historic resource as "a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources".[18] The MND reflects the conclusion of the DEIR prepared for Appellant's 447 Battery Project that the 447 Battery building is individually eligible for listing in the California Register.[19] The MND analyzes the potential effects of the Project on the historic building, thereby satisfying the requirements of CEQA. Regardless of whether 447 Battery Street ultimately is designated as a local landmark, the fact remains that the Project's MND unequivocally categorizes the existing building at 447 Battery Street as a historic resource and thoroughly analyzes the Project's potential impacts on that historic resource.

As such, the Board should disregard Appellant's assertions that pending local landmarking processes undermine the adequacy of the MND's historic resource analysis.

C. Appellant Mischaracterizes the Historic Resource Evaluation of 425 and 439 Washington Street

Without presenting any evidence, Appellant puts forward an inaccurate summary of the Historic Resource Evaluation for 425 and 439 Washington Street and the Historic Resource Evaluation for 447 Battery Street in an attempt to present the Board with a false choice that the Board must either conclude (i) that each of 447 Battery Street, 425 Washington Street and 439 Washington Street are landmark-eligible buildings under Article 10 of the Planning Code or (ii) that the 447 Battery Street building could not appropriately be considered a local landmark.

This is a false choice that ignores the MND's clear explanation as to why 425 and 439 Washington Street are not individually eligible for the California Register. The MND and its Appendices explain that both buildings are ineligible for listing on the California Register because the facades of both buildings were subject to "extensive alterations completed in 1967"[20] and because "the first 23 feet of the Washington side of [425 Washington Street] was demolished."[21] The MND

[18] California Public Resources Code Section 21084.1
[19] San Francisco Planning Department, Historic Resource Evaluation Response, 447 Battery Street, December 18, 2017, Case No. 2014.1036E.
[20] MND, p. 54.
[21] San Francisco Planning Department, Preservation Team Review Form, 425 and 439-445 Washington Street, February 11, 2018, Case No. 2015-015553ENV

and its Appendices also conclude that the original facades of the two buildings lacked distinction.[22] Appendix A1 of the MND explains:

> Both [buildings] have lost integrity of design, materials, workmanship, feeling, association, and setting as a result of the widening of Washington Street and the construction of new facades in 1967. Regarding the rear facades on Merchant Street, only the second story of 425 Washington remains intact, and three windows in that story have been filled in. At 439-445 Washington, the Merchant Street facade also remains partially intact, but its second story window sash has been altered, three of the first story openings have been filled in, and doors in the remaining opening have been altered. The lintels above the second story windows also do not appear to be original. Thus, for each building, the Merchant Street facade, which was a secondary facade to begin with, is not intact enough to overcome the complete remodeling of the Washington Street side and to thus convey the pre-1967 aspects of each building's history.[23]

In place of that thorough analysis, Appellant asks the Board to conclude 425 Washington and 439 Washington are historic simply because of the date of their original construction and because they are "brick commercial buildings." Stating an unsupported opinion about the historic merit of 425 and 439 Washington Street is not a fair argument that the MND erred in concluding that 425 Washington and 439 Washington are not historic resources. The Board should therefore conclude that the MND appropriately analyzes the Project's potential historic resource impacts.

D. Appellant Misleadingly States That Merchant Street Improvements Would Only be Built if its 447 Battery Street Project Moves Forward

Appellant attempts to undermine the MND's Transportation Analysis by arguing that it improperly relies on an assumption that the Project's "shared street" improvements to Merchant Street would only be constructed if Appellant's 447 Battery Street Project moves forward. Appellant's assertion is incorrect, as the MND clearly provides that the Project would solely construct shared-street improvements adjacent to the Project's Merchant Street frontage. In no instance does the MND state that the Project would build or otherwise rely on street improvements potentially constructed by Appellant's 447 Battery Project.

That the Project would only construct improvements to Merchant Street along the Project's frontage is explained both by words and figures in the MND and the MND's Transportation Study. The MND states that the Project would "convert the western portion of Merchant Street in front of the project site into a shared street/living alley" and elsewhere that these improvements "would extend from Sansome Street to the eastern edge of the project site" (emphasis added).[24] The

[22] William Kotsura, "Historical Evaluation of 425 and 439-445 Washington Street, San Francisco, According to California Register Criteria", May 2017, pp. 15-18.
[23] *Id*., p. 15.
[24] MND, p. 2. Similarly, the FMMD states on page 18 that "The proposed project would convert a portion of Merchant Street into a shared street/living alley with approximately 4,810 square feet of POPOS that would extend from Sansome Street to the eastern edge of the project site."

MND's Transportation Analysis states that the portion of the Merchant Street improvements fronting 447 Battery Street would be constructed only if the Appellant's project is constructed:

> The 447 Battery Street project proposed a similar shared street design as is currently being proposed by the proposed project and residential variant, and thus would extending the shared street for the entire block of Merchant Street. If the 447 Battery Street project is approved, it would be responsible for implementing the streetscape changes fronting the 447 Battery Street property on Merchant Street.[25] (emphasis added)

The MND Transportation Analysis further provides, regarding the shared street improvements:

> [T]he segment along the 447 Battery Street project frontage may not be constructed before the completion of the 530 Sansome Street project, in which case the project sponsor would coordinate with SFMTA and SF Public Works to design a transition zone between the existing street and proposed shared street.[26]

Both Figures 3 and 4 of the MND's Transportation Analysis show the Merchant Street Improvements terminating at the edge of the Project site, and, along the frontage of 447 Battery Street note "447 Battery frontage proposed for improvement as part of 447 Battery Project."[27]

Given the clarity of these words and images, Appellants' assertions are both surprising and misleading. Appellant's claims also contradict the conclusions of the DEIR for Appellant's 447 Battery Street Project. Appellant's DEIR assumes that only the portion of Merchant Street fronting 447 Battery Street would be improved, and concludes that:

> [T]he proposed sidewalk widening and curbless design at this location would minimize any potential vehicle–pedestrian conflicts at the parking elevator landing area by improving sight lines for motorists, encouraging slower vehicle speeds, and allowing pedestrians to bypass any vehicles that may be stopped in the curb cut as they enter the traffic flow along Merchant Street.[28]

Appellant's statement that "[the Project's] transportation study fails to analyze the potential impacts of the project if 447 Battery is not redeveloped" are unfounded and unsupported by facts. Taken at face value, Appellant's argument is also surprising because it calls into question the conclusions of the transportation analysis of Appellant's own DEIR.

In summary, we respectfully submit that the MND presents a thorough analysis of the Project and clearly fulfills CEQA's goal of providing decision makers information which enables them to make

[25] Fehr and Peers, "530 Sansome Street Transportation Study, San Francisco Planning Department Case No. 2019-017481ENV, Prepared for San Francisco Planning Department", April 2, 2021, p. 68.
[26] *Id*., p. 6.
[27] *Id*., pp. 7-8.
[28] AECOM, "447 Battery Street Transportation Impact Study Final Report Prepared for the San Francisco Planning Department Environmental Planning Division Case No. 2014.1036ENV", November 7, 2019, p. 58.

decisions that intelligently takes account of environmental consequences. We therefore respectfully request that this Board deny this appeal.

Sincerely,

Jim Abrams, Esq.

From:	Wong, Jocelyn (BOS)
To:	BOS Legislation, (BOS); "Ryan Patterson"; James Abrams; Penick, Andrico; DeWitt, Dawn (FIR)
Cc:	PEARSON, ANNE (CAT); STACY, KATE (CAT); JENSEN, KRISTEN (CAT); Hillis, Rich (CPC); Teague, Corey (CPC); Sanchez, Scott (CPC); Gibson, Lisa (CPC); Jain, Devyani (CPC); Navarrete, Joy (CPC); Lewis, Don (CPC); Varat, Adam (CPC); Sider, Dan (CPC); Starr, Aaron (CPC); Ionin, Jonas (CPC); Callagy, Alana (CPC); Kern, Chris (CPC); Rosenberg, Julie (BOA); Longaway, Alec (BOA); BOS-Supervisors; BOS-Legislative Aides; Calvillo, Angela (BOS); Somera, Alisa (BOS); Mchugh, Eileen (BOS)
Subject:	UPDATED PLANNING DEPARTMENT RESPONSE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021
Date:	Monday, September 27, 2021 2:27:38 PM
Attachments:	image001.png

Greetings,

The Office of the Clerk of the Board is in receipt of a response memo **with exhibits** sent by the Planning Department, as the exhibits were not previously included, for an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project.

Planning Department Response Memo with Exhibits– September 27, 2021

Best regards,

Jocelyn Wong
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T: 415.554.7702 | F: 415.554.5163
jocelyn.wong@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services

Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

From: BOS Legislation, (BOS)

Sent: Monday, September 27, 2021 10:28 AM
To: 'Ryan Patterson' <ryan@zfplaw.com>; James Abrams <jabrams@jabramslaw.com>; Penick, Andrico <andrico.penick@sfgov.org>; DeWitt, Dawn (FIR) <dawn.dewitt@sfgov.org>
Cc: PEARSON, ANNE (CAT) <Anne.Pearson@sfcityatty.org>; STACY, KATE (CAT) <Kate.Stacy@sfcityatty.org>; JENSEN, KRISTEN (CAT) <Kristen.Jensen@sfcityatty.org>; Hillis, Rich (CPC) <rich.hillis@sfgov.org>; Teague, Corey (CPC) <corey.teague@sfgov.org>; Sanchez, Scott (CPC) <scott.sanchez@sfgov.org>; Gibson, Lisa (CPC) <lisa.gibson@sfgov.org>; Jain, Devyani (CPC) <devyani.jain@sfgov.org>; Navarrete, Joy (CPC) <joy.navarrete@sfgov.org>; Lewis, Don (CPC) <don.lewis@sfgov.org>; Varat, Adam (CPC) <adam.varat@sfgov.org>; Sider, Dan (CPC) <dan.sider@sfgov.org>; Starr, Aaron (CPC) <aaron.starr@sfgov.org>; Ionin, Jonas (CPC) <jonas.ionin@sfgov.org>; Callagy, Alana (CPC) <Alana.Callagy@sfgov.org>; Kern, Chris (CPC) <chris.kern@sfgov.org>; Rosenberg, Julie (BOA) <julie.rosenberg@sfgov.org>; Longaway, Alec (BOA) <alec.longaway@sfgov.org>; BOS-Supervisors <bos-supervisors@sfgov.org>; BOS-Legislative Aides <bos-legislative_aides@sfgov.org>; Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Somera, Alisa (BOS) <alisa.somera@sfgov.org>; Mchugh, Eileen (BOS) <eileen.e.mchugh@sfgov.org>; BOS Legislation, (BOS) <bos.legislation@sfgov.org>
Subject: PLANNING DEPARTMENT RESPONSE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021

Greetings,

The Office of the Clerk of the Board is in receipt of a response memo sent by the Planning Department for an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project.

Planning Department Response Memo – September 27, 2021

I invite you to review the entire matters on our Legislative Research Center by following the link below:

Board of Supervisors File No. 210923

Best regards,

Jocelyn Wong
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T: 415.554.7702 | F: 415.554.5163
jocelyn.wong@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services

From:	Callagy, Alana (CPC)
To:	BOS Legislation, (BOS)
Cc:	JENSEN, KRISTEN (CAT); Kern, Chris (CPC); Gibson, Lisa (CPC); Jain, Devyani (CPC); Vanderslice, Allison (CPC)
Subject:	530 Sansom Street CEQA FMND Appeal - Planning Department Response
Date:	Monday, September 27, 2021 10:14:40 AM
Attachments:	Appeal - Response Memo - 530 Sansome Street FMND_2021 Sept 27.pdf

Good morning,

Please see the attached planning department response to the appeal of the CEQA Final Mitigated Negative Declaration for the 530 Sansome Street Project - Appeal Hearing October 5, 2021.

Kind regards,
Alana

Alana Callagy, Senior Environmental Planner

Environmental Planning
San Francisco Planning
49 South Van Ness Avenue, Suite 1400, San Francisco, CA 94103
Direct: 628.652.7540 | www.sfplanning.org
San Francisco Property Information Map

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

FINAL MITIGATED NEGATIVE DECLARATION APPEAL

530 SANSOME STREET

Date:	September 27, 2021
To:	Angela Calvillo, Clerk of the Board of Supervisors
From:	Lisa Gibson, Environmental Review Officer – (628) 652-7571 Alana Callagy, alana.callagy@sfgov.org, (828) 652-7540
RE:	**Planning Case No. 2019-017481ENV** **Appeal of the Final Mitigated Negative Declaration for 530 Sansome Street**
Hearing Date:	October 5, 2021
Attachment(s):	Exhibit A – PMND Appeal Response, June 24, 2021 Exhibit B – Motion No. 20953, July 29, 2021
Project Sponsor:	James Abrams, J. Abrams Law on behalf of EQX Jackson SQ Holdco LLC (415) 999-4402 Josh Keene, San Francisco Bureau of Real Estate (41) 554-9859 Assistant Deputy Chief Dawn DeWitt, San Francisco Fire Department (415) 674-5066
Appellant:	Ryan Patterson on behalf of 447 Partners, LLC

Introduction

This memorandum and the attached documents are provided in response to the letter of appeal to the board of supervisors (the board) regarding the issuance of a final mitigated negative declaration (FMND) under the California Environmental Quality Act (CEQA) for 530 Sansome Street (the proposed project). The planning commission (the commission) heard an appeal of the department's decision to issue the FMND and upheld the department's decision to issue the FMND on July 29, 2021. On August 30, 2021 Ryan Patterson filed an appeal of the planning commission's action on the FMND to the board on behalf of 447 Partners, LLC.

The FMND was provided to the clerk of the board on September 15, 2021.

The decision before the board is whether to uphold the adoption of the FMND by the commission and deny the appeal, or to overturn the commission's decision upholding the department's adoption of the FMND and return the project to the planning department (department) for additional review.

Site Description and Existing Use

The 17,733-square-foot project site is located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street. The project site is in a C3O (Downtown Office) use district and a 200-S height and bulk district.

Project Description

The project would demolish the existing buildings and construct a 218-foot-tall (236 feet total, including rooftop mechanical equipment) building and a four-story replacement fire station, with three below-grade levels under both buildings.

The 530 Sansome Street project identified two different potential programs of use (one primarily hotel and the other primarily residential), either of which would be within the future tower and would have the same building envelope.

Under the proposed project with hotel program, a 19-story tower would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the proposed project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights; the total height and massing of the tower would be the same as under the proposed project. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels for the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service

spaces, 143 class 1 bicycle parking spaces, and utility rooms for the fire station. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley.

Background:

On December 20, 2019, EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (hereinafter project sponsor) filed an application for the proposed project with the planning department (hereinafter department) to demolish three existing buildings at 425 Washington, 439–445 Washington, and 530 Sansome streets and construct a four-story replacement fire station for San Francisco Fire Department Station 13 and an approximately 218-foot tall tower, with three below-grade levels under both buildings. In September 2020, the sponsors proposed the study of a residential variant of the proposed project, which would replace the fire station consistent with the project but would build approximately 256 residential units in a 21-story building (at the same height) instead of hotel, office, fitness center, and retail/restaurant uses.

On April 28, 2021, the department published a preliminary mitigated negative declaration (PMND) with an initial study, analyzing the potential environmental impacts of the project. The PMND addressed both the hotel use and the residential variant. On May 18, 2021, Ryan Patterson on behalf of 447 Partners, LLC (the appellant), filed a letter appealing the PMND. The appeal concerns were addressed in the department's June 24, 2021 response to appeal, attached as **Exhibit A.** On July 29, 2021, the commission held a public hearing on the merits of the appeal and adopted Motion No. 20953 affirming the department's decision to adopt a mitigated negative declaration, attached as **Exhibit B.**

The FMND was published on July 29, 2021. Ryan Patterson on behalf of 447 Partners, LLC filed an appeal of the FMND on August 30, 2021. The appeal letter and attached FMND are included in Board File No. 210923. The approval action for this project occurred on July 29, 2021.

Planning Department Responses

The concerns raised in the appeal letter are addressed in the responses below.

Response 1: The Department complied with San Francisco Administrative Code and CEQA Guidelines to provide legally adequate notice.
The appellant contends that the department did not provide legally adequate notice to the property owners of 447 Battery Street. The appellant claims that it received the mailed Notice of Availability and Intent to Adopt a Mitigated Negative Declaration on May 17, 2021, and therefore was not provided a 20-day review period.

Contrary to appellant's claims, the department provided public notice as required under all applicable law. Both San Francisco Administrative Code section 31.11 and CEQA Guidelines section 15105(b) require that the department provide a public review period of no less than 20 days. The department provided this review period and met and exceeded the notice requirements by providing multiple types of notice for

the 530 Sansome Street Preliminary Mitigated Negative Declaration (PMND) from April 28, to May 18, 2021.

CEQA Guidelines section 15072(b) requires that a notice of intent to adopt a mitigated negative declaration be given to any organization or individual who has requested such notice and shall also be given by at least one of the following: publication in a newspaper of general circulation; posting on and off the project site; or direct mailing to owners and occupants of property of contiguous properties. San Francisco Administrative Code section 31.11 further requires that the notice be provided to the board(s), commission(s), or department(s) that will carry out or approve the project; posted in the planning department office; and mailed to owners, and to the extent practicable, residential occupants within 300 feet of the project boundaries.

The department complied with the above requirements by mailing notices, posting notices on all three street frontages of the project site, and publishing notice in a newspaper of general circulation. The department mailed the notice on Wednesday, April 28, 2021, to the appellant and owners and occupants within 300 feet of the project boundary, as evidenced by Exhibit C (the Affidavit of Mailing of the notice). As shown in Exhibit C, the property listed at 447 Battery Street is an addressee of the notice.

Regarding the posted notices on the project site, the Department ensured that multiple weather-protected 11-by-17-inch notices were posted in prominent locations along the project site's buildings for the duration of the 20-day noticing period. The project site is adjacent to the appellant's property. Three such notices were posted on each of the project site's Washington Street and Merchant Street frontages, and two were posted on the Sansome Street frontage. As required by the Department guidelines, the posted notices were inspected during the 20-day review period to ensure that they remained in place and remained legible. Photographs of the posted notices taken on April 28, 2021, and May 17, 2021, are on file with the department.

A newspaper notice was also published in the San Francisco Examiner on April 28, 2021, and the notice was also posted at the San Francisco Office of the County Clerk for the 20-day review period. The Declaration of Posting of notices at and adjacent to the site, newspaper notice, and county clerk-stamped notice are included in Exhibit C to the PMND appeal response (which is contained in Exhibit A of this FMND Appeal Response). Accordingly, even if the appellant did not physically receive or otherwise retrieve its mail until May 17, 2021, the appellant would likely have been apprised of the Notice of Availability when visiting its property at 447 Battery Street.

As such, there is no merit to appellant's contention that the department did not provide legally adequate notice of the availability of the PMND.

Response 2: The FMND adequately and accurately analyzes the 530 Sansome Street project and complies with CEQA, the CEQA Guidelines, and San Francisco Administrative Code chapter 31.

The appellant mistakenly contends that the proposed project and residential variant are two different projects with distinctly different environmental impacts. The appellant argues that there are two project descriptions, that this precludes informed decision making regarding the project, and that the FMND project description is not stable or finite as required by CEQA. The appellant further states that the FMND

is inconsistent with Administrative Code 31.20 and that the department must reissue the FMND with a revised project description or issue separate PMNDs for the proposed project and the residential variant.

The appellant mischaracterizes CEQA's requirements. CEQA requires that a project description be stable and finite and should not be vague or inconsistent throughout the CEQA document. But a CEQA document may describe and analyze one project with multiple options or variants for allocation of use, as the FMND does here.

As described in more detail in Section A of the FMND, the project description consists of the following components:

1. Demolition of an existing two-story San Francisco Fire Department Station 13 on the western portion of the project site, which would be rebuilt as a four-story building on the eastern portion of the project site;

2. Demolition of two buildings at 425 Washington Street and 439–445 Washington Street and construction of an approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) tower;

3. Construction of three below grade basement levels under the project site; and

4. Conversion of a portion of Merchant Street from Sansome Street to the eastern edge of the project site into a shared street/living alley.

5. Construction of an approximately 218-foot-tall tower containing either (i) approximately 200 hotel rooms, retail/restaurant, office, and fitness center uses, or, (ii) under the proposed residential variant, approximately 256 residential units instead of the hotel, retail/restaurant, office, and fitness center uses. Under either the proposed project or the residential variant, height and general massing of the newly constructed tower would be similar and the number of vehicle parking spaces and class 1 or 2 bike spaces would vary in accordance with the planning code.

The appellant does not contend the FMND omits any of CEQA's technical requirements for a project description, and the level of detail provided in the project description arguably exceeds the requirements of CEQA Guidelines section 15071(a), which provides that a negative declaration must include "[a] brief description of the project, including a commonly used name for the project, if any." Rather than provide a "brief description" of the project, the FMND devotes more than 35 pages to describing the proposed project and residential variant and includes, for both schemes, site plans, building elevations, floor plans, building and use square footage calculations in text and table format, and descriptions of the approvals required for both the proposed project and the residential variant. The FMND also evaluates the environmental impacts of each of the proposed project and the residential variant independently.

The appellant also mischaracterizes the requirements of the San Francisco Administrative Code. The appellant's claim that a single FMND for the 530 Sansome Street project is inconsistent with San Francisco Administrative Code section 31.20 is incorrect. The appellant's invocation of section 31.20 is overly narrow

and overlooks clear language in section 31.20(a), which states "[t]he concept of a project is broadly defined by CEQA so that multiple actions of the same or of different kinds may often constitute a single project. This concept of a project permits all the ramifications of a public action to be considered together, and avoids duplication of review."

The FMND analyzes a single project: the construction of a fire station and a 218-foot-tall tower with two different potential programs of use (one primarily hotel, and another primarily residential), both within the future tower, and thereby avoids duplicative environmental review. The administrative code permits a single negative declaration to analyze more than one project when the environmental effects of the projects are essentially the same. Here, the FMND concludes that the proposed project or the residential variant would have essentially the same significant environmental impacts, and the same mitigation measures identified in the FMND apply to both schemes. For example, both the proposed project and residential variant would have identical significant impacts to historic resources, tribal cultural resources, and archeological resources, all resulting from the demolition of the existing fire station. Accordingly, identical mitigation measures for each such significant impact applies to both the proposed project and the residential variant.

In instances where the two schemes would have the same impact conclusion, but the impacts would be characteristically different, the FMND independently analyzes each scheme and discloses such differences. For example, freight and passenger loading demand would be different between the proposed project and residential variant due to the respective uses. Impact TR-6 on pages 82 to 84 analyzes and discloses impacts for each and concludes that loading impacts would be less than significant under either the proposed project or residential variant. Likewise, as additional examples, differences between the proposed project and residential variant are discussed in Section C, Compatibility with Existing Zoning and Plans (pages 39 to 43), Impact PH-1 for population and housing (pages 48 to 50), Impact AQ-3 for operational air quality emissions (pages 119 to 120), Impact PS-1 and PS-2 for public services (pages 150 to 152), and Impact RE-1 for recreation (pages 140 to 141).

As such, the department complied with San Francisco Administrative Code section 31.20 in preparing a single mitigated negative declaration for the 530 Sansome Street project.

Response 3: The 530 Sansome Street Project would not have an unavoidable significant effect on historic resources that would warrant preparation of an environmental impact report.

The appellant contends that the proposed project or residential variant's potential impacts on historic resources warrants the preparation of an environmental impact report (EIR) because there is a "fair argument" that the 530 Sansome Street project may have adverse environmental impacts on the potential historic resource at 447 Battery Street. The appellant argues that the FMND does not discuss the potential landmark status of 447 Battery Street and alleges the project will cause impacts to the immediate surroundings of 447 Battery Street.

In determining if a project may cause a substantial adverse change in the significance of a historic resource, CEQA Guidelines section 15064.5(b) clarifies that a "project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." The department's historic preservation review of a project involves two steps, consistent with CEQA requirements. The first step is to determine whether a historic resource is

present that could be impacted by the project and, if so, to identify its character-defining features that convey the significance of the historic resource. The second step is to determine whether the project would materially alter any of the character-defining features of the identified historic resource.

A substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). The significance of a historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in" a local register of historical resources pursuant to a local ordinance or resolution. Thus, a project may cause a change in a historic resource, but still may not have a significant adverse effect on the environment as defined by CEQA, as long as the impact of the change on the historic resource is determined to be less than significant.

The FMND concludes that the proposed project or residential variant would have a significant impact to an historic resource, the sculpture *Untitled* affixed to the existing fire station at 530 Sansome Street, and thereby requires the project sponsors to comply with a mitigation measure to relocate the sculpture.[1] Implementation of the identified mitigation measure would reduce the impact to a less-than-significant level. The FMND also identifies the building at 447 Battery Street as a historic resource, consistent with the conclusions of the 447 Battery Street project Draft Environmental Impact Report (DEIR) published on October 21, 2020, and the HRE and HRER Parts I and II for the project proposed at 447 Battery Street.[2] The 447 Battery Street project proposes to construct a new 18-story, 200-foot-tall hotel with a ground-floor lobby and restaurant while retaining portions of the 447 Battery Street building. The FMND identifies the 447 Battery Street building as the closest historic structure to the project site and concludes that vibration generated by heavy equipment used for the construction of the proposed project or residential variant could result in structural damage to the historic structure, and thereby requires the project sponsors to comply with a mitigation measure to reduce vibration impacts to a less-then-significant level. The 447 Battery Street building was first identified as an historic resource by the department in the 1968 Here Today survey, and this determination was confirmed in the HRER Parts I and II prepared by planning department preservation staff for the 447 Battery Street project. The historic resource is the Jones-Thierbach Coffee Company Building, and it was determined to be eligible for listing in the California Register of Historical Resources based on it retaining sufficient integrity to convey its significance under Criteria 1 (Events) and 3 (Design/Construction). The Jones-Thierbach Coffee Company Building is eligible under Criterion 1 as an uncommon vestige of the post-1906 reconstruction period,

[1] The department determined based on substantial evidence in the record that there are historic resources on the project site. Based on the HRE and HRER Part I, the historic resources for the 530 Sansome Street project are (1) the sculpture *Untitled*, individually eligible for listing in the California Register under Criterion 3 as an object that is an important site specific work by master artist Henri Marie-Rose with a period of significance of 1976 and (2) the building at 530 Sansome Street and the sculpture *Untitled* as contributors to the California Register-eligible Embarcadero Center Historic District, eligible for listing in the California Register under Criterion 3 as a distinguishable complex designed by master architect John C. Portman, Jr. in the Brutalist style with a period of significance ranging from 1971 to 1982. The department determined that the 425 and 439–445 Washington Street properties were not individually eligible for listing in the California Register nor do they contribute to any historic district and, therefore, are not considered historical resources under CEQA. The department determined that the reinstallation of the sculpture as proposed along with the implementation of Mitigation Measure M-CR-1, Interpretation and Relocation Plan, would result in a less than significant impact. With respect to the sculpture and the 530 Sansome Street building as contributors to the California Register-eligible historic district, the department determined that demolition of the building and relocation of the sculpture would not cause an adverse impact resulting in material impairment to the eligible Embarcadero Center Historic District and, therefore, would result in a less-than-significant impact on the eligible Embarcadero Center Historic District.

[2] San Francisco Planning Department, *447 Battery Street Project Draft Environmental Impact Report*, October 2020.

and has significance related to San Francisco's coffee industry as the only building that was used historically for coffee roasting and warehousing that is known to remain in the industry's initial hub north of Market Street.[3] The building is eligible under Criterion 3 as a rare remaining example of a brick commercial building and warehouse in the present-day Financial District. The building's period of significance is 1907–1967 and reflects the distinctive characteristics of the turn-of-the-20th-century warehouse type, including brick masonry construction, heavy timber framing, and regularly spaced window openings.[4] The building does not retain integrity of setting or materials because of extensive redevelopment in the surrounding area of the Financial District since its period of significance. Therefore, the significance of the 447 Battery Street historic resource is not tied to surrounding development patterns or relationship with nearby properties.

The appellant claims that additional review of 447 Battery is required because 447 Battery Street is proposed for Article 10 landmarking. The landmarking process is separate from the CEQA review process. The 447 Battery Street building was identified as an individually significant historic resource for the purpose of CEQA review and the landmarking of 447 Battery Street does not change this determination. The landmark designation may identify different character-defining features than those identified through the CEQA process, although the department aims for consistency. In this case, the landmarking process relies on the character-defining features previously determined by the department. The appellant has not provided any substantial evidence that the building has character-defining features beyond those already identified by the department.

The FMND discusses potential impacts to the building at 447 Battery Street on pages 56 to 57. The impact on the historic resource at 447 Battery Street from groundborne vibration would be less than significant with the implementation of Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction. As described in Response 4 below, Mitigation Measure M-NO-3 specifies the components of the monitoring plan, timing, guidelines, approval process, and responsible professionals who may determine corrective measures based on construction activity. In addition, the mitigation measure imposes a maximum groundborne-vibration level (such as the Caltrans criterion of 0.25 peak particle velocity (PPV) for historic structures), which shall not be exceeded, to protect nearby buildings. No other impact to the adjacent historic resource at 447 Battery Street was identified.

The appellant claims that because the buildings at 447 Battery Street and 425 and 439-445 Washington Street share similar features, all three buildings should be evaluated as "potentially landmark eligible" and that the FMND failed to analyze the 425 Washington Street and 439-455 Washington Street buildings in the same historic context as the 447 Battery Street building.

The appellant's claim that the buildings at 425 and 439-445 Washington Street were not evaluated in the same context as the 447 Battery Street building is mistaken. The HRE prepared for the 425 and 439-445 Washington Street properties and the analysis undertaken by planning department preservation staff did evaluate these properties within the same historic context as 447 Battery Street. However, as stated in the HRE prepared for 425 and 439-445 Washington Street, included as an appendix to the FMND, the 425

[3] Ibid.
[4] Ibid.

Washington Street building lacks integrity for the period before 1967, and the building at 439-445 Washington Street has "very low integrity for the period before 1967." Because these two buildings were found to lack or have low integrity, they are not considered potentially eligible for either the California Register of Historical Resources or Article 10 landmark status. Additionally, both the HRE and the analysis undertaken by planning department preservation staff for the 425 and 439-445 Washington Street properties, as well as the historic resource analysis undertaken for the 447 Battery Street DEIR, fully analyzed the relationship of these three buildings and the surrounding area and determined that none of these properties were significantly associated nor did they contribute to any historic district.

The substantial evidence test applies to the lead agency's determinations of whether a historic resource exists. The appellant has not demonstrated that the department's determination in this regard is not supported by substantial evidence.

The appellant claims that an EIR should be prepared because there is a "fair argument" that the 530 Sansome Street project may have adverse environmental impacts. In determining the significance of environmental effects caused by a project, CEQA Guidelines section 15064(f) states that the decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency. CEQA Guidelines section 15064(f)(5) offers the following guidance: "Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumption predicated upon facts, and expert opinion supported by facts."

The appellant does not provide any substantial evidence supporting a fair argument to refute the department's determination that the proposed project or residential variant would not cause a substantial adverse change in the significance of a historic resource after implementation of identified mitigation measures. As noted above, the significance of 447 Battery Street is not tied to its association with adjacent buildings or development patterns that would be impacted by the proposed project or residential variant. The appellant also has not provided any substantial evidence to support the claim that the proposed project or residential variant at 530 Sansome Street would result in any alteration to the significance of 447 Battery Street. Therefore, the appellant has not presented substantial evidence in support of a fair argument that the 530 Sansome Street project may have a significant impact on historic resources beyond those already identified in the FMND.

The appellant also claims, under the topic of historic resources, that the geotechnical investigation prepared for the 530 Sansome Street project assumed that the existing 447 Battery Street building would be demolished. The geotechnical investigation makes recommendations for the 530 Sansome Street project. For example, one recommendation states that the 530 Sansome Street project should "avoid surcharging basement walls and shoring for the proposed 447 Battery Street development, if 447 Battery Street is constructed first." (Emphasis added) This does not assume that 447 Battery Street would be demolished before 530 Sansome Street is constructed but simply provides recommendations if that was the case.

In accordance with CEQA Guidelines section 15070(a), the initial study shows that the proposed project or residential variant could have a significant effect on the environment; however, impacts would be mitigated to a less-than-significant level and a mitigated negative declaration, not an EIR, is the legally

appropriate document for environmental review. The department's analysis is supported by substantial evidence in the record, as discussed in this response.

Response 4: The 530 Sansome Street Project would not have a significant effect on traffic, circulation, or pedestrian safety.

The appellant has not provided any substantial evidence that the project may result in a significant transportation or circulation impact under CEQA, as discussed below. Contrary to the appellant's assertion, the transportation study analyzes a scenario where the 447 Battery Street project is not constructed, as discussed below. For project-level analysis, the transportation study evaluated the proposed project's potential transportation and circulation impacts against existing conditions, including continued existing operations at 447 Battery Street. For cumulative analysis, the report evaluated the most impactful scenarios where the proposed 447 Battery Street project would be constructed. This approach is consistent with CEQA, which requires the lead agency to evaluate impacts of the project on the existing environment and also on cumulative conditions (i.e., reasonably foreseeable future conditions). Therefore, the conclusions in the transportation study or transportation and circulation impact analysis in the FMND would not change even if the 447 Battery Street project is not constructed.

The appellant quotes Footnote 3 of the transportation study, pointing out a potential need for additional environmental review that would be required if a building design change is proposed. However, the appellant does not explain how the project as currently proposed would result in a significant impact under CEQA. The footnote to the report is used to clarify the assumptions used in the analysis and give transparency for the environmental review process (i.e., additional environmental review would be required should a POPOS on Merchant Street become infeasible). As noted in Footnote 4, the study clarifies that the portion of the 447 Battery Street project's frontage along Merchant Street may not be constructed prior to development of 530 Sansome Street. This information is included so as not to preclude the opportunity for the 530 Sansome Street project sponsor to develop the full length of Merchant Street should the 447 Battery Street project not improve its frontage on Merchant Street.

Contrary to the appellant's statement, members of the Street Design Advisory Team (SDAT) reviewed the current proposal, which was approved by the planning commission on July 29. 2021. The project design was updated reflecting SDAT's comments in the several months leading up to the planning commission hearing. SDAT is an advisory body that provides a regular forum for city agencies to review and comment on proposed changes to the public right-of-way. This forum helps city agencies provide clear guidance to project sponsors who have a requirement to improve the public right of-way under the better streets plan and planning code section 138.1.[5] While the environmental planning division coordinates with SDAT in reviewing projects, the environmental planning division analyzes a project's environmental impacts under CEQA and the San Francisco transportation impact analysis guidelines and makes independent impact determinations.

The appellant erroneously contends that the department erred by not analyzing the impacts of the proposed removal of existing metered vehicular parking spaces on the south side of Washington Street. As explained on page 56 of the transportation study, because the department has determined under CEQA section 21099(d) that the proposed project is a mixed-use project on an infill site located within a

[5] San Francisco Planning Department, Street Design Advisory Team (SDAT); https://sfplanning.org/project/street-design-advisory-team, accessed September 13, 2021.

transit priority area, CEQA prohibits the department from considering the reduction in parking, by itself, as an environmental impact.

Further, contrary to the appellant's assertion, the removal of metered parking spaces on the south side of Washington Street would not cause or exacerbate a shortage of loading spaces in the project site vicinity. As discussed under Impact TR-6 on pages 82 to 84 of the FMND, the 530 Sansome Street project analysis found that the project would adequately serve proposed freight and passenger loading demand without creating potentially hazardous conditions for other roadway users, including people walking, bicycling, and driving. Based on this, the department concluded that the project would result in less-than-significant impacts with respect to freight and passenger loading. Additionally, as discussed under Impact TR-6 on PMND page 82, the implementation of a driveway loading and operations plan would help further ensure that freight loading activities generated by the project do not introduce potentially hazardous conditions for other roadway users.

The appellant speculates that the removal of all parking on the south side of Washington Street may cause people to park their trucks or cars in the emergency lane proposed on Washington Street as part of the proposed project, thereby interfering with emergency access and causing safety concerns. Should someone choose to illegally park a vehicle in the emergency lane, the city will initiate code enforcement action to maintain emergency access for the fire department. Further, as explained under Impact TR-3 on pages 79 to 82, the 530 Sansome Street project would not interfere with accessibility for emergency services. Specifically, as shown in truck turning templates in in Appendix G to the 530 Sansome Street transportation study, freight truck movements could be accommodated within Washington Street and would not interfere with fire department vehicles exiting the fire station on Washington Street. Thus, the project would result in a less-than-significant impact with respect to emergency access.

The department has adequately analyzed and identified the proposed project and residential variant's impacts on traffic and circulation, including pedestrian safety, and found that the 530 Sansome Street project would have less-than-significant impacts on traffic and circulation.

Response 4: The PMND identifies feasible mitigation measures with performance standards that satisfy CEQA requirements.

The appellant claims that the FMND inappropriately defers mitigation of potential impacts to historic resources, geologic resources, and hazardous materials by relying on future reports and recommendations from those reports without specifying performance standards. The appellant's statements are not consistent with the analysis or mitigation measures contained in the FMND.

The FMND does not, as appellant claims, defer "formulation of mitigation measures." All the mitigation measures contained in the FMND contain detailed performance standards that ensure their effectiveness and specify the timing of any required actions. Furthermore, CEQA Guidelines section 15126.4(a)(1)(B) permits the department to further refine the details of mitigation measures after the project's approval if the department (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. The mitigation measures cited by the appellant meet these requirements.

For example, Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction, requires the project sponsors to avoid or reduce project-related construction vibration damage to adjacent buildings and/or structures and to ensure that any such damage is documented and repaired. The mitigation measure specifies the components for a monitoring plan, timing, guidelines, approval process, and responsible professionals who may determine corrective measures based on construction activity and the character of adjacent buildings (FMND pages 104 to 107). The vibration management and monitoring plan establishes quantified maximum vibration levels based on professional standards, with common standards incorporated into the mitigation measure. The mitigation measure specifies that the pre-construction survey and vibration management and monitoring plan shall be prepared and approved by the Environmental Review Officer (ERO) or the ERO's designee prior to issuance of any demolition or building permit. In order to comply with the specified maximum vibration levels, the vibration management and monitoring plan is required to identify all vibration-generating equipment to be used during construction, when to implement alternative construction techniques, steps and protocol for vibration monitoring during construction, inspection intervals, provisions to be followed should damage to any building and/or structure occur due to construction-related vibration, and preparation of a vibration monitoring results report.

Regarding the relocation of the *Untitled* sculpture, the appellant's claim of deferred mitigation is based on an incomplete, partial reading of the HRER II and fails to consider the mitigation measures and the statement in the HRER II that "[t]he final mitigation measures will be included in the Mitigated Negative Declaration. Planning staff believes that implementation of these mitigation measures would reduce the project's impact to historic resources to a less than significant level" (page 4 of the 530 Sansome Street Historic Resource Evaluation Response Part II, p. 4). Those measures are included in the FMND as Mitigation Measure M-CR-1: Interpretation and Relocation Plan.

The components of Mitigation Measure M-CR-1 include: (1) preparation of the Historic Resources Public Interpretive Plan (interpretive plan), and (2) a relocation plan that includes an initial reinstallation, maintenance plan for the sculpture, and schedule for reviewing and finalizing those plans. The mitigation measure specifies that department preservation staff must approve the interpretive plan prior to issuance of the demolition permit or the site permit. As described in the mitigation measure, the "primary goal of the [interpretive] program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13."

The mitigation measure further specifies the goals, components, approval processes, and timing considerations for relocation of the *Untitled* sculpture (pages 55 to 56). The mitigation measure additionally specifies suitable locations for the sculpture on the new building and states, "The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its north (Washington Street) or south (Merchant Street) façades; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site." Department preservation staff must approve detailed content, media, and other characteristics of the interpretive program and the relocation plan prior to the issuance of a temporary certificate of occupancy.

Contrary to the appellant's assertion, neither the transportation study nor the impact analysis in the FMND relies on future final designs in concluding that the project would result in less-than-significant impacts with respect to potentially hazardous conditions. The department analyzed the project's impact

based on the plans in the FMND. As discussed on page 52 of the traffic study, "the proposed project's POPOS programming on Merchant Street, including discouraging access for through vehicles, would not result in potentially hazardous conditions due to the low roadway volumes during the mid-day period (when POPOS use would occur) and the design of the street that would require slow vehicles travel while entering and existing the project's parking garage." For the purposes of CEQA, potentially hazardous conditions refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. The department found that the project would not create any potentially hazardous conditions and as a result concluded that the project would result in less-than-significant impacts with respect to potentially hazardous conditions.

The appellant's statement regarding hazardous materials and the necessity for further investigation to demonstrate a less-than-significant impact is incorrect. A phase I environmental site assessment was prepared for the project site and is summarized in FMND pages 170 to 175. As stated on page 175 of the FMND, "[b]ased on mandatory compliance with existing regulatory requirements, the proposed project or residential variant would not result in a significant hazard to the public or environment from contaminated soil and/or groundwater."

The appellant does not provide any evidence to support its assertion that the other mitigation measures identified in the FMND for historic resources and geologic resources inappropriately defer mitigation or do not specify performance standards or implementation timing requirements. The appellant also does not provide evidence to support its assertation that additional geotechnical analysis is necessary to support the CEQA findings.

The department has properly analyzed and identified the proposed project and residential variant's impacts and identified feasible mitigation measures with performance standards. The mitigation measures would be enforced through a mitigation monitoring and reporting program (MMRP). Consistent with CEQA Guidelines section 15074(d), when adopting an MND, the lead agency shall also adopt a program as a condition of approval to mitigate or avoid significant environmental effects.

Conclusion

For the reasons provided in this appeal response, department staff respectfully recommends that the board uphold the commission's adoption of the FMND and deny the appeal. The appellant has not provided substantial evidence supporting a fair argument that the proposed project would have significant impacts on the environmental with implementation of feasible mitigation measures identified in the FMND that would warrant preparation of an EIR.

Attachments: Exhibit A – PMND Appeal Response, June 24, 2021
Exhibit B – Motion No. 20953, July 29, 2021

Exhibit A – PMND Appeal Response, June 24, 2021

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

EXHIBIT A TO DRAFT MOTION
PLANNING DEPARTMENT RESPONSE TO APPEAL OF PRELIMINARY MITIGATED NEGATIVE DECLARATION

PLANNING CASE NO. 2019-017481ENV – 530 SANSOME STREET PUBLISHED ON APRIL 28, 2021

Background

The project sponsors submitted an application, 2019-017481ENV, for the proposed project at 530 Sansome Street on December 20, 2019, for a proposal to demolish three existing buildings at 425 Washington, 439–445 Washington, and 530 Sansome streets and construction of a four-story replacement fire station for San Francisco Fire Department Station 13 and a 19-story building, with three below-grade levels under both buildings. The 19-story building would contain approximately 200 hotel rooms, 6,470 square feet of retail/restaurant space, 40,490 square feet of office space, and 35,230 square feet of fitness center space. The proposed project would convert the western portion of Merchant Street adjacent to the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). In September 2020, the sponsors proposed the study of a residential variant of the proposed project, which would replace the fire station consistent with the project but would build approximately 256 residential units in a 21-story building (at the same height) instead of hotel, office, fitness center, and retail/restaurant uses. The project site is in a C-3-O (Downtown Office) use district and a 200-S height and bulk district. The proposed project would require the following approvals from the Planning Commission (Commission):

- Approval of an application for a Downtown Project Authorization for the construction of a new building in a Downtown (C-3) Zoning District (San Francisco Planning Code section 309), including approval exceptions for:
  - Bulk controls for lower and upper maximum allowable average area and maximum dimensional length
  - Additional height of up to 10 percent in S bulk district
  - Off-street freight loading in C-3 districts
  - Reduction of shadows on certain public or publicly accessible open spaces in C-3 districts
  - Reduction of ground level wind currents in C-3 districts
- Approval of shadowing on publicly accessible open space under the jurisdiction of the Recreation and Park Commission after consultation with the Recreation and Parks Commission (planning code section 295)
- Approval of a Conditional Use Authorization to allow a private parking garage use for the fire department in the C-3-O (Downtown Office) District (planning code section 303)

- Approval of a Conditional Use Authorization to allow a hotel use (planning code section 303)
- Approval of an Office Allocation under 50,000 square feet (planning code section 321)

The residential variant approvals from the Commission would be the same with the exception of the following:

- No Conditional Use Authorization for the hotel use (planning code section 303)
- No Office Allocation (planning code section 321)
- No exception from off-street loading requirements (planning code section 309)
- An additional exception from rear yard requirements and unit exposure requirements for four units on levels 4 and 5, and off-street freight loading (planning code section 309)
- No variance or payment of in-lieu fee for the class 2 bicycle parking spaces
- No variance for architectural screening at third floor

On April 28, 2021, the San Francisco Planning Department (Department) issued a preliminary mitigated negative declaration (PMND) determining that neither the proposed project nor the residential variant could have a significant impact on the environment. On May 18, 2021, the appellant filed an appeal of the PMND. A copy of the appeal letter is included with this appeal response packet.

Appeal Filed

Ryan Patterson submitted the appeal on May 18, 2021.

A copy of the appeal letter is included with this appeal response packet as Exhibit B.

Planning Department Responses

The concerns raised in the appeal letter are addressed in the responses below.

Response 1: The Department complied with San Francisco Administrative Code and CEQA Guidelines to provide legally adequate notice.

The appellant contends that the Department did not provide legally adequate notice to the property owners of 447 Battery Street. The appellant claims that they received the mailed Notice of Availability and Intent to Adopt a Mitigated Negative Declaration on May 17, 2021, and therefore was not provided a 20-day review period.

Contrary to appellant's claims, the Department provided public notice as required under all applicable law. Both San Francisco Administrative Code section 31.11 and CEQA Guidelines section 15105(b) require that the Department provide a public review period of no less than 20 days. The Department provided this review period and met and exceeded the notice requirements by providing multiple types of notice for the 530 Sansome Street PMND from April 28, to May 18, 2021.

CEQA Guidelines section 15072(b) requires that a notice of intent to adopt a mitigated negative declaration be given to any organization or individual who has requested such notice and shall also be given by at least one of the following: publication in a newspaper of general circulation; posting on and off the project site; or direct

mailing to owners and occupants of property of contiguous properties. San Francisco Administrative Code section 31.11 further requires that the notice be provided to the board(s), commission(s), or department(s) that will carry out or approve the project; posted in the planning department office; and mailed to owners, and to the extent practicable, residential occupants within 300 feet of the project boundaries.

The Department complied with the above requirements by mailing notices, posting notices on all three street frontages of the project site, and publishing notice in a newspaper of general circulation. The Department mailed the notice on Wednesday, April 28, 2021, to the appellant and owners and occupants within 300 feet of the project boundary, as evidenced by Exhibit C (the Affidavit of Mailing of the notice). As shown in Exhibit C, the property listed at 447 Battery Street is an addressee of the notice.

Regarding the posted notices on the project site, the Department ensured that multiple weather-protected 11-by-17-inch notices were posted in prominent locations along the project site's buildings for the duration of the 20-day noticing period. The project site is adjacent to the appellant's property. Three such notices were posted on each of the project site's Washington Street and Merchant Street frontages, and two were posted on the Sansome Street frontage. As required by the Department guidelines, the posted notices were inspected during the 20-day review period to ensure that they remained in place and remained legible. Photographs of the posted notices taken on April 28, 2021, and May 17, 2021, are on file with the Department.

A newspaper notice was also published in the San Francisco Examiner on April 28, 2021, and the notice was also posted at the San Francisco Office of the County Clerk for the 20-day review period. The Declaration of Posting of notices at and adjacent to the site, newspaper notice, and County Clerk-stamped notice are included in Exhibit C. Accordingly, even if the appellant did not physically receive or otherwise retrieve their mail until May 17, 2021, the appellant would likely have been apprised of the Notice of Availability when visiting their property at 447 Battery Street.

As such, there is no merit to appellant's contention that the Department did not provide legally adequate notice of the availability of the PMND.

Response 2: The PMND adequately and accurately analyzes the 530 Sansome Street project and complies with CEQA, the CEQA Guidelines, and San Francisco Administrative Code chapter 31.

The appellant mistakenly contends that the proposed project and residential variant are two different projects with distinctly different environmental impacts. The appellant argues that there are two project descriptions and this precludes informed decision making regarding the project, and that the PMND project description is not stable or finite as required by the CEQA. The appellant further states that the PMND is inconsistent with Administrative Code 31.20 and that the Department must reissue the PMND with a revised project description or issue separate PMNDs for the proposed project and the residential variant.

The appellant mischaracterizes CEQA's requirements. CEQA requires that a project description be stable and finite, and thus, should not be vague or inconsistent throughout the CEQA document. But a CEQA document may describe and analyze one project with multiple options or variants for allocation of use, as the PMND does here.

As described in more detail in Section A of the PMND, the project description consists of the following components:

1. Demolition of an existing two-story San Francisco Fire Department Station 13 on the western portion of the project site, which would be rebuilt as a four-story building on the eastern portion of the project site;
2. Demolition of two buildings at 425 Washington Street and 439–445 Washington Street and construction of an approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) tower;
3. Construction of three below grade basement levels under the project site; and
4. Conversion of a portion of Merchant Street from Sansome Street to the eastern edge of the project site into a shared street/living alley.
5. Construction of an approximately 218-foot-tall tower containing either (i) approximately 200 hotel rooms, retail/restaurant, office, and fitness center uses, or, (ii) under the proposed residential variant, approximately 256 residential units instead of the hotel, retail/restaurant, office, and fitness center uses. Under either the proposed project or the residential variant, height and general massing of the newly constructed tower would be similar and the number of vehicle parking spaces and class 1 or 2 bike spaces would vary in accordance with the planning code.

The appellant does not contend the PMND omits any of CEQA's technical requirements for a project description, and the level of detail provided in the project description arguably exceeds the requirements of CEQA Guidelines section 15071(a), which provides that a negative declaration must include "[a] brief description of the project, including a commonly used name for the project, if any." Rather than provide a "brief description" of the project, the PMND devotes more than 35 pages to describing the proposed project and residential variant and includes, for both schemes, site plans, building elevations, floor plans, building and use square footage calculations in text and table format, and descriptions of the approvals required for both the proposed project and the residential variant. The PMND also evaluates the environmental impacts of each of the proposed project and the residential variant independently.

The appellant also mischaracterizes the requirements of the San Francisco Administrative Code. The appellant's claim that a single PMND for the 530 Sansome Street project is inconsistent with San Francisco Administrative Code section 31.20 is incorrect. The appellant's invocation of section 31.20 is overly narrow and overlooks clear language in section 31.20(a), which states "[t]he concept of a project is broadly defined by CEQA so that multiple actions of the same or of different kinds may often constitute a single project. This concept of a project permits all the ramifications of a public action to be considered together, and avoids duplication of review."

The PMND analyzes a single project: the construction of a fire station and a 218-foot-tall tower with two different potential programs of use (one primarily hotel, and another primarily residential), both within the future tower, and thereby avoids duplicative environmental review. The administrative code permits a single negative declaration to analyze more than one project when the environmental effects of the projects are essentially the same. Here, the PMND concludes that the proposed project or the residential variant would have essentially the same potentially significant environmental impacts, and the same mitigation measures identified in the PMND apply to both schemes. For example, both the proposed project and residential variant would have identical potentially significant impacts to historic resources, tribal cultural resources, and archeological resources, all resulting from the demolition of the existing fire station. Accordingly, identical mitigation measures for each such potentially significant impact applies to both the proposed project and the residential variant.

In instances where the two schemes would have the same impact conclusion, but the impacts would be characteristically different, the PMND independently analyzes each scheme and discloses such differences. For example, freight and passenger loading demand would be different between the proposed project and residential variant due to the respective uses. Impact TR-6 on pages 82 to 84 analyzes and discloses impacts for each and concludes that loading impacts would be less than significant under either the proposed project or residential variant. Likewise, as additional examples, differences between the proposed project and residential variant are discussed in Section C, Compatibility with Existing Zoning and Plans (pages 39 to 43), Impact PH-1 for population and housing (pages 48 to 50), Impact AQ-3 for operational air quality emissions (pages 119 to 120), Impact PS-1 and PS-2 for public services (pages 150 to 152), and Impact RE-1 for recreation (pages 140 to 141).

As such, the Department complied with San Francisco Administrative Code section 31.20 in preparing a single mitigated negative declaration for the 530 Sansome Street project.

Response 3: A PMND is the adequate and accurate document to analyze potential impacts to historic architectural resources, including the building at 447 Battery Street.

The appellant contends that the proposed project or residential variant's potential impacts on historic resources warrant the preparation of an environmental impact report (EIR) because there is a "fair argument" that the 530 Sansome Street project may have adverse environmental impacts on the potential historic resource at 447 Battery Street. The appellant argues that the PMND does not discuss how the project may impair the historic significance of 447 Battery Street and alleges the project will cause impacts to the immediate surroundings of 447 Battery Street. Furthermore, the appellant states "[w]hile we do not concede that the building at 447 Battery Street is in fact a historic resource, the potential impacts must still be fully evaluated under CEQA."

In determining if a project may cause a substantial adverse change in the significance of a historic resource, CEQA Guidelines section 15064.5(b) clarifies that a "project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." The Department's historic preservation review of a project involves two steps, consistent with CEQA requirements. The first step is to determine whether a historic resource is present that could be impacted by the project and, if so, to identify its character-defining features that convey the significance of the historic resource. The second step is to determine whether the project would materially alter any of the character-defining features of the identified historic resource.

A substantial adverse change is defined as: "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). The significance of a historical resource is materially impaired when a project "demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in" a local register of historical resources pursuant to a local ordinance or resolution. Thus, a project may cause a change in a historic resource, but still may not have a significant adverse effect on the environment as defined by CEQA, as long as the impact of the change on the historic resource is determined to be less than significant.

The PMND concludes that the proposed project or residential variant would have a potentially significant impact to an historic resource, the sculpture *Untitled* affixed to the existing fire station at 530 Sansome Street, and

thereby requires the project sponsors to comply with a mitigation measure to relocate the sculpture.[1] The PMND also identifies the building at 447 Battery Street as a historic resource, consistent with the conclusions of the 447 Battery Street project Draft Environmental Impact Report (DEIR) published on October 21, 2020, and the HRE and HRER Parts I and II for the project proposed at 447 Battery Street.[2] The 447 Battery Street project proposes to construct a new 18-story, 200-foot-tall hotel with a ground-floor lobby and restaurant while retaining portions of the 447 Battery Street building.

Based on the HRE and HRER Parts I and II prepared for the 447 Battery Street project, the historic resource is the Jones-Thierbach Coffee Company Building, and it was determined to be eligible for listing in the California Register based on it retaining sufficient integrity to convey its significance under Criteria 1 (Events) and 3 (Design/Construction). The Jones-Thierbach Coffee Company Building is eligible under Criterion 1 as an uncommon vestige of the post-1906 reconstruction period, and has significance related to San Francisco's coffee industry as the only building that was used historically for coffee roasting and warehousing that is known to remain in the industry's initial hub north of Market Street.[3] The building is eligible under Criterion 3 as a rare remaining example of a brick commercial building and warehouse in the present-day Financial District. The building's period of significance is 1907–1967 and reflects the distinctive characteristics of the turn-of-the-20th-century warehouse type, including brick masonry construction, heavy timber framing, and regularly spaced window openings.[4] The building does not retain integrity of setting or materials because of extensive redevelopment in the surrounding area of the Financial District since its period of significance. Therefore, the significance of the 447 Battery Street historic resource is not tied to surrounding development patterns or relationship with nearby properties.

The PMND discusses potential impacts to the building at 447 Battery Street on pages 56 to 57. The impact on the historic resource at 447 Battery Street would be less than significant with the implementation of Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction. As described in Response 4 below, Mitigation Measure M-NO-3 specifies the components of the monitoring plan, timing, guidelines, approval process, and responsible professionals who may determine corrective measures based on construction activity. In addition, the mitigation measure imposes a maximum groundborne-vibration level (such as the Caltrans criterion of 0.25 peak particle velocity (PPV) for historic structures), which shall not be exceeded, to protect nearby buildings. No other impact to the adjacent historic resource at 447 Battery Street was identified.

The appellant claims that an EIR should be prepared because there is a "fair argument" that the 530 Sansome Street project may have adverse environmental impacts. In determining the significance of environmental effects

---

[1] The Department determined based on substantial evidence in the record that there are historic resources on the project site. Based on the HRE and HRER Part I, the historic resources for the 530 Sansome Street project are (1) the sculpture *Untitled*, individually eligible for listing in the California Register under Criterion 3 as an object that is an important site specific work by master artist Henri Marie-Rose with a period of significance of 1976 and (2) the building at 530 Sansome Street and the sculpture *Untitled* as contributors to the California Register-eligible Embarcadero Center Historic District, eligible for listing in the California Register under Criterion 3 as a distinguishable complex designed by master architect John C. Portman, Jr. in the Brutalist style with a period of significance ranging from 1971 to 1982. The Department determined that the 425 and 439–445 Washington Street properties were not individually eligible for listing in the California Register nor do they contribute to any historic district and, therefore, are not considered historical resources under CEQA. The Department determined that the reinstallation of the sculpture as proposed along with the implementation of Mitigation Measure M-CR-1, Interpretation and Relocation Plan, would result in a less than significant impact. With respect to the sculpture and the 530 Sansome Street building as contributors to the California Register-eligible historic district, the Department determined that demolition of the building and relocation of the sculpture would not cause an adverse impact resulting in material impairment to the eligible Embarcadero Center Historic District and, therefore, would result in a less-than-significant impact on the eligible Embarcadero Center Historic District.

[2] San Francisco Planning Department, *447 Battery Street Project Draft Environmental Impact Report*, October 2020.

[3] Ibid.

[4] Ibid.

caused by a project, CEQA Guidelines section 15064(f) states that the decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency. CEQA Guidelines section 15064(f)(5) offers the following guidance: "Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumption predicated upon facts, and expert opinion supported by facts."

The appellant does not provide any substantial evidence supporting a fair argument to refute the Department's determination that the proposed project or residential variant would not cause a substantial adverse change in the significance of a historic resource. Notably, the appellant does not even concede that the building at 447 Battery Street is a historic resource. As noted above, the significance of 447 Battery Street is not tied to its association with adjacent buildings or development patterns that would be impacted by the proposed project or residential variant. The appellant also has not provided any substantial evidence to support the claim that the proposed project or residential variant at 530 Sansome Street would result in any alteration to the significance of 447 Battery Street. Therefore, the appellant has not presented substantial evidence in support of a fair argument that the 530 Sansome Street project may have a significant impact on historic resources.

In accordance with CEQA Guidelines section 15070(a), the initial study shows that the proposed project or residential variant could have a significant effect on the environment; however, impacts would be mitigated to a less-than-significant level and a mitigated negative declaration, not an EIR, is the legally appropriate document for environmental review. The Department's analysis is supported by substantial evidence in the record, as discussed in this response.

Response 4: The PMND identifies feasible mitigation measures with performance standards.

The appellant claims that the PMND inappropriately defers mitigation of potential impacts to historic resources, archeological resources, geologic resources, and hazardous materials by relying on future reports and recommendations from those reports without specifying performance standards. The appellant's statements are not substantiated by the mitigation measures contained in the PMND.

The PMND does not, as appellant claims, defer "formulation of mitigation measures." All of the mitigation measures contained in the PMND contain detailed performance standards that ensure their effectiveness and specify the timing of any required actions. Furthermore, CEQA Guidelines section 15126.4(a)(1)(B) permits the Department to further refine the details of mitigation measures after the project's approval if the Department (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. The mitigation measures cited by the appellant meet these requirements.

For example, Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction, requires the project sponsors to avoid or reduce project-related construction vibration damage to adjacent buildings and/or structures and to ensure that any such damage is documented and repaired. Thus, the mitigation measure specifies the components for a monitoring plan, timing, guidelines, approval process, and responsible professionals who may determine corrective measures based on construction activity and the character of adjacent buildings (PMND pages 104 to 107). The vibration management and monitoring plan establishes quantified maximum vibration levels. The mitigation measure specifies that the pre-construction survey and vibration management and monitoring plan shall be prepared and approved by the

Environmental Review Officer (ERO) or the ERO's designee prior to issuance of any demolition or building permit. In order to comply with the specified maximum vibration levels, the vibration management and monitoring plan is required to identify all vibration-generating equipment to be used during construction, when to implement alternative construction techniques, steps and protocol for vibration monitoring during construction, inspection intervals, provisions to be followed should damage to any building and/or structure occur due to construction-related vibration, and preparation of a vibration monitoring results report.

Regarding the relocation of the *Untitled* sculpture, the appellant mischaracterizes the mitigation in the PMND by stating "the Project Sponsor will mitigate the impact by submitting a relocation plan at some point in the future." To the contrary, Mitigation Measure M-CR-1, Interpretation and Relocation Plan, in fact is not open ended or vague.

The components of the Mitigation Measure M-CR-1 include: (1) preparation of the Historic Resources Public Interpretive Plan (HRPIP), and (2) a relocation plan that includes an initial reinstallation, maintenance plan for the sculpture, and schedule for reviewing and finalizing those plans. The mitigation measure specifies that Department preservation staff must approve the HRPIP prior to issuance of the demolition permit or the site permit. As described in the mitigation measure, the "primary goal of the [interpretive] program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13."

The mitigation measure further specifies the goals, components, approval processes, and timing considerations for relocation of the *Untitled* sculpture (pages 55 to 56). The mitigation measure additionally specifies suitable locations for the sculpture on the new building and states "The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its north (Washington Street) or south (Merchant Street) façades; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site." Department preservation staff must approve detailed content, media, and other characteristics of the interpretive program and the relocation plan prior to the issuance of a temporary certificate of occupancy.

The appellant's statement regarding hazardous materials and mitigation is incorrect, as the PMND concluded that all hazards and hazardous materials impacts would be less than significant. No mitigation measures were identified for hazards and hazardous materials (PMND pages 170 to 175).

The appellant does not provide any evidence to support their assertion that the other mitigation measures identified in the PMND for archeological resources and geologic resources inappropriately defer mitigation or do not specify performance standards or implementation timing requirements. Mitigation Measures M-CR-3, Archeological Testing; M-GE-5a, Worker Environmental Awareness Training during Ground-Disturbing Activities; M-GE-5b, Discovery of Unanticipated Paleontological Resources during Ground-Disturbing Construction Activities; and M-GE-5c, Preconstruction Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitive Areas, all specify the timing, approval process of plans, required provisions for implementing the measure, and responsible parties.

The Department has properly analyzed and identified the proposed project and residential variant's impacts, and identified feasible mitigation measures with performance standards. The mitigation measures would be enforced through a mitigation monitoring and reporting program (MMRP). Consistent with CEQA Guidelines section 15074(d), when adopting an MND, the lead agency shall also adopt a program as a condition of approval to mitigate or avoid significant environmental effects.

Conclusion

For the reasons provided in this appeal response, Department staff recommends that the Commission deny the appeal of the CEQA determination.

In summary the Department gave legally adequate notice to the property owners of 447 Battery Street, complied with San Francisco Administrative Code section 31.20 in preparing a single MND for the 530 Sansome Street project, prepared the legally appropriate document for environmental review, and identified feasible mitigation measures with performance standards. The appellant has not provided substantial evidence supporting a fair argument that the project would have significant impacts on the environment that would warrant preparation of an EIR.

PAGE INTENTIONALLY BLANK

EXHIBIT B

Appeal Letter

ZACKS, FREEDMAN & PATTERSON
A PROFESSIONAL CORPORATION

601 Montgomery Street, Suite 400
San Francisco, California 94111
Telephone (415) 956-8100
Facsimile (415) 288-9755
www.zfplaw.com

May 18, 2021

VIA ELECTRONIC SUBMISSION

Alana Callagy
Senior Environmental Planner
49 South Van Ness Ave, Suite 1400,
San Francisco, CA 94103 alana.callagy@sfgov.org

Re: Appeal of Preliminary Mitigated Negative Declaration
530 Sansome Street (Case No. 2019-017481ENV)

Dear Ms. Callagy:

Our office represents 447 Partners, LLC, owner of the property located at 447 Battery Street that is located adjacent to 530 Sansome Street. The purpose of this letter is to file an appeal pursuant to San Francisco Administrative Code Section 31.16 of the Planning Department's issuance of the Preliminary Mitigated Negative Declaration (PMND) and determination that the proposed project at 530 Sansome Street will have no significant effect on the environment. The PMND violates the California Environmental Quality Act (CEQA) because the Planning Department did not provide adequate notice of the availability of the PMND; the project description is not accurate, stable, or finite; the project will have significant adverse environmental impacts to potential historic resources; and the PMND inappropriately defers mitigation until some future time.

As a threshold matter, the Planning Department did not provide legally adequate notice to the property owners of 447 Battery Street. San Francisco Administrative Code Section 31.11 requires notice to be mailed to all owners of all real property within 300 feet of the exterior boundaries of the project area sufficiently prior to adoption of the negative declaration to allow a review period of not less than 20 days. The property owners at 447 Battery Street are within 300 feet of the project area, yet received the notice in the mail on May 17, just one day before the end of the public review period. The mailed notice did not provide the owners with 20 days to review the PMND as legally required. The Planning Department must reissue the notice and provide the legally required 20-day review period.

Courts have consistently stated that "an accurate, stable and finite project description" is an essential component of an informative and legally sufficient environmental documents. In addition, Administrative Code Section 31.20 states that CEQA only allows a single negative declaration to be employed for more than one project when "all such projects are essentially the same in terms of environmental effects." The project description in the PMND states the project could potentially include 6,470 square feet of retail/restaurant space; 40,490 square feet of office

space; 35,230 square feet of fitness center space; 146,065 square feet of hotel space with 200 guest rooms; and 48 vehicle parking spaces. Alternatively, the project could potentially instead include 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses with three additional stories cantilevered over the third floor and three below-grade levels to provide 82 vehicle parking spaces. In other words, the PMND describes two completely different projects with distinctly different environmental impacts to traffic, land use, housing, population, emissions, public services, and more. The projects would be subject to different Planning Code requirements and state laws, requiring different variances and local approvals. The two opposite project description precludes informed decision making and informed public comment regarding the project because the public does not know what project is going to be built. As such, the PMND project description is not stable or finite as legally required by CEQA and a single PMND for the two different projects is inconsistent with Administrative Code 31.20. The Planning Department must reissue the PMND with either a revised project description that chooses one project or issue a separate PMND for each project.

Under CEQA, an environmental impact report (EIR) is required rather than a mitigated negative declaration (MND) if there is even a "fair argument" that a proposed project may have any adverse environmental impacts. *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal. 4th 310, 319-320. While the proposed project will likely have many significant environmental impacts that were not adequately addressed in the PMND, the PMND largely ignores the significant impacts the project will have on the potential historic resource at 447 Battery Street. The PMND not only recognizes that construction of the project may cause direct structural damage to the potential historic building at 447 Battery, but the PMND does not even discuss how the project may impair the significance of a historic resource by causing impacts to its immediate surroundings. The project would completely alter the surrounding development pattern, substantially reduce light and increase shadows, and potentially block views of the building at 447 Battery. None of these potential impacts was mitigated or even identified in the PMND. While we do not concede that the building at 447 Battery Street is in fact a historic resource, the potential impacts must still be fully evaluated under CEQA. The project will clearly have an adverse environmental impact on a potential historic resource, and therefore the Planning Department must prepare an EIR rather than a mitigated negative declaration for the project.

CEQA Guidelines section 15126.4 states that "[f]ormulation of mitigation measures should not be deferred until some future time" and thus courts have found as a general rule that "it is inappropriate to postpone the formulation of mitigation measures." *POET, LLC v. State Air Resources Bd.,* (2013) 218 Cal.App.4th 681, 735. While an agency may specify performance standards and identify potential mitigation alternatives, "an agency goes too far when it simply requires a project applicant to obtain a [] report and then comply with any recommendations that may be made in the report." *Defend the Bay v. City of Irvine*, (2004) 119 Cal.App.4th 1261, 1275. The PMND here inappropriately defers mitigation of potential impacts to historical resources, archeological resources, geological resources, and hazardous materials by relying on

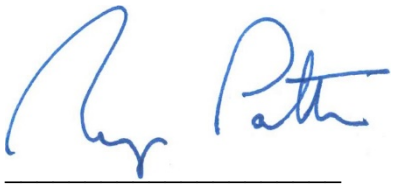
future reports and recommendations from those reports, without specifying the specific performance standards or identifying alternatives. For example, the project will completely remove and relocate a historical sculpture, but the PMND only states that the Project Sponsor will mitigate the impact by submitting a relocation plan at some point in the future. The PMND states that project construction may cause damage to the neighboring potential historic structure at 447 Battery Street, but the PMND only states that the Project Sponsor will mitigate the impact by conducting a Pre-Construction Survey and submitting a Vibration Management and Monitoring Plan at some point in the future. The PMND does not adequately identify the potential impacts or specify the mitigation, which precludes meaningful review of whether the mitigation measures are adequate. The Planning Department must collect the necessary pre-construction testing and survey information prior to issuing the PMND, specify the performance standards the project will need to meet, and identify the range of alternative mitigation measures before adopting the PMND.

Finally, we note that due to the inadequate notice, we have been unable to fully review the project details and PMND. We therefore reserve the right to supplement this letter with additional information and raise additional issues that we were unable to include in this letter due to the extremely short review period.

Thank you for your attention. Please do not hesitate to contact me with any questions.

Very truly yours,

ZACKS, FREEDMAN & PATTERSON, PC



Ryan J. Patterson

May 18, 2021

We hereby authorize the attorneys of Zacks, Freedman & Patterson, PC to file an appeal of the preliminary mitigated negative declaration, Case No. 2019-017481ENV (530 Sansome Street) on our behalf.

Signed,

447 PARTNERS II, LLC

By: Rob Canepa
Its: Authorized Member
Robert A. Canepa

San Francisco Planning Department
Attn: Alana Callagy
49 South Van Ness Avenue
Suite 1400
San Francisco CA 94103

00099430*55445*C*8552793219511821 71*0428*#10 1/3

THE RESIDENT
447 BATTERY ST
SAN FRANCISCO CA 94111

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.:	2019-017481ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy 628.652.7540 alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station.

The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.[1]

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the Planning Department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the Planning Department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

1. Review the PMND as an informational item and take no action;
2. Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3. Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department.[2] An appeal requires the Planning Commission to

[1] The remainder of the four required class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in-lieu fee payment pursuant to planning code sections 305 and 307(k)(2)(E).
[2] Upon review by the Planning Department, the appeal fee may be reimbursed for neighborhood organizations that have been in existence for a minimum of 24 months.

determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-ccsf.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.EPIntake@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

EXHIBIT C

Preliminary MND Noticing

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

AFFIDAVIT OF MAILING

I, Logan Sakai, have mailed the attached document:
[please print name]

____ **Notification of Project Receiving Environmental Review (Neighborhood Notice)**

____ **Notice of Availability of Environmental Review Document (NOA)**

____ **Notice of Scoping Meeting for an Environmental Impact Report**

____ **Notice of Preparation of an Environmental Impact Report**

____ **Notice of Availability of Draft Environmental Impact Report**

____ **Preliminary Negative Declaration (PND) and Standard Neg Dec Cover Letter**

____ **Final Negative Declaration (FND)**

__X__ **Notice of Availability of Preliminary Negative Declaration**

____ **Notice of Hearing on Appeal After Initial Evaluation of a Project**

____ **Certificate of Determination of Exemption/Exclusion From Environmental Review**

Other : _____

on 4/28/2021 (Date) for Project File No. & Title 2019-017481 ENV, 530 Sansome

Also attached is a copy of the mailing list/mailing labels to which the document was mailed.

(Signature)

4/28/2021
(Date)

MONICA HUGGINS	49 SOUTH VAN NESS #1400	SAN FRANCISCO	CA	94103
THE RESIDENT	1 EMBARCADERO CTR #1020	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1040	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1050	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1060	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1121	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1130	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1140	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1150	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1160	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1200	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1310	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1330	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1350	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1400	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1500	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1510	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1520	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1540	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1550	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1560	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1650	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1680	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #1800	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #200	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2020	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2050	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2060	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2110	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2150	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2200	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2350	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2410	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2480	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #26	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2600	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2700	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2820	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2822	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2830	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2840	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2850	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #2860	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #30	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #310	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #320	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3200	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3250	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #350	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3600	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3700	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3820	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3840	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #39	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #3900	SAN FRANCISCO	CA	94111

THE RESIDENT	1 EMBARCADERO CTR #400	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #4100	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #4150	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #4200	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #500	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #650	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #710	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #730	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #750	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #800	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #900	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #LVA	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #PL1	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #PL3	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #R1203	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL1	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL10	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL11	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL12	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL13	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL14	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL17	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL2	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL3	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL5	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL7	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR #SL8	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR LBBY 1	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR LBBY 2	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR LBBY 5	SAN FRANCISCO	CA	94111
THE RESIDENT	1 EMBARCADERO CTR LBBY 6	SAN FRANCISCO	CA	94111
TRANSAMERICA INSURANCE C(	1 MONTGOMERY ST STE 3300	SAN FRANCISCO	CA	94104
UNITED STATES OF AMERICA	1068 MISSION ST	SAN FRANCISCO	CA	94103
THE RESIDENT	165 JACKSON ST	SAN FRANCISCO	CA	94111
CHSP SAN FRANCISCO LLC	1775 TYSONS BLVD 7TH FL	MCLEAN	VA	22102
EQX JACKSON SQ HOLDCO LLC	18201 VON KARMAN AVE STE 900	IRVINE	CA	92612
ALAN M and ANGELA H BRAVE	2 MINT PLZ APT 704	SAN FRANCISCO	CA	94103
THE RESIDENT	201 JACKSON ST	SAN FRANCISCO	CA	94111
500 SANSOME STREET INVESTC	201 SEMINARY DR	MILL VALLEY	CA	94941
THE RESIDENT	205 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	215 JACKSON ST	SAN FRANCISCO	CA	94111
WILAD PROPERTIES LLC	235 MONTGOMERY ST STE 1042	SAN FRANCISCO	CA	94104
ZR JACKSON LP	2416 E 37TH ST N	WICHITA	KS	67219
615 SANSOME ASSOCIATES LLC	2476 BUTTERNUT DR	HILLSBOROUGH	CA	9.4E+08
CITY and COUNTY OF SAN FRAI	25 VAN NESS AVE STE 400	SAN FRANCISCO	CA	94102
529 COMMERCIAL STREET ASS(	268 BUSH ST # 3500	SAN FRANCISCO	CA	94104
THE RESIDENT	30 HOTALING PL	SAN FRANCISCO	CA	94111
THE RESIDENT	30 HOTALING PL #300	SAN FRANCISCO	CA	94111
THE RESIDENT	30 HOTALING PL LOWR	SAN FRANCISCO	CA	94111
THE RESIDENT	301 CLAY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	333 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	333 BATTERY ST LBBY	SAN FRANCISCO	CA	94111
THE RESIDENT	36 BATTERY ST	SAN FRANCISCO	CA	94111
TRANSAMERICA CORPORATION	3609 SMITH BARRY RD #100	ARLINGTON	TX	76013
GILWELL COMPANY	3609 SMITH BARRY RD 100	ARLINGTON	TX	76013

THE RESIDENT	363 WASHINGTON ST	SAN FRANCISCO	CA	94111
ECLIPSE CHAMPAGNE BLDG LL(	3636 BUCHANAN ST	SAN FRANCISCO	CA	94123
HOTALING PARTNERS LLC	3636 BUCHANAN ST	SAN FRANCISCO	CA	94123
THE RESIDENT	365 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	375 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	38 HOTALING PL	SAN FRANCISCO	CA	94111
THE RESIDENT	38 HOTALING PL #1	SAN FRANCISCO	CA	94111
ONE EMBARCADERO CENTER V	4 EMBARCADERO CTR LBBY	SAN FRANCISCO	CA	94111
THE RESIDENT	40 HOTALING PL	SAN FRANCISCO	CA	94111
THE RESIDENT	40 HOTALING PL #2	SAN FRANCISCO	CA	94111
THE RESIDENT	405 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	408 MERCHANT ST	SAN FRANCISCO	CA	94111
THE RESIDENT	415 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	415 JACKSON ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	415 JACKSON ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	415 JACKSON ST #3	SAN FRANCISCO	CA	94111
THE RESIDENT	415 JACKSON ST #B	SAN FRANCISCO	CA	94111
ALAN M and ANGELA HEATHER	42 HOTALING PL	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #101	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #2	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #201	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #3	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #301	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #401	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #5	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #501	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #6	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #601	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #7	SAN FRANCISCO	CA	94111
THE RESIDENT	423 WASHINGTON ST #701	SAN FRANCISCO	CA	94111
THE RESIDENT	424 CLAY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	424 MERCHANT ST	SAN FRANCISCO	CA	94111
THE RESIDENT	425 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	425 BATTERY ST #A	SAN FRANCISCO	CA	94111
THE RESIDENT	425 BATTERY ST #C	SAN FRANCISCO	CA	94111
THE RESIDENT	425 BATTERY ST #D	SAN FRANCISCO	CA	94111
THE RESIDENT	425 BATTERY ST #E	SAN FRANCISCO	CA	94111
THE RESIDENT	425 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	425 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	425 WASHINGTON ST #100	SAN FRANCISCO	CA	94111
THE RESIDENT	425 WASHINGTON ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	425 WASHINGTON ST #300	SAN FRANCISCO	CA	94111
THE RESIDENT	431 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	432 CLAY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	433 CLAY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	435 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	439 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	440 MERCHANT ST	SAN FRANCISCO	CA	94111
THE RESIDENT	441 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	443 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	444 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	445 JACKSON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	445 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	447 BATTERY ST	SAN FRANCISCO	CA	94111

THE RESIDENT	447 BATTERY ST #100	SAN FRANCISCO	CA	94111
THE RESIDENT	447 BATTERY ST #150	SAN FRANCISCO	CA	94111
THE RESIDENT	447 BATTERY ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	447 BATTERY ST #230	SAN FRANCISCO	CA	94111
THE RESIDENT	447 BATTERY ST #300	SAN FRANCISCO	CA	94111
MONTGOMERY REALTY GRP IN	447 BATTERY ST STE 300	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1000	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1005	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1100	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1101	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1200	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #13	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #14	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #150	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1500	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1550	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #1600	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #2	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #3	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #400	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #5	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #600	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #650	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #700	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #800	SAN FRANCISCO	CA	94111
THE RESIDENT	450 SANSOME ST #900	SAN FRANCISCO	CA	94111
GOLDEN GATEWAY CENTER SP	460 DAVIS CT	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #10	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #15	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #1700	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #1720	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #1750	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #19	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #2	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #2000	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #2100	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #500	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #510	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #520	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #530	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #550	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #570	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #6	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #700	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #710	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #720	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #730	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #740	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #800	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #840	SAN FRANCISCO	CA	94111

THE RESIDENT	475 SANSOME ST #850	SAN FRANCISCO	CA	94111
THE RESIDENT	475 SANSOME ST #SL1	SAN FRANCISCO	CA	94111
THE RESIDENT	500 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #100	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #220	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #300	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #370	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #380	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #402	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #404	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #408	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #410	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #450	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #500	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #501	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #502	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #507	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #510	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #600	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #601	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #604	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #614	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #615	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #700	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #750	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST #8	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST BSMT B100	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST BSMT B102	SAN FRANCISCO	CA	94111
THE RESIDENT	500 SANSOME ST BSMT B103	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #100	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #102	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #250	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #300	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #325	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #340	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #350	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #400	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #425	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #475	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #600	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #700	SAN FRANCISCO	CA	94111
THE RESIDENT	500 WASHINGTON ST #800	SAN FRANCISCO	CA	94111
PUBLIC POLICY INSTITUTE OF C	500 WASHINGTON ST STE 600	SAN FRANCISCO	CA	94111
CITY and COUNTY OF SAN FRAI	501 STANYAN ST	SAN FRANCISCO	CA	94117
THE RESIDENT	501 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1001	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1010	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1035	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1100	SAN FRANCISCO	CA	94111

THE RESIDENT	505 SANSOME ST #1200	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1250	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1275	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1450	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1475	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1500	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1501	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1525	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1550	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1575	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1600	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1700	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1701	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1800	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1925	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1975	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #1980	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #2	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #20	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #300	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #375	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #400	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #425	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #450	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #475	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #500	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #6	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #7	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #8	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #850	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #875	SAN FRANCISCO	CA	94111
THE RESIDENT	505 SANSOME ST #900	SAN FRANCISCO	CA	94111
THE RESIDENT	505 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	517 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	519 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	520 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	522 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	524 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	526 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	528 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	530 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	530 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	532 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	532 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	535 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #4	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #600	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #825	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #850	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #875	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #900	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #901	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #C	SAN FRANCISCO	CA	94111
THE RESIDENT	545 SANSOME ST #D	SAN FRANCISCO	CA	94111

THE RESIDENT	545 SANSOME ST #E	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1001	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1002	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1003	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1004	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1005	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1006	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1007	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1008	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1009	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1010	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1011	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1012	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1013	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1014	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1015	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1016	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1017	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1018	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1019	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1020	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1101	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1102	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1103	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1104	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1105	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1106	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1107	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1108	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1109	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1110	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1111	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1112	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1113	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1114	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1115	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1116	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1117	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1118	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1119	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1120	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1201	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1202	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1203	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1204	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1205	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1206	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1207	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1208	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1209	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1210	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1211	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1212	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1213	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #1214	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1215	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1216	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1217	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1218	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1219	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1220	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1301	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1302	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1303	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1304	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1305	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1306	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1307	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1308	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1309	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1310	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1311	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1312	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1313	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1314	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1315	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1316	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1317	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1318	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1319	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1320	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1401	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1402	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1403	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1404	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1405	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1406	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1407	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1408	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1409	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1410	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1411	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1412	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1413	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1414	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1415	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1416	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1417	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1418	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1419	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1420	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1501	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1502	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1503	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1504	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1505	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1506	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1507	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1508	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #1509	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1510	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1511	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1512	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1513	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1514	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1515	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1516	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1517	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1518	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1519	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1520	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1601	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1602	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1603	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1604	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1605	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1606	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1607	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1608	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1609	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1610	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1611	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1612	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1613	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1614	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1615	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1616	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1617	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1618	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1619	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1620	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1701	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1702	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1703	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1704	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1705	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1706	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1707	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1708	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1709	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1710	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1711	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1712	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1713	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1714	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1715	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1716	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1717	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1718	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1719	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1720	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1801	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1802	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1803	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #1804	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1805	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1806	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1807	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1808	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1809	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1810	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1811	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1812	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1813	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1814	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1815	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1816	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1817	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1818	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1819	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1820	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1901	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1902	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1903	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1904	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1905	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1906	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1907	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1908	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1909	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1910	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1911	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1912	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1913	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1914	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1915	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1916	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1917	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1918	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1919	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #1920	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2001	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2002	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2003	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2004	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2005	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2006	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2007	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2008	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2009	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2010	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2011	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2012	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2013	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2014	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2015	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2016	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2017	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2018	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #2019	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2020	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2101	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2102	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2103	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2104	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2105	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2106	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2107	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2108	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2109	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2110	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2111	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2112	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2113	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2114	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2115	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2116	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2117	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2118	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2119	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2120	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2201	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2202	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2203	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2204	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2205	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2206	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2207	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2208	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2209	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2210	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2211	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2212	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2213	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2214	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2215	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2216	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2217	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2218	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2219	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #2220	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #301	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #302	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #303	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #304	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #305	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #306	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #307	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #308	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #309	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #310	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #311	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #312	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #313	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #314	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #315	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #316	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #317	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #318	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #319	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #320	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #401	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #402	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #403	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #404	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #405	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #406	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #407	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #408	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #409	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #410	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #411	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #412	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #413	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #414	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #415	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #416	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #417	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #418	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #419	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #420	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #501	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #502	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #503	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #504	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #505	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #506	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #507	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #508	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #509	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #510	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #511	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #512	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #513	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #514	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #515	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #516	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #517	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #518	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #519	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #520	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #601	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #602	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #603	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #604	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #605	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #606	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #607	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #608	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #609	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #610	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #611	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #612	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #613	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #614	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #615	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #616	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #617	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #618	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #619	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #620	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #701	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #702	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #703	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #704	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #705	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #706	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #707	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #708	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #709	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #710	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #711	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #712	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #713	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #714	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #715	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #716	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #717	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #718	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #719	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #720	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #801	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #802	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #803	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #804	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #805	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #806	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #807	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #808	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #809	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #810	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #811	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #812	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #813	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #814	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #815	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #816	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #817	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #818	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #819	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #820	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #901	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #902	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #903	SAN FRANCISCO	CA	94111

THE RESIDENT	550 BATTERY ST #904	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #905	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #906	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #907	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #908	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #909	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #910	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #911	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #912	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #913	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #914	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #915	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #916	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #917	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #918	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #919	SAN FRANCISCO	CA	94111
THE RESIDENT	550 BATTERY ST #920	SAN FRANCISCO	CA	94111
THE RESIDENT	550 WASHINGTON ST	SAN FRANCISCO	CA	94111
THE RESIDENT	555 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	555 BATTERY ST #121	SAN FRANCISCO	CA	94111
THE RESIDENT	555 BATTERY ST #125	SAN FRANCISCO	CA	94111
THE RESIDENT	555 BATTERY ST #504	SAN FRANCISCO	CA	94111
PPF OFF ONE MARITIME PLAZA	555 CALIFORNIA ST STE 2200	SAN FRANCISCO	CA	94104
THE RESIDENT	555 FRONT ST	SAN FRANCISCO	CA	94111
THE RESIDENT	556 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	560 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	570 BATTERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #100	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1100	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1200	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1250	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1300	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #14	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1400	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1600	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1700	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1800	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #1900	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #200	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2000	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #210	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2200	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2300	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2400	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2500	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #260	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2600	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2700	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2710	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2720	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2740	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #2900	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #300	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3100	SAN FRANCISCO	CA	94111

THE RESIDENT	600 MONTGOMERY ST #3200	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3300	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3400	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3500	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3600	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3800	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #3900	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4000	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4100	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4200	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4300	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #440	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4400	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4500	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4700	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #480	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #4900	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #525	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #600	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #800	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #900	SAN FRANCISCO	CA	94111
THE RESIDENT	600 MONTGOMERY ST #G	SAN FRANCISCO	CA	94111
THE RESIDENT	615 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	615 SANSOME ST #1	SAN FRANCISCO	CA	94111
THE RESIDENT	615 SANSOME ST #2	SAN FRANCISCO	CA	94111
THE RESIDENT	615 SANSOME ST #3	SAN FRANCISCO	CA	94111
THE RESIDENT	617 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	619 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	621 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST #1430	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST #1450	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 1040	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 1103	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 111	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 1386	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 1605	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 410	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM 475	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM B21	SAN FRANCISCO	CA	94111
THE RESIDENT	630 SANSOME ST RM B23	SAN FRANCISCO	CA	94111
BORO JOHN A	703 MARKET ST STE 1508	SAN FRANCISCO	CA	94103
BORO STEVEN	703 MARKET ST STE 1508	SAN FRANCISCO	CA	94103
MILES BARBARA BORO	703 MARKET ST STE 1508	SAN FRANCISCO	CA	94103
BORO ALBERT J	703 MARKET ST STE 1508	SAN FRANCISCO	CA	94103
PYRAMID INVESTMENT CORPO	716 MONTGOMERY ST STE 1	SAN FRANCISCO	CA	94111
BRUSSEAU GRACE G	935 ARLINGTON BLVD	EL CERRITO	CA	94530
GRAZIA LIMITED PARTNERSHIP	935 ARLINGTON BLVD	EL CERRITO	CA	94530
BORO ALBERT J	980 FIFTH AVE	SAN RAFAEL	CA	94901
ZR JACKSON LP	P.O. BOX 670	NAPA	CA	94559
450 SANSOME LLC	P.O. BOX 847	CARLSBAD	CA	92018
MEPT 475 SANSOME STREET LL	P.O. BOX 92129	SOUTHLAKE	TX	76092
BRE QUAD CA OWNER LLC	P.O. BOX A-3956	CHICAGO	IL	60690
MEPT 475 SANSOME STREET LL	PO BOX 92129	SOUTHLAKE	TX	76092

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

DECLARATION OF POSTING
NOTICE OF AVAILABILITY OF A PMND

Date:	May 25, 2021
Case No.:	2019-017481ENV
Project Title:	530 Sansome Street
BPA Nos.:	201912200193
Zoning:	C-3-O (Downtown Office) Use District 200-S Special Height and Bulk District
Block/Lot:	0206/013, 014, 017
Lot Size:	17,7333 square feet
Project Sponsors	James Abrams, J. Abrams Law on behalf of EQX Jackson SQ Holdco LLC 415.999.4402, jabrams@jabramslaw.com Josh Keene, San Francisco Bureau of Real Estate 415.554.9859, joshua.keene@sfgov.org Assistant Deputy Chief Dawn DeWitt, San Francisco Fire Department 415.674.5066, dawn.dewitt@sfgov.org
Lead Agency:	San Francisco Planning Department
Staff Contact:	Alana Callagy 628.652.7540 alana.callagy@sfgov.org

I, James Abrams, do hereby declare as follows:

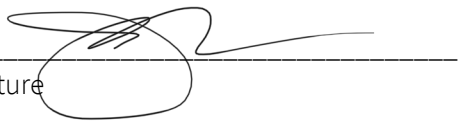
1. On April 28, 2021 , my firm coordinated with Nick Witte of Related California to post public notice posters on the project site stating the availability of the environmental document for the above project. The public notice forms were furnished to me by the Planning Department, and posting was accomplished according to the instructions provided by the Planning Department.

2. Attached to this declaration is a site map indicating precise locations of the postings and photographs taken by Nick Witte of each notice showing the duly posted public notices at the project site and sent to my firm on April 28, 2021.

3. After posting the aforementioned notices, my firm coordinated with Nick Witte and Deputy Chief Dawn DeWitt of the San Francisco Fire Department to ensure that a firefighter located at Station 13 (530 Sansome Street) regularly monitored the posters to ensure they had not been damaged or removed. On May 17, 2021, Nick Witte personally inspected and sent my firm documentary photos of the site to confirm that the posters had not been damaged or removed, thereby further ensuring all required

posters were posted for the entirety of the requisite posting period between April 28, 2021 and May 18, 2021. The photographs taken by Nick Witte on his May 17, 2021 inspection of the site and sent to my firm that same day are attached to this declaration.

I declare under the penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on this day May 25th, 2021 at San Francisco, California.



Signature

James Abrams
Name (Printed or Typed)

Attorney
Relationship to Project Sponsor
(e.g., owner, attorney, architect, etc.)

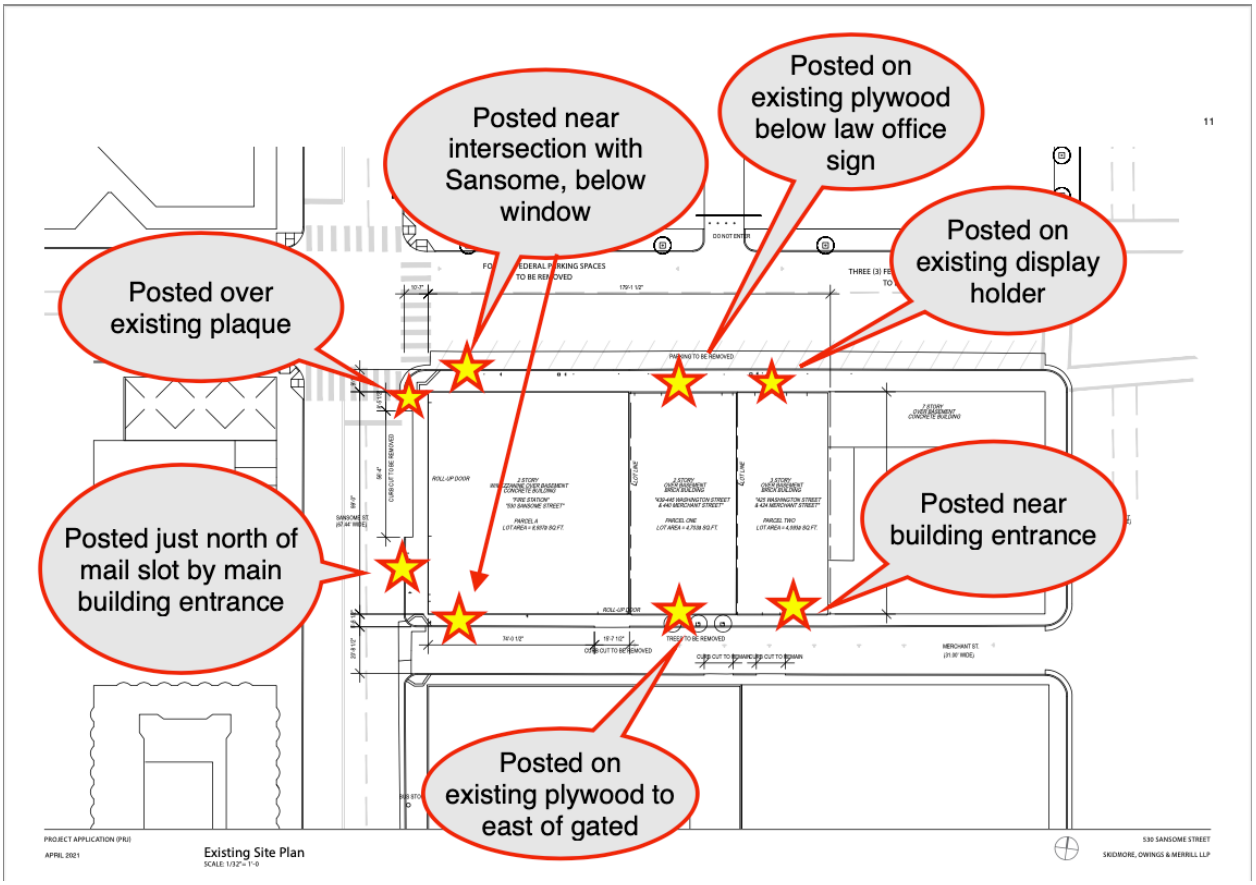
ATTACHMENT TO DECLARATION OF POSTING

ITEM #1 – POSTING SITE MAP

ITEM #2 – APRIL 28, 2021 POSTING PHOTOGRAPHS

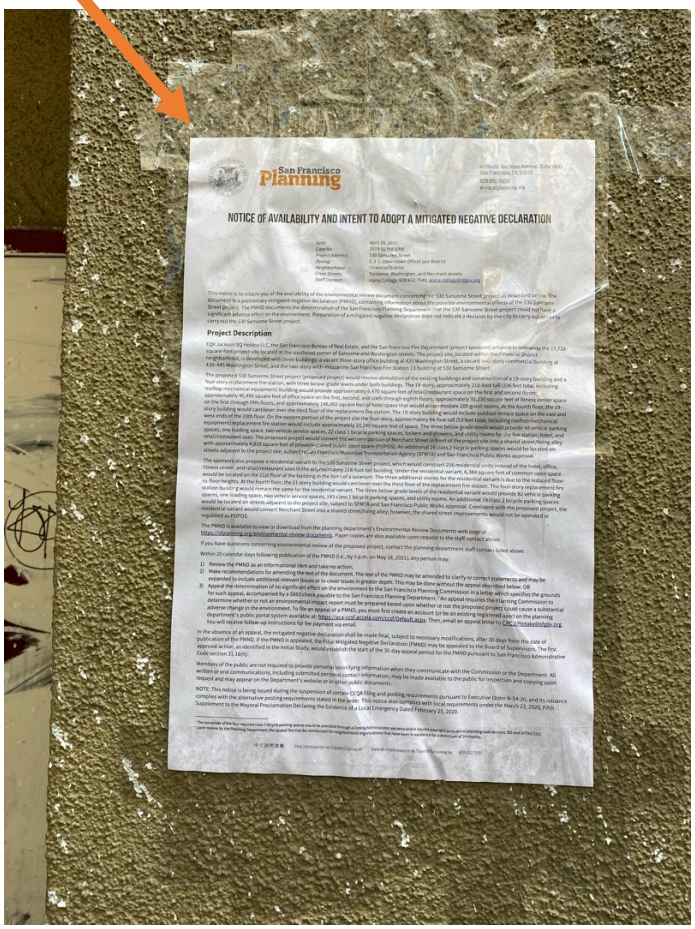
ITEM #3 – MAY 17, 2021 INSPECTION PHOTOGRAPHS

ITEM #1 – POSTING SITE MAP



ITEM #2 – APRIL 28, 2021 POSTING PHOTOGRAPHS

MERCHANT STREET – EAST

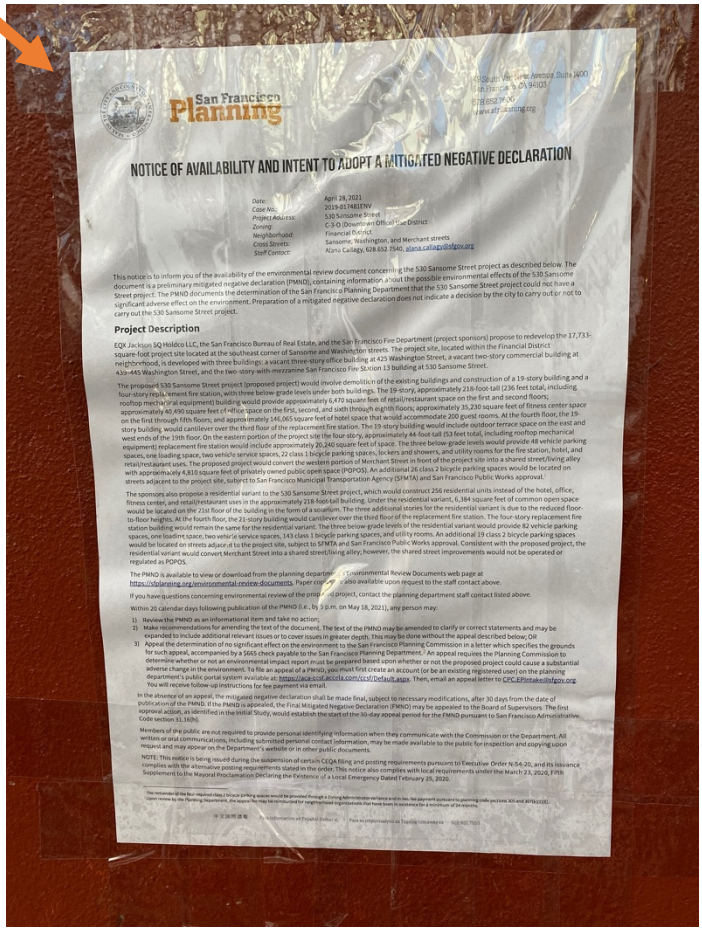


San Francisco Planning

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Description

MERCHANT STREET – MID-STREET



San Francisco Planning

1650 Mission St. Suite 400
San Francisco, CA 94103
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.:	2019-017481ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets:	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy, 628.652.7540, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439-445 Washington Street, and the two-story with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building, would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department. An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-ccsf.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.EPIntake@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

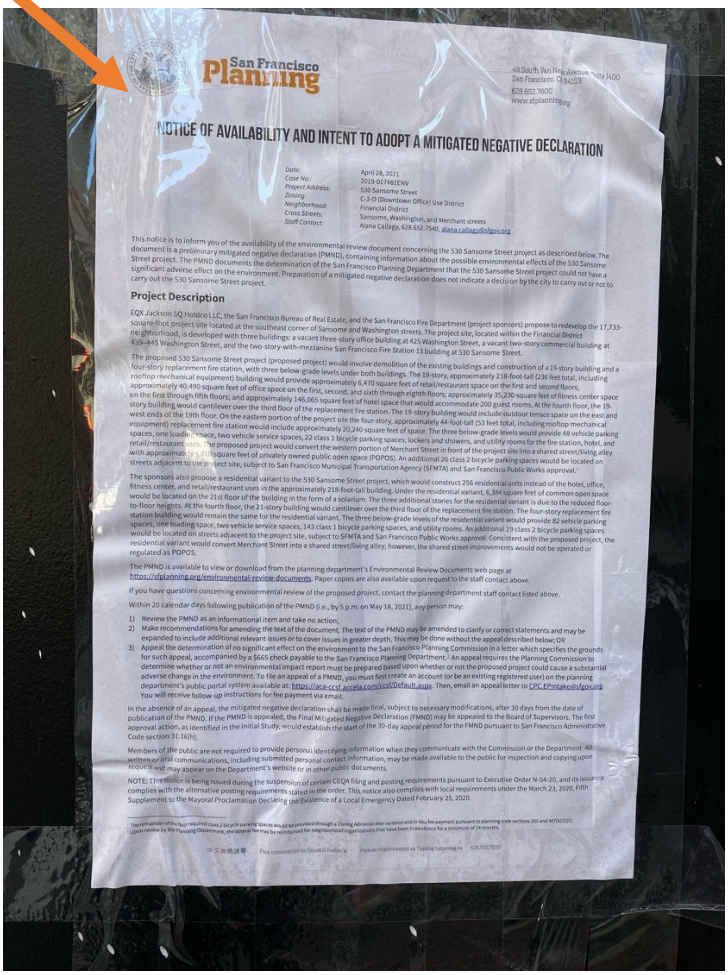
Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

The remainder of the four required class 1 bicycle parking spaces would be provided through a Zoning Administrator variance and in lieu fee payment pursuant to planning code sections 305 and 307(i)(2)(E). Upon review by the Planning Department, the appellant may be reimbursed for neighborhood organizations that have been in existence for a minimum of 24 months.

中文詢問請電 Si tiene preguntas en español llame al Para sa impormasyon sa Tagalog tumawag sa 628.652.7550

MERCHANT STREET – WEST



San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.:	2019-017481ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets:	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy, 628.652.7540, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,220 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 19,671 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department.[1] An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-ccsf.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.EPIntake@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

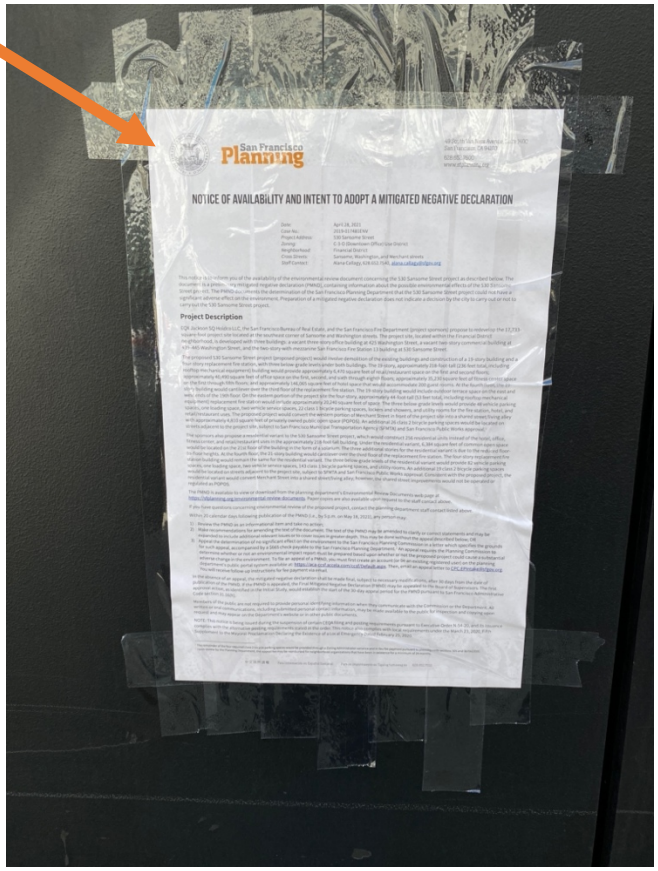
Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

[1] The remainder of the four required class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in-lieu fee payment pursuant to planning code sections 305 and 307(i)(5)(E). Upon review by the Planning Department, the appeal fee may be waived for neighborhood organizations that have been in existence for a minimum of 24 months.

中文詢問請看 | Para información en Español llamar al | Para sa impormasyon sa Tagalog tumawag sa | 628.652.7600

SANSOME STREET – SOUTH

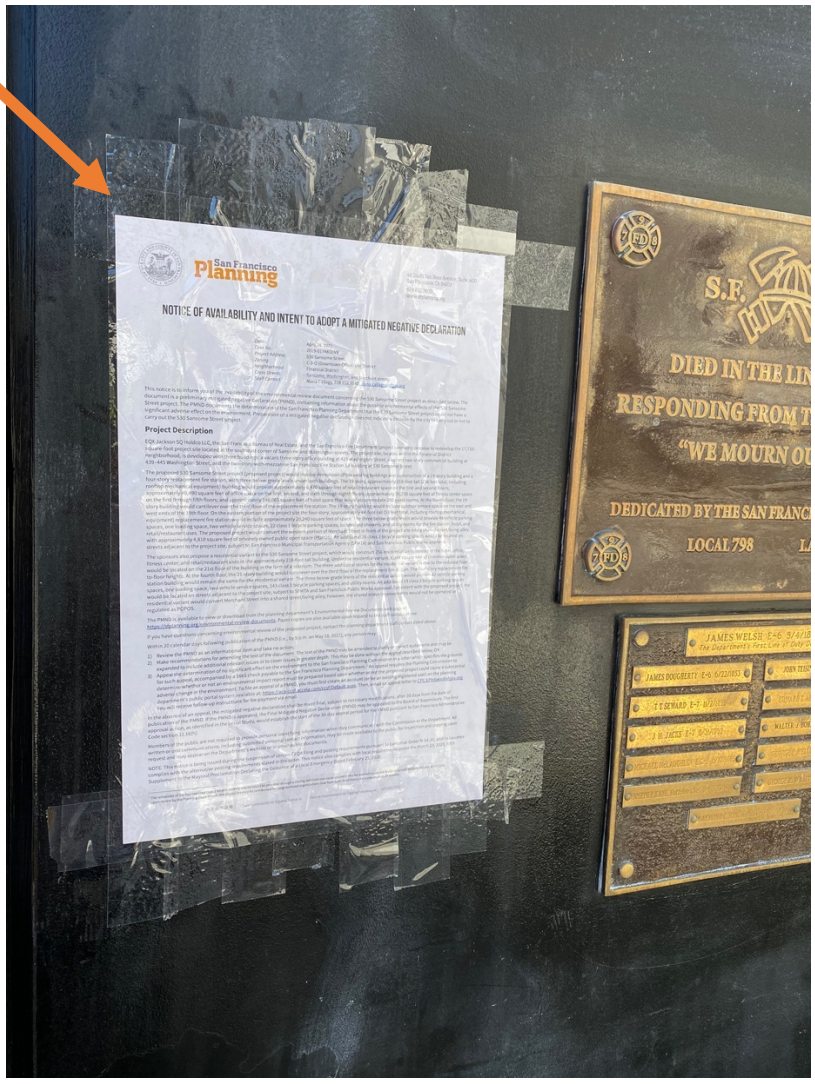


San Francisco Planning

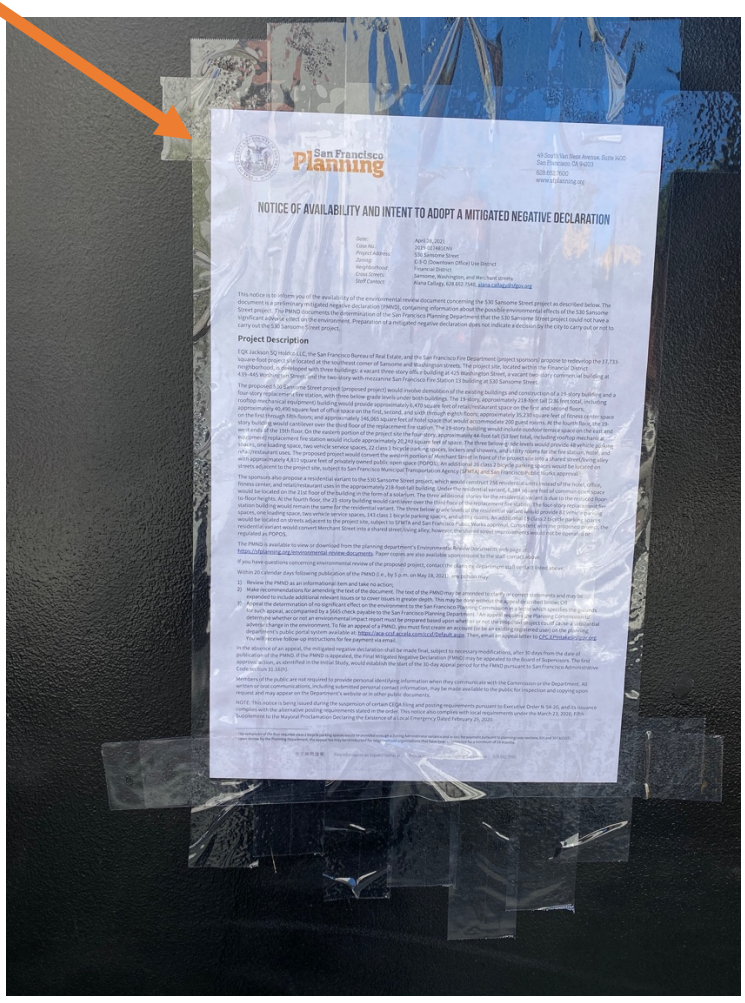
NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Description

SANSOME STREET – NORTH



WASHINGTON STREET – WEST



San Francisco Planning

49 South Van Ness Avenue, Suite 400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date: April 26, 2022
Case No.: 2019-014833ENV
Project Address: 530 Sansome Street
Zoning: C-3-O (Downtown Office) Use District
Neighborhood: Financial District
Cross Streets: Sansome, Washington, and Merchant streets
Staff Contact: Alana Callagy, 628.652.7546, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439-445 Washington Street, and the two-story with mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 550 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 470 square feet of retail/restaurant space on the first and second floors, approximately 45,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,680 square feet of hotel space that would accommodate 205 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and southeast ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,242 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and office/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/curbless alley with approximately 4,811 square feet of privately-owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 258 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot tall building. Under the residential variant, 4,284 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and public restrooms. An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/curbless alley; however, the size of visitor open space would not be quantified as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents webpage at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2022, unless noted otherwise):

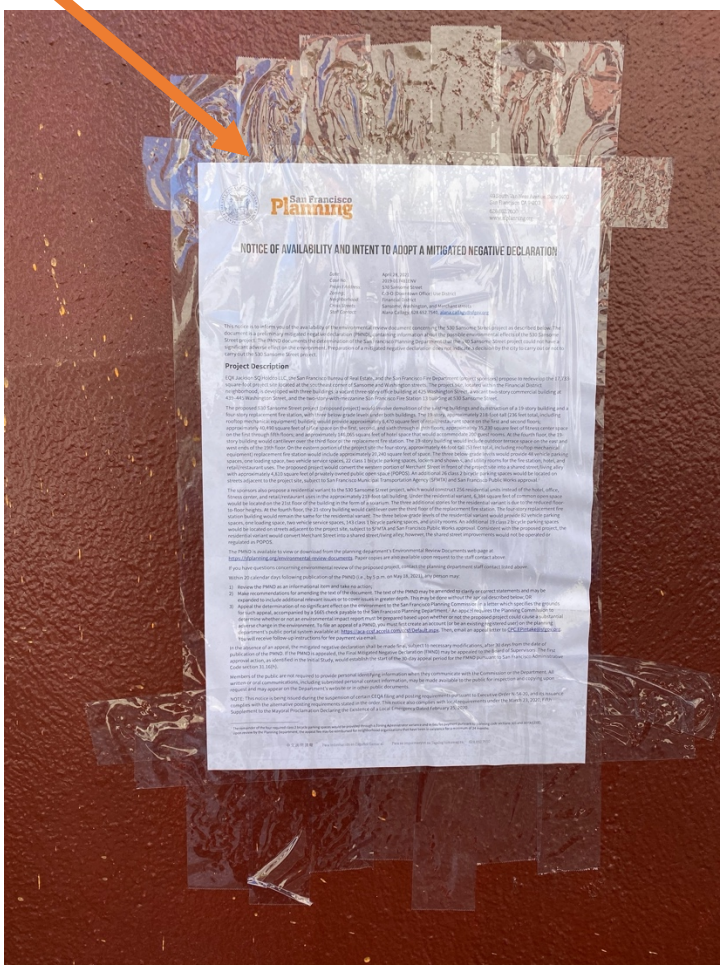
1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without changing the environmental conclusions described below; or
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commissioner by letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department. An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project is out of scale or incidental or adverse in character in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the online permit center's public portal system available at: https://aca-prod.accela.com/CCSF/Default.aspx. Then, email an appeal letter to CPC.APPEALS@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The final approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(c).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA timing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, FBHO Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

WASHINGTON STREET – MID-STREET

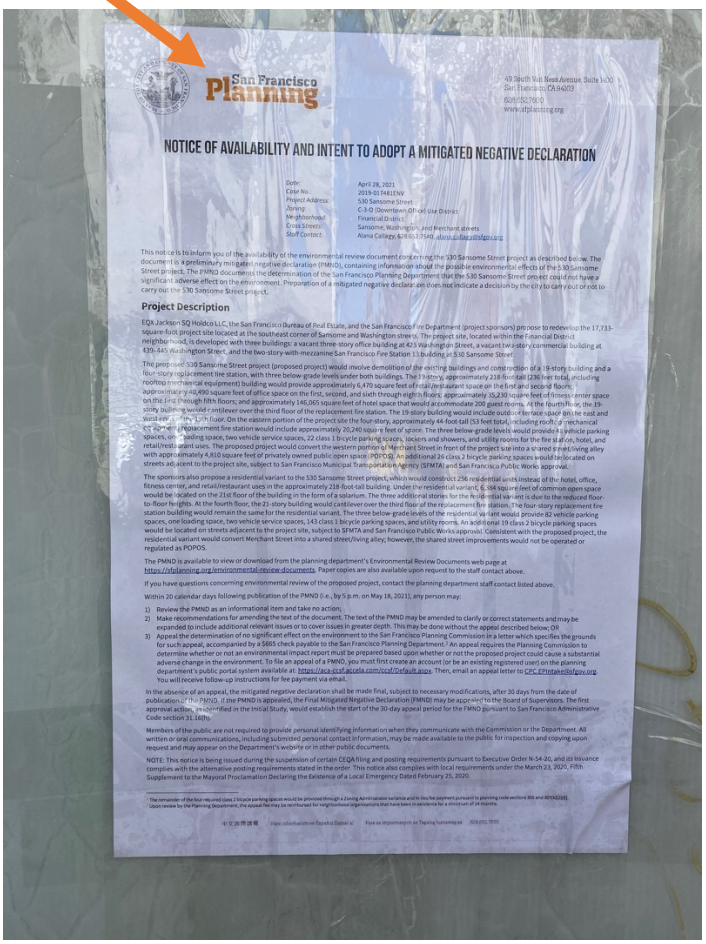


San Francisco Planning

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Description

WASHINGTON STREET – EAST



San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.	2019-017481ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets:	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy, 628.652.7549, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 435–441 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 Building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 42,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 15,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west sides of the 5th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical screening) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 81 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 276 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $605 check payable to the San Francisco Planning Department. An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-prod.accela.com/sfgov/Default.aspx. Then, email an appeal letter to CPC.EIManet@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be approved by the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

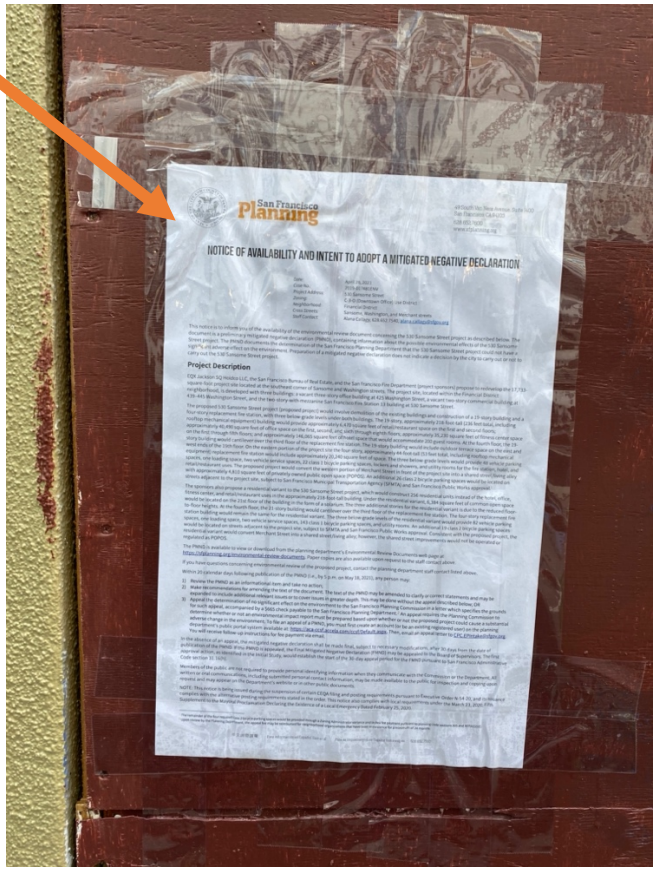
Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

* The remainder of the four required class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in lieu fee payment pursuant to planning code sections 305 and 307(k)(6)(B). Upon review by the Planning Department, the appeal fee may be reimbursed for neighborhood organizations that have been in existence for a minimum of 24 months.

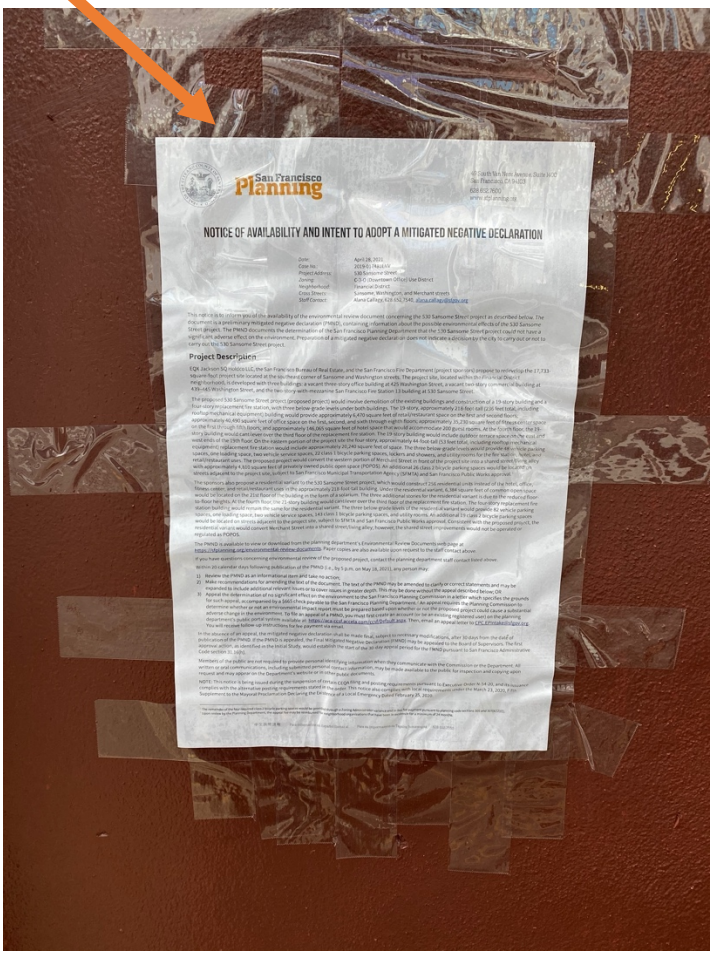
ITEM #3 – MAY 17, 2021 POSTING PHOTOGRAPHS

MERCHANT STREET – EAST



Note, poster was slightly relocated after area graffiti cleanup that occurred on or about May 14, 2021

MERCHANT STREET – MID-STREET



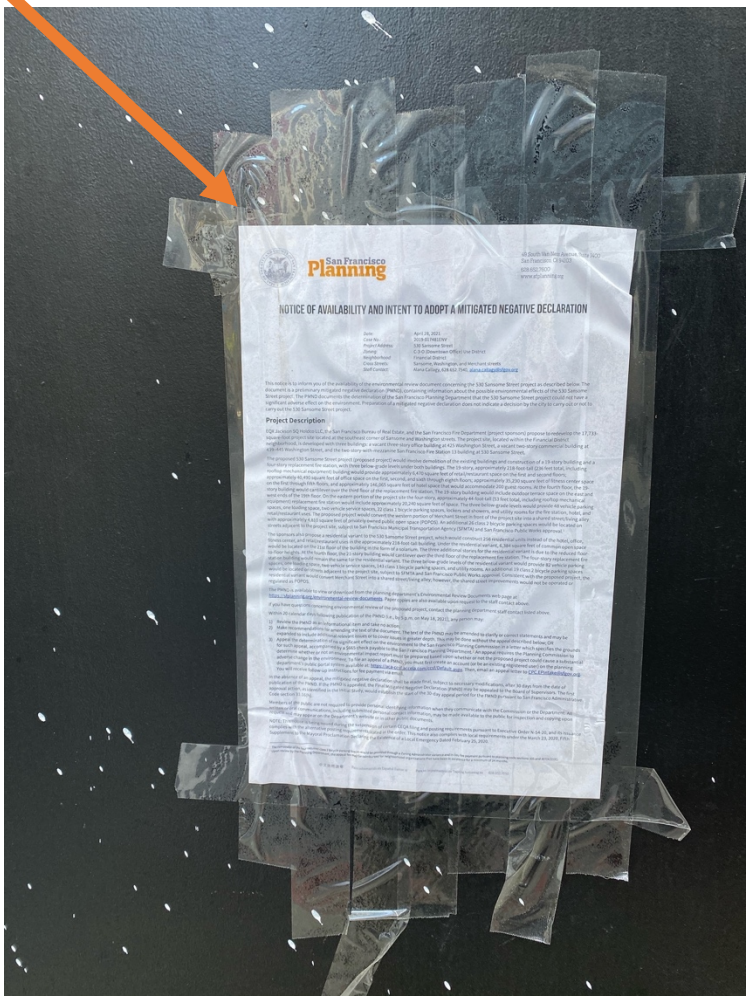
San Francisco Planning

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

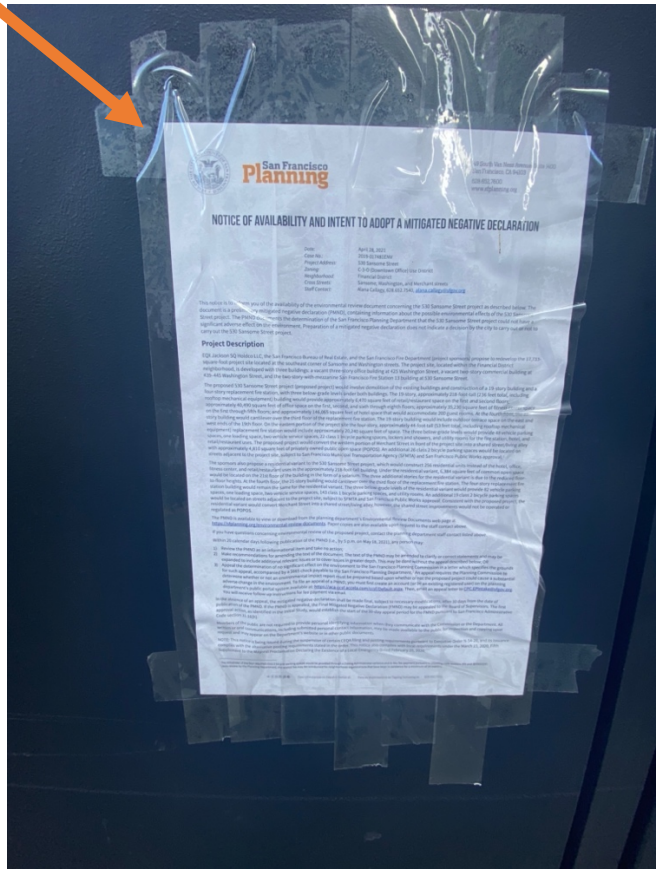
Project Description

Note, poster was slightly relocated after area graffiti cleanup that occurred on or about May 14, 2021

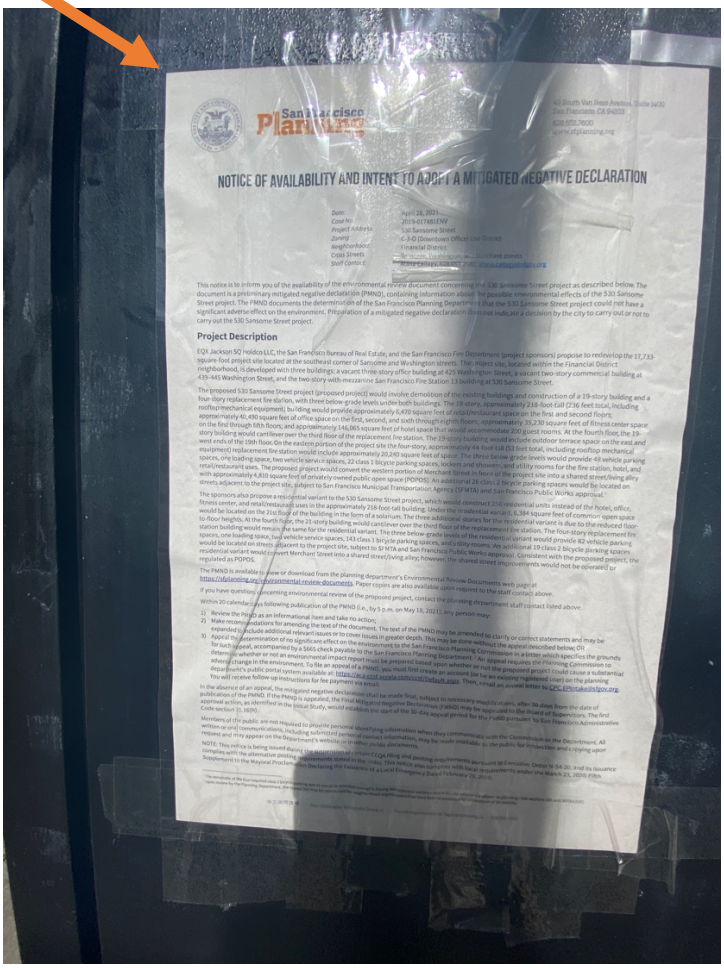
MERCHANT STREET – WEST



SANSOME STREET – SOUTH



SANSOME STREET – NORTH



San Francisco Planning

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date: April 28, 2023
Case No.: 2019-017481ENV
Project Address: 530 Sansome Street
Zoning: C-3-O (Downtown Office) Use District
Neighborhood: Financial District
Cross Streets: Sansome Street and Washington Street
Staff Contact: [redacted]

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439-445 Washington Street, and the two-story with mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment), building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 45,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (63-feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2023), any person may:

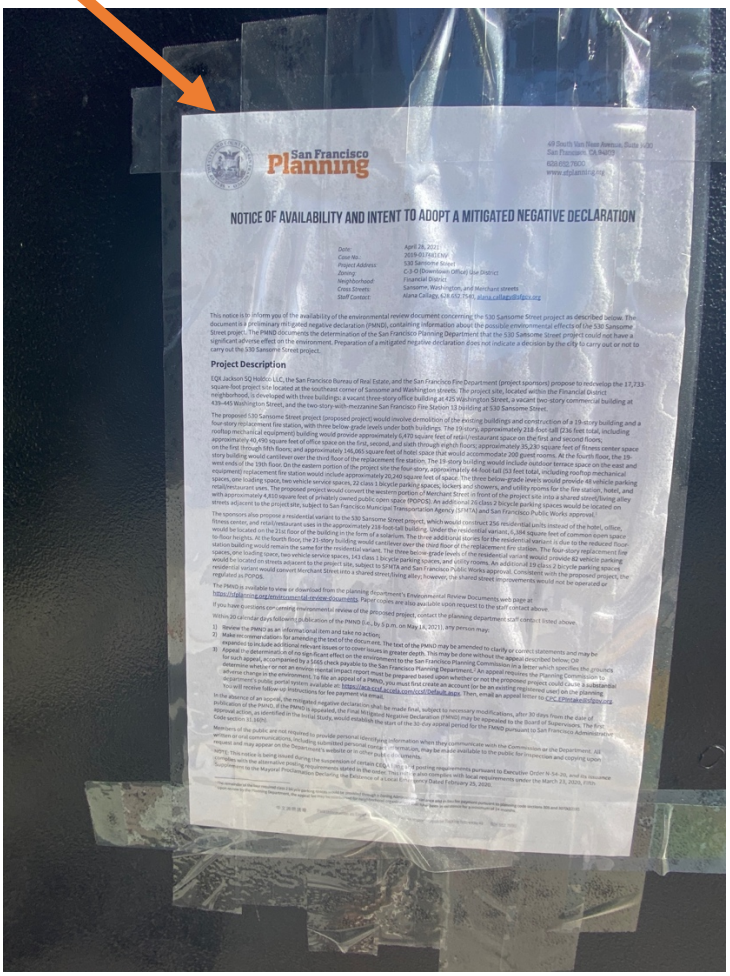
1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department. An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-cnt.accela.com/cnt/?fullui=true. Then, email an appeal letter to CPC.EPIntake@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be approved by the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA timing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the Order. This Notice also complies with Mayoral Proclamation dated February 25, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

WASHINGTON STREET – WEST



San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.:	2019-017417ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets:	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy, 628.652.7541, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 435–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors, approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,685 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,850 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common room space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents web page at http://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

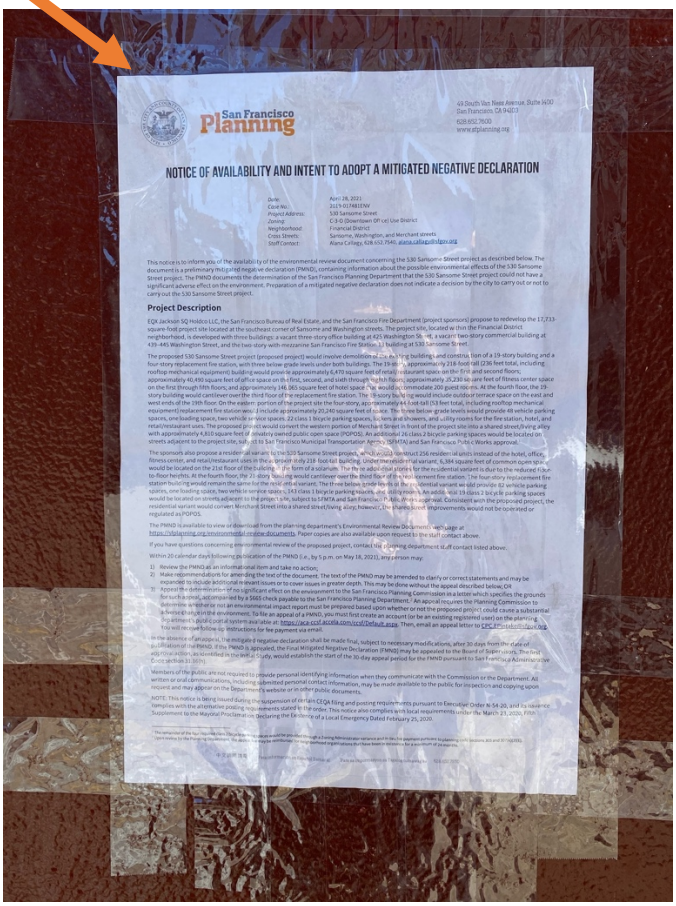
1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $585 check payable to the San Francisco Planning Department. An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account to be an existing registered user on the planning department's public portal system available at: https://aca-prod.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.EPAppeals@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(b).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

[illegible] This notice is being issued during the suspension of certain CEQA [illegible] posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the Order. This notice also complies with local requirements under the March 23, 2020, 27th Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

WASHINGTON STREET – MID-STREET



San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date: April 28, 2021
Case No.: 2019-017481ENV
Project Address: 530 Sansome Street
Zoning: C-3-O (Downtown Office) Use District
Neighborhood: Financial District
Cross Streets: Sansome, Washington, and Merchant streets
Staff Contact: Alana Callagy, 628.652.7545, alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,713-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story with mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story building, approximately 218 feet tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors, approximately 40,490 square feet of office space on the first, second, and sixth through 19th floors, approximately 25,230 square feet of fitness center space on the first through fifth floors, and approximately 146,965 square feet of hotel space. The would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 64-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 49 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, locker rooms and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 224 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the proposed 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story housing would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 62 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An added, 46 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the planning department's Environmental Review Documents webpage at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the planning department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

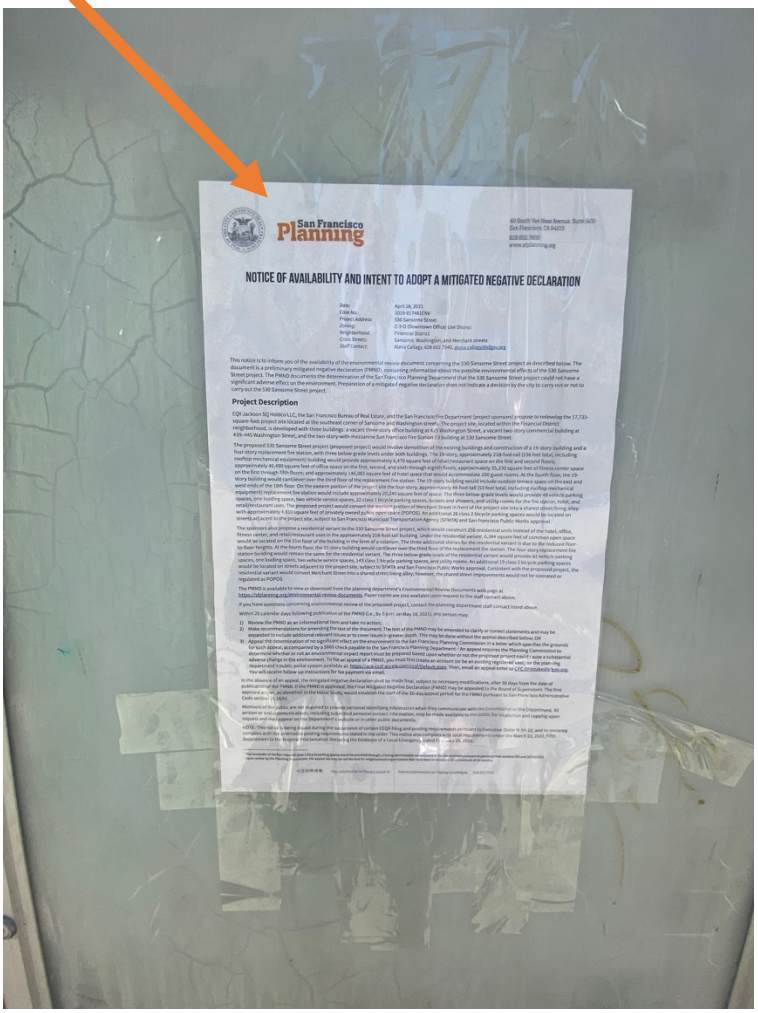
1) Review the PMND as an informational item and take no action;
2) Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3) Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department.[1] An appeal requires the Planning Commission to determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning online application portal system available at https://aca-ccsf.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.PMNDappeals@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first additional action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(b).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and is running in tandem with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

WASHINGTON STREET – EAST



San Francisco Planning

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Description

PLANNING DEPARTMENT
ENVIRONMENTAL REVIEW NOTICE

Notice is hereby given to the general public of the following actions under the environmental review process. Review of the documents concerning these projects can be arranged by calling (628) 652-7546.

PRELIMINARY MITIGATED NEGATIVE DECLARATION

The initial evaluation conducted by the planning department determined that the following project could not have a significant effect on the environment, and that no environmental impact report is required. Accordingly, a preliminary mitigated negative declaration has been prepared.

Public recommendations for amendment of the text of the finding, or any appeal of this determination to the planning commission (with $665 filing fee) must be filed with the department within 20 days following the date of this notice. In the absence of an appeal, the mitigated negative declaration shall be made final, subject to any necessary modifications, 20 days from the date of this notice.

2019-01748ENV: 530 Sansome Street Project. The 17,733-square-foot project site [Assessor's Block 0206, Lots 013, 014, 017] is located on the southeast corner of Sansome and Washington streets in the block bounded by Washington Street to the north, Battery Street to the east, Merchant Street to the south, and Sansome Street to the west in the Financial District neighborhood. The project would include demolition of three existing buildings at 425 Washington, 439–445 Washington, and 530 Sansome streets and construction of a four-story replacement fire station for San Francisco Fire Department Station 13 and a 19-story building, with three below-grade levels under both buildings. The 19-story building would contain approximately 200 hotel rooms, 6,470 square feet of retail/restaurant space, 40,490 square feet of office space, and 35,230 square feet of fitness center space. The project would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, and 26 class 2 bicycle parking spaces. The proposed project would convert the western portion of Merchant Street adjacent to the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS).

The sponsors also propose a project variant which would replace the fire station consistent with the project but would build approximately 256 residential units

instead of hotel, office, fitness center, and retail/restaurant uses. The residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and 19 class 2 bicycle parking spaces.

The proposed project or variant would require excavation to a depth of 40 feet below existing grade. Up to approximately 28,000 cubic yards of debris and soil would be excavated and removed from the project site. The project site is in a C-3-O (Downtown Office) use district and a 200-S height and bulk district.
[CALLAGY]

2021-0000015

F I L E D

San Francisco County Clerk

April 29, 2021

By: Fallon Lin

Deputy County Clerk

POSTED APR 29 2021 TO

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

NOTICE OF AVAILABILITY AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Date:	April 28, 2021
Case No.:	2019-017481ENV
Project Address:	530 Sansome Street
Zoning:	C-3-O (Downtown Office) Use District
Neighborhood:	Financial District
Cross Streets	Sansome, Washington, and Merchant streets
Staff Contact:	Alana Callagy 628.652.7540 alana.callagy@sfgov.org

This notice is to inform you of the availability of the environmental review document concerning the 530 Sansome Street project as described below. The document is a preliminary mitigated negative declaration (PMND), containing information about the possible environmental effects of the 530 Sansome Street project. The PMND documents the determination of the San Francisco Planning Department that the 530 Sansome Street project could not have a significant adverse effect on the environment. Preparation of a mitigated negative declaration does not indicate a decision by the city to carry out or not to carry out the 530 Sansome Street project.

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station.

The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four-story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station, hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.[1]

The sponsors also propose a residential variant to the 530 Sansome Street project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels of the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley; however, the shared street improvements would not be operated or regulated as POPOS.

The PMND is available to view or download from the Planning Department's Environmental Review Documents web page at https://sfplanning.org/environmental-review-documents. Paper copies are also available upon request to the staff contact above.

If you have questions concerning environmental review of the proposed project, contact the Planning Department staff contact listed above.

Within 20 calendar days following publication of the PMND (i.e., by 5 p.m. on May 18, 2021), any person may:

1. Review the PMND as an informational item and take no action;
2. Make recommendations for amending the text of the document. The text of the PMND may be amended to clarify or correct statements and may be expanded to include additional relevant issues or to cover issues in greater depth. This may be done without the appeal described below; OR
3. Appeal the determination of no significant effect on the environment to the San Francisco Planning Commission in a letter which specifies the grounds for such appeal, accompanied by a $665 check payable to the San Francisco Planning Department.[2] An appeal requires the Planning Commission to

[1] The remainder of the four required class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in-lieu fee payment pursuant to planning code sections 305 and 307(k)(2)(E).
[2] Upon review by the Planning Department, the appeal fee may be reimbursed for neighborhood organizations that have been in existence for a minimum of 24 months.

determine whether or not an environmental impact report must be prepared based upon whether or not the proposed project could cause a substantial adverse change in the environment. To file an appeal of a PMND, you must first create an account (or be an existing registered user) on the planning department's public portal system available at: https://aca-ccsf.accela.com/ccsf/Default.aspx. Then, email an appeal letter to CPC.EPIntake@sfgov.org. You will receive follow-up instructions for fee payment via email.

In the absence of an appeal, the mitigated negative declaration shall be made final, subject to necessary modifications, after 30 days from the date of publication of the PMND. If the PMND is appealed, the Final Mitigated Negative Declaration (FMND) may be appealed to the Board of Supervisors. The first approval action, as identified in the Initial Study, would establish the start of the 30-day appeal period for the FMND pursuant to San Francisco Administrative Code section 31.16(h).

Members of the public are not required to provide personal identifying information when they communicate with the Commission or the Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

NOTE: This notice is being issued during the suspension of certain CEQA filing and posting requirements pursuant to Executive Order N-54-20, and its issuance complies with the alternative posting requirements stated in the order. This notice also complies with local requirements under the March 23, 2020, Fifth Supplement to the Mayoral Proclamation Declaring the Existence of a Local Emergency Dated February 25, 2020.

Exhibit B – Motion No. 20953, July 29, 2021

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

PLANNING COMMISSION MOTION NO. 20953

HEARING DATE: JULY 29, 2021

Case No.:	2019-017481ENV
Project Address:	530 SANSOME STREET
Zoning:	C-3-O (Downtown Office) Use District 200-S Special Height and Bulk District
Block/Lot:	0206/013, 014, 017
Project Sponsors:	James Abrams, J. Abrams Law on behalf of EQX Jackson SQ Holdco LLC 415.999.4402, jabrams@jabramslaw.com Josh Keene, San Francisco Bureau of Real Estate 415.554.9859, joshua.keene@sfgov.org Assistant Deputy Chief Dawn DeWitt, San Francisco Fire Department 415.674.5066, dawn.dewitt@sfgov.org
Property Owners:	EQX Jackson SQ Holdco LLC 44 Montgomery Street, Suite 1300 San Francisco, CA 94104 City and County of San Francisco Real Estate Division 25 Van Ness Avenue, Suite 400 San Francisco, CA 94102
Staff Contact:	Alana Callagy 628.652.7540, alana.callagy@sfgov.org

ADOPTING FINDINGS RELATED TO THE APPEAL OF THE 530 SANSOME STREET PRELIMINARY MITIGATED NEGATIVE DECLARATION, FILE NUMBER 2019-017481ENV, FOR THE PROPOSED DEVELOPMENT THAT WOULD DEMOLISH THREE EXISTING BUILDINGS AND CONSTRUCT A FOUR-STORY REPLACEMENT FIRE STATION FOR SAN FRANCISCO FIRE DEPARTMENT STATION 13 AND A 19-STORY MIXED-USE HOTEL BUILDING, WITH THREE BELOW-GRADE LEVELS UNDER BOTH BUILDINGS. MERCHANT STREET ADJACENT TO THE PROJECT SITE WOULD BE CONVERTED INTO A SHARED STREET/LIVING ALLEY WITH PRIVATELY OWNED PUBLIC OPEN SPACE. THE SPONSORS ALSO PROPOSE A RESIDENTIAL VARIANT WHICH WOULD REPLACE THE FIRE STATION CONSISTENT WITH THE PROPOSED PROJECT BUT WOULD BUILD APPROXIMATELY 256 RESIDENTIAL UNITS IN A 21-STORY BUILDING (APPROXIMATELY SAME HEIGHT) INSTEAD OF A MIXED-USE HOTEL. THE PROJECT SITE IS IN A C-3-O (DOWNTOWN OFFICE) USE DISTRICT AND A 200-S HEIGHT AND BULK DISTRICT.

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby AFFIRMS the decision to issue a Mitigated Negative Declaration, based on the following findings:

1. On December 20, 2019, pursuant to the provisions of the California Environmental Quality Act ("CEQA"), the State CEQA Guidelines, and chapter 31 of the San Francisco Administrative Code, the San Francisco Planning Department ("Department") received an Environmental Evaluation Application form for the proposed project, in order that it might conduct an initial evaluation to determine whether the Project might have a significant impact on the environment.
2. On or around September 15, 2020, the project sponsors delivered to the Department plan materials necessary for the study of a residential variant of the proposed project, which included similar building design, height and bulk, as well as a replacement fire station, but would include approximately 256 residential units in a 21-story building instead of hotel, office, fitness center and retail/restaurant uses.
3. On April 28, 2021, the Department determined that neither the proposed project nor the residential variant, as proposed, could have a significant effect on the environment.
4. On April 28, 2021, a notice of availability and intent to adopt a Mitigated Negative Declaration (MND) was issued for the 530 Sansome Street Project and was duly published in a newspaper of general circulation in the City, and the Preliminary MND (PMND) was posted on the Department website and distributed in accordance with law. In addition, posters advising the public of the notice of availability and intent to adopt an MND were posted on the Merchant Street, Sansome Street and Washington Street frontages of the Project site. The posters were regularly inspected by representatives of the project sponsors to ensure none were damaged or removed during the 20 days following posting.
5. On May 18, 2021, an appeal of the determination of no significant effect on the environment was filed by Ryan Patterson, on behalf of 447 Partners, LLC.
6. A staff memorandum, dated June 16, 2021, addresses and responds to all points raised by appellant in the appeal letter. That memorandum is attached as Exhibit A and staff's findings regarding those points are incorporated by reference herein as the Commission's own findings. Copies of that memorandum have been delivered to the Commission, and a copy of that memorandum is on file and available for public review at 49 South Van Ness Avenue, Suite 1400, San Francisco, California.
7. On July 29, 2021, amendments were made to the MND to update footers in the document and a new Section G.2 to address a comment letter on the PMND. Such amendments do not include new, undisclosed environmental impacts and do not change the conclusions reached in the MND. The changes do not require "substantial revision" of the PMND, and therefore recirculation of the MND is would not be required.
8. On July 29, 2021, the Commission held a duly noticed and advertised public hearing on the appeal of the PMND, at which testimony on the merits of the appeal, both in favor of and in opposition to, was received.
9. All points raised in the appeal of the PMND at the July 29, 2021, hearing have been addressed either in the memorandum or orally at the public hearing.
10. After consideration of the points raised by appellant, both in writing and at the July 29, 2021, hearing, the Department reaffirms its conclusion that neither the proposed project nor the residential variant could have a significant effect upon the environment.

11. In reviewing the PMND issued for the proposed project, the Commission has had available for its review and consideration all information pertaining to the proposed project in the Department's case file.
12. The Commission finds that Department's determination on the MND reflects the Department's independent judgment and analysis.
13. The Commission Secretary is the custodian of records; the File for Record No. 2019-017481ENV is located at 49 South Van Ness Avenue, Suite 1400, San Francisco, California.

DECISION

The Commission HEREBY DOES FIND that neither the proposed project nor the residential variant could have a significant effect on the environment, as shown in the analysis of the Mitigated Negative Declaration, and HEREBY DOES AFFIRM the decision to issue a Mitigated Negative Declaration, as prepared by the Department.

I hereby certify that the Commission ADOPTED the foregoing Motion on July 29, 2021.

Jonas P. Ionin
Commission Secretary

AYES: Tanner, Fung, Diamond, Koppel

NAYS: Moore, Imperial

ABSENT: Chan

ADOPTED: July 29, 2021

From:	BOS Legislation, (BOS)
To:	BOS Legislation, (BOS)
Subject:	FW: APPELLANT SUPPLEMENTAL INFORMATION: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021
Date:	Friday, September 24, 2021 4:13:39 PM
Attachments:	image001.png

From: BOS Legislation, (BOS)
Sent: Friday, September 24, 2021 4:11 PM
To: 'Ryan Patterson' <ryan@zfplaw.com>; James Abrams <jabrams@jabramslaw.com>; Penick, Andrico <andrico.penick@sfgov.org>; DeWitt, Dawn (FIR) <dawn.dewitt@sfgov.org>
Cc: PEARSON, ANNE (CAT) <Anne.Pearson@sfcityatty.org>; STACY, KATE (CAT) <Kate.Stacy@sfcityatty.org>; JENSEN, KRISTEN (CAT) <Kristen.Jensen@sfcityatty.org>; Hillis, Rich (CPC) <rich.hillis@sfgov.org>; Teague, Corey (CPC) <corey.teague@sfgov.org>; Sanchez, Scott (CPC) <scott.sanchez@sfgov.org>; Gibson, Lisa (CPC) <lisa.gibson@sfgov.org>; Jain, Devyani (CPC) <devyani.jain@sfgov.org>; Navarrete, Joy (CPC) <joy.navarrete@sfgov.org>; Lewis, Don (CPC) <don.lewis@sfgov.org>; Varat, Adam (CPC) <adam.varat@sfgov.org>; Sider, Dan (CPC) <dan.sider@sfgov.org>; Starr, Aaron (CPC) <aaron.starr@sfgov.org>; Ionin, Jonas (CPC) <jonas.ionin@sfgov.org>; Callagy, Alana (CPC) <Alana.Callagy@sfgov.org>; Kern, Chris (CPC) <chris.kern@sfgov.org>; Rosenberg, Julie (BOA) <julie.rosenberg@sfgov.org>; Longaway, Alec (BOA) <alec.longaway@sfgov.org>; BOS-Supervisors <bos-supervisors@sfgov.org>; BOS-Legislative Aides <bos-legislative_aides@sfgov.org>; Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Somera, Alisa (BOS) <alisa.somera@sfgov.org>; Mchugh, Eileen (BOS) <eileen.e.mchugh@sfgov.org>
Subject: APPELLANT SUPPLEMENTAL INFORMATION: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021

Greetings,

The Office of the Clerk of the Board is in receipt of supplemental information sent by Ryan Patterson of Zacks, Freedman, and Patterson PC, on behalf of the appellant, 447 Partners, LLC for an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project.

Appellant Supplemental Information – September 24, 2021

I invite you to review the entire matters on our Legislative Research Center by following the link below:

Board of Supervisors File No. 210923

Best regards,

Jocelyn Wong
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T: 415.554.7702 | F: 415.554.5163
jocelyn.wong@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services

 Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

Disclosures: *Personal information that is provided in communications to the Board of Supervisors is subject to disclosure under the California Public Records Act and the San Francisco Sunshine Ordinance. Personal information provided will not be redacted. Members of the public are not required to provide personal identifying information when they communicate with the Board of Supervisors and its committees. All written or oral communications that members of the public submit to the Clerk's Office regarding pending legislation or hearings will be made available to all members of the public for inspection and copying. The Clerk's Office does not redact any information from these submissions. This means that personal information—including names, phone numbers, addresses and similar information that a member of the public elects to submit to the Board and its committees—may appear on the Board of Supervisors' website or in other public documents that members of the public may inspect or copy.*

From:	Board of Supervisors, (BOS)
To:	BOS Legislation, (BOS)
Subject:	FW: BoS Hearing Supporting Materials - 530 Sansome
Date:	Friday, September 24, 2021 4:00:36 PM
Attachments:	PykeResumeLegal.pdf Pyke letter re 447 Battery Street.pdf

From: Chandni Mistry <chandni@zfplaw.com>
Sent: Friday, September 24, 2021 3:56 PM
To: Board of Supervisors, (BOS) <board.of.supervisors@sfgov.org>
Cc: Brian O'Neill <brian@zfplaw.com>; Ryan Patterson <ryan@zfplaw.com>
Subject: BoS Hearing Supporting Materials - 530 Sansome

Good afternoon,

Please find attached supporting documents to add to the file for 530 Sansome. This is for the hearing that is scheduled for October 5th.

Thank you,

Chandni Mistry
Administrative Assistant
Zacks, Freedman & Patterson, PC
601 Montgomery Street, Suite 400
San Francisco, CA 94111
Telephone: (415) 956-8100
Facsimile: (415) 288-9755
www.zfplaw.com

PLEASE NOTE THAT ZACKS, FREEDMAN & PATTERSON HAS MOVED. EFFECTIVE MARCH 9, 2021, OUR NEW ADDRESS IS:
ZACKS, FREEDMAN & PATTERSON, PC
601 MONTGOMERY STREET, SUITE 400
SAN FRANCISCO, CA 94111
PHONE, FAX AND EMAIL ADDRESSES REMAIN THE SAME.

Robert Pyke, Consulting Engineer

Zacks Freedman & Patterson PC

600 Montgomery Street, Suite 400

San Francisco CA 94111-2607

Attention: Brian O'Neill, Esq.

Re: Potential Impact of the Construction of the 530 Sansome Street Hotel Project to the 447 Battery Street Building, San Francisco CA

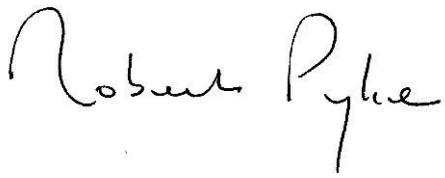
Dear Brian,

I have reviewed both the Geotechnical Investigation Report prepared by Langan Engineering and Environmental Services, Inc., dated December 20, 2019, and the letter to you dated July 28, 2021, by Eddy T. Lau, Geotechnical Engineer.

I basically concur with Mr Lau's findings. It is critically important to establish what kind of foundation supports 447 Battery Street and to tailor underpinning and shoring requirements for that foundation. An impervious shoring system is likely required in order to maintain the existing groundwater level under 447 Battery Street. Tiebacks under the building are not acceptable for the present condition and make no sense should 447 Battery be redeveloped at some future point.

Please let me know if I can be of further assistance.

Regards,



Robert Pyke Ph.D., G.E.

1310 Alma Avenue, No. W201, Walnut Creek, CA 94596

Telephone 925.323.7338 E-mail bobpyke@attglobal.net Web http://rpce.us

Robert Pyke, Consulting Engineer

RESUME

EDUCATION

B.E. in Civil Engineering, University of Sydney, 1963
Ph.D. in Civil Engineering, University of California, 1973
[major in geotechnical engineering; minors in rock mechanics and environmental planning]

EXPERIENCE

Australian Department of Works - 1964 to 1968. Staff Engineer engaged in investigations, design and construction of a major earth-and-rockfill dam and trunk water supply pipelines.

University of California, Berkeley - 1969 to 1973. Teaching and Research Assistant; conducted research for Ph.D. thesis on settlement and liquefaction of sands during earthquakes.

Dames & Moore, San Francisco - 1973 to 1976. Project and Senior Engineer on a variety of projects involving the behavior of foundations and earth structures subjected to wave and earthquake loadings including nuclear power plants, earth dams, pipelines, harbor facilities and offshore platforms.

Self Employed - 1977 to present - Individual consultant on special geotechnical, earthquake and water resources engineering problems.

REGISTRATIONS

Civil Engineer, California, 1976, CE 27248
Geotechnical Engineer, California, 1987, GE 702

PROFESSIONAL SOCIETIES

American Society of Civil Engineers
Earthquake Engineering Research Institute
Seismological Society of America
United States Society on Dams

1076 Carol Lane, Suite 136, Lafayette, CA 94549
Telephone 925.323.7338 E-mail bobpyke@attglobal.net

RECENT MAJOR PROJECT EXPERIENCE

EPRI/DoE Ground Motion Study - Developed guidelines for conduct of site investigations and site response analyses including updated generic shear modulus reduction and damping curves.

Mormon Island Auxiliary Dam, California - Member of consulting board (with J.K.Mitchell, L.W.D.Finn and R.B.Peck) for Bureau of Reclamation on seismic upgrade.

Seven Oaks Dam, San Bernardino County, for Los Angeles District, Corps of Engineers. Consultant on design and construction of major dam adjacent to the San Andreas fault.

San Francisco - Oakland Bay Bridge, East Span Seismic Safety Project - With Earth Mechanics Inc., member of seismic ground motion team, team leader for studies of seismic stability of the Oakland Mole.

Yucca Mountain Nuclear Waste Repository - Member of Seismic Advisory Panel (with J.C.Stepp, C.A.Cornell, R.P.Kennedy and C.A.Costantino).

San Pablo Dam, Orinda, California - Member of board of technical review board (with J.K.Mitchell and Don Babbitt) for East Bay Municipal Utility District on seismic upgrade to a major dam in a populated area.

Chemical and Metallurgical Research Laboratory Replacement, Los Alamos National Laboratory. Consultant on seismic issues associated with design of major nuclear research facility.

Idaho National Laboratory. Member, Blue Ribbon Panel for review of seismic design of IWTU (with C.A.Costantino, T.Houston, R.Lee and W.Lettis).

Bay Area Rapid Transit System, San Francisco Transition Structures and TBT Uplift Studies. Consultant to Parsons Brinkerhoff and BART.

Treasure Island, San Francisco Bay. Key consultant to development team on proposed $6 billion commercial-residential re-development of former Navy base located on potentially liquefiable sands and soft Bay Muds. Facilitator of Independent Review Panel comprised of Professors J.K.Mitchell, I.M.Idriss, R.B.Seed and R.W.Boulanger.

Hondsbossche and Pettermer Dikes, for ARCADIS NL, the Netherlands.
Third party review of proposed raise of critical North Sea dike.

Delta Protection Commission, California. With University of the Pacific Business Forecasting Center, principal contributor to Delta Economic Sustainability Plan.

Navy Base Container Terminal, for South Carolina State Ports Authority. Review and analysis of causes of excessive deformations of cantilever containment wall.

SPECIALIZED EXPERIENCE

AS EXPERT WITNESS OR CONSULTANT

"Superwell" litigation, San Bernadino, California - Consultant to East Valley Water District and others on potential for damage resulting from earthquake-induced liquefaction - for Attorney Cynthia Lundvigsen.

McDonald Island, Sacramento-San Joaquin Delta - Expert witness for defendants in lawsuit resulting from 1982 levee failure - for Boornazian, Jensen and Garthe, Oakland.

Yuba River Levee Failure - Expert witness for plaintiffs in lawsuit resulting from 1986 levee failure - for the Law Offices of Stanley J. Bell.

Anderson Ranch Homeowners' Association, Danville - Consultant/expert witness on dispute involving allegation of ancient landslide and litigation resulting from subsequent landslide - for the Law Offices of Ronald M. Abend. Supervision of repair for Homeowners' Association.

Stone Valley Road Pipeline, Alamo - Expert witness for EBMUD in defense of construction claims - for Crosby, Heafey, Roach and May.

Mission at Meadow Hills, Fremont - Expert witness on claims for construction defects in townhouse development - for Abend, Lepper, Jacobsen, Schaefer & Hughes.

Lafayette Pointe, Layfayette - Expert witness on claims for construction defects in condominium development - for Abend, Lepper, Jacobsen, Schaefer & Hughes.

Lighthouse Cove, Redwood Shores - Consultant to Edward Margason and Berding & Weil on differential settlement of town homes constructed on reinforced concrete slabs on Bay Mud site.

Santa Clarita General Mail Facility - Expert witness for HK Systems Inc. and Popham Haik Schnobrich & Kaufman on claim related to damage sustained in the Northridge Earthquake.

The Greens Condominiums, Simi Valley, California - Expert witness for defendants Earth Systems Consultants and Ritchey, Fisher, Whitman & Klein relative to opposing views regarding evaluation of slope stability.

The BoardWalk, Redwood Shores - Consultant to Edward Margason and Berding & Weil on differential settlement of town homes constructed on post-tensioned concrete slabs on Bay Mud site.

Plum Island, Foster City - Consultant / expert witness in suits involving settlement, corrosion, cracking and seismic resistance of reinforced concrete slabs supporting town homes - for Law Offices of Nick T. Reckas.

Rancho Solano, Solano County - Consultant to Edward Marguson and Tarkington, O'Connor & O'Neill and defendants on evaluation of slope stability in residential subdivision.

Twelker Residence, San Jose - Consultant / expert witness for defendant Gill properties and Herr & Zappala on dispute involving slope stability.

Connor Property, Castro Valley, Alameda County – Expert witness for defendant Henry Justiniano and McNichols, Randick, O'Dea & Tooliatos on dispute involving a three-foot high retaining wall!

Kate Valley Landfill, Canterbury, New Zealand – Expert witness on static and seismic slope stability issues in dispute before the Environment Court of New Zealand.

Loukas Property, Alamo, Contra Costa County – Expert witness for the Law Offices of Simon Kisch on inverse condemnation claim against Caltrans resulting from a landslide.

Skoumbas Property, Orinda, Contra Costa County – Expert witness for Law Offices of Nick T. Reckas on inverse condemnation claim against the City of Orinda resulting from improper discharge of storm drainage and consequent erosion.

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

MITIGATED NEGATIVE DECLARATION

PMND Date:	April 28, 2021; amended on July 29, 2021 (amendments to the initial study are shown as deletions in ~~strikethrough~~ and additions in double underline)
Case No.:	**2019-017481ENV**
Project Address:	**530 Sansome Street**
Zoning:	C-3-O (Downtown Office) Use District
Height/Bulk:	200-S Special Height and Bulk District
Block/Lot:	0206/013, 014, 017
Lot Size:	17,733 square feet
Project Sponsors:	James Abrams, J. Abrams Law on behalf of EQX Jackson SQ Holdco LLC 415.999.4402, jabrams@jabramslaw.com Josh Keene, San Francisco Bureau of Real Estate 415.554.9859, joshua.keene@sfgov.org Assistant Deputy Chief Dawn DeWitt, San Francisco Fire Department 415.674.5066, dawn.dewitt@sfgov.org
Staff Contact:	Alana Callagy – 628.652.7540, alana.callagy@sfgov.org

Project Description

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsors) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets. The project site, located within the Financial District neighborhood, is developed with three buildings: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story-with-mezzanine San Francisco Fire Station 13 building at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,470 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station. The 19-story building would include outdoor terrace space on the east and west ends of the 19th floor. On the eastern portion of the project site the four story, approximately 44-foot-tall (53 feet total, including rooftop mechanical equipment) replacement fire station would include approximately 20,240 square feet of space. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces, lockers and showers, and utility rooms for the fire station,

hotel, and retail/restaurant uses. The proposed project would convert the western portion of Merchant Street in front of the project site into a shared street/living alley with approximately 4,810 square feet of privately owned public open space (POPOS). An additional 26 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.[1]

The sponsors also propose a residential variant to the proposed project, which would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the approximately 218-foot-tall building. Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building in the form of a solarium. The three additional stories for the residential variant is due to the reduced floor-to-floor heights. At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station. The four-story replacement fire station building would remain the same for the residential variant. The three below-grade levels for the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 143 class 1 bicycle parking spaces, and utility rooms for the fire station. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. Consistent with the proposed project, the residential variant would convert Merchant Street into a shared street/living alley.

Finding

This project could not have a significant effect on the environment. This finding is based upon the criteria of the Guidelines of the State Secretary for Resources, sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to Prepare a Negative Declaration), and the following reasons as documented in the initial study for the project, which is attached. Mitigation measures are included in this project to avoid potentially significant effects (see Section F, Mitigation Measures, pp. 182–196).

In the independent judgment of the planning department, there is no substantial evidence the project could have a significant effect on the environment.

Devyani Jain

Lisa Gibson
Environmental Review Officer

July 29, 2021

Date of Adoption of
Final Mitigated Negative Declaration

cc: James Abrams, J. Abrams Law, P.C.
Nicholas Foster, Current Planning Division
Supervisor Aaron Peskin, District 3

[1] The remainder of the four required class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in-lieu fee payment pursuant to planning code sections 305 and 307(k)(2)(E).

INITIAL STUDY
530 SANSOME STREET PROJECT
PLANNING DEPARTMENT CASE NO. 2019-017481ENV

Contents

APPENDICES (FOR THE PRINT VERSION, INCLUDED ON USB ATTACHED TO THIS ~~P~~MND)

FIGURES

TABLES

THIS PAGE INTENTIONALLY LEFT BLANK

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
$\mu g/m^3$	microgram per cubic meter
ABAG	Association of Bay Area Governments
air district	Bay Area Air Quality Management District
AC Transit	Alameda-Contra Costa Transit
ADA	Americans with Disabilities Act
BART	Bay Area Rapid Transit
bgs	below ground surface
building department	San Francisco Department of Building Inspection
California register	California Register of Historical Resources
Cal/OSHA	State of California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
dBA	A-weighted decibel
DepCAP	San Francisco Fire Department Climate Action Plan
EPA	United States Environmental Protection Agency
ERO	Environmental Review Officer
FAR	floor area ratio
fire department	San Francisco Fire Department
FTA	Federal Transit Administration
GHG	greenhouse gases
health department	San Francisco Department of Public Health
HRER	Historic Resources Evaluation Response
HRPIP	Historic Resources Public Interpretive Plan
Ldn	day-night sound level
Leq	equivalent sound level
MBTA	Migratory Bird Treaty Act
mph	miles per hour
MTC	Metropolitan Transportation Commission
Muni	San Francisco Municipal Railway
NO_2	nitrogen dioxide

Acronym/Abbreviation	Definition
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
parks department	San Francisco Recreation and Parks Department
PCB	polychlorinated biphenyls
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
PPV	peak particle velocity
POPOS	privately owned public open space
ROG	reactive organic gases
SamTrans	San Mateo County Transit
SB	Senate Bill
sf	square feet
SFFD	San Francisco Fire Department
SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SO_2	sulfur dioxide
SUD	Special Use District
TAZ	transportation analysis zone
TDR	transferable development rights
TNC	transportation network company
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline
transportation authority	San Francisco County Transportation Authority
UST	underground storage tank
VMT	vehicle miles traveled

A. Project Description

Project Location

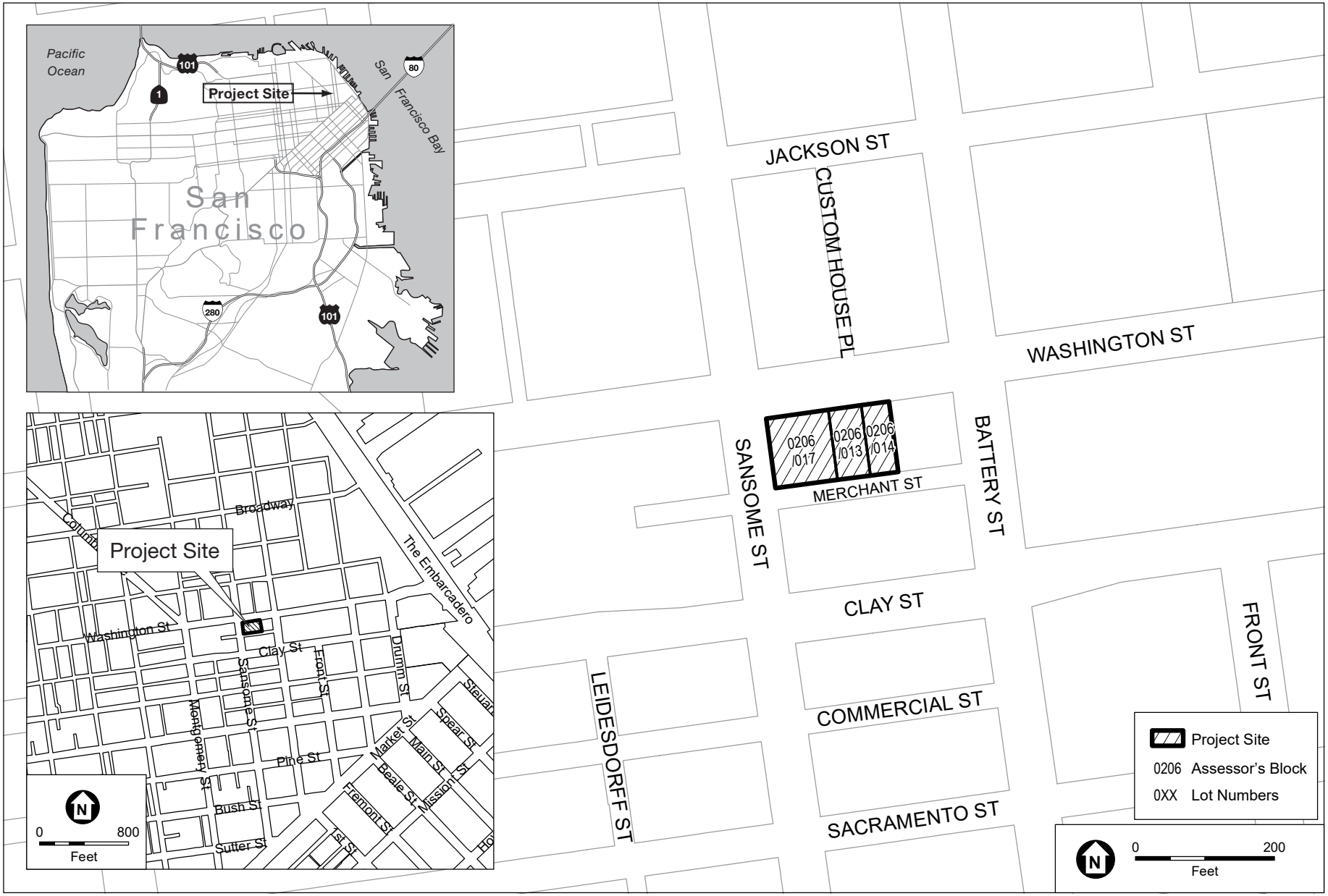
The 17,733-square-foot project site consists of three lots (Assessor's Block 0206, Lots 013, 014, and 017) located on the western portion of the block bounded by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south (see **Figure 1**, p. 2). The project site is located in the Financial District neighborhood of San Francisco. Three buildings occupy the project site: a vacant three-story office building at 425 Washington Street, a vacant two-story commercial building at 439–445 Washington Street, and the two-story Fire Station 13 building at 530 Sansome Street. The project site is in the C-3-O Downtown-Office district and a 200-S Height and Bulk district.

Project Characteristics

EQX Jackson SQ Holdco LLC, the San Francisco Bureau of Real Estate, and the San Francisco Fire Department (project sponsor) propose to redevelop the 17,733-square-foot project site located at the southeast corner of Sansome and Washington streets.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing 17,800-square-foot, three-story office building; the 12,862-square-foot, two-story commercial building; and the 18,626-square-foot fire station. During project construction Fire Station 13 operations would relocate to existing San Francisco Fire Department (fire department) facilities as close to the project site as possible. No interruption of fire department service would occur. The proposed project would construct a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218 foot-tall building (236 feet total, including rooftop mechanical equipment) would provide approximately 6,480 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate about 200 guest rooms. The replacement fire station would include approximately 20,240 square feet in a four-story, approximately 44-foot-tall building (53 feet total, including rooftop mechanical equipment) on the eastern portion of the project site. The three below-grade levels would provide 48 accessory vehicle parking spaces (30 for the commercial uses and 18 for fire department personnel and department vehicles), one loading space, two vehicle service spaces, 22 class 1 bicycle parking spaces,[1] and utility rooms for the fire station, hotel, and retail/restaurant uses in approximately 52,650 square feet. The proposed project would provide 26 class 2 bicycle parking spaces on streets adjacent to the project site, subject to San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works approval.

[1] Per San Francisco Planning Code section 155.1, Bicycle Parking Definitions and Standards, class 1 bicycle parking facilities are spaces in secure, weather-protected facilities intended for use as long-term, overnight, and workday bicycle storage by dwelling unit residents, non-residential occupants, and employees. Class 2 spaces are bicycle racks located in publicly accessible, highly visible locations intended for transient or short-term use by visitors, guests, and patrons to the building or use.



SOURCE: San Francisco Planning Department, 2020; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 1
PROJECT LOCATION

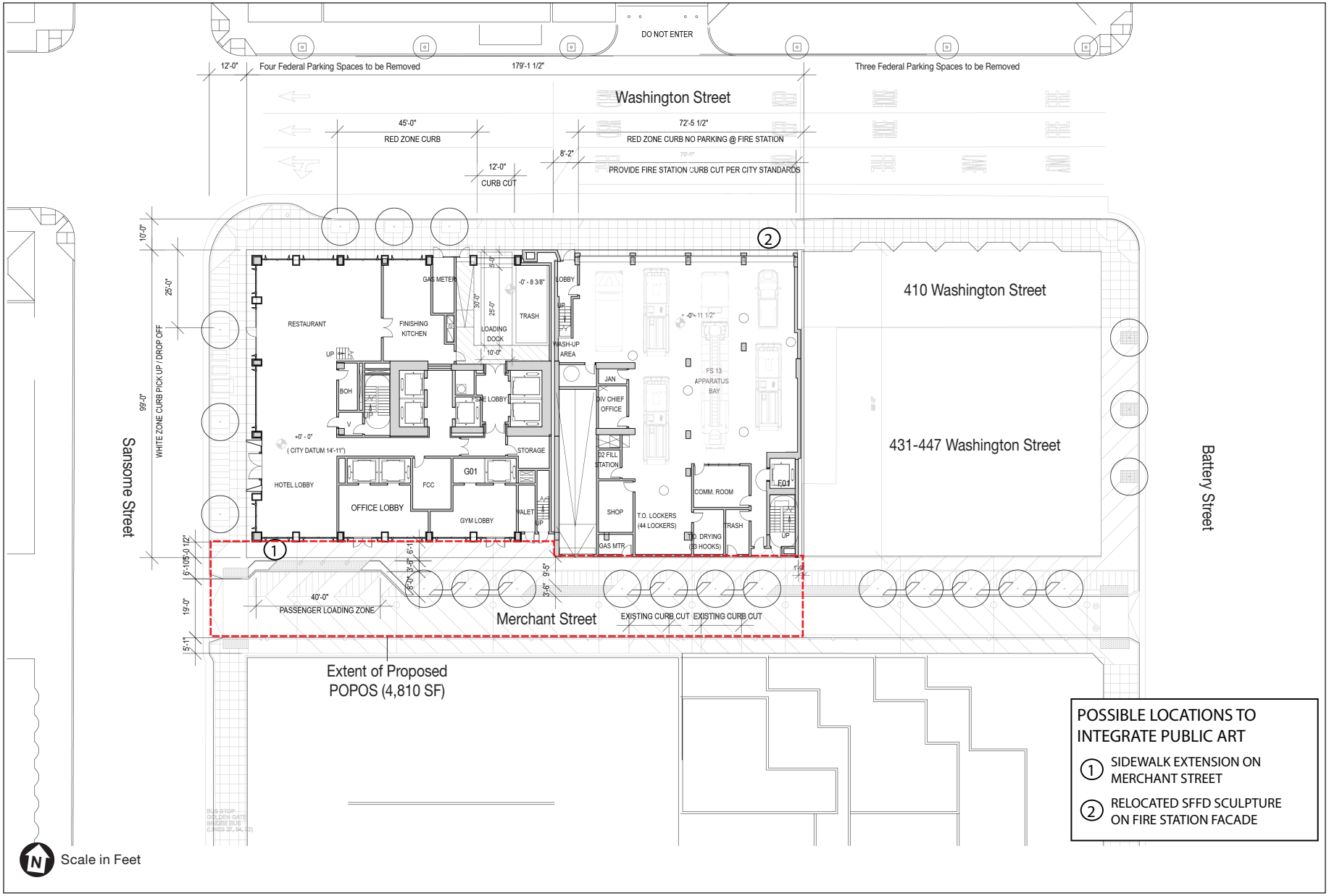
The project would remove existing on-street parking along both the northern and southern sides of Washington Street between Sansome and Battery streets. On-street parking along the southern side of Washington Street would be removed to provide a freight loading zone, a loading dock, and egress for the fire station. On-street parking would be removed along the northern edge of Washington Street fronting the U.S. Citizenship and Immigration Services building in order to provide adequate space for fire truck movement. The proposed project also would convert a portion of Merchant Street into a shared street/living alley[2] with approximately 4,810 square feet of privately owned public open space (POPOS) (see **Figure 2**).

On the north façade of 530 Sansome Street is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional copper sculpture depicts firefighters with a hose battling a blaze next to the letters "SFFD." The sculpture *Untitled*, currently mounted on the existing fire station's north façade on Washington Street, would be integrated into the project and relocated to either Merchant Street or the replacement fire station's north façade on Washington Street (see Figure 2). At the fourth floor, the 19-story building would cantilever over the third floor of the replacement fire station, and outdoor terrace space would be located on the east and west ends of the 19th floor (see **Figure 3**, p. 5, and **Figure 4**, p. 6). **Figure 5** through **Figure 12**, pp. 7–14, show representative floor plans for the proposed project. **Table 1**, p. 15, summarizes the proposed project characteristics.

REPLACEMENT FIRE STATION

The proposed project would demolish the existing Fire Station 13 and construct a replacement fire station on the eastern portion of the project site. The replacement fire station would not result in an increase in staff or operations but would result in an adequately sized state of the art station with built-in training features based on current operations. The proposed 44-foot-tall, four-story fire station would provide 20,240 square feet on floors 1 through 4. Floor 1 would contain gear and equipment rooms, firetruck parking bays, and office space. A mezzanine on the second floor would contain a kitchen and dining area, as well as a day room and small terrace. The third floor would contain additional office space, locker and laundry rooms, and a dorm room. The fourth floor would contain a fitness room and library. There would be no regular access to the fourth floor rooftop area with the exception of occasional use for fire department ladder training from Washington Street. An additional 490 square feet of equipment storage space and 7,710 square feet reserved for 18 fire department parking spaces would be located on the third basement level. Firetrucks would access the station on Washington Street and a vehicular ramp to the underground parking garage in the below-grade basement would be provided on Merchant Street for fire department staff personal vehicles and specialized small vehicles (see **Figure 13**, p. 16). Firetrucks responding to calls would either turn left on Washington Street and follow the westbound, one-way flow of traffic or turn right into a dedicated contraflow lane providing firetrucks access to Battery Street. Firetrucks returning to quarters would approach their bays from the east and with the flow of one-way traffic.

[2] A shared street/living alley is a narrow, low-volume traffic street designed to prioritize pedestrians, bicyclists, and provides space for social uses. Vehicles may access but with reduced speeds. The 447 Battery Street project (Case No. 2014-1036E), if approved by the city, would be responsible for constructing the eastern portion of Merchant Street.



SOURCE: Skidmore, Owings & Merrill LLP, 2021, modified by ESA

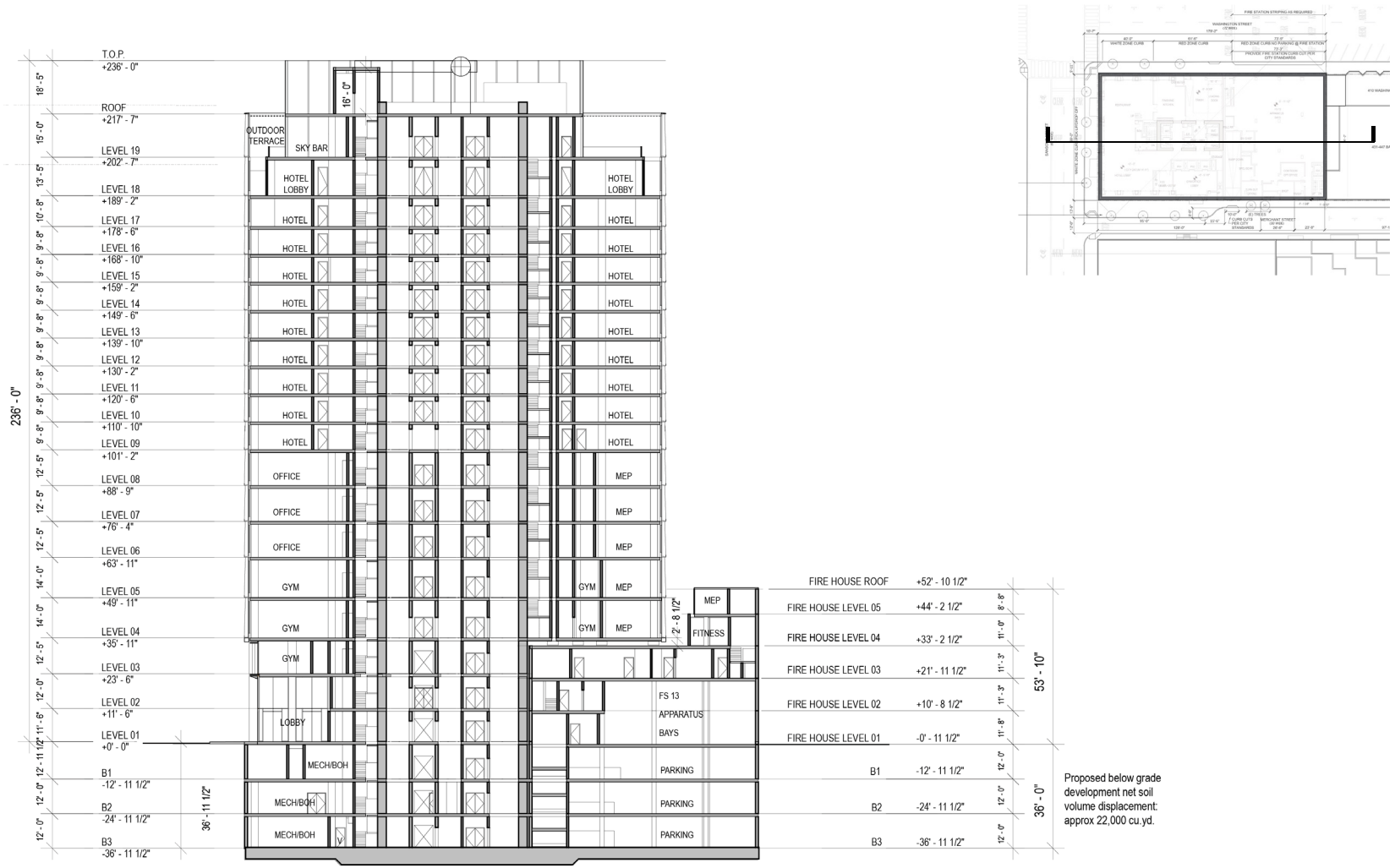
530 Sansome Street; Case No: 2019-017481ENV

FIGURE 2
PROPOSED SITE PLAN

SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 3
SOUTH ELEVATION

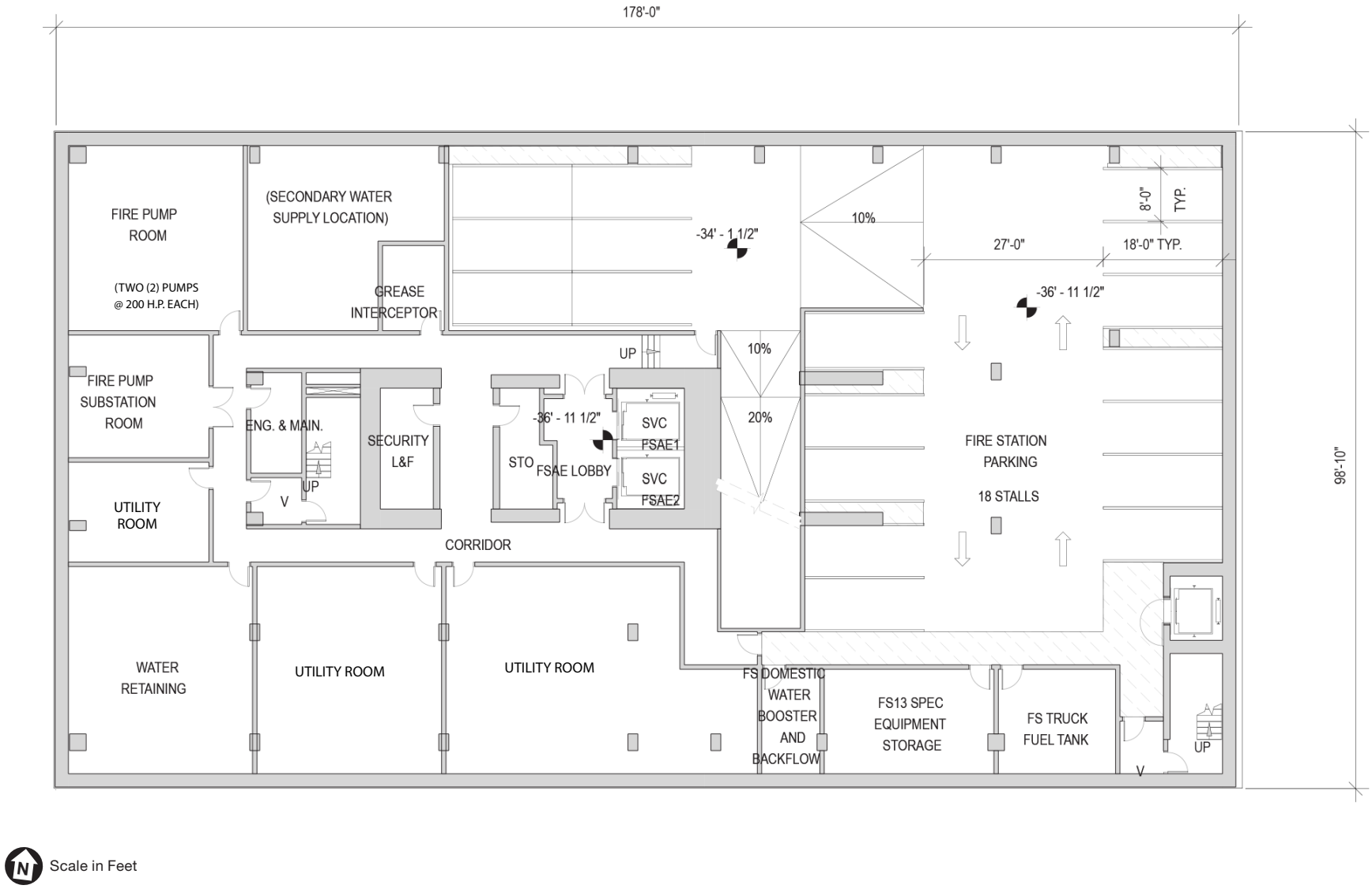


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 4

EAST/WEST BUILDING SECTION

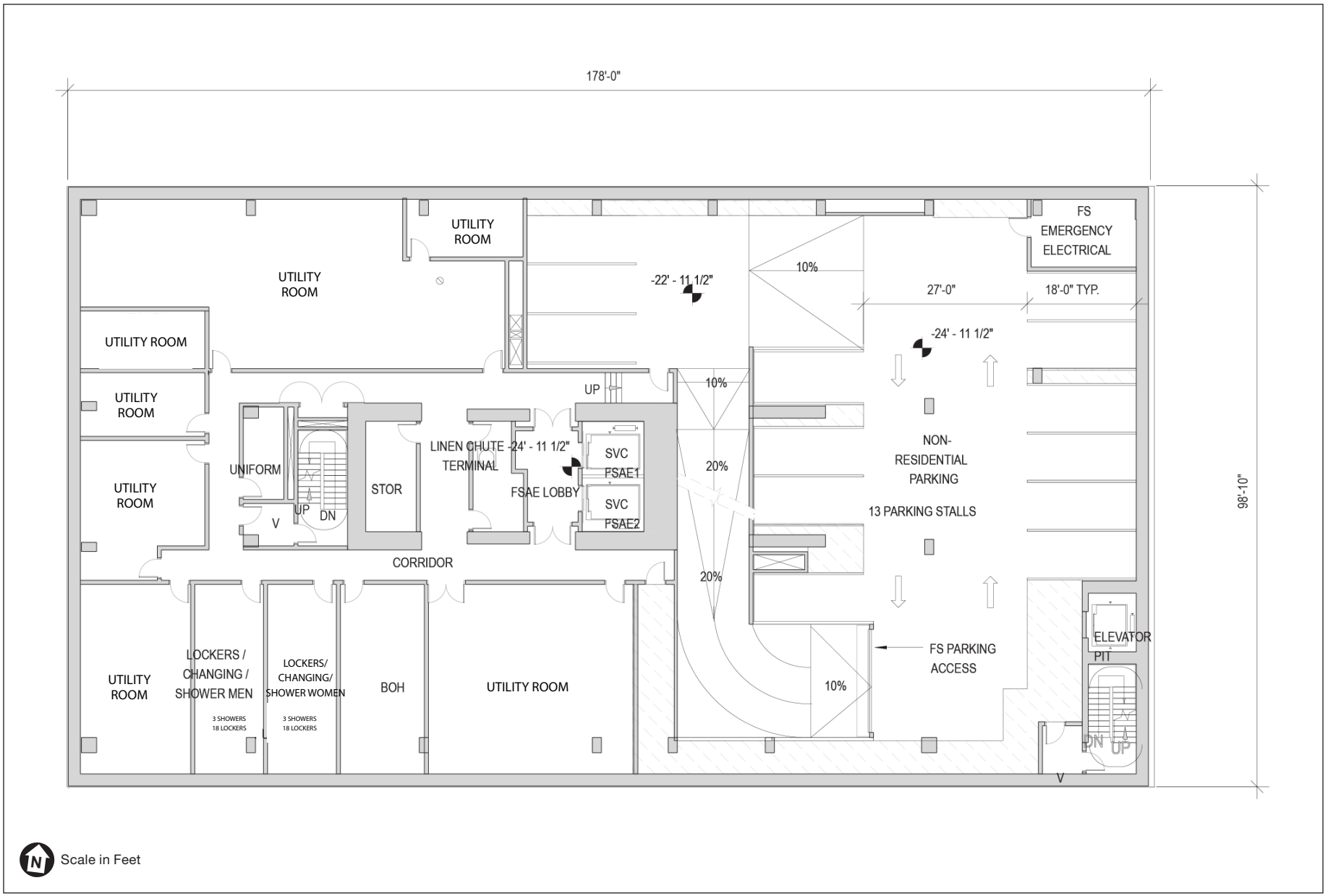


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 5

BASEMENT LEVEL 3 FLOOR PLAN

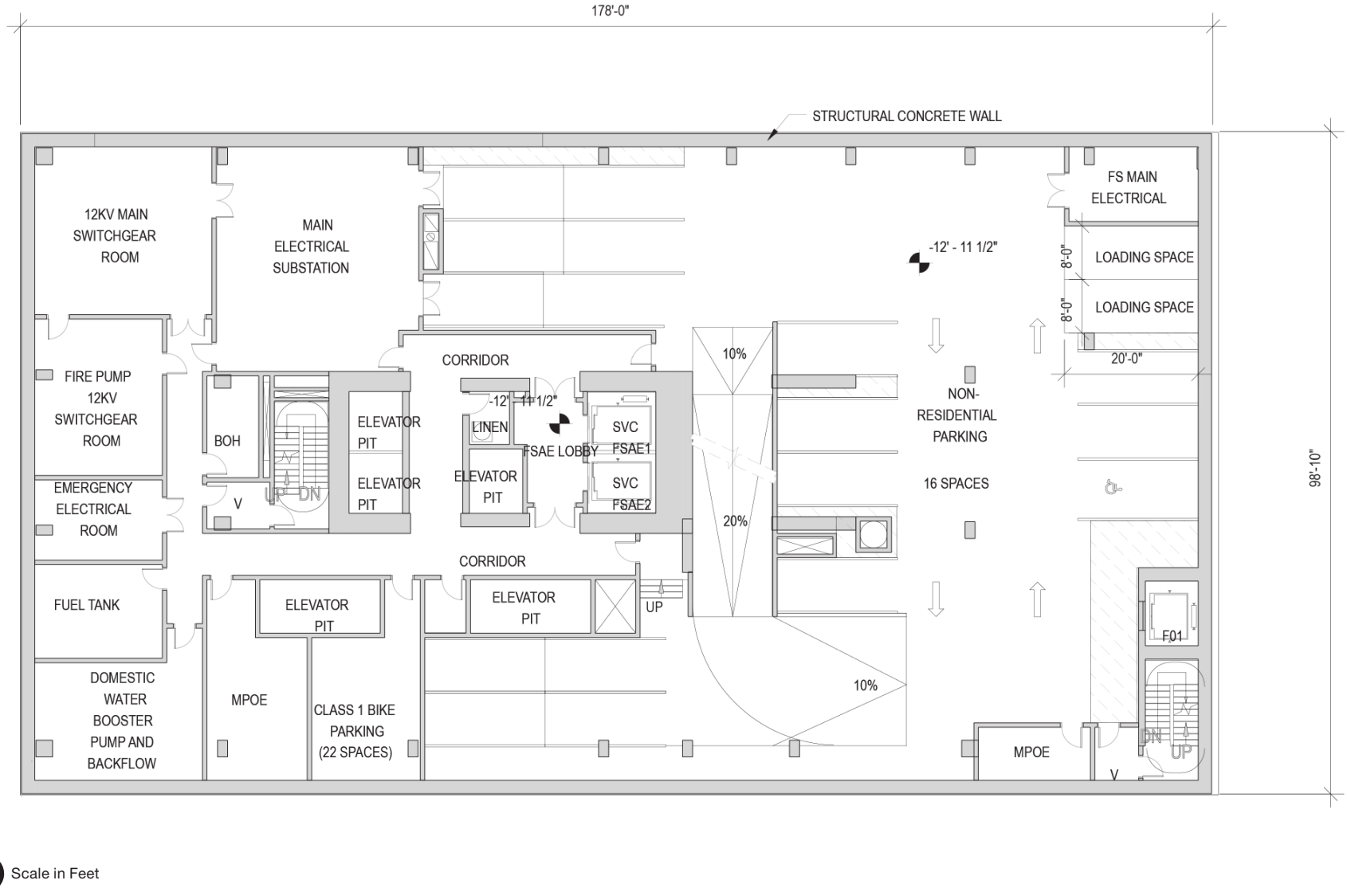


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 6

BASEMENT LEVEL 2 FLOOR PLAN

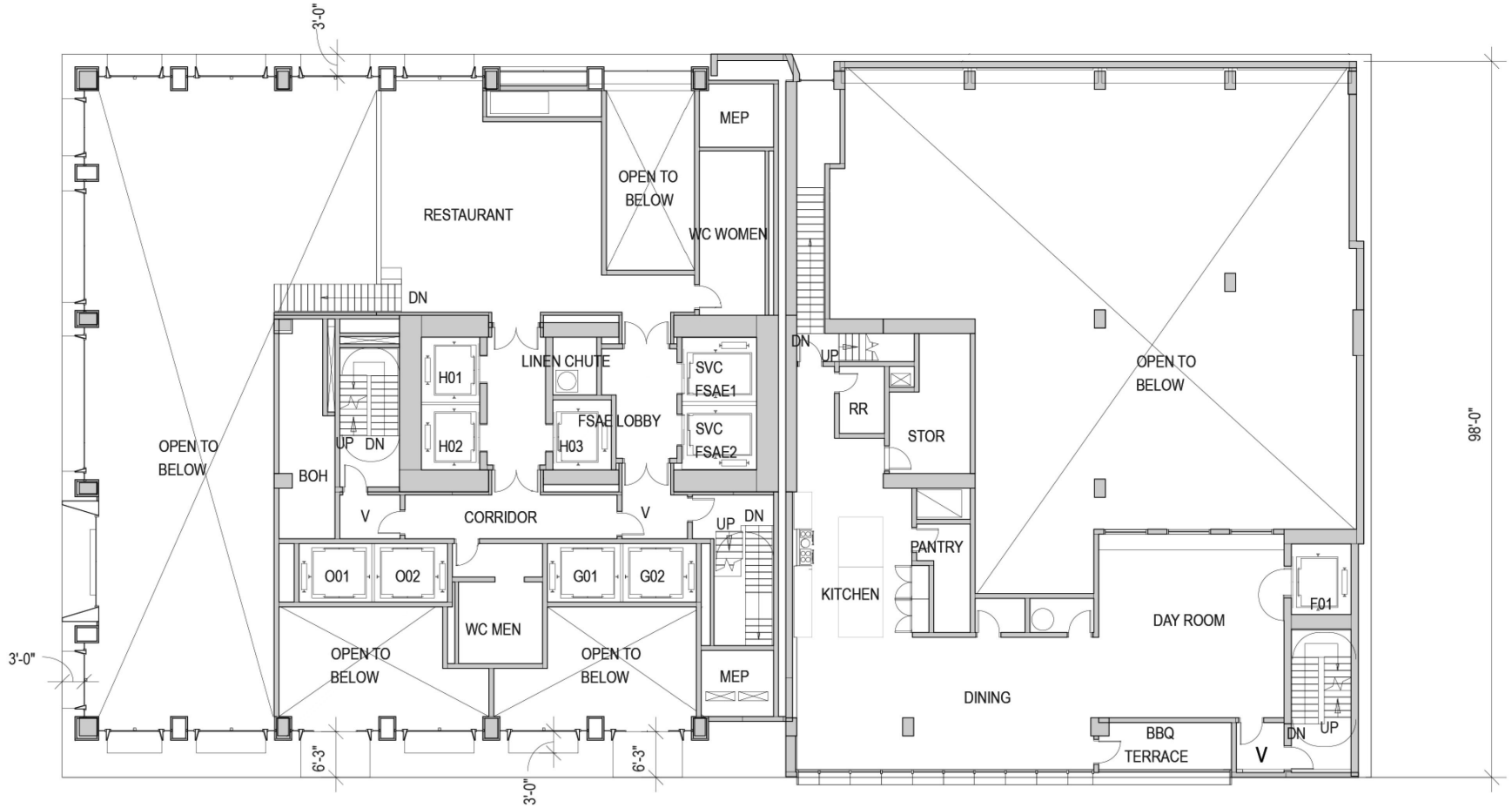


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 7

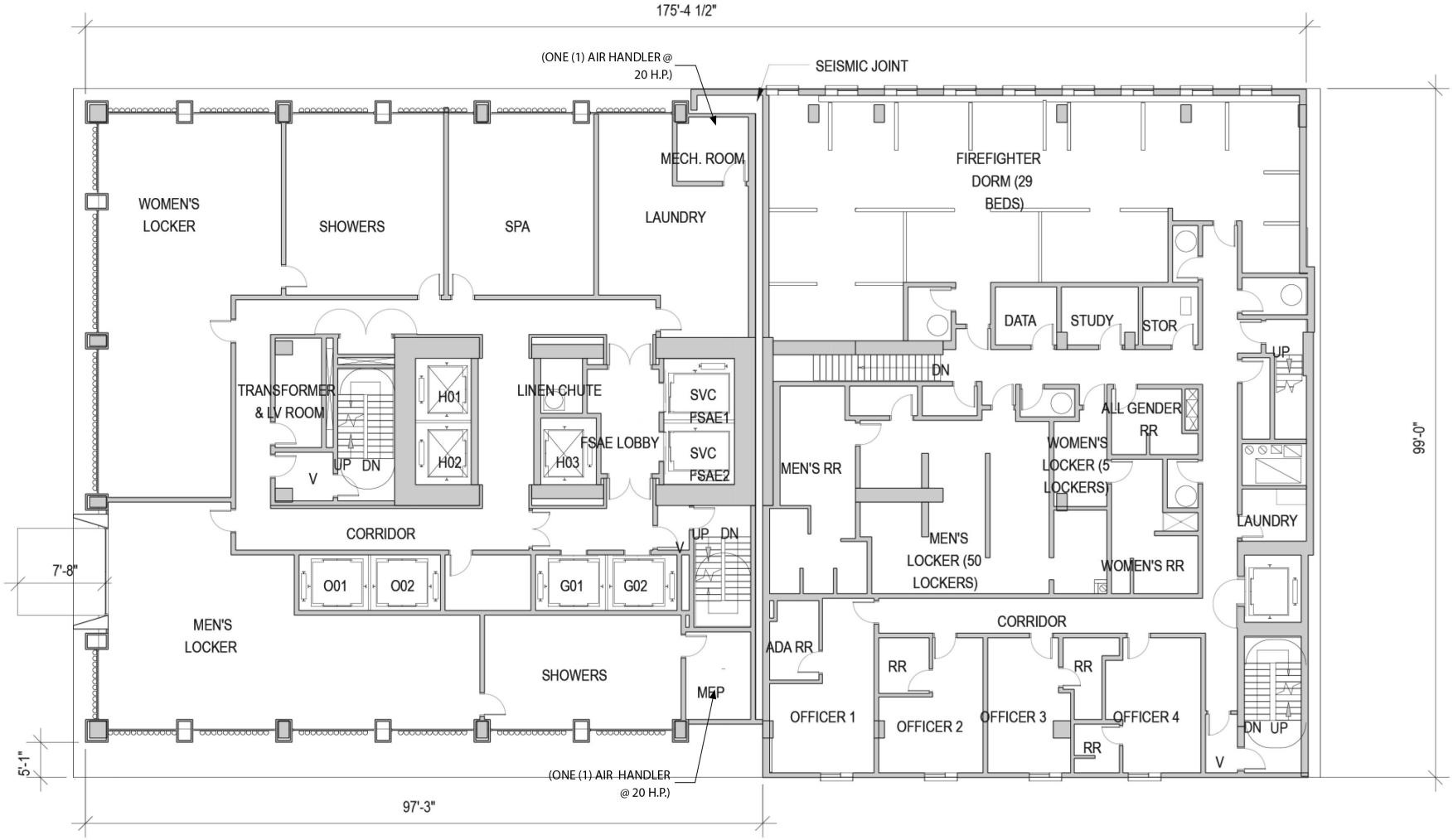
BASEMENT LEVEL 1 FLOOR PLAN



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

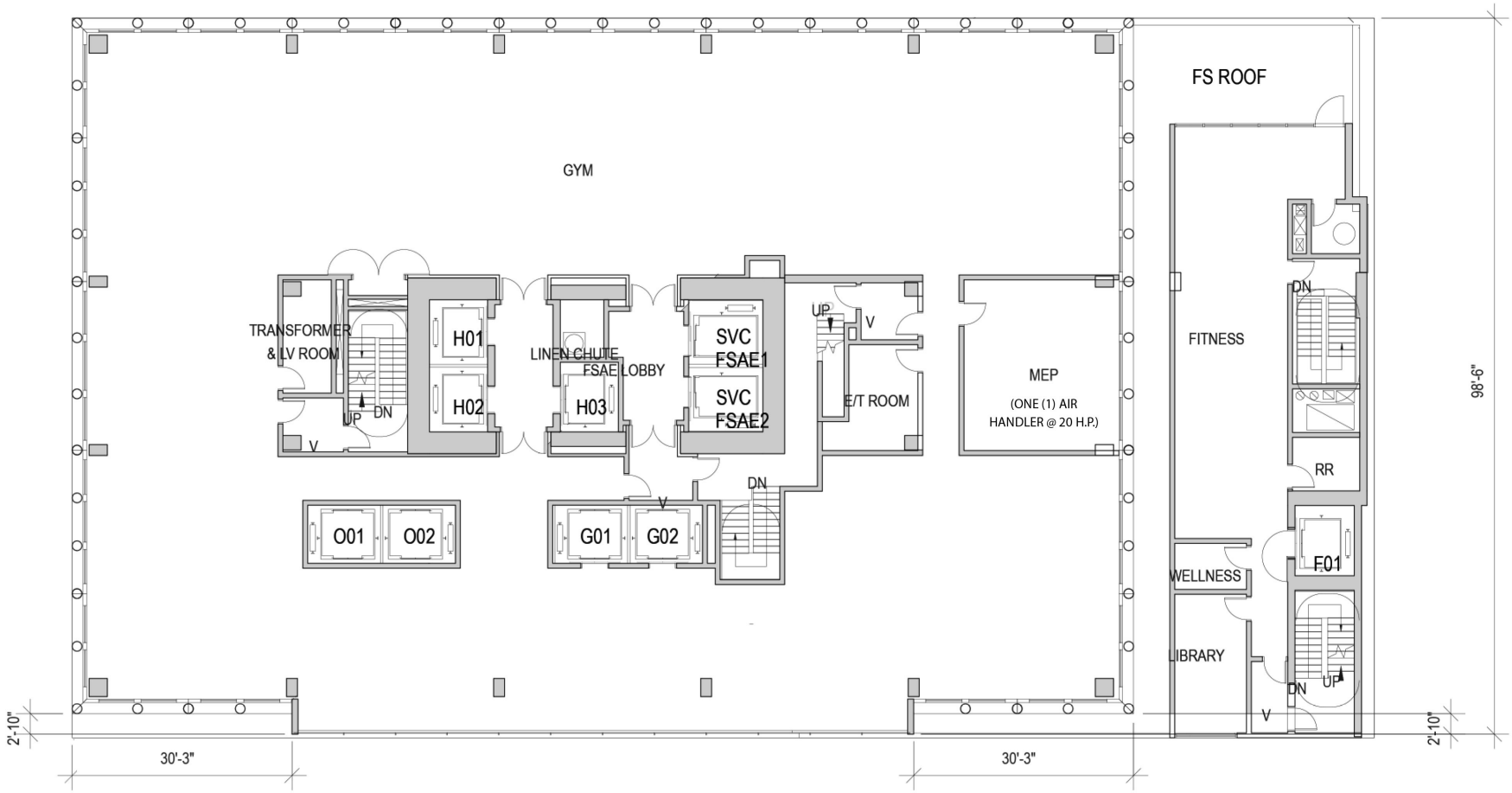
FIGURE 8
LEVEL 2 FLOOR PLAN



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

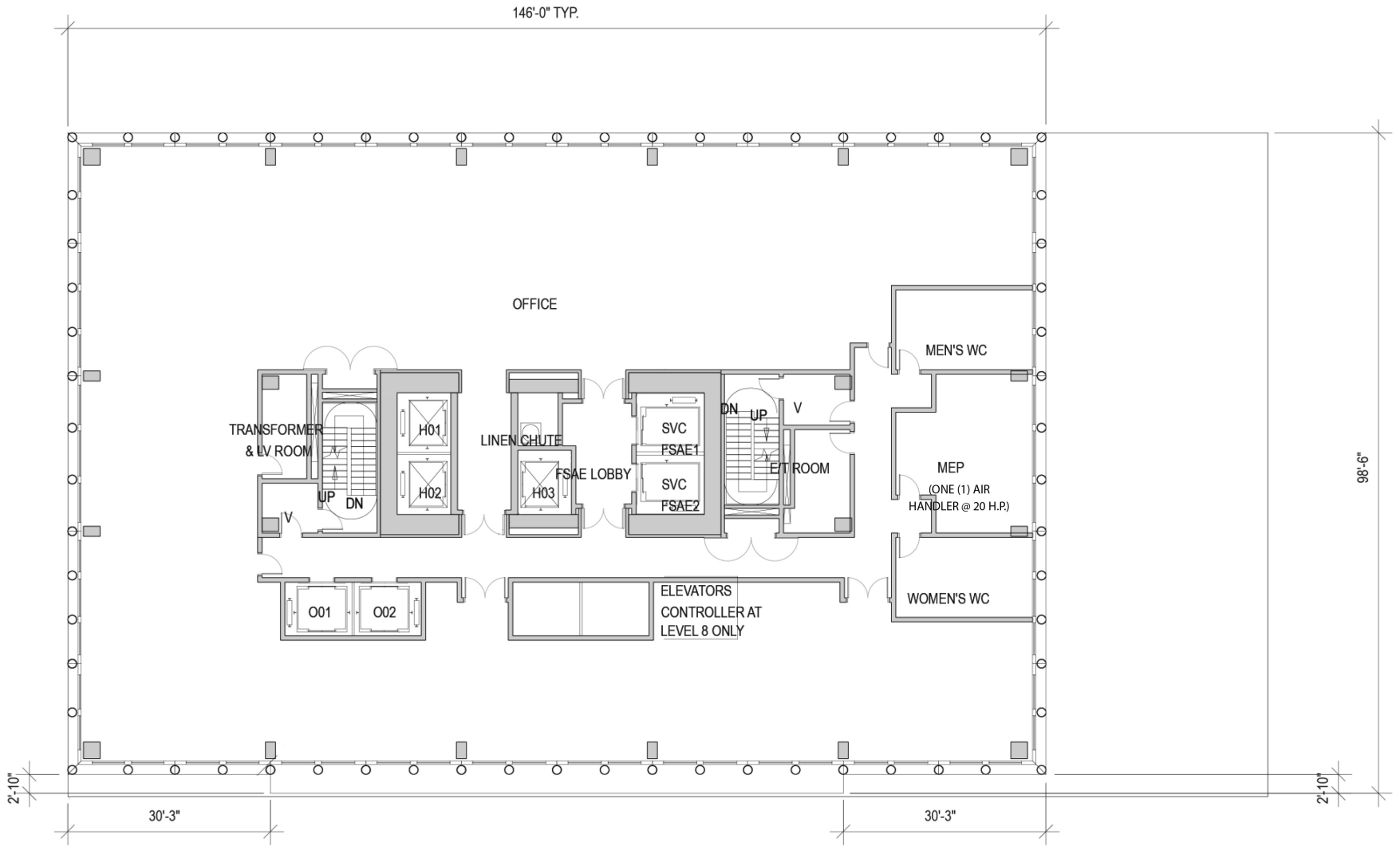
FIGURE 9
LEVEL 3 FLOOR PLAN



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 10
LEVEL 4 FLOOR PLAN

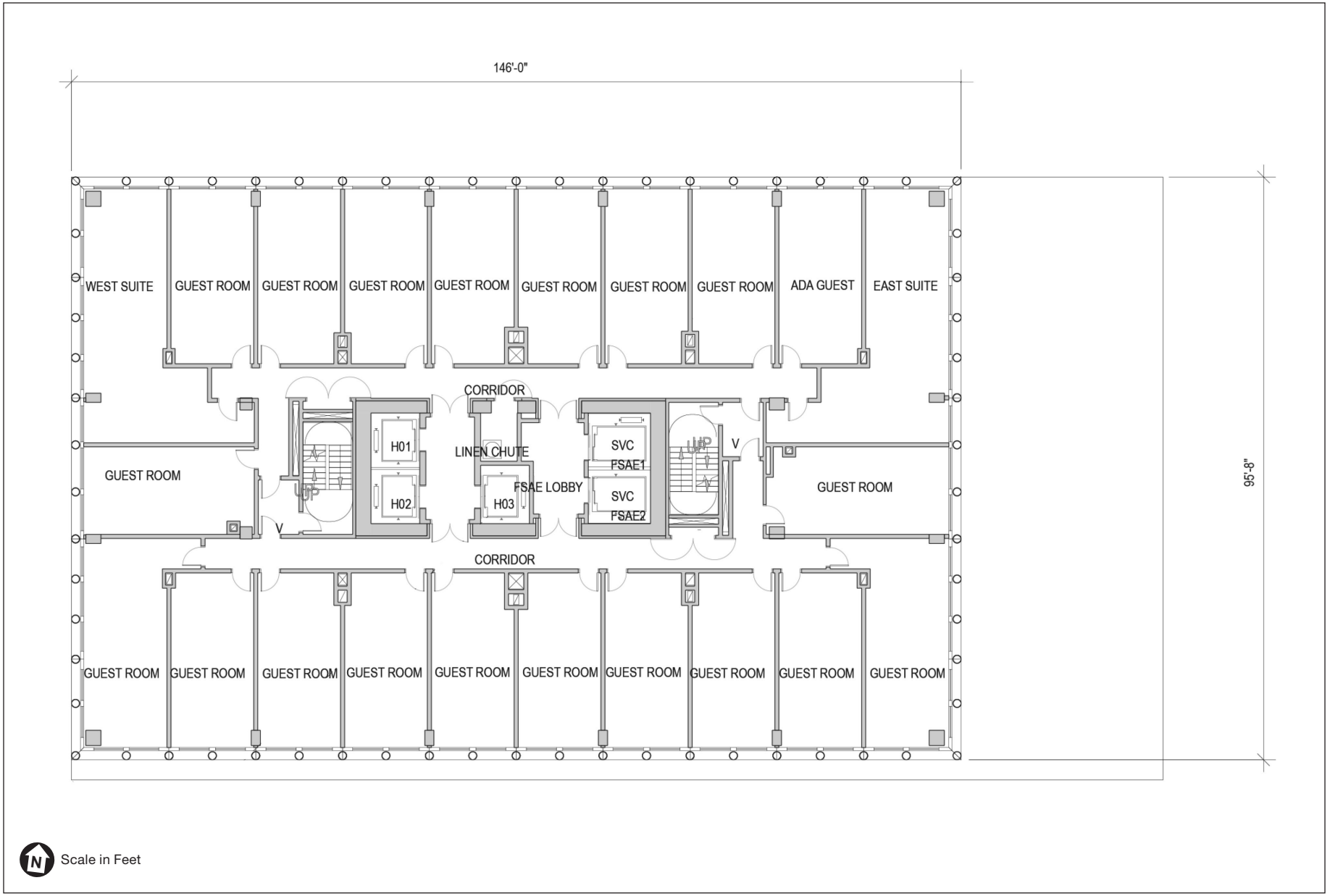


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 11

LEVEL 6 FLOOR PLAN – TYPICAL OFFICE LEVEL



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 12

LEVEL 10 FLOOR PLAN – TYPICAL HOTEL LEVEL

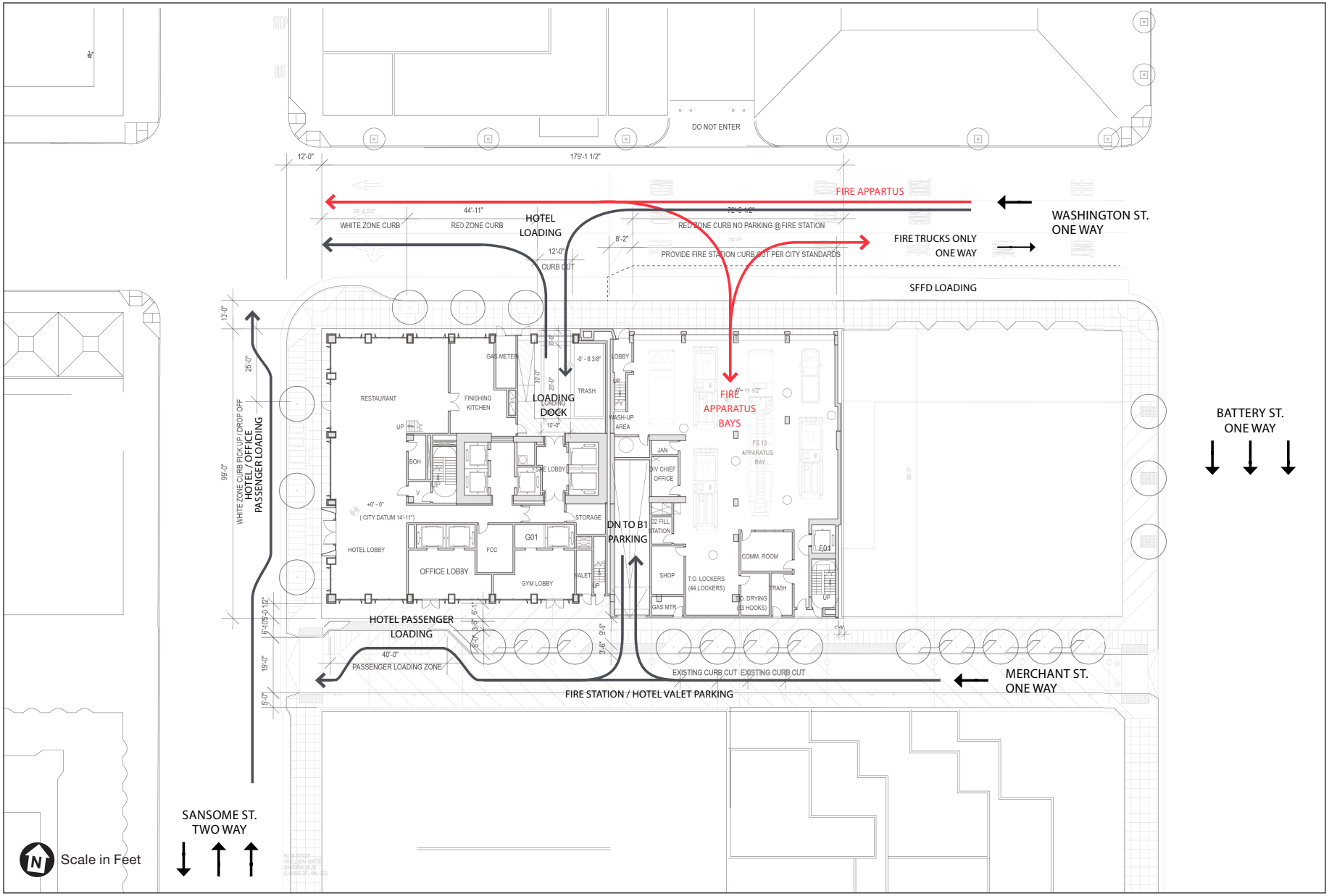
Table 1 Proposed Project Characteristics

Project Component	Existing (sf)[a]	Proposed (sf)	Net New (sf)
FIRE STATION 13			
Height of Building	35 feet	44 feet	9 feet
Number of Stories	2	4	2
Above Grade	18,625	20,240 (Floors 1–4)	1,615
Below Grade	8,850	8,200	-650
Parking Spaces[b]	21	18 (Basement Level 3)	-3
Class 1 Bicycle Parking Spaces[c]	0	4	4
Class 2 Bicycle Parking Spaces[c]	0	2	2
TOTAL	*27,475*	*28,440*	*965*
19-STORY MIXED USE HOTEL BUILDING			
Height of Building	44	218 feet	174
Number of Stories	2–3	19	16–17
Hotel	—	146,065 (200 guest rooms on Floors 9–18)	146,065
Office	20,720	40,490 (Floors 6–8)	19,770
Fitness Center	—	35,230 (Floors 1–5)	35,230
Retail/Restaurant	—	6,470 (Floors 1–2)	6,470
Below Grade	8,750	44,450	35,700
Parking Spaces	21	30 (Basement Levels 1 and 2)	9
Loading Spaces[d]	0	3 (one loading space on Floor 1; 2 service vehicles spaces on Basement Level 1)	3
Class 1 Bicycle Parking Spaces[c]	0	18	18
Class 2 Bicycle Parking Spaces[c]	0	24	24
Car Share Parking Spaces[e]	0	1	1
TOTAL	*29,470*	*274,655*	*243,235*
PROJECT TOTAL		***303,095***	

SOURCES: Skidmore, Owings & Merrill LLP, ALTA, San Francisco Fire Department, February 2021

NOTES:

[a] sf = square feet
[b] Parking provided exceeds limits on accessory parking in San Francisco Planning Code due to fire department parking requirements. The fire department parking spaces would be entitled as a non-accessory parking garage.
[c] Bike parking is calculated per San Francisco Planning Code section 155.2. The proposed project provides 26 of the 30 class 2 bicycle parking required. The remaining four class 2 bicycle parking spaces are proposed to be provided through a Zoning Administrator variance and in-lieu fee payment, pursuant to San Francisco Planning Code sections 305 and 307(k)(2)(E).
[d] Loading spaces are calculated per San Francisco Planning Code article 1.5, section 152.1.
[e] Car Share parking is calculated per San Francisco Planning Code section 166.



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 13
VEHICLE CIRCULATION PLAN

19-STORY BUILDING

RETAIL/RESTAURANT USE

The 19-story building would include approximately 6,470 square feet of retail/restaurant use at the northwest corner of the building's first and second floors. The second basement level of the building would house approximately 2,300 square feet of service/utility space to support the retail/restaurant use. The retail/restaurant use would be accessed from a pedestrian entrance on Sansome Street.

OFFICE USE

The 19-story building would include office use, totaling 40,490 square feet, on the first, second, and sixth through eighth floors. A shared lobby for the fitness center and office use would be located on first floor and accessible from Merchant Street.

FITNESS CENTER

The 19-story building would include a fitness center, totaling 35,230 square feet, on the third through fifth floors. The primary fitness center would be located on the fourth and fifth floors, with showers, lockers, and a spa located on the third floor. As noted above, the project proposes a shared lobby for the fitness center and office use on first floor and accessible from Merchant Street.

HOTEL USE

The 19-story building would include a 146,065-square-foot hotel with 200 guest rooms located on floors 9 through 19. The second basement level of the building would house approximately 3,900 square feet of back of house space to support the hotel use. The hotel lobby, accessible from Sansome Street, would be located at the southwest corner of the first floor. A second hotel lobby with outdoor terraces on the east, north, and west sides of the building would occupy the 19th floor and would be available to hotel guests.

VEHICLE AND LOADING ACCESS

Firetruck access to the replacement fire station would occur via an approximately 73-foot-wide curb cut on Washington Street. Access to the 18 fire department parking spaces located on the third level of the basement would be from a ramp from Merchant Street.

The 19-story building would provide a loading dock accessible from Washington Street via a 12-foot-wide curb cut at the northeast corner of the first floor. Two additional loading/service vehicle spaces would be provided in the same location on the second basement level. The project sponsor seeks a planning code section 309 exception for one additional loading space required for the mix of uses proposed.

Subject to review and approval by the San Francisco Municipal Transportation Agency (SFMTA), the project proposes to establish two curbside valet-attended, passenger loading zones. The primary loading zone would extend along the east side of Sansome Street between Washington and Merchant streets during off-peak hours (outside of 3 to 7 p.m.). A secondary 40-foot-long passenger loading zone would extend along the Merchant Street in front of the hotel and office lobbies during the p.m. peak period from 3 to 7 p.m., during which period use of the Sansome Street loading zone would be prohibited. An approximately 45-foot-wide no parking/loading zone would be located on the southern side of Washington Street immediately west of the replacement fire station. Access to the 30 vehicle parking spaces, including one carshare space, on

basement levels 1 and 2 would occur via the same ramp on Merchant Street used to access fire station parking on the third level of the basement.

BICYCLE PARKING

The proposed project would provide 22 class 1 bicycle parking spaces on the first basement level adjacent to the elevators and 26 class 2 bicycle parking spaces on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval. The remainder of the four class 2 bicycle parking spaces required by the San Francisco Planning Code (planning code) would be provided through a variance and in-lieu fee payment pursuant to planning code sections 305 and 307(k)(2)(E).

STREETSCAPE IMPROVEMENTS

Implementation of the proposed project would remove the three existing street trees along the north side of Merchant Street. The proposed project would comply with San Francisco Public Works Code requirements for street trees associated with new developments by including four new street trees along Sansome Street and five new street trees along Merchant Street. An in-lieu fee would be paid for street tree plantings otherwise required by the public works code that cannot reasonably be accommodated on the site.

The proposed project would convert a portion of Merchant Street into a shared street/living alley with approximately 4,810 square feet of POPOS that would extend from Sansome Street to the eastern edge of the project site. Streetscape improvements include installation of a raised cross walk and roadway ramp at the intersection of Sansome and Merchant streets, installation of benches under the street trees proposed in front of the office and gym lobbies and replacement fire station (see **Figure 14**).

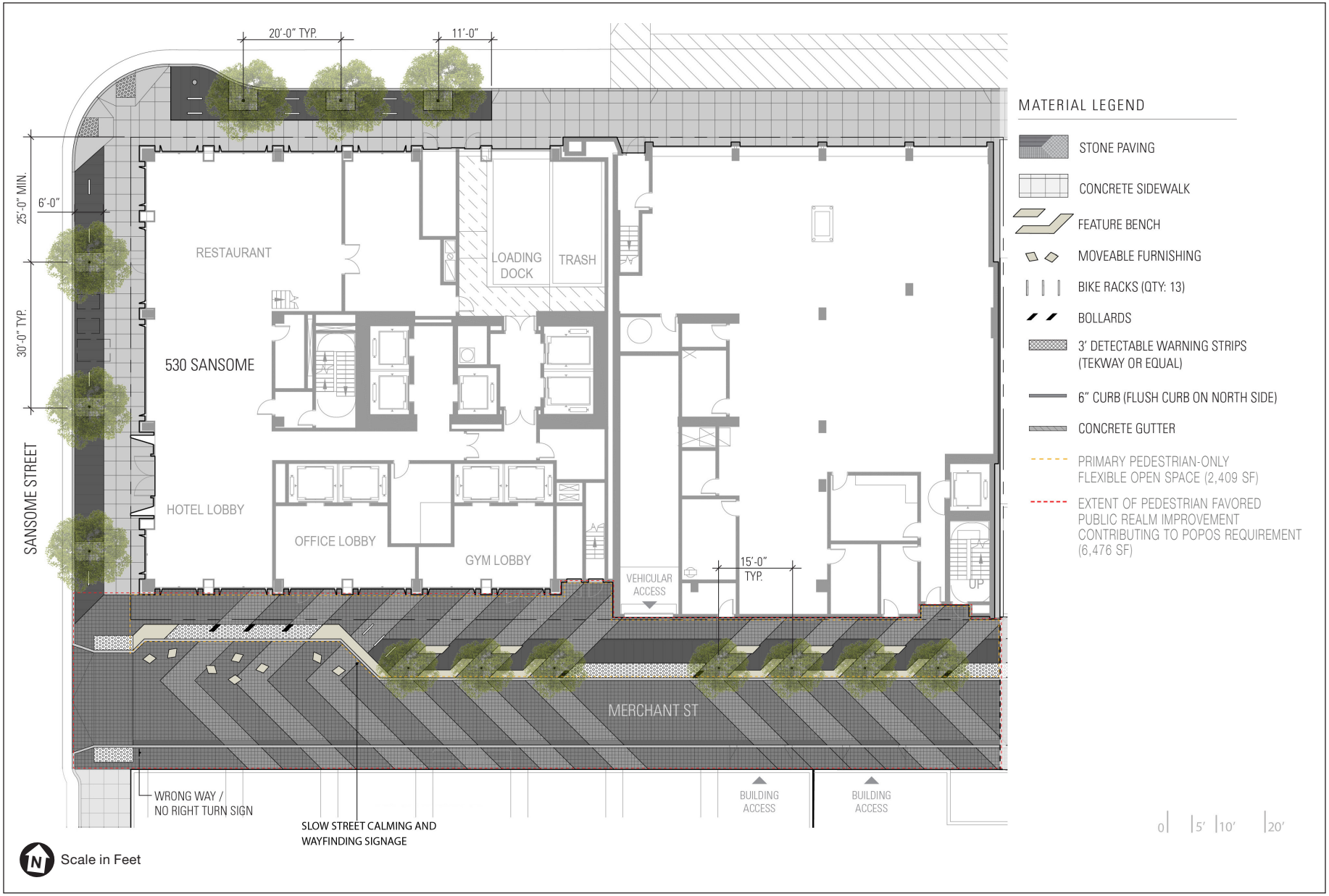
The project would prepare a plan for driveway loading and operations, and the project's POPOS programming and activation plan on Merchant Street. The plans and programming would be subject to approval from planning, SFMTA, and San Francisco Public Works.

The project would remove up to eight existing on-street parking spaces along the northern side and all parking along the southern side of Washington Street between Sansome and Battery streets. On-street parking along the southern side of Washington Street would be removed to provide a no parking/loading zone, a loading dock, and egress for the fire station. On-street parking would be removed along the northern side of Washington Street fronting the U.S. Citizenship and Immigration Services building in order to provide adequate space for fire truck movement from the fire station onto west-bound Washington Street.

Implementation of any proposed improvements within the public right-of-way would require coordination with city agencies, including SFMTA and San Francisco Public Works, for approvals regarding sidewalk widening and modifications to related infrastructure.

Residential Variant

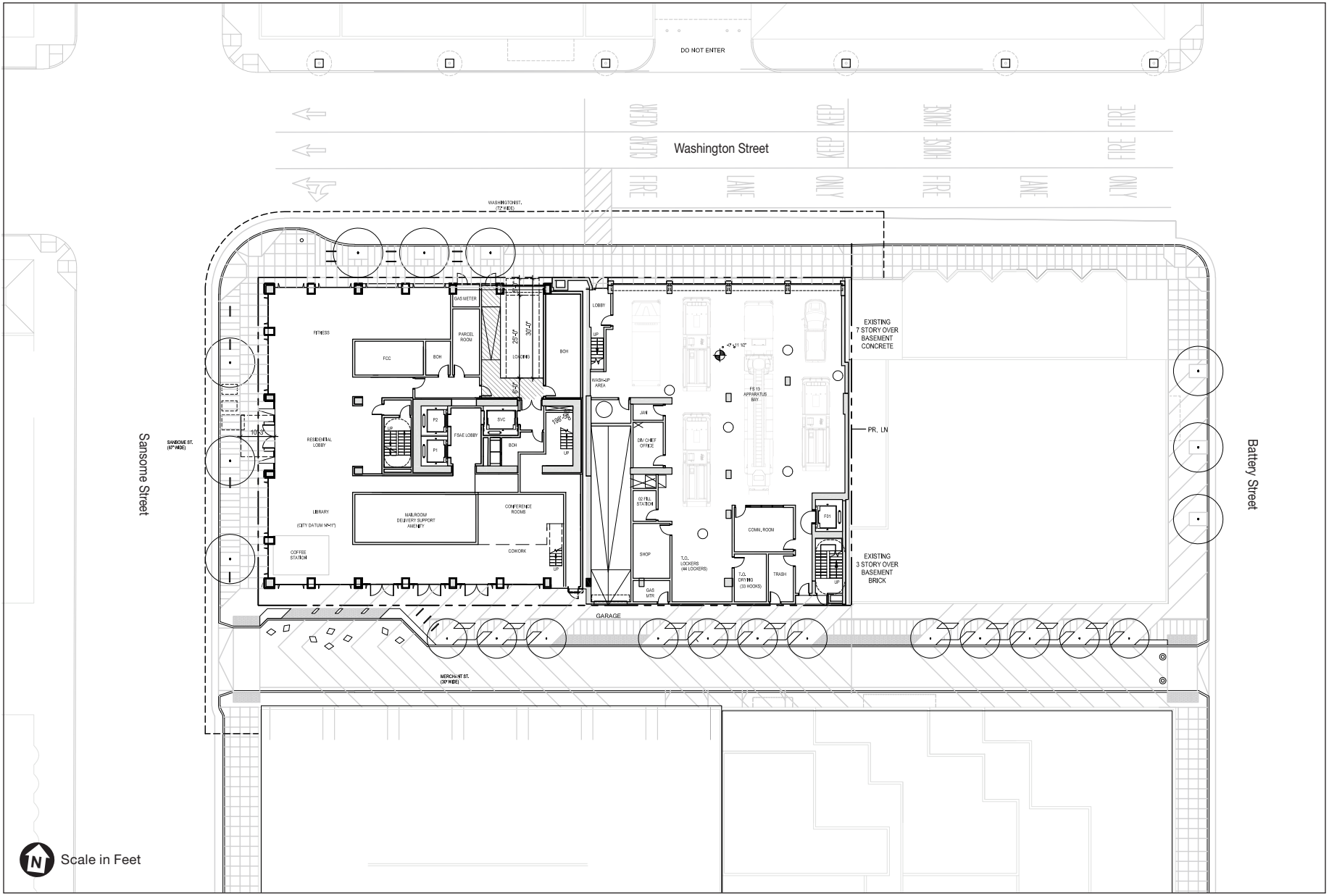
The project sponsor also proposes a residential variant to the project, which would construct an approximately 218-foot-tall building (236 feet total, including rooftop mechanical equipment) with 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses. **Figure 15**, p. 20, shows the residential variant's site plan and **Table 2**, p. 21, summarizes the residential variant characteristics.



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 14
LANDSCAPE PLAN



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 15

RESIDENTIAL VARIANT – SITE PLAN

Table 2 Residential Variant Characteristics

Project Component	Existing ([sf) [a]	Proposed (sf)	Net New (sf)
FIRE STATION 13			
Height of Building	35	44 feet	9
Number of Stories	2	4	2
Above Grade	18,625	20,240 (Floors 1–4)	1,615
Below Grade	8,850	8,245	-605
Parking Spaces[a]	21	18 (Basement Level 3)	-3
Class 1 Bicycle Parking Spaces[b]	0	4	4
Class 2 Bicycle Parking Spaces[b]	0	6	6
TOTAL	*27,475*	*28,485*	*1,010*
21-STORY RESIDENTIAL BUILDING			
Height of Building	44	218 feet	174
Number of Stories	2–3	21	18–19
Office	20,720	0	-20,720
Residential	—	257,400 (256 units)	257,400 (256 units)
Below Grade	8,750	44,405	35,655
Parking Spaces	0	64 (Basement Levels 1–3)	64
Loading Spaces[c]	0	3 (one loading space on Floor 1; 2 service vehicle spaces on Basement Level 1)	3
Class 1 Bicycle Parking Spaces	0	139	139
Class 2 Bicycle Parking Spaces	0	13	13
Car Share Parking Spaces[d]	0	2	2
TOTAL	*29,470*	*303,505*	*262,575*
PROJECT TOTAL		***331,990***	

SOURCES: Skidmore, Owings & Merrill LLP, ALTA, San Francisco Fire Department, February 2021

NOTES:

[a] SF = square feet
[b] Parking provided exceeds limits on accessory parking in San Francisco Planning Code due to fire department parking requirements. The fire department parking spaces would be entitled as a non-accessory parking garage.
[c] Bike parking is calculated per San Francisco Planning Code section 155.2.
[d] Loading spaces are calculated per San Francisco Planning Code article 1.5, section 152.1.
[e] Car Share parking is calculated per San Francisco Planning Code section 166.

The proposed 21-story residential variant would have the same building envelope as the proposed project, with relatively minor variations in massing (see Figure 15, p. 20). At the fourth floor, the 21-story building would cantilever over the third floor of the replacement fire station and the buildings would be structurally separated above grade. **Figure 16**, p. 23 shows the east/west building section and massing of the residential variant. The three additional stories gained for the residential variant is due to the reduced floor-to-floor heights; therefore, the residential variant, like the proposed project, would be approximately 218 feet tall (see Figure 16, p. 23). The residential variant would provide 6,384 square feet of common open space for the residents on floor 21 in the form of a solarium. Representative floor plans for the residential variant are provided in **Figure 17** through **Figure 23**, pp. 24–30).

REPLACEMENT FIRE STATION

Like the proposed project, the residential variant would demolish the existing Fire Station 13 and construct a 44-foot-tall, four-story replacement fire station on the eastern portion of the project site. The replacement fire station would provide 20,240 square feet of the same uses on floors 1 through 4 as under the proposed project (see Figure 15, p. 20, and **Figure 20** and **Figure 21**, pp. 27 and 28).[3] An additional 490 square feet of equipment storage space and approximately 7,710 square feet reserved for 18 fire department parking spaces would be located on the third basement level, similar to the proposed project. Like the proposed project, firetruck access would be provided on Washington Street and a vehicular ramp to the underground parking garage would be provided on Merchant Street for personal vehicles (see Figure 15, p. 20).

21-STORY BUILDING (RESIDENTIAL VARIANT)

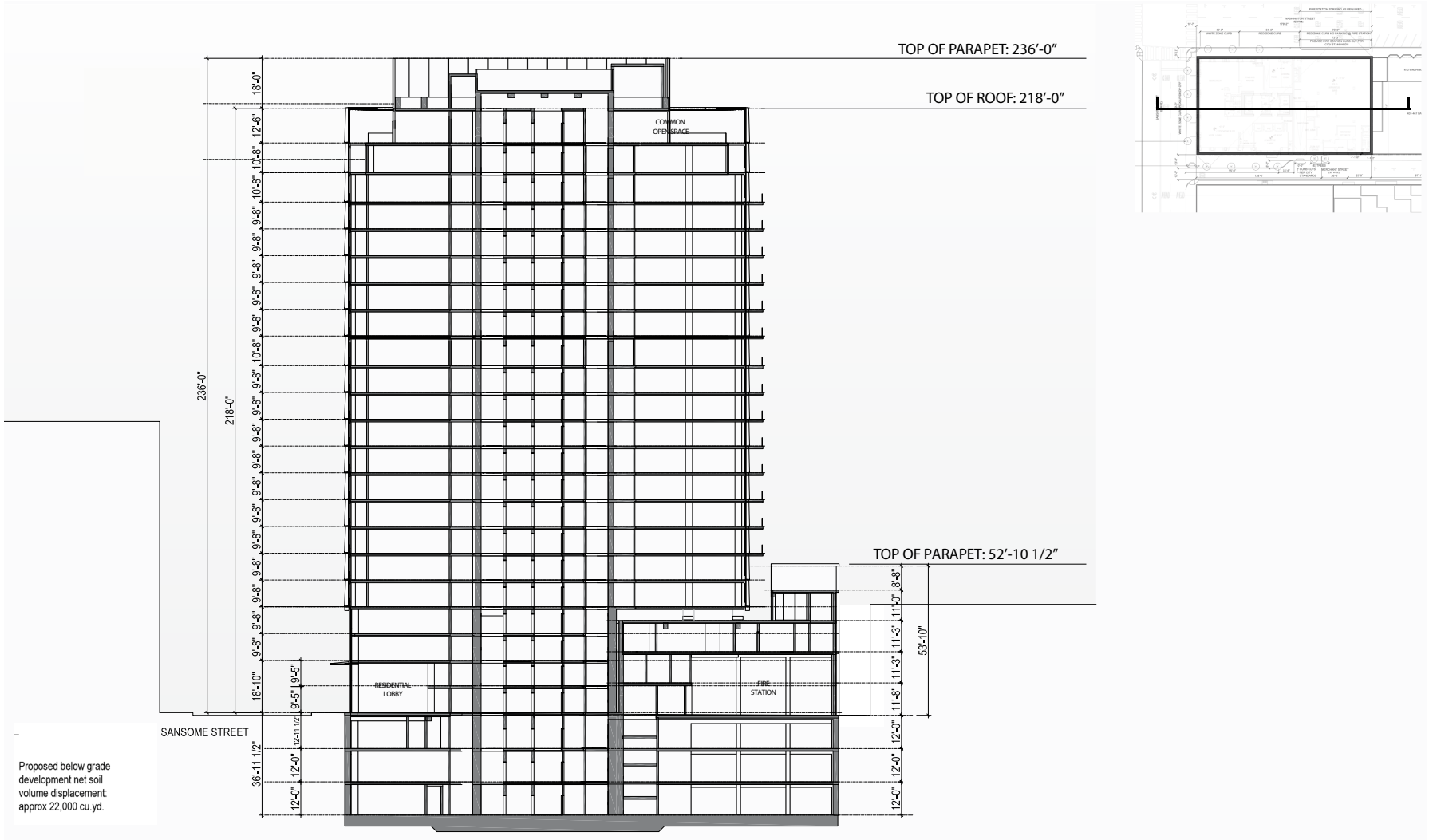
Under the residential variant, the sponsor proposes approximately 257,400 square feet of residential use (approximately 256 units) on floors 3 through 21. The residential unit mix would include 191 studio/one-bedroom units, 38 two-bedroom units, and 27 three-bedroom units. The first and second floors of the residential variant would include a residential lobby, fitness area, coffee station, library, mailroom, leasing office, conference rooms, and co-working space for use by residential tenants. The third basement level of the building would house a grey water treatment plant for the residential use.

VEHICLE AND LOADING ACCESS

Firetruck and fire department parking access would be the same as the proposed project. Like the proposed project, a loading dock accessible from Washington Street via a 12-foot-wide curb cut would be provided at the northeast corner and passenger loading zones along the east side of Sansome Street and southwest portion of Washington Street (subject to review and approval by SFMTA).

Two additional loading/service vehicle spaces would be provided in the northeast corner of the project site on the third basement level, meeting the planning code loading requirement for the residential uses proposed. Access to the 64 vehicle parking spaces, including two carshare spaces, on basement levels 1 through 3 would be provided via the ramp on Merchant Street.

[3] The 50 square foot difference is due to reconfiguring fire department space in the basement levels and lack of ground floor retail space.

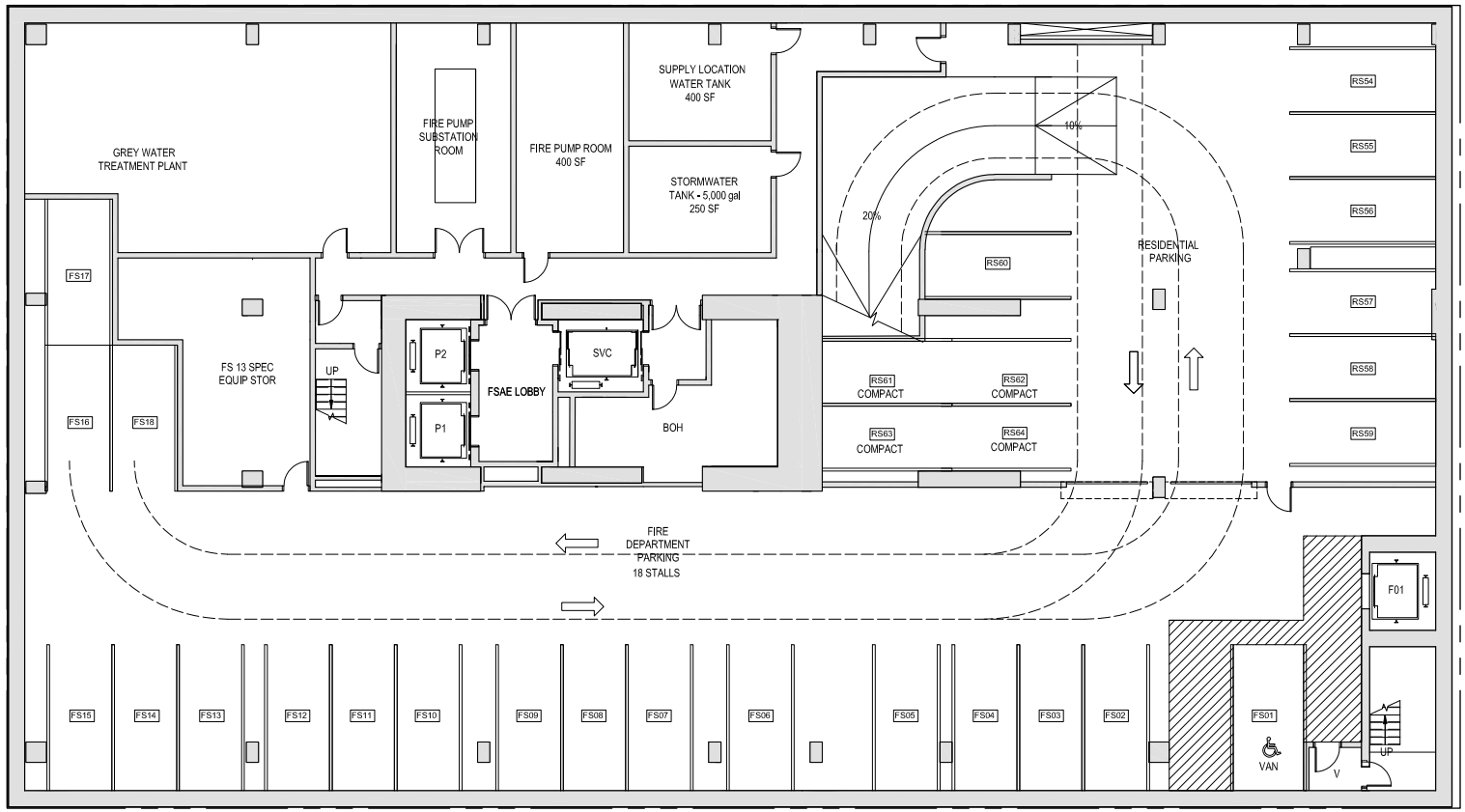


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 16

RESIDENTIAL VARIANT – EAST/WEST BUILDING SECTION

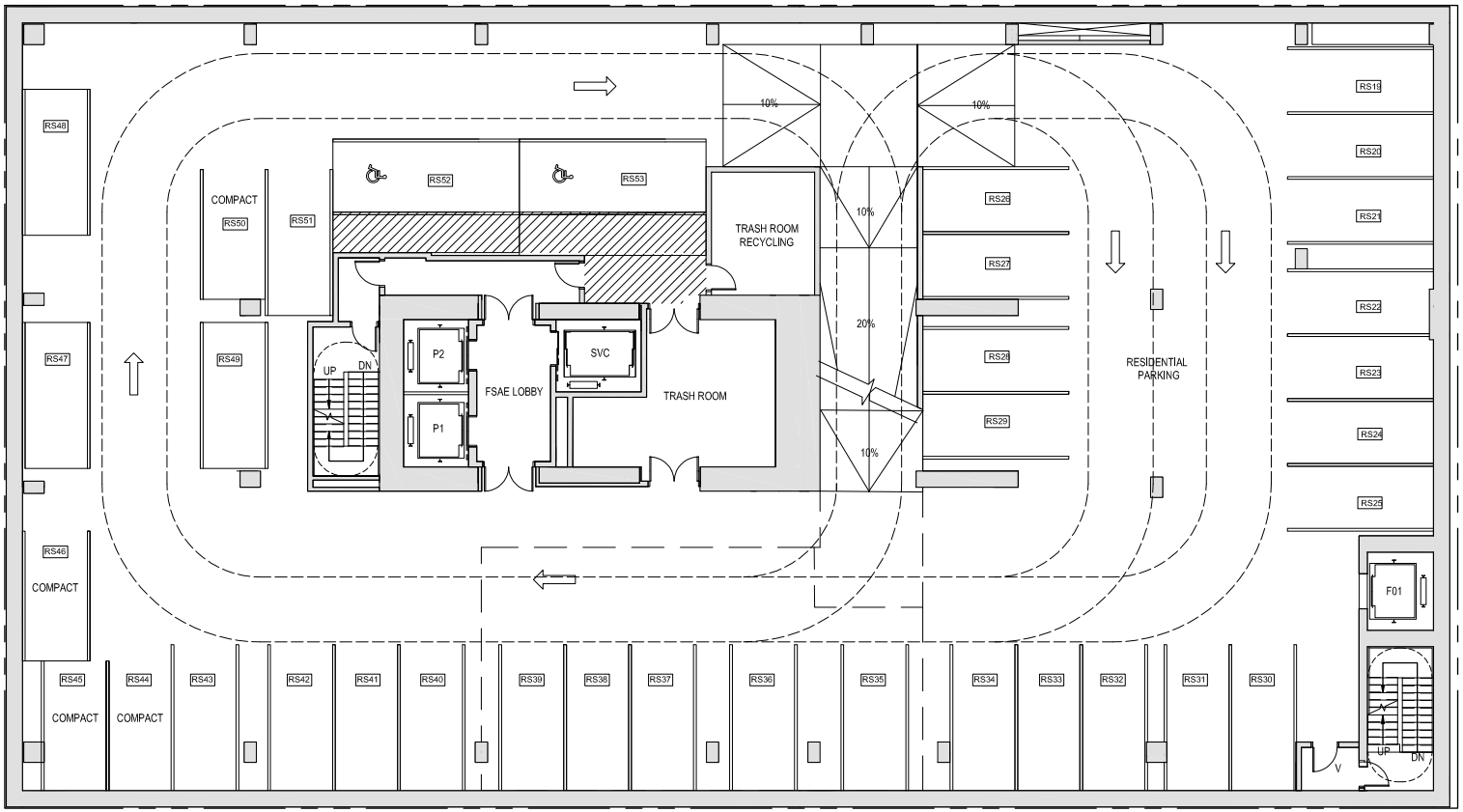


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 17

RESIDENTIAL VARIANT – BASEMENT LEVEL 3 FLOOR PLAN

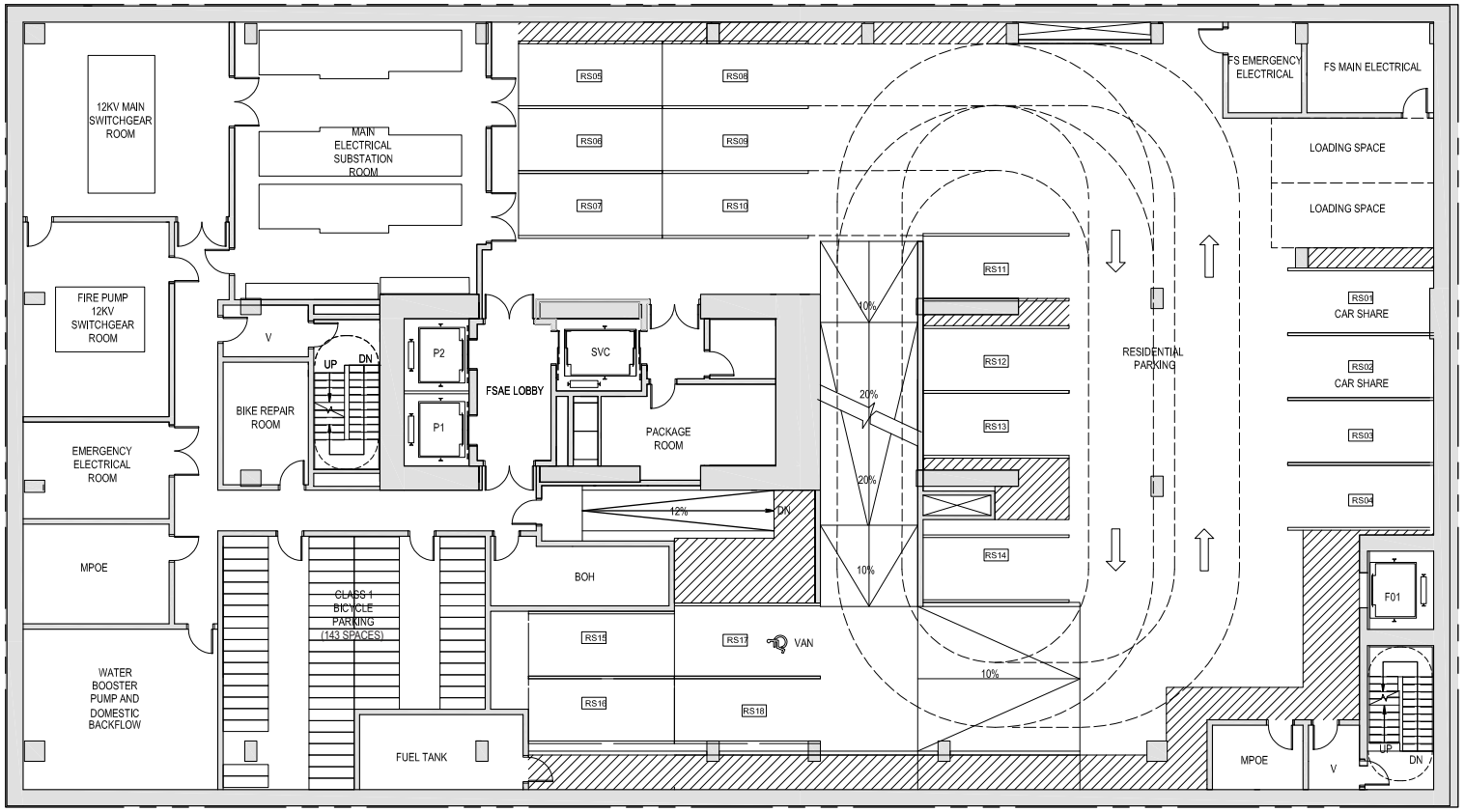


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 18

RESIDENTIAL VARIANT – BASEMENT LEVEL 2 FLOOR PLAN

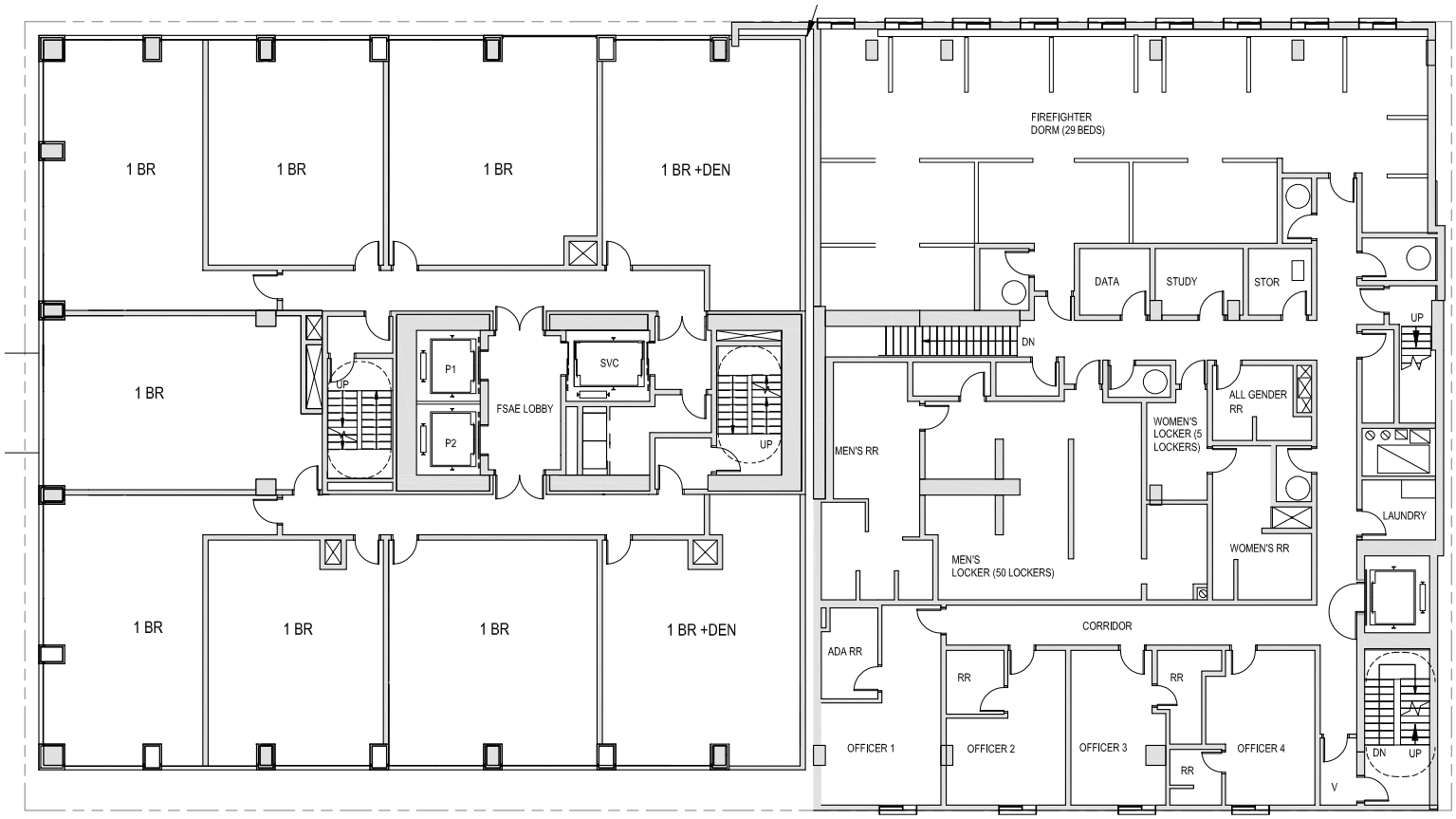


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 19

RESIDENTIAL VARIANT – BASEMENT LEVEL 1 FLOOR PLAN

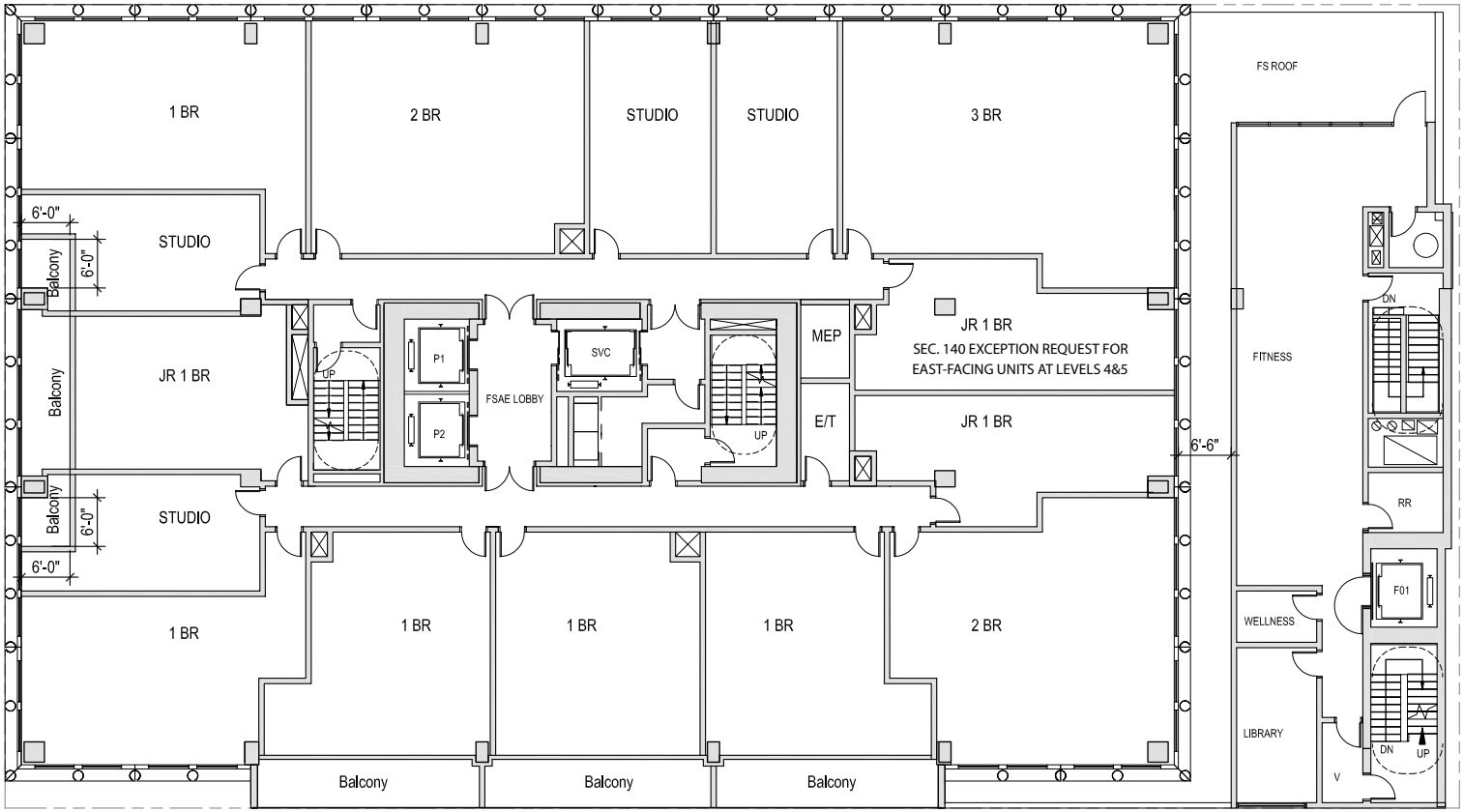


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 20

RESIDENTIAL VARIANT – LEVELS 2–3 FLOOR PLAN

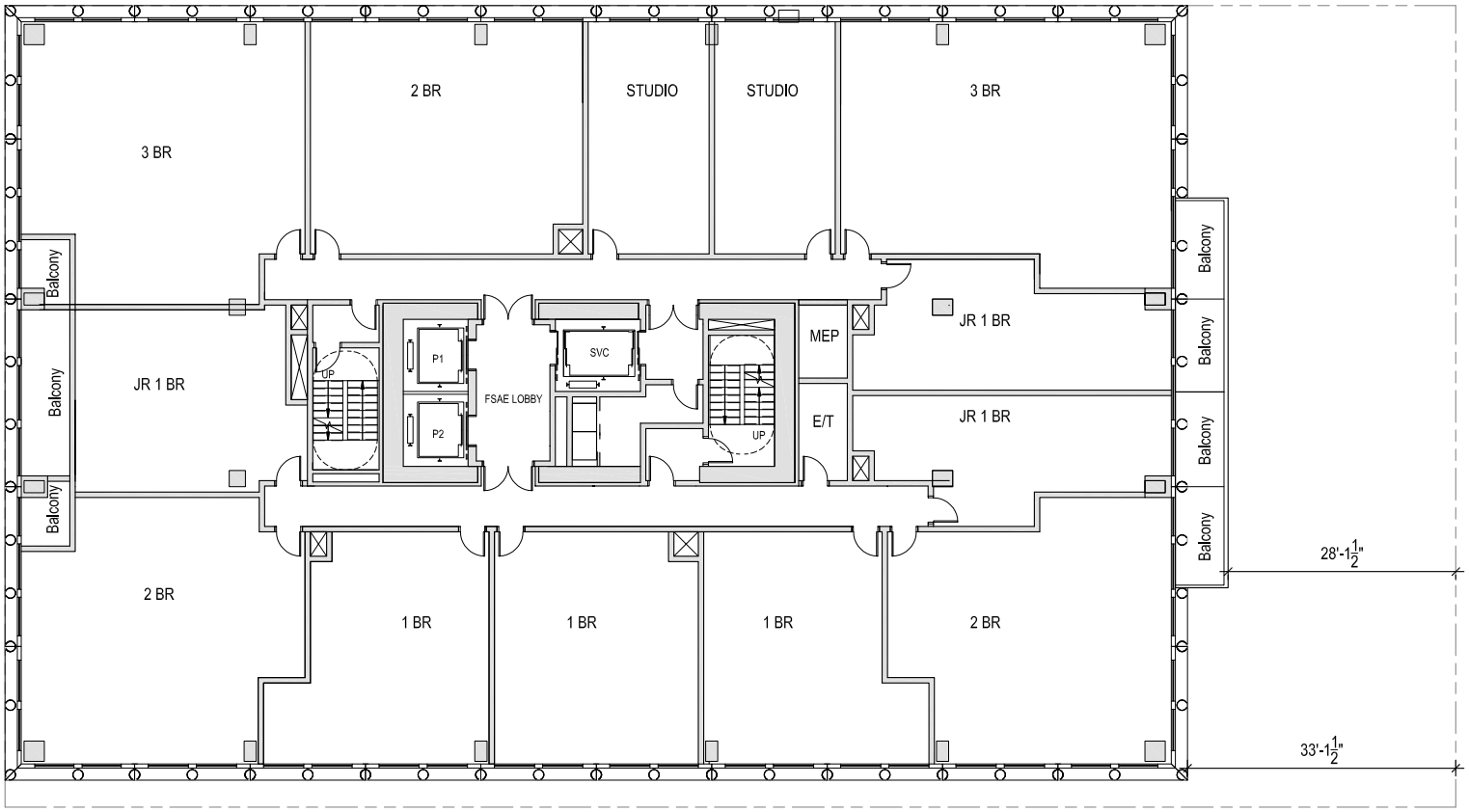


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 21

RESIDENTIAL VARIANT – LEVEL 4 FLOOR PLAN

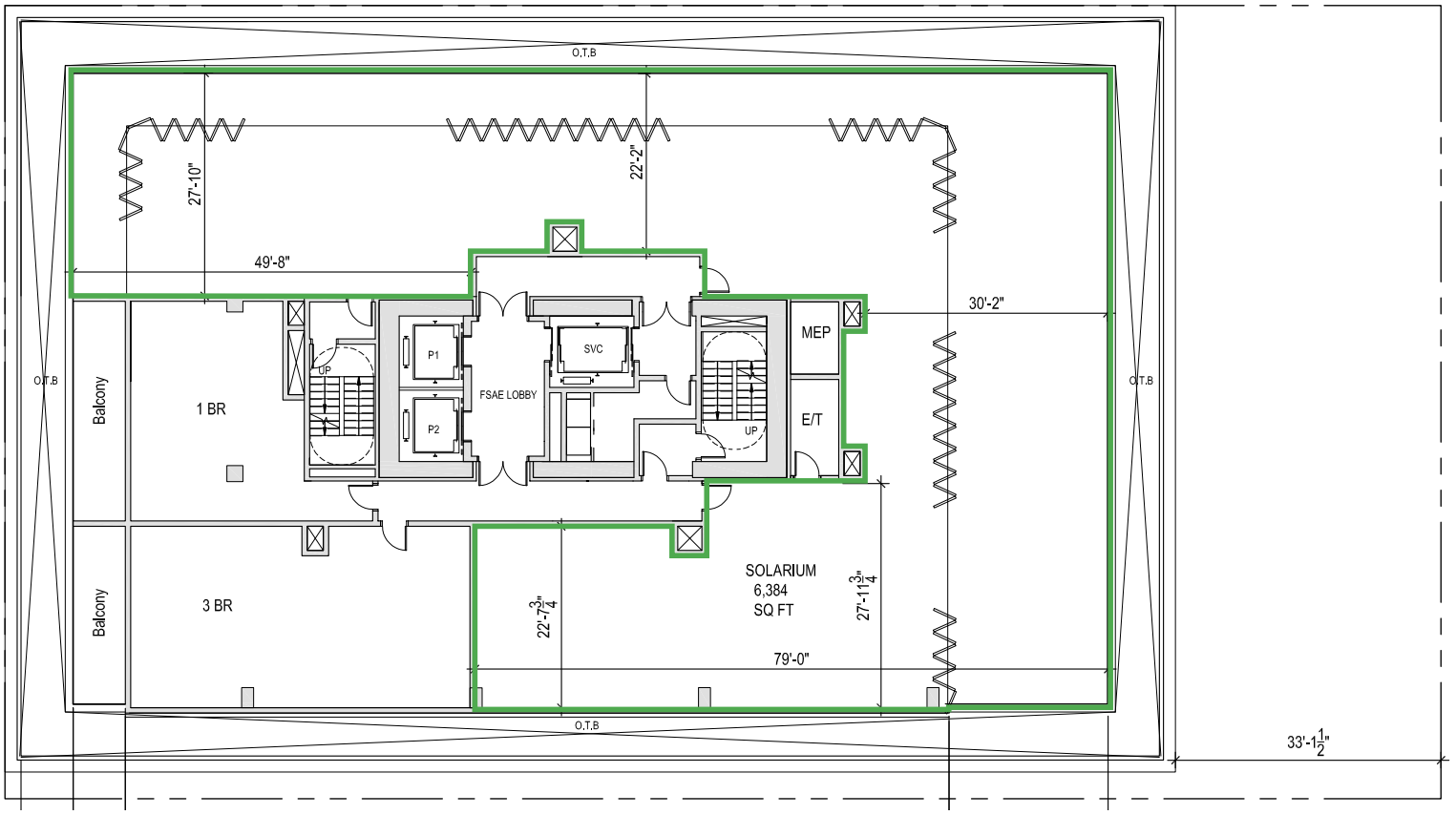


SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 22

RESIDENTIAL VARIANT – LEVELS 14–19 FLOOR PLAN



SOURCE: Skidmore, Owings & Merrill LLP, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 23

RESIDENTIAL VARIANT – LEVEL 21 FLOOR PLAN

BICYCLE PARKING

The residential variant would provide 143 class 1 bicycle parking spaces on the first basement level for the residential use. An additional 19 class 2 bicycle parking spaces would be located on streets adjacent to the project site, subject to SFMTA and San Francisco Public Works approval.

STREETSCAPE IMPROVEMENTS

The residential variant would include substantially the same streetscape improvements as the proposed project.[4] The residential variant would also prepare a plan for driveway and loading operations, similar to the proposed project.

Project Construction

Construction for either the proposed project or residential variant is estimated to last 29 months with overlapping phases; and neither building would be occupied during construction. Demolition would take approximately two months. Excavation and shoring would last approximately five months. Foundation and below-grade construction would last about four months. Building construction and exterior and interior finishing phases would partially overlap and last approximately 17 months. Construction of the basement levels and foundation installation would require excavation extending to approximately 40 feet below ground surface (bgs). Overall, excavation of the basement levels would remove approximately 28,000 cubic yards of soil.

Construction workers driving to the project site could park at nearby garages or on-street parking spaces. Construction equipment and materials would be staged on-site and on sidewalks adjacent to the project site, including a portion of the on-street angled parking area on the south side of Washington Street. Pedestrian traffic would be routed to a protected pedestrian lane in the on-street angled parking area on the south side of Washington Street. A full closure of Washington Street would occur for two days to erect and dismantle a tower crane, and the easternmost northbound lane on Sansome Street would be closed for one day during the mat foundation placement.[5] During project construction, closures of those same travel lanes on Sansome and Washington streets could be necessary for two single-day periods for utility work. Nighttime closure of Merchant Street could be necessary on two separate days for utility work.

The majority of project construction would occur during daytime hours. Some construction activities that would extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), such as a 20-hour concrete pour, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling.

During construction, fire department personnel and firetrucks would be relocated to nearby offsite fire stations, and would continue to serve the Financial District neighborhood and the city in general. Relocation of fire equipment would take no more than eight hours to complete.

[4] Note that whereas the proposed project's streetscape improvements on Merchant Street are proposed to satisfy planning code section 138 (privately owned public open space requirements applicable to non-residential projects in the C-3 district) the residential variant voluntarily proposes the same streetscape improvements on Merchant Street; however, the proposed improvements to Merchant Street would not be regulated and operated as POPOS.

[5] No parking or loading is currently permitted on the easternmost northbound lane on Sansome Street between Washington and Merchant streets due to access requirements for Fire Station 13.

Project Approvals

The following is a preliminary list of anticipated approvals for the proposed project and is subject to change. These approvals may be considered by city decision-makers in conjunction with the required environmental review, but they may not be granted until completion of the environmental review.

ACTIONS BY THE PLANNING COMMISSION

- Approval of an application for a Downtown Project Authorization for the construction of a new building in a Downtown (C-3) Zoning District (San Francisco Planning Code section 309), including approval exceptions for:
  - Bulk controls for lower and upper maximum allowable average area and maximum dimensional length
  - Additional height of up to 10 percent in S bulk district
  - Off-street freight loading in C-3 districts
  - Reduction of shadows on certain public or publicly accessible open spaces in C-3 districts
  - Reduction of ground level wind currents in C-3 districts
- Approval of shadowing on publicly accessible open space under the jurisdiction of the Recreation and Park Commission after consultation with the Recreation and Parks Commission (planning code section 295)
- Approval of a Conditional Use Authorization to allow a private parking garage use for the fire department in the C-3-O (Downtown Office) District (planning code section 303)
- Approval of a Conditional Use Authorization to allow a hotel use (planning code section 303)
- Approval of an Office Allocation under 50,000 square feet (planning code section 321)

JOINT ACTION BY THE PLANNING COMMISSION AND THE RECREATION AND PARKS COMMISSION

- Approval of increase to annual cumulative shadow limit for Maritime Plaza and Sue Bierman Park

ACTIONS BY THE ZONING ADMINISTRATOR

- Approval of Certificate(s) of Transfer and Notice(s) of Use of TDR (planning code sections 127 and 128)
- Approval of a variance for width and number of parking and loading entrances on Washington Street (planning code section 145.1)
- Approval of variance and payment of in-lieu fee for the proposed project's class 2 bicycle parking spaces that cannot be accommodated on Washington, Sansome, or Merchant streets due to fire department site constraints (planning code sections 305 and 307(k)(2)(E))
- Approval for certain back of house areas on the ground floor to have ceiling heights under 14 feet (planning code section 145.1)

- Approval of variance for architectural screening over gym locker rooms on the third floor (planning code section 145.1)

ACTION BY DEPARTMENT OF BUILDING INSPECTION

- Approval of building permit(s)

ACTIONS BY MUNICIPAL TRANSPORTATION AGENCY

- Approval of permits for streetscape modifications in the public right-of-way
- Approval of parking and traffic changes including fire station striping on Washington Street and color curb zones
- Approval of change to the transportation code for the removal of parking on the north side of Washington Street

ACTIONS BY PUBLIC WORKS

- Approval of permits for streetscape modifications in the public right-of-way
- Approval of new, removed, or relocated street trees
- Approval of any situations involving construction that would need to extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), which could include concrete pours, crane and hoist erection and adjustment activities, site maintenance activities and material delivery and handling

ACTION BY DEPARTMENT OF PUBLIC HEALTH

- Approval of site mitigation plan pursuant to Maher Ordinance

ACTIONS BY BAY AREA AIR QUALITY MANAGEMENT DISTRICT

- Issuance of permits for the installation and operation of emergency generators

ACTIONS BY SAN FRANCISCO PUBLIC UTILITIES COMMISSION

- Approval of the use of groundwater wells during dewatering associated with construction
- Approval of landscape and irrigation plans to extent project installs or modifies 500 square feet or more of landscape area

ACTION BY SAN FRANCISCO FIRE COMMISSION

- Approval of demolition of existing Fire Station 13 and construction of replacement Fire Station 13

APPROVAL ACTION

- Approval of the Downtown Project Authorization by the planning commission would constitute the approval action.

The approval action date establishes the start of the 30-day period for the appeal of the final mitigated negative declaration to the board of supervisors pursuant to section 31.04(h) of the San Francisco Administrative Code.

The residential variant approvals would be the same as the proposed project listed below with the exception of the following:

- No Conditional Use Authorization for the hotel use (planning code section 303)
- No Office Allocation (planning code section 321)
- No exception from off-street loading requirements (planning code section 309)
- An additional exception from rear yard requirements and unit exposure requirements for four units on levels 4 and 5, and off-street freight loading (planning code section 309)
- No variance or payment of in-lieu fee for the class 2 bicycle parking spaces
- No variance for architectural screening at third floor

B. Project Setting

Existing Setting

Three buildings occupy the project site: a vacant office building at 425 Washington Street, a vacant commercial building at 439–445 Washington Street, and Fire Station 13 at 530 Sansome Street.

The project site is generally flat with a ground surface elevation of approximately 23 feet above mean sea level. The project site is fully developed with no permeable surfaces. The two buildings at 425 and 439–445 Washington Street were built in 1906 and 1907, and a third story was added to the building at 425 Washington Street in 1928. Neither building is eligible for listing on the California Register of Historical Resources (California register), nor are they eligible for inclusion in the nearby Jackson Square Historic District.[6] The Fire Station 13 was constructed in 1974. The sculpture mounted on the fire station building's north façade (referred to as *Untitled)* is considered individually eligible for listing in the California register, and both the building and *Untitled* are contributors to the Embarcadero Center Historic District.[7,8] The Embarcadero Center Historic District is eligible for listing in the California register under Criterion 3 as a distinguishable complex whose buildings were designed by master architect John C. Portman, Jr., in the Brutalist style

The fire station currently operates 24 hours per day and 7 days per week, and includes 10 full-time personnel. An approximately 74-foot-wide curb cut provides access to the fire trucks from Sansome Street, and an approximately 10-foot-wide curb cut on Merchant Street provides access to the existing ground-level garage with 21 parking spaces for Fire Station 13 employees and fire department vehicles and equipment.

The project site is primarily surrounded by office uses with ground floor retail uses. U.S. Citizenship and Immigration Services offices are located to the north at 444 Washington Street. The Transamerica Pyramid and associated Transamerica Redwood Park are located to the west at 600 Montgomery Street. A nine-story

[6] San Francisco Planning Department, *Preservation Team Review Form, 425 and 439-445 Washington Street,* February 11, 2018.
[7] San Francisco Planning Department, *Historic Resources Evaluation Response Part I, San Francisco*, December 3, 2020.
[8] Environmental Science Associates, *Historic Resources Evaluation Report, Part 1, 530 Sansome Street*, September 2020.

office building with ground-floor retail uses is also located to the west at 545 Sansome Street. A seven-story office building with ground-floor retail uses and a basement is located to the east at 423 Washington Street. An eight-story office building is located to the south at 500 Sansome Street.

Sansome Street is a north–south two-way street, with two to three lanes running north and one lane running south.[9] Washington Street is an east–west one-way two-lane street. Merchant Street is an east–west one-way service alley between Battery and Sansome streets. Commercial loading zones are located on the southeast corner of Sansome Street in front of Fire Station 13 and on the north side of Merchant Street in front of 439–445 Washington Street. One on-street parking space is provided on the north side of Merchant Street in front of 425 Washington Street, and angled street parking is located on the south side of Washington Street adjacent to the project site. The north side of Washington Street between Battery and Sansome streets is designated for law enforcement vehicles only. All on-street parking in the project area is metered and subject to time restrictions, except for law enforcement vehicles.

The project site is within an area served by several San Francisco Municipal Railway (Muni) transit lines. Muni Lines 10-Townsend, 12-Folsom/Pacific, 41-Union, and 30X-Marina Express serve bus stops near the project site. In addition, Muni operates numerous surface buses and the F line historic streetcar on Market Street approximately 0.4 mile southeast of the project site. Muni also operates the Muni Metro light rail system, which in the project vicinity runs underground beneath Market Street. The closest underground Muni stations to the project site are the Embarcadero and Montgomery stations, located approximately 0.5 mile southeast and south of the project site, respectively. These stations are served by the J-Church, KT-K Ingleside/T Third Street, L-Taraval, M-Ocean View, and N-Judah Muni Metro light rail lines.

In addition to Muni operations, the following regional transit services are accessible from the project site: Bay Area Rapid Transit (BART), Golden Gate Bridge Highway and Transportation District (Golden Gate Transit and Golden Gate Ferry), San Mateo County Transit District (SamTrans), and San Francisco Bay Ferry. BART operates a regional subway system that runs underneath Market Street. BART's Embarcadero and Montgomery stations share the same street-level entrances as the Muni Metro stations. Golden Gate Transit provides bus service between San Francisco, Marin, Sonoma, and Contra Costa counties and has a number of stops on Sansome Street. The closest Golden Gate Transit stops to the project site are located on Sansome Street approximately 240 to 700 feet south of the project site between Clay and California streets for routes 4, 18, 27, 54, and 72. SamTrans provides bus service between San Francisco and San Mateo County. The closest SamTrans transit stop to the project site is approximately 0.25 mile east of the site at Clay and Drumm streets. This stop is served by SamTrans routes 292, 397, 398, and FCX. The project site is located approximately 0.5 mile west of the San Francisco Ferry Building, where the San Francisco Bay Ferry has four gates that service Vallejo, Richmond, Harbor Bay (Alameda), and Alameda/Oakland. In addition, Golden Gate Ferry operates ferry services to Larkspur, Sausalito, and Tiburon. Class III[10] bicycle routes are located along Sansome Street in both directions between Washington and Market streets. A San Francisco bikeshare station is located at Clay and Battery streets, approximately 600 feet southeast of the project site.

[9] Sansome Street has two northbound lanes during the weekday p.m. peak period (3 to 7 p.m.) and one northbound lane at all other times.
[10] Class III bicycle routes are signed bike routes that allow bicycles to share travel lanes with vehicles, and often marked with shared land markings called sharrows.

Cumulative Project Setting

Projects with the potential to contribute cumulative effects within a 0.25-mile radius of the project site are identified below in **Table 3** and **Figure 24**, p. 38. These projects are currently under review by the planning department or are entitled but not yet under construction. The potential cumulative effects of these projects are addressed, as appropriate, under each environmental topic herein.

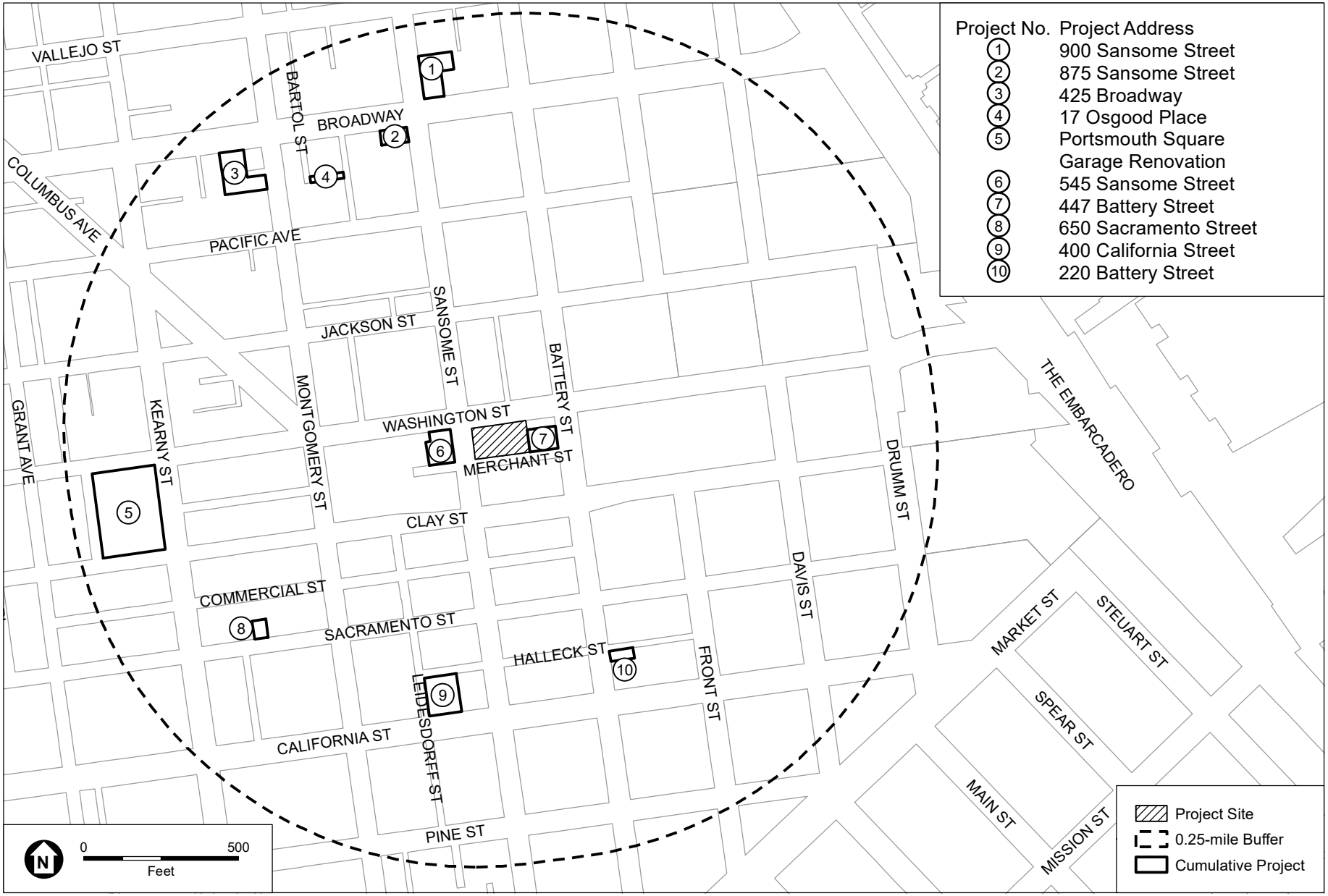
Table 3 Cumulative Projects within 0.25-Mile of the Project Site

No.	Address	Planning Department Case No.	Description	Dwelling Units	Hotel Rooms	Commercial (sf)[a]	Office (sf)
1	900 Sansome Street	2020-009619ENV	Renovation and change of use of an existing two-story parking garage to an office building. Minor exterior modifications and no change to the building envelope.				24.903
2	875 Sansome Street	2017-003622PRJ	Construction of a six-story, 65-foot-tall mixed-use building.			3,110	5,700
3	425 Broadway	2017-015678ENV	Demolition of an existing parking garage and construction of a new six-story mixed-use building with 34 dwelling units over design professional office space, ground floor retail space, and a below grade parking garage.	34		4,543	24,487
4	17 Osgood Place	2017-001423ENV	Renovation of and addition to existing building to convert ground floor commercial space to one-bedroom residential unit and merge two existing residential units into one two-bedroom residential unit. No change to unit count or height of the building.				-860
5	Portsmouth Square Garage Renovation	2018-013597ENV	Renovation of the existing 1.5-acre Portsmouth Square park and removal of the pedestrian bridge spanning Kearny Street, replace the existing park features with a redesigned public park that would include new playgrounds, exercise equipment, shade structures, wayfinding signage, sidewalks, planters, terraces, ramps, and construct a new approximately 7,500-square-foot community clubhouse facility.				

No.	Address	Planning Department Case No.	Description	Dwelling Units	Hotel Rooms	Commercial (sf)[a]	Office (sf)
6	545 Sansome Street	2020-001410ENV	Demolition of buildings at 501–505 and 517 Washington Street and construction of a 49,999-square-foot office addition that would extend to the north and west of the existing 545 Sansome Street building. The principal historic street-facing facades on Sansome Street and Mark Twain Place would be retained. In total, the project would result in a new building with 105,758 square feet of office, 5,420 square feet of ground floor retail, and 1,000 square feet of POPOS.[b]			5,420 (2,419 net new)	105,758 (49,999 net new)
7	447 Battery Street	2014-1036ENV	Demolition of and existing three-story building and construction of a new 18-story hotel with ground-floor retail project.	9	198	2,720	
8	650 Sacramento Street	2014-1036ENV	Adaptive re-use conversion of an existing three-story building to four-story group housing.	19			
9	400 California Street	2020-010710PRJ	Conversion of 9,330 square feet of ground floor space to office use. The property consists of the historic two-story Bank of California building (the bank) and adjacent 21-story office tower located at 430 California Street, which is connected to the bank via two openings on the ground floor. The conversion to office space would retain the bank's historic features.				9,330
10	220 Battery Street	2017-004065ENV	Construction of a 3,260-square-foot four-story vertical addition atop the existing two-story structure. No change to office use of existing building.	4			

SOURCE: San Francisco Planning Department 2020

[a] SF = square feet
[b] POPOS = privately owned public open space



SOURCE: San Francisco Planning Department, 2021; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 24
CUMULATIVE PROJECTS

C. Compatibility with Existing Zoning and Plans

	Applicable	Not Applicable
Discuss any variances, special authorizations, or changes proposed to the planning code or zoning map, if applicable.	☒	☐
Discuss any conflicts with any adopted plans and goals of the City or region, if applicable.	☒	☐
Discuss any approvals and/or permits from city departments other than the planning department or the Department of Building Inspection, or from regional, state, or federal agencies.	☒	☐

SAN FRANCISCO PLANNING CODE

The planning code, which incorporates by reference the city's zoning maps, governs permitted land uses, densities, and building configurations in the city. Permits to construct new buildings (or alter or demolish existing ones) may not be issued unless (1) the proposed project complies with the planning code, (2) allowable exceptions are granted pursuant to provisions of the planning code, or (3) amendments to the planning code are incorporated into the proposed project.

LAND USE

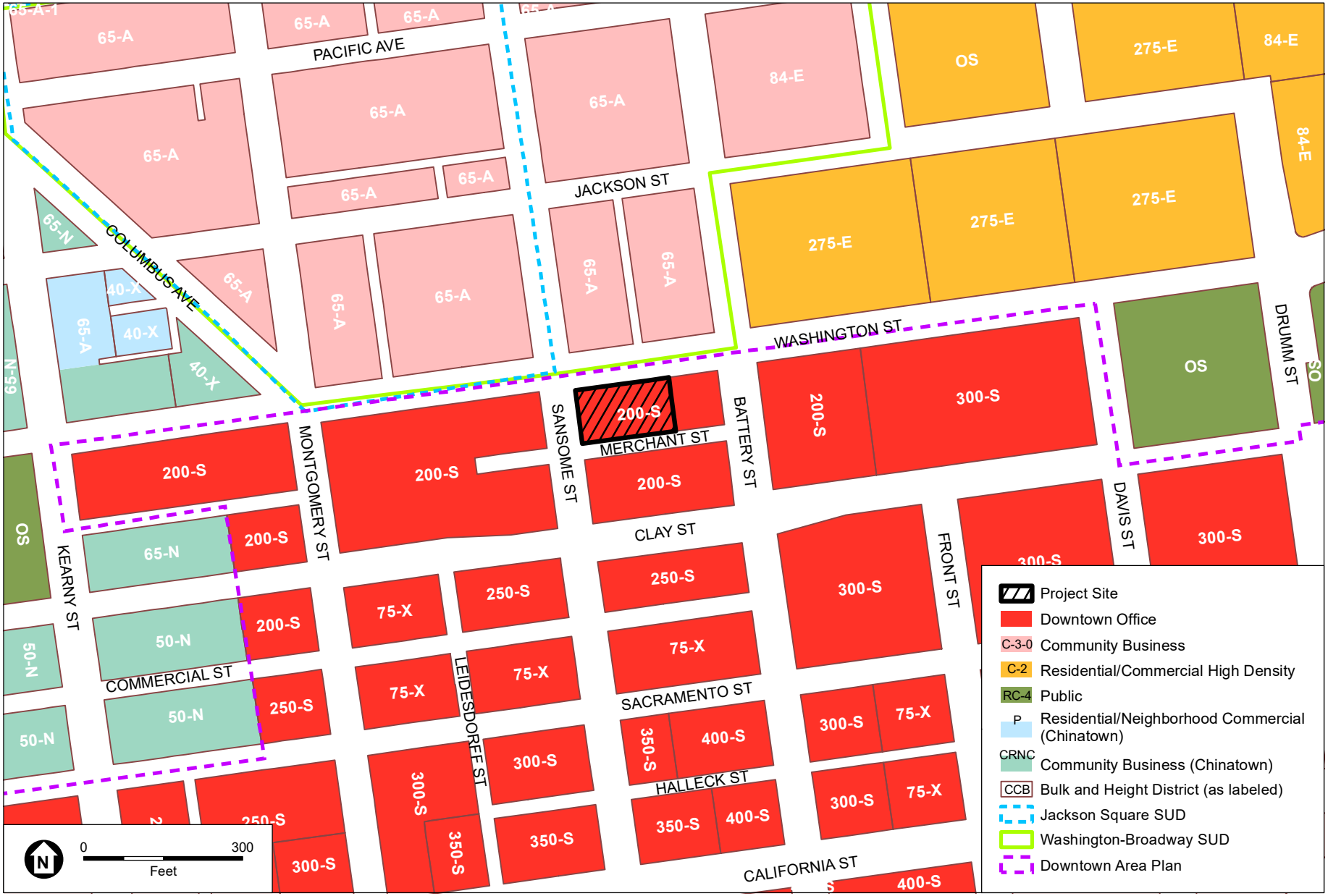
The project site is located within the Downtown Area Plan of the San Francisco General Plan and is in the C-3-O (Downtown Office) zoning district, which covers the eastern portions of downtown north of Market Street. Two Special Use Districts (SUD) are adjacent to the project site. The Washington-Broadway SUD is located immediately north of the project site, and the Jackson Square SUD, which corresponds to the boundaries of the Jackson Square Historic District, is located northwest of the project site (see **Figure 25**).

Within the C-3-O zoning district, residential, commercial, institutional, and retail sales and services are permitted. Hotel uses are conditional; therefore, a conditional use authorization under planning code section 303 would be required to permit a hotel for the proposed project. The conditional use authorization for hotel use would not be required for the residential variant. The proposed project or residential variant would require approval of a Downtown Project Authorization, per planning code section 309 for projects within a C-3-O zoning district with an area of more than 50,000 square feet or a height of more than 75 feet; the proposed project would have an area of 303,350 square feet and a height of 218 feet and the residential variant would have an area of 319,640 and height of 218 feet. Both the proposed project and residential variant would require a conditional use authorization to allow a private parking garage use for the fire department.

HEIGHT AND BULK

The project site is located in a 200-S Height and Bulk district, which permits a maximum building height of 200 feet.[11] The proposed project and residential variant would be 218 feet tall, excluding the mechanical penthouse. The 200-S Height and Bulk District allows for an increase in height by 10 percent under planning code section 263.9; the proposed project and residential variant would require approval exceptions to allow the additional 18 feet of height. The total height of the building including the mechanical penthouse would be about 236 feet.

[11] An additional 20 feet of building height is permitted for rooftop appurtenances such as elevator penthouses and heating and cooling equipment.



SOURCE: San Francisco Planning Department, 2020; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 25

ZONING, HEIGHT AND BULK, AND SPECIAL USE DISTRICTS

The bulk controls for a lower tower are a maximum length of 160 feet, a maximum floor size of 20,000 square feet, and a maximum diagonal dimension of 190 feet. The bulk controls for an upper tower are a maximum length of 130 feet, a maximum average floor size of 12,000 square feet, a maximum floor size for any floor of 17,000 square feet, and a maximum average diagonal dimension of 160 feet. The proposed project and residential variant would exceed the allowable average area and maximum dimensional lengths allowed in the 200-S Height and Bulk District. Therefore, the proposed project and residential variant would require approval exceptions for the lower and upper bulk controls under planning code section 309.

FLOOR AREA RATIO

Floor area ratio (FAR) is the ratio of gross floor area of all the buildings on a lot to the area of the lot. The FAR for the C-3-O zone is 9:1 under planning code section 210.2. As such, the base FAR for the 17,733-square-foot project site would allow for development of a building with a gross floor area of up to 159,597 gross square feet (gsf). The FAR can be increased up to 18:1 through the purchase of TDRs under planning code section 124, which would increase the allowable gross floor area for the site to 319,194 gsf. The existing FAR of the project site is approximately 2.78:1. The proposed project and residential variant, at 243,289 gsf[12] (13.7 FAR) and 246,150 gsf[13] (15 FAR), respectively, would be within the allowable FAR of 18:1 with the purchase of TDRs.

OPEN SPACE

Planning code section 135 requires either 36 square feet of private open space per dwelling unit or 1.33 times the amount of private open space required as common open space (48 square feet). The residential variant would be required to provide 9,216 square feet of private open space, 12,288 square feet of common open space, or a combination thereof. The residential variant would provide 36 square feet of private open space for 123 dwelling units in the form of private decks or balconies on levels 7 through 19, totaling 4,428 square feet. The common open space requirement would be 6,384 square feet for the remaining 126 units. The residential variant would provide 6,384 square feet of common open space in the form of a solarium on floor 21 and would meet the open space requirements.

PARKING AND LOADING

Under planning code section 151.1, off-street parking is not required within the C-3 district. The proposed project and residential variant would provide a private parking garage in three below-grade levels. The proposed project and residential variant would require a conditional use authorization under planning code section 303 to establish a private parking garage for the fire department as a non-accessory use. Parking proposed for non-fire department uses in both the proposed project and residential variant is within permitted accessory parking amounts.

Planning code section 152.1 requires that the proposed project and residential variant provide three and two off-street freight loading spaces, respectively. The proposed project and residential variant would provide three off-street loading spaces: one freight loading space at ground level on the Washington Street frontage, and two service vehicle loading spaces on the second basement level.[14] Planning code section 153(a)(6) permits the substitution of two service vehicle spaces for one off-street freight loading space. The proposed project would provide the equivalent of two off-street freight loading spaces and would require an exception

[12] Based on total gross floor area. Skidmore, Owings & Merrill, LLC, 530 Sansome Street Commercial Project Drawings/Residential Project Variant Comparison, April 2, 2021.
[13] Ibid.
[14] Planning code section 153(a)(6) permits the substitution of two service vehicle spaces for one off-street freight loading space.

under planning code section 309. The residential variant would not require a loading exception. Planning code section 155.2 requires that the proposed project provide a total of 22 class 1 bicycle parking spaces and 30 class 2 bicycle parking spaces. The proposed project would provide 26 of the 30 class 2 bicycle parking required at the project site. The remaining four class 2 bicycle parking spaces are proposed to be provided through a Zoning Administrator variance and in-lieu fee payment, pursuant to San Francisco Planning Code sections 305 and 307(k)(2)(E).

The residential variant would be required to provide a total of 143 class 1 bicycle parking spaces and 19 class 2 bicycle parking spaces. The proposed project and residential variant would meet the minimum requirements of planning code section 155.2.

PLANS AND POLICIES

SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan (general plan) provides the city's vision for the future of San Francisco. The general plan is divided into 10 elements that apply citywide: Air Quality, Arts, Commerce and Industry, Community Facilities, Community Safety, Environmental Protection, Housing, Recreation and Open Space, Transportation, and Urban Design. The general plan also includes area plans that identify objectives for specific geographic planning areas, such as the Downtown Area Plan, which includes the project site. The Downtown Area Plan establishes objectives and policies that guide development in the Financial District's neighborhoods. The general plan also includes a land use index, which consolidates the different land use policies contained in all the different elements of the general plan, including area plans. Centered on Market and Mission streets, the Downtown Area Plan covers an area roughly bounded by Van Ness Avenue to the west, Washington Street to the north, The Embarcadero to the east, and Folsom Street to the south. The Downtown Area Plan contains objectives and policies that address housing, urban form, safety and livability, streetscape, preservation, and transportation issues. The aim of the Downtown Area Plan is to encourage prime downtown office activity to grow, increase employment, retain a diverse base of support commercial activity in and near downtown, expand the supply of housing in and adjacent to downtown, create and maintain a comfortable pedestrian environment, create building forms that are visually interesting and harmonious with surrounding buildings, and create attractive urban streetscapes.

Any conflict between the proposed project or residential variant and polices that relate to physical environmental issues are discussed in Section E, Evaluation of Environmental Effects. The compatibility of the proposed project with General Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the proposed project.

THE ACCOUNTABLE PLANNING INITIATIVE (PROPOSITION M)

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the planning code to establish eight priority policies. These policies, and the corresponding topics in Section E, Evaluation of Environmental Effects, that address the environmental issues associated with the policies, are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character; (3) preservation and enhancement of affordable housing; (4) discouragement of commuter automobiles; (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; (6) maximization of earthquake preparedness; (7) landmark and historic building preservation; and (8) protection of open space.

The removal of the sculpture *Untitled* on the building at 530 Sansome Street, which was determined to be individually eligible for listing in the California register, could conflict with Priority Policy No. 7, which prioritizes the preservation of historic buildings (although the sculpture is not a building). The physical environmental impacts and associated mitigation measures are discussed in Section E.3, *Cultural Resources*, p. 51, of this initial study.

Prior to (1) issuing a permit for any project that requires an initial study under CEQA; (2) issuing a permit for any demolition, conversion, or change in use; or (3) taking any action that requires a finding of consistency with the general plan, the city is required to find that the proposed project or legislation is consistent with the priority policies. The case report and approval motions for the proposed project will contain the department's comprehensive project analysis and findings regarding the consistency of the proposed project with the priority policies.

REGIONAL PLANS AND POLICIES

In addition to local plans and policies, several regional planning agencies have environmental, land use, and transportation plans and policies that consider growth and development in the nine-county San Francisco Bay Area. Some of these plans and policies are advisory; some include specific goals and provisions that must be adhered to when evaluating a project under CEQA. The regional plans and policies that are relevant to the proposed project and residential variant are discussed below.

- The Plan Bay Area and Regional Housing Needs Plan, prepared by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), is a long-range land use and transportation plan for the nine-county Bay Area that covers the period from 2010 to 2040. Plan Bay Area calls for concentrating maintaining, managing, and improving the region's multimodal transportation network and proposes transportation projects and programs to be implemented from reasonably anticipated revenue. Plan Bay Area was adopted in July 2017.[15]
- The 2035 Regional Transportation Plan prepared by MTC is a policy document that outlines transportation projects for highway, transit, rail, and related uses through 2035 for the nine Bay Area counties.
- The Bay Area Air Quality Management District's (air district's) Bay Area 2017 Clean Air Plan requires implementation of "all feasible measures" to reduce ozone and provide a control strategy for reducing ozone, particulate matter, toxic air contaminants, and greenhouse gases. The 2017 Clean Air Plan describes the status of local air quality and identifies the emission control measures that are to be implemented.[16]
- The Regional Water Quality Control Board's Water Quality Control Plan for the San Francisco Bay Basin is a master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the state, including surface waters and groundwater, and includes implementation programs to achieve water quality objectives.[17]

[15] Metropolitan Transit Commission and Association of Bay Area Governments, Plan Bay Area 2040: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2017–2040, Final, July 26, 2017, http://files.mtc.ca.gov/library/pub/30060.pdf, accessed November 20, 2020.
[16] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed November 20, 2020.
[17] San Francisco Regional Water Quality Control Board, *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*, November 5, 2019, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/ADA_compliant/BP_all_chapters.pdf, accessed November 20, 2020.

Based on the size and nature of the proposed project and residential variant, no anticipated conflicts with regional plans would occur.

D. Summary of Environmental Effects

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☐ Land Use and Planning	☐ Greenhouse Gas Emissions	☐ Hydrology and Water Quality
☐ Aesthetics	☐ Wind	☐ Hazards and Hazardous Materials
☐ Population and Housing	☐ Shadow	☐ Mineral Resources
☒ Cultural Resources	☐ Recreation	☐ Energy
☒ Tribal Cultural Resources	☐ Utilities and Service Systems	☐ Agriculture and Forestry Resources
☐ Transportation and Circulation	☐ Public Services	☐ Wildfire
☒ Noise	☐ Biological Resources	☒ Mandatory Findings of Significance
☒ Air Quality	☒ Geology and Soils	

This initial study examines the proposed project and residential variant to identify potential effects on the environment. For each item on the initial study checklist, the evaluation considered the impacts of the proposed project and residential variant both individually and cumulatively, with the exception of greenhouse gas emissions, which are evaluated only in the cumulative context. All items on the initial study checklist that have been checked "Less than Significant Impact with Mitigation Incorporated," "Less than Significant Impact," "No Impact," or "Not Applicable," indicate that, upon evaluation, the planning department has determined that the proposed project or residential variant could not have a significant adverse environmental effect related to that topic. A discussion is included for those issues checked "Less than Significant Impact with Mitigation Incorporated" and "Less than Significant Impact" and for most items checked "No Impact" or "Not Applicable." For all of the items checked "No Impact" or "Not Applicable" without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff experience, and expertise on similar projects, and/or standard reference material available within the planning department, such as the department's Transportation Impact Analysis Guidelines for Environmental Review, or the California Natural Diversity Database and maps, published by the California Department of Fish and Wildlife.

For the analysis of potential cumulative effects, each environmental topic herein briefly identifies the cumulative context relevant to that topic. For example, for shadow impacts, the cumulative context would be nearby projects that could contribute to cumulative shadow effects on the same open space affected by the proposed project. In other cases, such as air quality, the context would be the San Francisco Bay Area Air Basin.

Aesthetics and Parking

In accordance with CEQA section 21099: Modernization of Transportation Analysis for Transit-Oriented Infill Projects, aesthetics and parking shall not be considered in determining if a project has the potential to result in significant environmental effects, provided the project meets all of the following three criteria:

a) The project is in a transit priority area;

b) The project is on an infill site; and

c) The project is residential, mixed-use residential, or an employment center.

The proposed project meets each of the above criteria; therefore, this initial study does not consider aesthetics or parking in determining the significance of project impacts under CEQA.[18]

Automobile Delay and Vehicle Miles Traveled

In addition, CEQA section 21099(b)(1) requires the Governor's Office of Planning and Research to develop revisions to the CEQA Guidelines to establish criteria for determining the significance of transportation impacts from projects that "promote a reduction in greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts, pursuant to section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, the Governor's Office of Planning and Research published for public review and comment its Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA,[19] which recommends using a vehicle-miles-traveled (VMT) metric to measure a project's transportation impacts. On March 3, 2016, the San Francisco Planning Commission adopted the Governor's Office of Planning and Research recommendation to use the VMT metric instead of automobile delay in evaluating the transportation impacts of projects (Resolution 19579). (Note: The VMT metric does not apply to the analysis of project impacts on non-automobile modes of travel, such as riding transit, walking, and bicycling.) Accordingly, this initial study does not contain a discussion of impacts regarding automobile delay. Instead, an impact analysis regarding VMT and induced automobile travel is provided in Section E.5, *Transportation and Circulation*, p. 66.

[18] San Francisco Planning Department, *Eligibility Checklist: CEQA Section 21099 – Modernization of Transportation Analysis for 530 Sansome Street*, March 19, 2021.

[19] State Office of Planning and Research, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf, accessed November 11, 2020.

E. Evaluation of Environmental Effects

1. Land Use and Planning

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
1. LAND USE AND PLANNING. Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Cause a significant physical environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐

Impact LU-1: The proposed project or residential variant would not physically divide an established community. ***(No Impact)***

Division of an established community typically involves constructing a physical barrier to neighborhood access, such as a new freeway, or removing a means of access, such as a bridge or a roadway. The proposed development would entail demolition of the existing buildings on the project site and construction of a 19-story hotel building (proposed project) or 21-story residential building (residential variant) and a four-story replacement fire station, with three below-grade levels under both buildings. Although portions of the sidewalks adjacent to the project site may be closed for periods of time during project construction, the closures would be temporary. Following construction, sidewalk access would be restored. The proposed project or residential variant would not construct a physical barrier to neighborhood access or remove an existing means of access, such as a bridge or roadway; therefore, it would not physically divide an established community. Accordingly, the proposed project or residential variant would have ***no impact*** with respect to physically dividing an established community, and no mitigation measures are necessary.

Impact LU-2: The proposed project or residential variant would not cause a significant physical environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. ***(Less than Significant)***

Land use impacts could be considered significant if the proposed project or residential variant would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact. Environmental plans and policies are those that directly address environmental issues and/or contain targets or standards that must be met in order to preserve or improve characteristics of the city's physical environment. As described in Section C, *Compatibility with Existing Zoning and Plans*, p. 39, neither the proposed project nor residential variant would conflict with any adopted environmental plan or policy, with the exception of the historic preservation policies contained in the general plan and the Accountable Planning Initiative. Physical environmental impacts resulting from these conflicts with historic preservation policies are discussed in Section E.3, *Cultural Resources*, p. 51.

To the extent that the proposed project or residential variant would conflict with certain general plan objectives and policies that are unrelated to physical environmental issues, those conflicts would be considered by decision makers as part of their decision to approve or disapprove the proposed project or residential variant independent of the CEQA environmental review process. Potential conflicts with applicable general plan objectives and policies would be analyzed and considered as part of the review of the entitlement applications required for the proposed project or residential variant independent of environmental review under CEQA. In addition, the proposed project or residential variant would not obviously or substantially conflict with any adopted environmental plan or policy, including the 2017 Clean Air Plan, San Francisco's Strategies to Address Greenhouse Gas Emissions (GHG Reduction Strategy), and the San Francisco Urban Forestry Ordinance, as discussed in Section E.7, *Air Quality*, p. 91; Section E.8, *Greenhouse Gas Emissions*, p. 126; and Section E.14, *Biological Resources*, p. 154. Therefore, the proposed project or residential variant would have a ***less-than-significant*** impact with regard to conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

Impact C-LU-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact related to land use and planning. ***(Less than Significant)***

Cumulative development in the project vicinity (within a 0.25-mile radius of the project site) includes projects that are either under construction or for which the planning department has a project application on file. Most of the cumulative development in the project vicinity (Table 3, p. 36, and Figure 24, p. 38,) are mixed-use projects that would include office, hotel, residential, and commercial uses. These projects would result in an intensification of land uses in the project vicinity, similar to the proposed project or residential variant. However, they would be infill projects and would be consistent with the planning vision for the area, as adopted in the Downtown Area Plan, and therefore would not result in conflicts with land use plans or policies adopted for the purpose of avoiding or mitigating environmental impacts. In addition, the cumulative projects would not combine with the proposed project or residential variant to alter the land use pattern of the immediate area or physically divide an established community. Therefore, the proposed project and residential variant, in combination with cumulative projects, would not result in cumulative land use impacts. Accordingly, cumulative impacts related to land use would be ***less than significant***.

2. Population and Housing

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
2. POPULATION AND HOUSING. Would the project:					
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐	☐
b) Displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing?	☐	☐	☐	☒	☐

Impact PH-1: The proposed project or residential variant would not induce substantial unplanned population growth, either directly or indirectly. *(Less than Significant)*

In general, a project would be considered growth inducing if its implementation would result in substantial unplanned population growth in an area, either directly or indirectly. The proposed project and residential variant would generate different employment, housing, and population numbers; therefore, they are discussed separately below.

According to the U.S. Census Bureau's most recent American Community Survey, the City and County of San Francisco had an estimated population of about 881,549 residents, and 406,413 housing units in 2019.[20] San Francisco is expected to gain approximately 101,000 households and 280,000 residents between 2010 and 2040 and have a population of more than 1 million, a 35 percent increase in residential population. The American Community Survey 2015–2019 census data indicate that census tract 611, which includes the project site and immediate vicinity, has a population of 4,477 and 2,264 housing units.[21]

In 2015, ABAG projected that the housing need in San Francisco for 2015–2023 will be 28,869 dwelling units, consisting of 6,234 dwelling units that would be affordable to households at the very low-income level (0–50 percent of the area median income), 4,639 at the low-income level (51–80 percent), 5,460 at the moderate-income level (81–120 percent), and 12,536 above the moderate-income level (above 120 percent).[22] As noted above, as part of the planning process for Plan Bay Area, San Francisco identified priority development areas, which are existing neighborhoods that are near transit and appropriate for future growth. The project site is in the Downtown-Van Ness-Geary Priority Development Area, as identified in Plan Bay Area.[23]

[20] U.S. Census Bureau, *San Francisco County, California*, 2019, https://www.census.gov/quickfacts/sanfranciscocountycalifornia, accessed December 16, 2020.
[21] U.S. Census Bureau, *2019: ACS 5-Year Estimates Data Profiles, Census Tract 611*, San Francisco County, California, accessed December 16, 2020.
[22] Association of Bay Area Governments, *Regional Housing Need Plan for the San Francisco Bay Area: 2015–2023*, 2015, https://abag.ca.gov/sites/default/files/2015-23_rhna_plan.pdf, accessed December 16, 2020.
[23] Association of Bay Area Governments, Plan Bay Area, Priority Development Area ArcGIS Webviewer, https://www.arcgis.com/home/webmap/viewer.html?panel=gallery&suggestField=true&url=https%3A%2F%2Fservices3.arcgis.com%2Fi2dkYWmb4wHvYPda%2Farcgis%2Frest%2Fservices%2Fpriority_development_areas_current%2FFeatureServer%2F0, accessed December 16, 2020.

Employment in San Francisco is forecast to increase by 34 percent (191,000 jobs) between 2010 and 2040, for a total of approximately 760,000 jobs.[24] As of October 2020, the labor force in San Francisco consisted of 581,100 jobs.[25]

PROPOSED PROJECT

The proposed project proposes no housing. Therefore, it would not induce substantial unplanned residential population growth. The proposed project also would not indirectly induce substantial unplanned residential population growth in the project area due to infrastructure improvements because the project site is an infill site located in an urbanized area, and does not propose any extensions to area roads or other infrastructure that could enable additional development in currently undeveloped areas.

As noted above, employment in San Francisco is forecast to increase by 34 percent (191,000 jobs), for a total of approximately 760,000 jobs between 2010 and 2040.[26] The proposed hotel, office, fitness center, and retail/restaurant uses and replacement fire station on the project site would result in an estimated net increase of 425 jobs (180 employees for the hotel, 147 employees for the office space, 80 employees for the fitness center, 18 employees for the retail/restaurant use).[27,28] The proposed replacement fire station would employ 10 people with implementation of the proposed project, which is the same number of fire department staff currently employed at the existing fire station on the project site.[29] Employment under the proposed project is unlikely to attract new residents to San Francisco because such jobs are typically filled by existing residents in the area. Therefore, it is anticipated that most of the employees would live in San Francisco (or nearby communities) and that the proposed project would not generate demand for new housing to accommodate new employees. Even if all of the approximately 435 employees associated with the proposed project were assumed to be new to San Francisco, project-related employment growth would represent considerably less than one percent (0.2 percent) of the city's estimated job growth between 2010 and 2040. This estimated increase in employment would be negligible in the context of total jobs in San Francisco. Therefore, the proposed project would not directly or indirectly induce substantial unplanned population growth. The impact from the proposed project would be ***less than significant***, and no mitigation is necessary.

---

[24] Association of Bay Area Governments and Metropolitan Transportation Commission, Jobs-Housing Connection Strategy, May 16, 2012, https://www.planbayarea.org/sites/default/files/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf, accessed: December 10, 2020.

[25] Employment Development Department of California, *San Francisco County Profile,* 2020, https://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/localAreaProfileQSResults.asp?selectedarea=San+Francisco+County&selectedindex=38&menuChoice=localAreaPro&state=true&geogArea=0604000075&countyName=, accessed December 16, 2020.

[26] Association of Bay Area Governments and Metropolitan Transportation Commission, Jobs-Housing Connection Strategy, May 16, 2012, https://www.planbayarea.org/sites/default/files/pdf/JHCS/May_2012_Jobs_Housing_Connection_Strategy_Main_Report.pdf, accessed: December 10, 2020.

[27] City and County of San Francisco, *Transportation Impact Analysis Guidelines for Environmental Review*, October 2012, Table C-1, p. C-3. The employment projections are based on employee density factors for typical land uses. An employment density of 0.9 employees per room is used for hotel use. An employment density of 276 gsf per employee is used for office use. An employment density of 350 gsf per employee is used for retail/restaurant use.

[28] Witte, Nick, Project Manager, Related California, e-mail correspondence with Susan Yogi, Senior Managing Associate, Environmental Science Associates, December 22, 2020.

[29] DeWitt, Dawn, Assistant Deputy Chief, Support Services, San Francisco Fire Department, e-mail correspondence with Susan Yogi, Senior Managing Associate, Environmental Science Associates, December 8, 2020. The replacement fire station would employ 10 people, which is the same number of fire department staff currently employed at the existing fire station on the project site; therefore, the fire department staff are not included in the net new job total.

RESIDENTIAL VARIANT

The residential variant would construct 256 residential units. The four-story replacement fire station building would remain the same for the residential variant as for the proposed project.

Based on the average household size in the City and County of San Francisco of 2.36 people per household,[30] the addition of 256 new residential units would increase the citywide population by approximately 605 residents.[31] This would represent a residential population increase of approximately 14 percent over the existing census tract population, and approximately 0.2 percent citywide. As noted above, San Francisco is expected to gain approximately 101,000 households and 280,000 residents between 2010 and 2040 and have a population of more than 1 million, a roughly 35 percent increase in the residential population. While the addition of 605 people on the project site could be noticeable to adjacent properties, this residential population growth would represent considerably less than one percent (0.2 percent) of the city's estimated population growth between 2010 and 2040. Therefore, the population introduced on the project site as a result of the residential variant would be accommodated within the planned growth for the neighborhood and the city, as a whole, and would not directly induce substantial unplanned population growth in the area.

The number of employees required to manage and maintain the proposed residential use would be negligible. The proposed replacement fire station would employ 10 people with implementation of the proposed residential variant, which is the same number of fire department staff currently employed at the existing fire station on the project site. Therefore, the residential variant would not result in a substantial increase in employment on the project site that would induce substantial unplanned population growth in the area.

The residential variant would not extend any roads or other infrastructure into areas where roads or other infrastructure currently do not exist, which could indirectly induce population growth. In addition, the residential variant would be consistent with general plan objectives and policies and Plan Bay Area goals and criteria, as it is located on an infill site, served by existing transit, and located in a priority development area. Furthermore, as discussed in Section E.12, *Utilities and Service Systems*, p. 142, and Section E.13, *Public Services*, p. 150, the population growth generated under the residential variant would not require the expansion of infrastructure or services that could cause adverse physical environmental impacts. For these reasons, the residential variant would not directly or indirectly induce substantial unplanned population growth. The impact from the residential variant would be ***less than significant***, and no mitigation is necessary.

Impact PH-2: The proposed project or residential variant would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing. ***(No Impact)***

The proposed project or residential variant would not displace any residents or housing units since no housing units currently exist on the project site. Therefore, the proposed project or residential variant would have ***no impact*** related to the displacement of housing units or people and would not necessitate the construction of replacement housing, and no mitigation is necessary.

[30] U.S. Census Bureau, *San Francisco County, California*, 2019, https://www.census.gov/quickfacts/sanfranciscocountycalifornia, accessed December 13, 2020.
[31] 256 residential units x 2.36 people per household = 605 new residents.

Impact C-PH-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing. ***(Less than Significant)***

The cumulative analysis includes the development projects located in the vicinity of the project site, identified in Table 3, p. 36, and mapped on Figure 24, p. 38. Most of the development projects are mixed-use projects that would include varying combinations of office, hotel, residential, commercial uses. These projects would result in an intensification of land uses in the project vicinity, similar to the proposed project or residential variant; however, they would be infill projects and would be consistent with the planning vision for the area as well as with projected regional and city-wide growth in population, housing, and employment. As described above, the proposed project or residential variant would not induce substantial direct or indirect population growth; displace a substantial number of existing housing units, people, or employees; or create demand for additional housing elsewhere. Accordingly, the proposed project or residential variant, in combination with past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to population and housing, and the impact would be ***less than significant***. No mitigation is necessary.

---

3. Cultural Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
3. CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code?	☐	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐

Impact CR-1: The proposed project or residential variant would cause a substantial adverse change in the significance of an individually eligible historical resource as defined in CEQA Guidelines section 15064.5, including those resources listed in article 10 or article 11 of the planning code. ***(Less than Significant with Mitigation)***

A historical resource is defined in CEQA Guidelines section 15064.5(a) as one that is listed in, or determined to be eligible for listing in, the California Register of Historical Resources (California register). In addition, a resource that (i) is identified as significant in a local register of historical resources, such as article 10 and/or article 11 of the San Francisco Planning Code, or (ii) is deemed significant due to its identification in a historical resources survey meeting the requirements of California Public Resources Code section 5024.1(g) is

presumed to be a historical resource "unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." Along with CEQA Guidelines section 15064.5(a), CEQA section 21084.1 also permits a lead agency to determine that a resource constitutes a historical resource even if the resource does not meet the foregoing criteria.

A property may be considered a historical resource if it meets any of the California register criteria related to (1) events, (2) persons, (3) architecture, or (4) information potential, that make it eligible for listing in the California register, or if it is considered a contributor to a potential historic district. The California register criteria, which are based on the criteria established by the National Park Service for the National Register of Historic Places (national register), include the following:

- **Criterion 1 (Event):** Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California.
- **Criterion 2 (Person):** Resources that are associated with the lives of persons important to local history.
- **Criterion 3 (Design/Construction):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values.
- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important in prehistory or history.

To be considered a historical resource, a property must be historically significant and retain sufficient integrity to convey that significance. Integrity is defined as the ability of a property to convey its significance.[32] There are seven aspects of integrity:

- **Location** – where the historic property was constructed or the place where the historic event occurred;
- **Design** – the combination of elements that create the form, plan, space, structure, and style of property;
- **Setting** – the physical environment of a historic property;
- **Materials** – the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- **Workmanship** – physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling** – a property's expression of the aesthetic or historic sense of a particular period of time; and
- **Association** – the direct link between an important historic event or person and a historic property.

Additionally, properties that are not listed in the California register but are otherwise determined to be historically significant, based on substantial evidence, would also be considered historical resources.

A substantial adverse change is defined in CEQA Guidelines section 15064.5 as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance

[32] National Park Service, National Register Bulletin: How to Apply the National Register Criteria for Evaluation," *https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf*, accessed March 4, 2021.

of a historical resource would be materially impaired." The significance of a historical resource is materially impaired, according to CEQA Guidelines section 15064.5(b)(2), when a project:

> *(A) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or*
>
> *(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources, unless the public agency reviewing the effects of the project establishes a preponderance of evidence that the resource is not historically or culturally significant; or*
>
> *(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.*

The proposed project or residential variant would demolish three buildings on the project site: 425 Washington Street (constructed between 1906 and 1907), 439–445 Washington Street (constructed between 1906 and 1907), and 530 Sansome Street (constructed in 1975). In evaluating whether the proposed project or the residential variant would cause a substantial adverse change in the significance of a historical resource, the planning department must first determine whether the existing buildings on the project site are historical resources. The information and analysis included in this section are based on the *Historical Evaluation of 425 and 439–445 Washington Street, Preservation Team Review Form* for the 425 and 439–445 Washington Street buildings, *Final Historic Resource Evaluation Report Part I 530 Sansome Project* (HRE Part I), *Historic Resource Evaluation Response Part I* (HRER Part I), *Historic Resource Evaluation Response Part II* (HRER Part II).[33] The HRE, preservation team review form, and HRERs are attached as Appendix A to this initial study.

425 AND 439–445 WASHINGTON STREET

A historic evaluation was prepared for 425 and 439–445 Washington Street in 2017 to assist the planning department in determining whether the existing buildings are historical resources and is attached as Appendix A1 to this initial study. On February 12, 2021, the planning department concurred with the findings of the historic evaluation and determined that neither 425 Washington Street nor 439–445 Washington Street are eligible for listing in the California register under any criteria either individually or as part of a historic district, as summarized below (see Appendix A2).[34]

The 425 Washington Street property is a three-story commercial building of brick construction with frontage on Washington and Merchant streets. It was constructed in ca. 1906-07 for Rudolph Jordan and was designed by architect S.H. Woodruff. While archival research suggests that the building would be significant as one of the few remaining buildings associated with San Francisco's wholesale produce market, both façades have been extensively altered; therefore, it does not retain sufficient integrity to convey its individual significance under Criterion 1. None of the owners or occupants, including chemist and assayer Abbott A. Hanks who ran a laboratory in the building from 1907 to 1910, were found to have made lasting contributions to local, state,

[33] William Kostura, *Historic Evaluation of 425 and 439–445 Washington Street, San Francisco,* May 2017; Environmental Science Associates, *Final Historic Resource Evaluation Report Part I, 530 Sansome Street Project,* September 2020; San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I,* December 3, 2020; San Francisco Planning Department, *Part II Historic Resource Evaluation Response for 530 Sansome Street,* December 18, 2020.

[34] San Francisco Planning Department, *Preservation Team Review Form: 425, 439–441 Washington Street (Block 0206 / Lots 013, 014)*, February 12, 2021.

or national history or cultural heritage; therefore, the building is not individually eligible under Criterion 2. Due to extensive alterations completed in 1966, 425 Washington Street is not individually eligible under Criterion 3 as a significant example of early twentieth-century commercial architecture, nor is the 1966 remodel designed by Harada and Meu a significant example of modern design. The building is not an example of a rare building type, and it is therefore not individually eligible under Criterion 4.

The 439–445 Washington Street property is a two-story commercial building of brick construction with frontage on Washington and Merchant streets. Like its neighbor, it was constructed in ca. 1906-07 by the Woodruff Company (and was likely designed by architect S.H. Woodruff). While the building's early occupants had tangential relationships to the neighboring wholesale produce market, these associations are neither direct nor continuous; therefore, it is not individually eligible under Criterion 1. None of the owners or occupants, including the long-running restaurant The Rainbow Club (1944-68) and the well-known restaurant The Iron Pot (1982-89), were found to have made lasting contributions to local, state, or national history or cultural heritage; therefore, the building is not individually eligible under Criterion 2. Due to extensive alterations completed in 1967, 439–445 Washington Street is not individually eligible under Criterion 3 as a significant example of early twentieth-century commercial architecture, nor is the 1967 remodel designed by architect Gilbert Oliver a significant example of modern design. The building is not an example of a rare building type, and it is therefore not individually eligible under Criterion 4.

The 425 and 439–445 Washington Street buildings are located south of the Jackson Square Article 10 Landmark District, and the planning department determined that the boundaries of the district should not be extended to include either or both of the subject buildings.

For these reasons, the 425 and 439–445 Washington Street buildings are not considered historical resources under CEQA.

530 SANSOME STREET AND SCULPTURE UNTITLED

A historic resource evaluation (HRE) Part I was prepared for 530 Sansome Street in 2020, and attached as Appendix A3 to this initial study. The planning department determined that while the 530 Sansome Street is not individually eligible for listing in the California register under any criteria, the sculpture *Untitled*, which is installed on the building's north façade (adjacent to Washington Street), is individually eligible under Criterion 3 as an object that is an important site-specific work by master artist Henri Marie-Rose.[35] These findings are summarized below. Furthermore, the planning department determined that 530 Sansome Street and the sculpture *Untitled* are contributors to the eligible Embarcadero Center Historic District, which is analyzed under Impact CR-2.

Fire Station 13 located at 530 Sansome Street is a three-story (or two-story-plus-mezzanine) building of reinforced concrete construction with frontage on Sansome, Washington, and Merchant streets. It was constructed in 1975 and replaced an earlier fire station whose demolition was necessitated by the construction of Embarcadero Center. The architect was John C. Portman, Jr., the designer of Embarcadero Center 1-5, in collaboration with City Architect Charles W. Griffith. While linked to the development history of Embarcadero Center (which was, in turn, a component of the larger Golden Gateway Redevelopment Area), the construction of 530 Sansome Street is located outside of the redevelopment area and separated by a few blocks from Embarcadero Center 1-5. As such, the building "represents the replacement of a single civic structure essential to the normal operation, infrastructure, and safety of the city … is one of numerous fire

[35] San Francisco Planning Department, *Historic Resource Evaluation Response for 530 Sansome Street, Part I,* December 3, 2020.

stations built over the years (including several that remain extant in the downtown area) and was built out of unanticipated necessity rather than part of any Fire Department comprehensive plan." Therefore, it is not individually eligible under Criterion 1. None of the individuals or occupants associated with the property were found to have made lasting contributions to local, state, or national history or cultural heritage that would rise to the level of individual significance for eligibility under Criterion 2. Though 530 Sansome Street embodies some of the character-defining features common to Brutalist architecture (as identified in the San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement), it is a utilitarian interpretation of the style. Furthermore, it is an undistinguished example within Portman's body of work, which includes many exceptional examples of Brutalism. For these reasons, it is not individually eligible under Criterion 3. The building is not an example of a rare building type, and it is therefore not individually eligible under Criterion 4.

On the north façade of 530 Sansome Street is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled*. The three-dimensional copper sculpture depicts firefighters with a hose battling a blaze next to the letters "SFFD." The sculpture is not emblematic of a specific artistic movement or broad pattern of history, and it is not individually eligible under Criterion 1. Aside from Marie-Rose, who is best addressed under Criterion 3 below, the sculpture is not associated with individuals who have made lasting contributions to local, state, or national history or cultural heritage, and it is not individually eligible under Criterion 2. *Untitled*, which was commissioned by the San Francisco Arts Commission as a site-specific artwork and has been exhibited in place continuously since its installation in 1976, is believed to be the last surviving public artwork by Marie-Rose, a master artist, in San Francisco and was also his highest-earned public commission. For these reasons, *Untitled* is individually eligible under Criterion 3. Criterion 4 is not addressed in the HRER Part I. The sculpture, as an individual object, is therefore considered a historical resource under CEQA. Its period of significance is 1976, and its character-defining features include its visually prominent position on a building occupying a corner location that is also a fire station, copper construction, verdigris (i.e., patina), and overall design that includes abstract figures and typographic elements.

The demolition of the 530 Sansome Street building would completely remove the physical context of the site-specific sculpture *Untitled*, and the sculpture would be relocated and reinstalled in a new location on the proposed project or residential variant (the exact location is to be determined). Therefore, the proposed project or residential variant have the potential to result in a significant impact on a historical resource. To reduce this potentially significant impact to a less than significant level, the project sponsor would be required to implement **Mitigation Measure M-CR-1, Interpretation and Relocation Plan**.

Mitigation Measure M-CR-1: Interpretation and Relocation Plan

Interpretation for* Untitled *Sculpture. The project sponsor shall facilitate the development of an interpretive program focused on the history and design of the *Untitled* sculpture. The interpretive program shall be developed and implemented by a qualified professional with demonstrated experience in displaying information and graphics to the public, such as a museum or exhibit curator. The primary goal of the program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13.

This program shall be initially outlined in a proposal for an Historic Resources Public Interpretive Plan (HRPIP) subject to review and approval by planning department preservation staff. The HRPIP shall lay out the various components of the interpretive program that shall be developed in

consultation with an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards and approved by planning department staff prior to issuance of a site permit or demolition permit.

The interpretative program shall include the installation of a permanent on-site interpretive display. All interpretative material shall be publicly available. For physical interpretation the plan shall include the proposed format and accessible location of the interpretive content, as well as high-quality graphics and written narratives. The interpretative plan may also explore contributing to digital platforms that are publicly accessible, such as the History Pin website or phone applications. Interpretive material could include elements such as virtual museums and content, such as oral history, brochures, and websites. The interpretative program should also coordinate with other interpretative programs currently proposed or installed in the vicinity or for similar resources in the city, such as the San Francisco Fire Department Museum.

The HRPIP shall be approved by planning department preservation staff prior to issuance of the architectural addendum to the site permit. The detailed content, media and other characteristics of such interpretive program shall be approved by planning department preservation staff prior to issuance of a temporary certificate of occupancy.

Relocation Plan for* Untitled *Sculpture. Prior to issuance of the architectural addendum to the site permit, the project sponsor shall provide a relocation plan to be reviewed and approved by the planning department to ensure that the sculpture will be removed from the building, transported, and stored during construction in a manner that will protect the historical resource. The relocation plan shall identify the storage location for the sculpture and storage and monitoring protocols. The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its north (Washington Street) or south (Merchant Street) façades; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site. The relocation plan shall also include an initial reinstallation plan and maintenance plan for the sculpture and schedule for reviewing and finalizing those plans in consultation with planning department preservation staff prior to issuance of temporary certificate of occupancy.

Implementation of Mitigation Measure M-CR-1 would reduce the severity of the proposed project and residential variant's impacts on individual historic resources to a ***less-than-significant level with mitigation***.

OTHER CONSTRUCTION-RELATED IMPACTS

Construction activities at the project site would generate vibration that could potentially cause structural damage to adjacent and nearby buildings. As described under Impact NO-3, p. 102, drilling and compaction activities would occur as close as 5 feet from 447 Battery Street, which is the closest historic structure to the project site. The groundborne vibration levels would exceed the Caltrans criterion of 0.25 peak particle velocity (PPV) for historic structures. Therefore, the proposed project could result in structural damage to 447 Battery Street and has the potential to result in a significant impact on a historical resource. Implementation of **Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction**, p. 105, would reduce the vibration impact to a less-than-significant level.

Mitigation Measure M-NO-3: Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction (see Impact NO-3)

Implementation of Mitigation Measure M-NO-3 would reduce or eliminate the likelihood of structural damage to the building at 447 Battery Street. Therefore, the proposed project or residential variant would not result in a significant impact on a historical resource from construction-related groundborne vibration. This impact would be ***less than significant with mitigation***.

Impact CR-2: The proposed demolition and removal of contributors would not materially alter, in an adverse manner, the physical characteristics of the Embarcadero Center Historic District that justify its eligibility for inclusion in the California Register of Historical Resources. *(Less than Significant)*

The HRER Part I identifies a discontiguous Embarcadero Center Historic District that is eligible for listing in the California register under Criterion 3 as a distinguishable complex whose buildings were designed by master architect John C. Portman, Jr., in the Brutalist style (see Appendix A4). The historic district is characterized in the HRER Part I as follows:

> *The Planning Department previously found that Embarcadero Center 1-5 was eligible for listing as a complex, based largely on the [*San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*] and a history/context document prepared by Page & Turnbull [i.e.,* Embarcadero Center Lobbies Historic Structures Report "Lite," *completed in July 2018]. Though the Department did not assess the fire station at that time, given its inseparable link to the development of the overall Embarcadero Center, shared architect, and common embodiment of Brutalism, 530 Sansome appears to be contributory to a discontiguous Embarcadero Center Historic District eligible under Criteria [sic] 3. Such a district would be composed of [Embarcadero Center] 1-5 and 530 Sansome, all of which would be contributory, with a period of significance ranging from 1971 [to] 1982 (representing the completion of the first structure through the last). The boundaries of this discontiguous district would include the 530 Sansome parcel, as well those [sic] for [Embarcadero Center] 1–5.*[36]

The HRER Part I concludes that 530 Sansome Street and the sculpture *Untitled* are contributors to the eligible Embarcadero Center Historic District, which is considered to be a historical resource under CEQA.[37]

While the proposed project or residential variant would demolish 530 Sansome Street and remove/relocate the sculpture *Untitled* from its site-specific location, this would not render the Embarcadero Center Historic District ineligible for the California register. As described above, the district is architecturally significant, and this significance is primarily linked to Embarcadero 1-5, a concentration of high-style Brutalist buildings that is not adjacent to the project area. In the HRER Part II issued on December 18, 2020, the planning department concluded that while both the building and sculpture contribute to and are part of the Embarcadero Center, they are not elements of its design as initially conceived, which consisted of four interconnected mixed-use towers and a hotel (see Appendix A5). While the demolition of 530 Sansome Street and relocation of the sculpture would remove this example of Portman's work, the demolition of the fire station would not significantly adversely impact Embarcadero 1-5.[38] Because Embarcadero 1-5 would not be affected by the proposed project or residential variant, the Embarcadero Center Historic District would continue to convey its historical significance, and the demolition of 530 Sansome Street and relocation of *Untitled* would result in a ***less-than-significant*** impact on the eligible Embarcadero Center Historic District.

[36] San Francisco Planning Department, *Historic Resource Evaluation Response Part I: 530 Sansome Street*, December 3, 2020.
[37] Ibid.
[38] San Francisco Planning Department, *Historic Resource Evaluation Response Part II: 530 Sansome Street,* December 18, 2020.

Impact CR-3: The proposed project or residential variant could cause a substantial adverse change in the significance of an archeological resource. ***(Less than Significant with Mitigation)***

The proposed project or residential variant would require excavation of approximately 28,000 cubic yards of soil to a depth of approximately 40 feet bgs. The planning department conducted a preliminary archeological review of the project site to determine the potential for the proposed project to impact archeological resources.[39]

Although no known CEQA-related significant archaeological resources have been recorded within the project area and some archeological resources may have been damaged by the installation of the existing basements,[40] geotechnical analysis and archival research show that there is potential for encountering buried prehistoric archeological resources, historical archeological resources, and buried maritime resources. The proposed project or residential variant would result in excavation to approximately 40 feet bgs and would extend through artificial fill, bay mud, and the sand layer above old bay clay. If auger-cast-in-place piles are used for the foundation system, they would extend to a depth of approximately 90 feet through artificial fill, bay mud, sand, old bay clay, and into bedrock. Although some archeological resources (particularly late 19th century resources) may have been damaged by the installation of the existing basements and other disturbances, there is the potential for archeological resources below the existing basement level, including those that may have been buried during a series of fires that burned the waterfront in the early 1850s. There is also potential for prehistoric resources that were submerged between 6,000 and 2,000 years ago. Ground-disturbing construction activity could therefore result in significant impacts to these potential archeological resources. To reduce impacts on archeological resources, the project sponsor would be required to implement **Mitigation Measure M-CR-3, Archeological Testing**.

> **Mitigation Measure M-CR-3: Archeological Testing**
>
> Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources and on human remains and associated or unassociated funerary objects. The project sponsor shall retain the services of an archeological consultant from the rotational qualified archeological consultants list maintained by the planning department's archeologist who specializes in geoarchaeology and maritime resources. After the first project approval action or as directed by the Environmental Review Officer, the project sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the qualified archeological consultants list.
>
> The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the Environmental Review Officer for review and comment and shall be considered draft reports subject to revision until final approval by the Environmental Review Officer. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of

[39] San Francisco Planning Department, *Preliminary Archeological Review: 530 Sansome Street*, October 5, 2020. Unless otherwise noted, the site description is based on this preliminary review.
[40] Ibid.

the project for up to a maximum of four weeks. At the direction of the Environmental Review Officer, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means for reducing potential effects on a significant archeological resource, as defined in CEQA Guidelines sections 15064.5 (a) and (c) to a less-than-significant level.

Consultation with Descendant Communities. On discovery of an archeological site associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative of the descendant group and the Environmental Review Officer shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the Environmental Review Officer regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the final archeological resources report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the Environmental Review Officer for review and approval an archeological testing plan. The archeological testing program shall be conducted in accordance with the approved archeological testing plan.

Testing shall include monitoring of basement demolition, trenching from the base of basement to 20 feet for historical resources and coring to Old Bay Clay to test for submerged resources.

The archeological testing plan shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the Environmental Review Officer. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the Environmental Review Officer in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include preservation in place, additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the Environmental Review Officer or the planning department archeologist.

If the Environmental Review Officer determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, the Environmental Review Officer, in consultation with the project sponsor shall determine whether preservation of the resource in place is feasible. If so, the proposed project shall be redesigned so as to avoid any adverse effect on the significant archeological resource. If preservation in place is not feasible, a data recovery program shall be implemented, unless the Environmental Review Officer determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the Environmental Review Officer in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall include, at a minimum, the following provisions:

- The archeological consultant, project sponsor, and Environmental Review Officer shall meet and consult on the scope of the archeological monitoring program reasonably prior to any project-related soils disturbing activities commencing. The Environmental Review Officer in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;
- The archeological consultant shall undertake a worker training program for soil-disturbing workers that will include an overview of expected resource(s), how to identify the evidence of the expected resource(s), and the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the Environmental Review Officer until the Environmental Review Officer has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, irrespective of whether an archeologist is present, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the Environmental Review Officer of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the Environmental Review Officer.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the Environmental Review Officer.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan. The archeological consultant, project sponsor, and Environmental Review Officer shall meet and consult on the scope of the archeological data recovery plan prior to preparation of a draft archeological data recovery plan. The archeological consultant shall submit a draft archeological data recovery plan to the Environmental Review Officer. The archeological data recovery plan shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan will identify what scientific/historical research

questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the archeological data recovery plan shall include the following elements:

- Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations.
- Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures.
- Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies.
- Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- Final Report. Description of proposed report format and distribution of results.
- Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco and, in the event of the medical examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission, which will appoint a most likely descendant. The most likely descendant will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98). The Environmental Review Officer also shall be notified immediately upon the discovery of human remains.

The project sponsor and Environmental Review Officer shall make all reasonable efforts to develop a Burial Agreement ("Agreement") with the most likely descendant, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and associated or unassociated funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). The Agreement shall take into consideration the appropriate excavation, removal, recordation, scientific analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the most likely descendant agrees to scientific analyses of the remains and/or associated or unassociated funerary objects, the archeological consultant shall retain possession of the remains and associated or unassociated funerary objects until completion of any such analyses, after which the remains and associated or unassociated funerary objects shall be reinterred or curated as specified in the Agreement.

Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the Environmental Review Officer to accept treatment recommendations of the most likely descendant. However, if the Environmental Review Officer, project sponsor and most likely descendant are unable to reach an Agreement on scientific treatment of the remains and associated or unassociated funerary objects, the Environmental Review Officer, with cooperation of the project sponsor, shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance.

Treatment of historic-period human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity, additionally, shall follow protocols laid out in the project's archeological treatment documents, and in any related agreement established between the project sponsor, medical examiner and the Environmental Review Officer.

Final Archeological Resources Report. The archeological consultant shall submit a final archeological resources report to the Environmental Review Officer that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. The final archeological resources report shall include a curation and deaccession plan for all recovered cultural materials. The final archeological resources report shall also include an Interpretation Plan for public interpretation of all significant archeological features.

Copies of the final archeological resources report shall be sent to the Environmental Review Officer for review and approval. Once approved by the Environmental Review Officer, the consultant shall also prepare a public distribution version of the final archeological resources report. Copies of the final archeological resources report shall be distributed as follows: California Archeological Site Survey Northwest Information Center shall receive one (1) copy and the Environmental Review Officer shall receive a copy of the transmittal of the final archeological resources report to the Northwest Information Center. The Environmental Planning Division of the planning department shall receive one bound and one unlocked, searchable PDF copy on CD of the final archeological resources report along with copies of any formal site recordation forms (California Department of Parks and Recreation 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of public interest in or the high interpretive value of the resource, the Environmental Review Officer may require a different or additional final report content, format, and distribution than that presented above.

With implementation of Mitigation Measure M-CR-2, the impact on prehistoric or historical archeological resources from construction of the proposed project or residential variant would be ***less than significant with mitigation***.

Impact CR-4: The proposed project and residential variant could disturb human remains, including those interred outside of formal cemeteries. ***(Less than Significant with Mitigation)***

There are no known or suspected human remains, including those interred outside of formal cemeteries, located in the immediate vicinity of the project site. In the unlikely event that human remains are encountered during construction, any inadvertent damage to human remains would be considered a significant impact. Mitigation Measure M-CR-2, Archeological Testing, includes the required procedures to

address, protect, and treat human remains should any be discovered during construction. With implementation of Mitigation Measure M-CR-2, as described above, the proposed project and residential variant's impacts on human remains would be ***less than significant with mitigation***.

Impact C-CR-1: The proposed project or residential variant, in combination with cumulative projects, would result in demolition and/or alteration of a historical resource, as defined in CEQA Guidelines section 15064.5. ***(Less than Significant)***

Table 3, p. 36, and mapped on Figure 24, p. 38, identifies development projects located within a 0.25-mile radius of the project site. These include alterations to historical resources at 900 Sansome and 400 California streets. The building at 900 Sansome Street is located within the Northeast Waterfront (an article 10 landmark district), and that project would renovate and change the use of a historic parking garage to an office building while rehabilitating the building envelope. The 400 California Street project would convert ground-floor space in the Bank of America Building (San Francisco Landmark No. 3 and a category I significant building under article 11 of the planning code) and the addition at 430 California Street (determined individually eligible for listing on the California register) to office space. The planning department determined that the project conforms with the Secretary of the Interior's Standards for Rehabilitation and would therefore result in no adverse impact to historic architectural resources.[41]

One additional project is considered in this analysis, which includes alterations of the Embarcadero Center's four office tower lobbies. These alterations were found to be consistent with the Secretary of the Interior's Standards for Rehabilitation and therefore did not result in a significant adverse impact on the Embarcadero Center Historic District.[42] In addition, none of the cumulative development projects are located within the boundaries of the discontiguous Embarcadero Center Historic District. Based on the above analysis, the planning department has determined that the concentration of cumulative projects would not affect historic fabric or character such that the Embarcadero Center Historic District would no longer be eligible for listing on the California register. Also, as discussed above under Impact CR-2, the proposed project or residential variant, which would demolish one district contributor and relocate one district contributor, would result in a less-than-significant impact on the Embarcadero Center Historic District. Therefore, the proposed project or residential variant would not contribute to a substantial adverse cumulative change to the Embarcadero Center Historic District and cumulative impacts would be less than significant. The Embarcadero Center lobby project, 900 Sansome Street project, and 400 California Street project would not result in direct or indirect impacts to the sculpture *Untitled*, which is an individual historical resource that would be relocated within the project site as part of the proposed project. Therefore, cumulative impacts would be less than significant.

As described under Impact CR-1, construction activities could generate vibration that can potentially damage the building at 447 Battery Street, the closest historic structure to the project site. With the exception of the 447 Battery Street project, no other cumulative projects would be within 25 feet of the project site such that construction vibration impacts would damage historic structures. Under cumulative conditions, the 447 Battery Street project would demolish the existing historic building and construct a new hotel building with ground-floor retail. As such, the 447 Battery Street project would not be a historic building under cumulative conditions. Therefore, the proposed project or residential variant would not combine with cumulative projects to create a significant impact on historic resources. Therefore, cumulative impacts would be ***less than significant***.

[41] San Francisco Planning Department, *Preservation Team Review Form: 430 California Street (Block 0239 / Lot 029)*, June 12, 2018.
[42] San Francisco Planning Department, *Historic Resource Evaluation Response Part II: 530 Sansome Street,* December 18, 2020.

Impact C-CR-2: The proposed project and residential variant, in combination with cumulative projects, would not result in significant cumulative impacts archeological resources and human remains. ***(Less than Significant)***

Project-related impacts on archeological resources and human remains are site-specific and generally limited to a project's construction area. For these reasons, the proposed project and residential variant, in combination with other reasonably foreseeable future projects, would not have a significant cumulative impact on archeological resources or human remains. This impact would be ***less than significant***.

---

4. Tribal Cultural Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
4. TRIBAL CULTURAL RESOURCES. Would the project:					
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐	☐

Impact TCR-1: The proposed project or residential variant could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074. ***(Less than Significant with Mitigation)***

Pursuant to CEQA section 21074, tribal cultural resources are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either (a) included or determined to be eligible for inclusion in the California register or (b) included in a local register of historical resources as defined in CEQA section 5020.1(k).

Pursuant to CEQA section 21080.3.1(d), on November 9, 2020, the planning department contacted Native American individuals and organizations for the San Francisco area, providing a description of the proposed project and residential variant and requesting comments on the identification, presence, and significance of tribal cultural resources in the project vicinity.[43] During the 30-day comment period, no Native American tribal representatives contacted the planning department to request consultation.

Based on discussions with Native American tribal representatives, in San Francisco, prehistoric archeological resources are presumed to be potential tribal cultural resources. A tribal cultural resource is adversely affected when a project impacts its significance. As noted under Impact CR-2, the proposed project or residential variant has potential for buried prehistoric archeological resources below the existing basement level.

However, as discussed under Impact CR-2, a disturbance of previously unidentified archeological resources, which is presumed to be a tribal cultural resource, would be considered a significant impact. If a potential tribal cultural resource is discovered during construction, the project sponsor would be required to implement **Mitigation Measure M-TCR-1: Tribal Cultural Resources Archeological Resource Preservation Plan and/or Interpretive Program**.

> **Mitigation Measure M-TCR-1: Tribal Cultural Resources Archeological Resource Preservation Plan and/or Interpretive Program**
>
> In the event of the discovery of an archeological resource of Native American origin, the Environmental Review Officer, the project sponsor, and the tribal representative, shall consult to determine whether preservation in place would be feasible and effective. If it is determined that preservation-in-place of the tribal cultural resource would be both feasible and effective, then the archeological consultant shall prepare an archeological resource preservation plan, which shall be implemented by the project sponsor during construction. If the ERO in consultation with the project sponsor and the tribal representative determines that preservation–in–place of the TCR is not a sufficient or feasible option, then archeological data recovery shall be implemented as required by the ERO in consultation with tribal representative. In addition, the project sponsor shall prepare an interpretive program of the TCR in consultation with affiliated Native American tribal representatives. The plan shall identify proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists' oral histories with local Native Americans, cultural displays and interpretation, and educational panels or other informational displays. Upon approval by the ERO and the tribal representative, and prior to project occupancy, the interpretive program shall be implemented by the project sponsor.

Implementation of Mitigation Measure M-TCR-1 would require the appropriate involvement of concerned Native Americans in the treatment of tribal cultural resources discovered during construction and ensure that any such resource would be preserved, or that the information it represents would be preserved and interpreted to the public. These steps would ensure that project excavation would not cause a substantial adverse change in the significance of tribal cultural resources that could be encountered during construction, and that the proposed project or residential variant's impact would be ***less than significant with mitigation***.

[43] San Francisco Planning Department, *Tribal Notification Regarding Tribal Cultural Resources and CEQA,* November 9, 2020.

Impact C-TCR-1: The proposed project or residential variant, in combination with cumulative projects, would not result in significant cumulative impacts to tribal cultural resources. ***(Less than Significant)***

Project-related impacts on tribal cultural resources are site-specific and generally limited to a project's construction area. For these reasons, the proposed project or residential variant, in combination with other reasonably foreseeable future projects, would not have a significant cumulative impact on tribal cultural resources. Therefore, this impact would be less than significant, and no mitigation measures are required.

---

5. Transportation and Circulation

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
5. TRANSPORTATION AND CIRCULATION. Would the project:					
a) Involve construction that would require a substantially extended duration or intensive activity, the effects of which would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling; or substantially delay public transit?	☐	☐	☒	☐	☐
b) Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations?	☐	☐	☒	☐	☐
c) Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access?	☐	☐	☒	☐	☐
d) Substantially delay public transit?	☐	☐	☒	☐	☐
e) Cause substantial additional vehicle miles travelled or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network?	☐	☐	☒	☐	☐
f) Result in a loading deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or substantially delay public transit?	☐	☐	☒	☐	☐

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
g) Result in a substantial vehicular parking deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving; or interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles; or substantially delay public transit?	☐	☐	☐	☐	☒

The discussion of transportation and circulation impacts provided below is based on the transportation study prepared for the proposed project and residential variant, which is included as Appendix B to this initial study.[44]

The proposed project or residential variant would satisfy the eligibility criteria for a "transit-oriented infill project" under CEQA section 21099(d)(1) because it would consist of residential, mixed-use residential, or employment center uses; would be located on an infill site; and would be located within a transit priority area.[45] Therefore, the proposed project and residential variant would be exempt from an analysis of impacts on (automobile) parking under CEQA. Furthermore, the proposed project and residential variant would meet the map-based screening criterion for VMT impacts as discussed below, thereby exempting it from analyzing secondary impacts related to parking, including potentially hazardous conditions for people walking, bicycling, or driving; interference with accessibility for people walking or bicycling; inadequate access for emergency vehicles; and substantial delay for public transit. For these reasons, topic E.5(g) is not applicable to the proposed project and residential variant and is not discussed further in this initial study.

TRANSPORTATION SETTING

The transportation study area includes the block and adjacent intersections bordered by Washington Street to the north, Clay Street to the south, Sansome Street to the west, and Battery Street to the east. Access to the project site by transit, on foot, or by bicycle is available from existing bus transit services, sidewalks, streets, and crosswalks near the site.

The proposed project or residential variant is estimated to be operational in 2024. The long-term effects of the ongoing COVID-19 pandemic on the transportation system are unknown at this time. Thus, it would be unreasonable to speculate how the transportation system and travel behavior could change in the future at the time the proposed project or residential variant is operational. For these reasons, the analysis in this initial study relies on transportation data and conditions prior to COVID-19 to establish existing conditions near the project site and estimate the proposed project and residential variant's travel demand.

Intersection counts were collected on August 23, 2017 during the p.m. peak period (4 p.m. to 6 p.m.) at intersections located within the proposed project transportation study area as part of the adjacent 447

[44] Fehr & Peers, *530 Sansome Street Transportation Study*, April 2, 2021.
[45] San Francisco Planning Department, *Eligibility Checklist: CEQA section 21099 Modernization of Transportation Analysis*, March 19, 2021.

Battery Street project.[46,47] The study area intersections for these counts are: Battery and Washington streets, Battery and Clay streets, Sansome and Washington streets, and Sansome and Clay streets. In addition to the observations conducted on August 23, 2017, a qualitative evaluation of existing conditions was conducted during a site visit on November 24, 2020.

Roadways. Battery Street is designated as a secondary arterial roadway in the San Francisco General Plan and a Downtown Commercial street in the Better Streets Plan, oriented in the north–south direction, running between The Embarcadero/Lombard Street and Market Street/Bush Street. Sansome Street is a secondary arterial roadway and a Downtown Commercial street, oriented in the north–south direction, running between The Embarcadero/ Chestnut Street and Sutter Street/Market Street. Washington Street is a major arterial and a Downtown Commercial street, oriented in the east–west direction, running between The Embarcadero along the northeast waterfront and Arguello Boulevard in Presidio Heights and passing through the Financial District, Chinatown, Nob Hill, and Pacific Heights. Clay Street is a Major Arterial and a Downtown Commercial street, oriented in the east–west direction, running between Drumm Street in the Financial District and Arguello Boulevard in Presidio Heights, passing through Chinatown, Nob Hill, and Pacific Heights. Merchant Street does not have a San Francisco General Plan designation, but is designated as an alley in the Better Streets Plan and is oriented in the east–west direction, running between Battery and Kearny streets. An intermediate segment of Merchant Street east of the project site was vacated with development of the Transamerica Pyramid meaning the street now consists of two unconnected segments.

During the p.m. peak hour, vehicle volumes are similar along all four streets adjacent to the block the project site is located on: Washington Street, Clay Street, Battery Street, and Sansome Street. During the p.m. peak hour, Washington Street was observed to carry the lowest traffic volumes (450 to 550 vehicles), while vehicles Battery Street was observed to carry the highest traffic volumes (850 to 950 vehicles) A keep clear zone on Sansome Street in front of Fire Station 13 maintains unobstructed access by the fire department during periods of heavy traffic. Vehicle queues were not observed to extend between intersections within the study area. The observed number of heavy vehicles (i.e., trucks), as a percentage of overall traffic volume at study intersections in the p.m. peak varies from less than five percent on Battery and Washington streets to 10 to 25 percent on Sansome Street (10 percent in the northbound direction and 25 percent in the southbound direction).

Bicycle Facilities. The study area is crossed by a class III (shared lanes) bicycle route couplet.[48] The northbound route of this couplet travels north on Sansome Street and turns to the west at Washington Street adjacent to the project site. The southbound route of this couplet travels east on Clay Street before turning to the south at Battery Street. This bicycle route serves as the primary north-south route through the Financial District, connecting bicycle facilities on Market Street to the south with facilities on Columbus Street to the north. Southbound Sansome Street is marked with pavement markings (sharrows) and is part

[46] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036E), November 7, 2019. This document is available online at https://citypln-m-extnl.sfgov.org/External/link.ashx?Action=Download&ObjectVersion=-1&vault={A4A7DACD-B0DC-4322-BD29-F6F07103C6E0}&objectGUID={2A39FBF6-DCCF-4D24-B735-0E200C90D4AB}&fileGUID={3D254775-5135-4B3E-A91E-C957CAE52731}.

[47] The counts and observations obtained for the 447 Battery Street project are used to represent conditions prior to the start of the ongoing COVID-19 pandemic, which has temporarily altered transportation and circulation operations and patterns. While the 3 to 7 p.m. period is outlined in the 2019 Guidelines as the p.m. peak period, the transportation impact study prepared for the proposed project was limited to the availability of counts and observations representing pre-COVID conditions from the 447 Battery Street Transportation Impact Study Final Report (Case No. 2014-1036E).

[48] A bicycle route couplet is a pair of lines that work together. In this case, Sansome and Battery streets move cyclists northbound and southbound, respectively.

of the San Francisco Bicycle Network.[49] This bicycle route provides a route for cyclists on a roadway where only buses, taxis, and commercial vehicles are permitted between 7 a.m. and 8 p.m. every day.

Pedestrian Facilities. All streets in the project vicinity have complete sidewalks on both sides of the street, including the four street segments adjacent to the project site. The typical sidewalk width is approximately 10.5 feet along Battery, Sansome, and Washington streets, and 5.5 feet along Merchant Street. The effective widths of the sidewalks are reduced in some locations by several feet due to the presence of parking meters, signage, streetlights, utility poles, trash receptacles, street trees and planters, and other obstructions; however, there is a 4-foot-wide minimum pathway provided on Battery, Sansome, and Washington streets, as required by the Americans with Disabilities Act (ADA). The four study area intersections bounding the block containing the project site are signalized and feature marked crosswalks on all legs of the intersections. The intersections of Sansome and Merchant street and Battery and Merchant street have no crosswalks and no permitted mid-block crossing of the respective major streets.

Transit. The project site is at the northern edge of the Financial District and served by both local and regional transit services. Primary public transit access to the project site is provided by Muni bus service. Muni operates six bus routes (1-California, 10-Townsend, 12-Folsom-Pacific, 41-Union, 30X-Marina Express, and 82X-Levi Plaza Express) in the vicinity of the project site: three all-day routes and three peak-only routes. Additional service is provided by Golden Gate Transit buses during peak periods. Golden Gate Transit operates 16 peak period-only routes along Sansome and Battery streets, with service to Marin and Sonoma Counties. As a result of the COVID-19 pandemic, Muni, Golden Gate Transit, and other regional transit providers have temporarily suspended or reduced service.[50]

The East Bay, Peninsula, and South Bay are accessible via Muni connections, walking, or bicycling to stops on Market Street and to the south serving AC Transit (East Bay), WestCAT (East Bay), BART (East Bay and Peninsula), Caltrain (Peninsula and South Bay) and SamTrans (Peninsula).

In addition to the public transit services described above, privately-operated commuter shuttles managed by San Francisco Municipal Transportation Agency (SFMTA) under the Commuter Shuttle Program operate in the Financial District. While there are no designated commuter shuttle stops in the vicinity of the project site, commuter shuttles, both large motor coaches and smaller vans, were observed traveling on Battery Street and other nearby streets in 2017 as part of data collection for the adjacent 447 Battery Street project.[51]

Emergency Access. As described in Section A, *Project Description*, p. 1, Fire Station 13 is located within the project site, on the east side of Sansome Street between Washington and Merchant streets. The project site is located within the Central District of the San Francisco Police Department (police department), and the nearest police station is located on Vallejo Street, between Stockton and Powell streets, approximately 0.6 mile from the project site. All four local roadways providing access to the project site accommodate emergency vehicle access, and Sansome and Battery streets provide important north-south routes through the Financial District for emergency vehicles. While Merchant Street meets the minimum requirements specified by the fire department's Division of Planning and Research, larger vehicles may have difficulty accessing it and deploying necessary apparatus.

[49] San Francisco Bicycle Network Map. Available https://www.sfmta.com/maps/san-francisco-bike-network-map, accessed March 2021.
[50] COVID-19 service suspensions and reductions were in effect as of April 2021.
[51] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036E), November 7, 2019. This document is available online at https://citypln-m-extnl.sfgov.org/External/link.ashx?Action=Download&ObjectVersion=-1&vault={A4A7DACD-B0DC-4322-BD29-F6F07103C6E0}&objectGUID={2A39FBF6-DCCF-4D24-B735-0E200C90D4AB}&fileGUID={3D254775-5135-4B3E-A91E-C957CAE52731}.

Loading. There are several on-street commercial loading (yellow) zones on the block faces surrounding the project site, but no on-street passenger loading (white) zones. Two commercial loading spaces are on Washington Street, one space on Sansome Street, seven spaces along the north side of Merchant Street, and four spaces along Battery Street. Additional on-street commercial loading is available on the west side of Sansome Street north and south of the project site, on the west side of Battery Street south of the project site, and on Washington Street to the west of Sansome Street. All of these spaces are metered and marked with yellow curb paint and with either yellow-topped meters (for standard commercial vehicles), or red-topped (for vehicles with six wheels or more). These spaces are restricted to commercial loading between 7 a.m. and 6 p.m. Mondays through Saturdays.

Field observations of loading conditions conducted as part of the adjacent 447 Battery Street project[52] in May 2017 found that overall utilization of commercial loading spaces adjacent to the project site was 50 percent, of which 6 percent was by commercial loading activities. The majority of the utilization was by transportation network company (TNC) pick-up and drop-off and general parking.

VEHICLE MILES TRAVELED IN SAN FRANCISCO AND BAY AREA

Many factors affect travel behavior. These factors include density, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development at great distance from other land uses, located in areas with poor access to non-private vehicular modes of travel, generates more automobile travel compared to development located in urban areas, where a higher density, mix of land uses, and travel options other than private vehicles are available.

Given these travel behavior factors, San Francisco has a lower vehicle miles traveled (VMT) ratio than the nine-county San Francisco Bay Area region. In addition, some areas of the city have lower VMT ratios than other areas of the city. These areas of the city can be expressed geographically through transportation analysis zones (TAZs). TAZs are used in transportation planning models for transportation analysis and other planning purposes. The zones vary in size from single city blocks in the downtown core, multiple blocks in outer neighborhoods, to even larger zones in historically industrial areas like the Hunters Point Shipyard.

The San Francisco County Transportation Authority (the transportation authority) uses the San Francisco Chained Activity Model Process (SF-CHAMP) to estimate VMT by private automobiles and taxis for different land use types. The SF-CHAMP model is a regional travel demand forecasting model that assigns all predicted trips within, across, or to or from San Francisco onto the roadway network and the public transit system. Travel behavior in SF-CHAMP is calibrated based on observed behavior from the California Household Travel Survey, census data regarding automobile ownership rates and county-to-county worker flows, and observed vehicle counts and transit boardings. SF-CHAMP uses a synthetic population, which is a set of individual actors that represents the Bay Area's actual population, who make simulated travel decisions for a complete day.

The model estimates daily VMT for residential, office, and retail land use types. For residential and office uses, the transportation authority uses a tour-based analysis, which examines the entire chain of trips over the course of a day, not simply trips to and from a site. For retail uses, the transportation authority uses a

[52] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036E), November 7, 2019. This document is available online at https://citypln-m-extnl.sfgov.org/External/link.ashx?Action=Download&ObjectVersion=-1&vault={A4A7DACD-B0DC-4322-BD29-F6F07103C6E0}&objectGUID={2A39FBF6-DCCF-4D24-B735-0E200C90D4AB}&fileGUID={3D254775-5135-4B3E-A91E-C957CAE52731}.

trip-based analysis, which counts VMT from individual trips to and from the project site (as opposed to an entire chain of trips). A trip-based approach, as opposed to a tour-based approach, is necessary for retail projects because a tour is likely to consist of trips stopping in multiple locations, and the summarizing of tour VMT to each location would overestimate VMT.[53,54,55]

For residential development, the existing regional average daily VMT per capita is 17.2. For office development, the existing regional average VMT per employee is 19.1. For retail development, the existing regional average daily VMT per capita is 14.8.[56]

VEHICLE MILES TRAVELED ANALYSIS METHODOLOGY

Land use projects may cause substantial additional VMT. The following identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VMT metric.

Pursuant to the 2019 San Francisco Transportation Impact Analysis Guidelines (SF Guidelines),[57] for residential projects, a project would generate substantial additional VMT if it exceeds the regional household VMT per capita minus 15 percent. For office projects, a project would generate substantial additional VMT if it exceeds the regional VMT per employee minus 15 percent. As documented in the December 2018 California Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (technical advisory), [58,59] a 15 percent threshold below existing development is "both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals." For retail projects, the planning department uses a VMT efficiency metric approach: a project would generate substantial additional VMT if it exceeds the regional VMT per retail employee minus 15 percent. This approach is consistent with CEQA section 21099 and the thresholds of significance for other land uses recommended in OPR's technical advisory. For mixed-use projects, each proposed land use is evaluated independently.

OPR's technical advisory provides screening criteria to identify types, characteristics, or locations of land use projects that would not exceed these VMT thresholds of significance. OPR recommends that if a project or land use proposed as part of the project meets any of the below screening criteria, then VMT impacts are presumed

---

[53] San Francisco Planning Department, Executive Summary: Resolution Modifying Transportation Impact Analysis, Appendix F, Attachment A, March 3, 2016.
[54] To state it another way, a tour-based assessment of VMT at a retail site would consider the VMT for all trips in the tour, for any tour with a stop at the retail site. If a single tour stops at two retail locations, for example, a coffee shop on the way to work and a restaurant on the way back home, then both retail locations would be allotted the total tour VMT. A trip-based approach allows us to apportion all retail-related VMT to retail sites without double-counting.
[55] Retail travel is not explicitly captured in San Francisco chained activity modeling process; rather, there is a generic "Other" purpose which includes retail shopping, medical appointments, visiting friends or family, and all other non-work, non-school tours. The retail efficiency metric captures all of the "Other" purpose travel generated by Bay Area households. The denominator of employment (including retail; cultural, institutional, and educational; and medical employment; school enrollment, and number of households) represents the size, or attraction, of the zone for this type of "Other" purpose travel.
[56] San Francisco Planning Department, *San Francisco Transportation Information Map*, Available: https://sfplanninggis.org/TIM/, Accessed: February 2020. Note: Regional values on the website are given as VMT minus 15 percent, the values stated here are the total regional values
[57] On February 14, 2019, the planning department published a comprehensive update to the 2002 Transportation Impact Analysis Guidelines for Environmental Review. This document was updated in October 2019 and is available online at https://sfplanning.org/project/transportation-impact-analysis-guidelines-environmental-review-update#impact-analysis-guidelines.
[58] OPR, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018, available online at: https://www.opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf, Accessed April 2021.
[59] OPR's technical advisory states that a project would cause substantial additional VMT if it exceeds both the existing city household VMT per capita minus 15 percent and existing regional household VMT per capita minus 15 percent. In San Francisco, the city's average VMT per capita is lower (8.4) than the regional average (17.2). Therefore, the city average is irrelevant for the purposes of the analysis.

to be less than significant for that land use and a detailed VMT analysis is not required. These screening criteria and how they are applied in San Francisco are described below:

- *Map-Based Screening for Residential and Retail Projects.* OPR recommends mapping areas that exhibit where VMT is less than the applicable threshold for that land use. Accordingly, the transportation authority has developed maps depicting existing VMT levels in San Francisco for residential and retail land uses based on the SF-CHAMP 2012 base-year model run. The planning department uses these maps and associated data to determine whether a proposed project is located in an area of the city that is below the VMT threshold.
- *Proximity to Transit Stations.* OPR recommends that residential and retail projects, as well as projects that are a mix of these uses, proposed within 0.5 mile of an existing major transit stop (as defined by CEQA Guidelines section 21064.3) or an existing stop along a high quality transit corridor (as defined by CEQA Guidelines section 21155) would not result in a substantial increase in VMT. However, this presumption would not apply if the project would: (1) have a floor area ratio of less than 0.75; (2) include more parking for use by residents, customers, or employees of the project than required or allowed, without a conditional use; or (3) is inconsistent with the applicable sustainable communities strategy.

OPR's technical advisory does not provide screening criteria or thresholds of significance for other types of land uses, other than those projects that meet the definition of a small project.[60] Therefore, the Planning Department provides additional screening criteria and thresholds of significance to determine if land uses similar in function to residential and retail would generate a substantial increase in VMT. These screening criteria and thresholds of significance are consistent with CEQA section 21099 and the screening criteria recommended in OPR's technical advisory.

AVERAGE DAILY VEHICLE MILES TRAVELED SUMMARY

Table 4 presents the existing average daily VMT per capita for residents for the nine-county San Francisco Bay Area and for TAZ 804, the zone in which the project site is located. The existing average daily VMT per capita for residential uses in TAZ 804 (2.5 miles) is approximately 85 percent lower than the regional Bay Area average (17.2 miles). The existing average daily VMT per employee for office uses in TAZ 804 (7.9 miles) is approximately 59 percent lower than the regional Bay Area average (19.1 miles). The existing average daily VMT per employee for retail uses in TAZ 804 (8.7 miles) is approximately 41 percent lower than the regional Bay Area average (14.8 miles).

Table 4 Average Daily Vehicle Miles Traveled in TAZ 804 (Existing)

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Significance Threshold)	TAZ 804
Residential	17.2	14.6	2.5
Office	19.1	16.2	7.9
Retail	14.8	12.6	8.7

SOURCE: San Francisco Planning Department, *San Francisco Transportation Information Map*, 2019.

[60] OPR recommends that lead agencies may generally assume that a project would not have significant VMT impacts if the project would generate fewer trips than the level for studying consistency with the applicable congestion management program or, where the applicable congestion management program does not provide such a level, fewer than 100 vehicle-trips per day. The SFCTA's *Congestion Management Program* (December 2015) does not include a trip threshold for studying consistency. Therefore, the Planning Department uses a screening criterion of fewer than 100 vehicle-trips per day for projects that are generally assumed to generate an increase in VMT that is not substantial.

PROJECT TRAVEL DEMAND

The proposed project or residential variant would meet the criteria for map-based screening of residential, office, and retail projects; and proximity to transit stations. Retail is presented as a proxy for the proposed project's gym and restaurant land uses as they would provide an amenity to residents, employees, and visitors in downtown San Francisco in a similar manner to retail services. Due to the density of complementary land uses and high transit accessibility to the project site, they would generate substantially less VMT compared to the rest of the region. For similar reasons, the visitors and employees of the hotel would reflect the travel characteristics of retail and office space, with substantially lower VMT than the significance threshold. Therefore, potential transportation impacts are determined under the VMT analysis. In addition, no improvements are proposed that require an induced automobile travel analysis. Localized daily and p.m. peak period trip generation for the proposed project and the residential variant were calculated using a trip-based analysis and information included in the SF Guidelines.[61] These trips are summarized in **Table 5**. Trip generation refers to the number of estimated trips people would take to and from the project site (person trips). These trips are broken down by mode, or the estimated way or method people travel (e.g., walking, bicycling, transit). Auto trips are further broken down into vehicle trips, which account for average vehicle occupancy in the census tract in which the project site is located.

Table 5 Proposed Project and Residential Variant Travel Demand

	Proposed Project				Residential Variant			
	Person Trips		Vehicle Trips		Person Trips		Vehicle Trips	
Mode	Daily	PM Peak Period	Daily	PM Peak Period	Daily	PM Peak Period	Daily	PM Peak Period
Auto	856	87	564	55	392	35	259	23
TNC/Taxi	571	50	352	31	94	8	63	5
Transit	1,302	148			438	39		
Walk	3,435	358			595	53		
Bike[a]	226	22			47	4		
Total	**6,390**	**665**	**916**	**86**	**1,566**	**139**	**322**	**28**

SOURCES: SF Guidelines, 2019, SF Planning Department; Fehr & Peers, 2021

[a] Daily and p.m. peak hour trip generation rates are based on 2019 SF Guidelines for residential, office, and retail/restaurant, and on 2002 SF Guidelines for the fitness center.

As shown in Table 5, the proposed project would generate 6,390 person trips on a daily basis and 665 person trips during the weekday p.m. peak hour. Of those trips, approximately 916 daily and 86 p.m. peak hour trips would be vehicle trips (i.e., auto, TNC/taxi). The residential variant would generate 1,566 person trips on a daily basis and 139 person trips during the weekday p.m. peak hour. Of those trips, approximately 322 daily and 28 p.m. peak hour trips would be vehicle trips (i.e., auto, TNC/taxi).

[61] San Francisco Planning Department, Travel Demand Tool, https://sftraveldemand.sfcta.org/, accessed September 28, 2020.

TRANSPORTATION IMPACTS

San Francisco Administrative Code chapter 31 directs the department to identify environmental effects of a project using as its base the environmental checklist form set forth in CEQA Guidelines Appendix G. As it relates to transportation and circulation, Appendix G asks whether the project would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses; and
- Result in inadequate emergency access.

The department uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist. The department separates the significance criteria into construction and operation.

CONSTRUCTION

Construction of the proposed project or residential variant would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with accessibility for people walking or bicycling or substantially delay public transit.

OPERATION

The operational impact analysis addresses the following five significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations;
- Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access;
- Substantially delay public transit;
- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network; or
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit.

PROJECT-LEVEL TRANSPORTATION IMPACTS

Impact TR-1: Construction of the proposed project or residential variant would not require a substantially extended duration or an intense activity, the effects of which would create potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations; would not interfere with emergency access or accessibility for people walking or bicycling; and would not substantially delay public transit. ***(Less than Significant)***

Construction of the proposed project or residential variant would take place over a period of approximately 29 months and would include site demolition, preparation, grading and excavation, pile installation, foundation construction, building construction, architectural coating, the installation of utilities, paving, interior finishing and exterior streetscape, hardscaping, and landscaping.

The San Francisco Regulations for Working in San Francisco Streets (the Blue Book)[62,63] contain regulations that are prepared and regularly updated by SFMTA under the authority derived from the San Francisco Transportation Code. The Blue Book serves as a guide for all city agencies (public works, SFMTA, public utilities commission, the port, etc.), utility crews, private contractors, and others who work in San Francisco's public rights-of-way. It establishes rules and guidance so that work can be done safely and with the least possible interference with people walking, bicycling, taking transit, or driving and/or transit operations. It also contains relevant general information, contact information, and procedures related to working in the public right-of-way when it is controlled by agencies other than SFMTA.

Prior to construction of the proposed project or residential variant the project sponsor and/or construction contractor(s) would be required to meet with public works and SFMTA staff to develop and review construction plans in preparation for obtaining relevant construction permits. This may include reviewing truck routing plans for the disposal of excavated materials, material delivery and storage, as well as staging for construction vehicles. If SFMTA determines that a construction project impacts transit routing or alters the flow of vehicle, bicycle, or pedestrian traffic, a logistic plan would be required so that SFMTA permit staff can confirm what permits from SFTMA or public works are required for the project.

Should the proposed project or residential variant's construction activities not comply with regulations in the Blue Book or the traffic routing specifications in the city contract or when two or more contractors work at a time on any one block,[64] the contractor would be required to apply for a special traffic permit from SFMTA prior to the commencement of on-site work. Some examples of circumstances when special traffic permits are required include, but are not limited to, closing a street or an alley, closing a sidewalk, closing or detouring a bicycle route, moving a bus zone outside the limits of the project, inability to provide the required number of lanes, and/or construction work occurring within one block of an existing construction site. As part of its review for special traffic permits, SFMTA, in coordination with public works, may include necessary measures in the special traffic permit to ensure the safety and accessibility of people walking, bicycling, driving, and public transit operations at or near the project site.

---

[62] San Francisco Municipal Transportation Agency, Regulations for Working in San Francisco Streets, 8th Edition, January 2012, https://www.sfmta.com/sites/default/files/reports-and-documents/2020/06/blue_book_8th_edition_6-23-20.pdf, accessed February 2021.
[63] The authority for the Blue Book comes from the San Francisco Transportation Code, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_transportation/0-0-0-2, accessed February 2021.
[64] San Francisco Municipal Transportation Agency, *Regulations for Working in San Francisco Streets, 8th Edition*, January 2012, https://www.sfmta.com/sites/default/files/reports-and documents/2020/06/blue_book_8th_edition_6-23-20.pdf, accessed February 2021.

If a special traffic permit is required, the project contractor may not commence construction activities until the permit is issued. A special traffic permit is issued for no more than 30 calendar days, after which the contractor is required to renew to perform further construction activities.[65] SFMTA may refuse to issue, extend, or revoke a special traffic permit depending on transportation network conditions at or near the project site. Penalties may be assessed for violating the terms of a special traffic permit and/or the regulations described in the Blue Book or failing to obtain a special traffic permit when one is required. Additional penalty or six months in jail or both may be applied for the fourth and subsequent violations in a 12-month period.[66]

In addition to the regulations presented in the manual, all traffic control, warning and guidance devices must conform to the California Manual on Uniform Traffic Control Devices.[67]

The construction contractor would also be required to adhere to the San Francisco Public Works Code[68] and obtain all necessary permits for construction in the public-right-of-way. Specifically, the public works code section 724 requires that a property owner obtain a street space occupancy permit from public works for occupying any part of the fronting street or sidewalk for any purpose, including building construction operations. Section 724 also establishes requirements for the temporary occupation of the public right-of-way including, but not limited to, clearances for traffic-signal equipment, notice to all impacted fronting property owners, pedestrian clearances, construction worker parking plans in certain use districts, debris management, and clearances for San Francisco Fire Department equipment. Further, section 724 also requires that lights, barriers, barricades, signs, cones, and other devices be provided to ensure pedestrian and traffic safety.

The public works code section 2.4.20 addresses permits to excavate. For a permit for major work[69] or excavation that will affect the public right-of-way that is 30 consecutive calendar days or longer contractors are required to submit for public works review a contractor parking plan, including a proposal to reduce parking demand in the project site vicinity.

San Francisco Public Works Order No. 167,840,[70] identifies requirements related to the placement of various types of barricades at construction sites, such as A-frames, barrier caution tapes, fencing, and barricades around crosswalks. These requirements are intended to protect pedestrians near construction sites consistent with all local, state, and federal codes, including the Americans with Disabilities Act and California Building Code Title 24.

In addition to the regulations in the Blue Book and the public works code, the contractor would be responsible for complying with all city, state, and federal codes rules and regulations. These regulations include any requirements for work on public rights-of-way under the jurisdiction of the California Department of Transportation, the port, or the San Francisco Recreation and Park Department.

---

[65] Ibid.
[66] Ibid.
[67] California Manual on Uniform Traffic Control Devices (MUTCD) Rev 5, 2014, https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev-5/camutcd2014-rev5-a11y.pdf, assessed February 2021.
[68] San Francisco Public Works Code, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_publicworks/0-0-0-2, accessed February 2021.
[69] The public corks code section 2.4.4 defines "major work" as any reasonably foreseeable excavation that will affect the public right-of-way for more than 15 consecutive calendar days.
[70] San Francisco Public Works. 2008. Guidelines for the Placement of Barricades at Construction Sites (Order No.167,840), http://sfpublicworks.org/sites/default/files/Guidelines_for_Placement_of_Barricades_0.pdf, accessed June 24, 2020.

All equipment staging is expected to occur on-site; however, due to the limited area available on site, intermittent sidewalk and/or lane closures along project frontages may be required for public safety and to permit equipment access. Given that specific details about sidewalk and lane closures are not available at this time, under a worst-case scenario (i.e., a most impactful scenario), sidewalks adjacent to the project site could be closed on Sansome, Washington, and Merchant streets simultaneously. The sidewalk closure on Washington Street would require removal of the parking lane on the south side of Washington Street to create a temporary sidewalk. The closure of the northern sidewalk on Merchant Street would require that people walk on the sidewalk on the south side of the alleyway. The closure of the eastern sidewalk on Sansome Street would require the temporary removal of the existing commercial loading spaces and closure of the northbound peak period (3 to 7 p.m.) tow-away lane.

Over the course of project construction, the entirety of Washington Street would be closed for a two-day period over a weekend for tower crane erection and then again for tower crane dismantling. The easternmost northbound lane of Sansome Street and the southernmost westbound lane of Washington Street would be closed for a one-day period during the mat foundation placement. During project construction, closures of those same travel lanes on Sansome and Washington streets could be necessary for two single-day periods for utility work. Nighttime closure of Merchant Street could be necessary on two separate days for utility work.

Additionally, during construction fire truck operations would be relocated from Fire Station 13 to nearby stations (i.e., Stations 2, 28, 35, or 41) and would continue to serve the Financial District. The relocation would not cause a substantial disruption to emergency response coverage as those stations would be able to accommodate Station 13 operations and services at maintained at existing levels.[71] Furthermore, the relocation of Station 13 operations would not require construction of any new facilities. The temporary relocation of fire vehicles and personnel to nearby stations is a part of routine operations for the fire department and would not represent a change to operations for the Station 13 service area.

The proposed project or residential variant would generate up to 60 trucks per day during excavation activities and approximately 20 trucks per day during the remaining phases of construction. Trucks would use Third and Kearny streets to reach Clay Street then Sansome Street to reach the project site. Trucks would access the site from Sansome or Washington streets, depending on where the construction is occurring. The proposed truck routes would be reviewed and approved by SFMTA to minimize conflicts and potentially hazardous conditions with other roadway users. The slower movement and larger turning radii of construction truck traffic may result in a temporary lessening of roadway capacities in the study area. Transit service may occasionally be temporarily delayed due to truck traffic in and out of the project site from Sansome Street; however, this level of truck traffic would not substantively delay public transit or result in hazardous conditions for people taking transit since trucks would be infrequent (average of five to six per hour) and would use streets designed to provide access to the existing fire station. Construction vehicles used for the proposed project or residential variant would not be substantially larger than the fire department vehicles. Thus, these streets are wide enough for construction vehicles to maneuver into and out of the project site.

The approximate average number of construction workers onsite by shift would be 120, with a maximum of 270 workers between December 2022 and April 2024 during the building construction and architectural

[71] DeWitt, Dawn, Assistant Deputy Chief, Support Services, San Francisco Fire Department, e-mail correspondence with Matt Goyne, PE, Senior Associate, Fehr & Peers, January 26, 2021.

coating phases. As required by public works code section 2.4.20, the project sponsor would be required to prepare a contractor parking plan that addresses changes in parking supply. However, because if parking shortfalls occur, they would be temporary in nature, variable depending on the construction activity, would occur prior to peak hours, and would be minimized by the contractor parking plan, the parking shortfalls would not substantially affect conditions for people walking, bicycling, or public transit. The addition of worker-related transit trips is similarly temporary, variable, and off-peak, and would not substantially affect transportation conditions.

Construction activities would comply with all applicable city codes and regulations, ensuring that such activities would not result in potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations; would not interfere with emergency access or accessibility for people walking or bicycling; and would not substantially delay public transit. Therefore, construction-related impacts of the proposed project or residential variant would be ***less than significant,*** and no mitigation measures would be required.

Impact TR-2: The proposed project or residential variant would not create potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations. ***(Less than Significant)***

The proposed project and residential variant would include design features that are consistent with the urban form of the surrounding blocks of the Financial District, which includes a mix of commercial, hotel, and residential uses with pedestrian-oriented frontages on major streets and parking garage entrances on minor streets or alleyways. As shown in Table 5, p. 73, the proposed project and residential variant would generate 86 and 28 p.m. peak hour vehicle trips, respectively. The only study area roadway designated as a part of the Vision Zero[72] network is Washington Street, from mid-block between Sansome and Battery streets extending to the west. This segment of Washington Street is not located adjacent to any substantial concentrations of vulnerable populations (e.g., children, seniors, people with disabilities). The proposed project and residential variant would add 25 and five vehicles to Washington Street during the p.m. peak hour, respectively. The proposed project or residential variant would also generate 22 and 4 people bicycling, respectively, during the p.m. peak period onto the surrounding roadway network. This level of automobile traffic (5 to 10 percent changes) and people bicycling would not represent a substantial increase in traffic nor result in potentially hazardous conditions along Washington Street or other surrounding streets. Further, the fire department's emergency vehicle access on Washington Street would include audible warnings to alert people walking and bicycling and would not substantially change the existing fire station activities and, therefore, would not result in potentially hazardous conditions along Washington Street or other surrounding streets.

In addition, the proposed project or residential variant would not alter the existing street grid, reconfigure the intersections near the project site, or introduce other physical features that would create potentially hazardous conditions for people driving, walking, or bicycling, or for public transit operations. Fire trucks exiting the project site onto Washington Street would use emergency sirens and lights to warn people walking and bicycling of vehicle activity. Moreover, the proposed project or residential variant would provide streetscape and sidewalk improvements along the block's street frontages in accordance with the San

[72] In 2014, the San Francisco Board of Supervisors adopted a resolution to implement an action plan that would reduce traffic fatalities to zero by 2024 through engineering, education, and enforcement (resolution 91-14). The numerous San Francisco agencies responsible for the action plan adopted similar resolutions. In 2017, the Board of Supervisors amended the Transportation and Urban Design elements of the San Francisco General Plan to implement Vision Zero (ordinance 175-17).

Francisco Better Streets Plan; streetscape improvements would include installation of a raised cross walk and roadway ramp at the intersection of Sansome and Merchant streets, and a bulb-out at the corner of Sansome and Washington streets. In addition, the proposed project or residential variant would convert a portion of Merchant Street into a shared street/living alley that would extend from Sansome Street to the eastern edge of the project site. Although Merchant Street would remain open to vehicles and would be used by the project for passenger loading during the p.m. peak period (3 p.m. to 7 p.m.), the proposed design would include a 14-foot-wide pedestrian-only zone along the northern edge of Merchant Street that would provide adequate separation from people walking and automobiles.

POPOS programming on Merchant Street would not introduce potentially hazardous conditions for people driving, walking, or bicycling, or for public transit operations due to the low roadway volumes during the mid-day period (when proposed changes to Merchant Street would occur). The shared street/living alley design of Merchant Street (which is part of both the proposed project and residential variant) would slow vehicles entering and exiting the project's parking garage accessible from Merchant Street. In addition, the proposed project or residential variant proposes to implement a driveway and loading operation plan. The proposed project's driveway and loading operation plan would complement the POPOS and would ensure that neither the driveway nor the POPOS would introduce potentially hazardous conditions for people walking, bicycling, or driving on Merchant Street. The residential variant's driveway and operation plan would complement the shared street/living alley streetscape improvements and would ensure that neither the driveway nor shared street improvements would introduce potentially hazardous conditions for people walking, bicycling, or driving on Merchant Street.

Based on the discussion above, the proposed project or residential variant would not exacerbate existing conditions or create a new potentially hazardous condition for people walking, bicycling, or driving, or public transit operations; impacts would be ***less than significant***, and no mitigation measures would be required.

Impact TR-3: The proposed project or residential variant would not interfere with accessibility for people walking or bicycling to and from the project site and adjoining areas or result in inadequate emergency access. ***(Less than Significant)***

As shown in Table 5, p. 73, the proposed project would generate a total of 564 private auto vehicle trips and 352 TNC/taxi vehicle trips, and would add 1,302 transit trips, 3,435 walk trips, and 226 person trips by bicycle on a daily basis. During the p.m. peak hour, the proposed project would generate an estimated 55 private auto vehicle trips, 31 TNC/taxi vehicle trips, 148 transit trips, 358 walking trips, and 22 person trips by bicycle. The residential variant would generate fewer daily trips than the proposed project, with a total of 259 private auto vehicle trips and 63 TNC/taxi vehicle trips daily, and 438 transit trips, 595 walk trips, and 47 person trips by bicycle. The residential variant would also generate fewer p.m. peak hour trips than the proposed project, with a total of 23 private auto vehicle trips and 5 TNC/taxi vehicle trips daily, and 39 transit trips, 53 walk trips, and 4 person trips by bicycle.

Pedestrian Facilities. As noted above in the *Transportation Setting* section, the pedestrian facilities on the roadways adjacent to the project site include adequate ADA facilities, and the proposed project or residential variant would increase the effective width of sidewalks for people walking along Sansome and Washington streets to a minimum 7.5-foot-wide pathway by relocating the existing obstructions. The proposed project or residential variant would increase the width of the portion of the Sansome Street sidewalk along the project frontage from 10.5 to 12 feet, and would not change the existing 10-foot-wide sidewalk along the project frontage on the south side Washington Street. While the proposed sidewalk width on Washington Street

along the project frontage does not meet Better Streets Plan standards, which requires a minimum 12 feet and recommended 15 feet width on typical commercial streets, the sidewalk width is sufficiently wide for to accommodate the existing levels of pedestrian activity (500 people walking at the corner of Sansome and Washington streets). The project would add approximately 500 additional people walking (including transit riders) to the surrounding sidewalks during the p.m. peak period, or up to 665 people walking when accounting for passenger loading activity and people who may be walking from nearby parking garages; the residential variant would add fewer people walking to the surrounding sidewalks: approximately 100 people walking (including transit riders) during the p.m. peak period, or up to 139 people walking (including passenger loading activity and people who may be walking from nearby parking garages). Most of these people would use Sansome Street or Merchant Street to access the primary entrances to the proposed building. As noted above, the proposed project or residential variant would increase the width of the Sansome Street sidewalk along the project frontage to 12 feet and provide a shared street on Merchant Street to accommodate the increased activity associated with people accessing the proposed building. Fewer people walking would use Washington Street; activity would be limited to the sidewalk on the south side of the street, which would serve people walking to and from destinations to the east of the project site. In general, the increased level of pedestrian activity on Sansome or Washington streets that would result from the proposed project or residential variant would be less than pedestrian activity levels at places such as the southwest corner of Sansome and Clay streets (1,400 people walking) and would be similar to nearby locations on Washington, Battery, and Clay streets, which have sidewalks similar in width to Sansome Street and currently have adequate capacity for people walking. Therefore, even with an increased level of pedestrian activity, the proposed project or residential variant would not interfere with accessibility on surrounding streets.

The proposed project's POPOS programming on Merchant Street, including discouraging access for through vehicles, would not interfere with accessibility as it would expand space for people walking while allowing vehicles to access the proposed project's parking garage at all times. The project sponsor would be required to include design features in the proposed project that ensure that POPOS operations would not interfere with accessibility as a part of the POPOS condition of approval, subject to SFMTA and planning department approval, which would help to maintain accessibility for people walking or bicycling. While the residential variant would not necessarily include the same design or POPOS features required for planning code section 138, the residential variant would still construct shared-street improvements on Merchant Street that would help maintain accessibility for people walking or bicycling. In addition, the proposed project or residential variant would implement a driveway and loading operation plan, which would complement the shared street/living alley design of Merchant Street and would help maintain accessibility for people walking.

Bicycle Facilities. As noted above in the *Transportation Setting* section, Class III (shared lanes) bicycle facilities in the study area are currently provided on Sansome and Washington streets, adjacent to the project site, and on Clay and Battery streets. Additionally, southbound Sansome Street is marked with pavement markings (sharrows). Implementation of the proposed project or residential variant would not eliminate or reconfigure any of these existing bicycle facilities. As previously discussed, the proposed project and residential variant would generate 22 and 4 p.m. peak hour bicycle trips, respectively. This relatively low number of bicycle trips would not substantially conflict with or result in unsafe conditions to nearby bicycle paths or facilities.

Emergency Access. The proposed project or residential variant would not include features that would inhibit emergency vehicle access to the project site, and pedestrian features such as corner bulb outs, the Merchant Street shared street/living alley, and street trees would be designed to accommodate emergency

vehicle access. The proposed project or residential variant would include features to support the replacement fire station access from Washington Street, including the emergency vehicle preemption system installed at the traffic signals on Washington Street at the Sansome Street and Battery Street intersections, a fire only lane, red curbs, and 'KEEP CLEAR' markings on Washington Street. California Vehicle Code section 21806 requires that all non-emergency vehicles yield right-of-way to emergency vehicles, so general traffic congestion in the vicinity of the project site would not result in substantial delay to emergency vehicle response. Therefore, emergency vehicles would continue to be able to access the project site and the proposed project or residential variant would not interfere with accessibility for emergency services.

Based on the discussion above, accessibility impacts would be ***less than significant***, and no mitigation measures would be required.

Impact TR-4: The proposed project or residential variant would not substantially delay public transit. ***(Less than Significant)***

The proposed project or residential variant would not directly change facilities for public transit routes surrounding the project site, including Muni and Golden Gate Transit routes, nor would they add driveways to streets with transit. As shown in Table 5, p. 73, the proposed project and residential variant would generate 86 and 28 p.m. peak hour vehicle trips, respectively. This number of p.m. peak hour vehicle trips is below the planning department's transit delay screening criterion of 300 p.m. peak hour vehicle trips, which is the amount of traffic that could potentially substantially delay public transit vehicles operating on routes adjacent to a project site. Fire trucks would exit the project site under emergency conditions and any transit delay would be temporary. Therefore, impacts to public transit delay would be ***less than significant*** and no mitigation measures would be required.

Impact TR-5: The proposed project or residential variant would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or adding new roadways to the network. ***(Less than Significant)***

As shown in Table 4, p. 72, the existing average daily VMT for TAZ 804 is 2.5 miles per capita for residential uses, 7.9 miles per employee for office uses, and 8.7 miles per employee for retail uses, which are all below the existing regional VMT per capita/per employee minus 15 percent. As noted previously under *Project Travel Demand*, retail is presented as a proxy for the proposed project's gym and restaurant land uses, and the visitors and employees of the hotel would reflect the travel characteristics of retail and office space. The project site is located in an area of San Francisco where the existing VMT is more than 15 percent below the regional VMT thresholds; therefore, the proposed project or the residential variant would not generate a substantial increase in VMT.

The proposed project or residential variant is not a transportation project, but would include transportation features such as driveways for parking garages and loading docks, changes to color curbs, and pedestrian safety features (e.g., widened sidewalks, curb bulb outs, raised crosswalks). With respect to induced automobile travel, these transportation features fit within the planning department's general types of projects (discussed above in Approach to Analysis) that can be assumed not to generate a substantial amount of VMT.

Based on the discussion above, impacts related to VMT would be ***less than significant*** and no mitigation measures would be required.

Impact TR-6: The proposed project or residential variant would not result in a loading deficit, the secondary effects of which would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit. ***(Less than Significant)***

PROPOSED PROJECT

Freight Loading. As presented in Table 1, the proposed project would provide one off-street freight loading space accessible from Washington Street and two service vehicle spaces in the basement-level garage accessible from Merchant Street. The total freight loading demand generated by the proposed land uses would be an estimated 31 average daily freight loading occurrences and two peak hour freight loading occurrences. Therefore, the off-street freight loading space supply alone would not be sufficient to accommodate the peak hour (11 a.m. to 2 p.m.) freight loading demand. However, the majority of daily service vehicle activity associated with proposed project's hotel and retail uses consist of smaller vehicle types such as light trucks and panel vans that could be accommodated within the proposed off-street freight and service vehicle loading spaces.[73] Service vehicles would be able to access the service vehicle spaces in the parking garage at all times, including when through traffic is limited on Merchant Street during POPOS programming hours, including the freight loading demand peak hour period.

The off-street freight loading space would be located on the Washington Street frontage approximately 100 feet east of the Sansome Street curb face. The freight loading dock is proposed to be 30 feet long, which would adequately accommodate freight trucks without blocking the sidewalk on Washington Street. Freight trucks would pull past the loading dock on Washington Street and reverse into the loading dock; these truck movements could be accommodated within Washington Street and would not interfere with fire department vehicles exiting the fire station on Washington Street. Furthermore, a gate arm or other traffic control feature at this loading dock would restrict commercial vehicle egress from the loading dock during a fire department departure event. There is no transit service on Washington Street east of Sansome Street that could be delayed by a freight loading turning movement. Approximately once or twice a day, a vehicle longer than 30 feet is expected to serve the project site and would need to load at convenient loading zones (e.g., within 250 linear feet of the project site) on adjacent streets, such as at the yellow loading zones on the west side of Sansome Street, south of Merchant Street. In addition, the proposed project or residential variant would implement a driveway loading and operations plan, which would create protocols for these large vehicle deliveries to ensure that these infrequent activities do not introduce potentially hazardous conditions for other roadway users.

The proposed project would remove up to seven of the existing 14 freight loading spaces on the block surrounding the project site, including one space on Sansome Street, up to four spaces on Merchant Street adjacent to the project site, and two freight loading spaces on Washington Street. Only 6 percent of the existing freight loading spaces on the block surrounded by Washington, Battery, Merchant, and Sansome streets were observed[74] to be used by freight vehicles on average, representing less than one freight vehicle serving the existing land uses on the project site at any given time between the hours of 7 a.m. and 6 p.m.

[73] Figure 60, page 111 of the San Francisco Travel Demand Update: Data Collection and Analysis (Fehr & Peers, 2018). This document is also Appendix F of the February 2019 SF Guidelines.
[74] Field observations were conducted as part of the adjacent 447 Battery Street project during December 2017 (all day) over three weekdays and one Saturday between 7 a.m. and 6 p.m. Fehr & Peers, *530 Sansome Street Transportation Study*, April 2, 2021.

The remaining use of these spaces was for non-permitted uses, such as parking (40 percent average utilization) and for passenger loading (four percent average utilization) for adjacent commercial land uses. Therefore, the removal of the existing freight loading spaces as part of the 530 Sansome Street project would not substantially affect the ability for freight vehicles to serve adjacent properties.

For the above reasons, the project would not create potentially hazardous conditions people walking, bicycling, or driving, or substantially delay public transit. Therefore, the proposed project would result in a *less than significant* freight loading impact.

Passenger Loading. The proposed project would have an approximately 100-foot-long passenger loading zone (approximately five spaces) on Sansome Street and an approximately 40-foot-long p.m. peak traffic period (3 p.m. to 7 p.m.) passenger loading zone (approximately two spaces) on Merchant Street.[75] The proposed Sansome Street passenger loading zone is located in an existing peak hour tow-away lane, and therefore would be unavailable during the p.m. peak period. During this time, the Merchant Street passenger loading zone would be available for passenger loading activity. The proposed project would generate demand for 57 p.m. peak-hour passenger loading occurrences and two passenger loading spaces per minute during the peak 15-minute periods.[76] The peak period for passenger loading demand occurs from 5 p.m. to 8 p.m. per the 2019 SF Guidelines and therefore this demand could occur while the loading zone on Merchant Street is available from 5 p.m. to 7 p.m. or while the loading zone on Sansome Street is available from 7 p.m. to 8 p.m. Thus, both passenger loading zones would be required to accommodate the proposed project's estimated peak-hour passenger loading demand.

Both loading zones would be served by curbside valet stations where valet drivers would shuttle cars to and from the loading zones and the off-street parking facility accessible from Merchant Street. The valet service would increase the efficiency of the passenger loading zone, ensure demand does not exceed supply through the active management by an attendant, and would not create a potentially hazardous condition for other roadway users.

Informal parking and loading activities associated with the fire department that currently occur on Merchant Street would shift to the south side of Washington Street within the red curb zone shown on Figure 2. This activity is a part of regular fire department operations, and the proposed fire access lane on Washington Street would be wide enough to accommodate this activity without disrupting emergency access to the replacement fire station.

Therefore, the proposed project would accommodate peak hour passenger loading demand within convenient on-street loading zones and would not result in a passenger loading demand that would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit. The proposed project would result in a ***less-than-significant*** impact on passenger loading conditions.

RESIDENTIAL VARIANT

Freight Loading. Similar to the proposed project, the residential variant would provide one off-street freight loading space accessible from Washington Street and two service vehicle spaces in the basement-level

[75] The Merchant Street loading spaces would be used for loading during the p.m. peak period (3 p.m. to 7 p.m.) and programmed with movable furniture during typical business hours.
[76] Peak loading demand is calculated using equations included in the SF Guidelines, which note that half of peak hour loading demand occurs during the peak 15 minutes and the average stop duration is one minute.

garage accessible from Merchant Street. The residential variant would generate demand for fewer truck loading spaces than the proposed project, with an estimated eight average daily freight loading occurrences and one peak hour freight loading occurrence. Occasionally, residential buildings are served by trucks larger than 30 feet, such as for move-in/move-out activities. These vehicles would need to load at convenient loading zones (e.g., within 250 linear feet of the project site) on adjacent streets, such as at the yellow loading zones on the west side of Sansome Street south of Merchant Street. Individuals or building management would be required to reserve spaces through SFMTA's temporary signage program. Therefore, the off-street freight supply alone would be sufficient to accommodate the residential variant's peak hour (11 a.m. to 2 p.m.) freight loading demand.

Similar to the proposed project, the residential variant's off-street freight loading space would be located on the Washington Street frontage approximately 100 feet east of the Sansome Street curb face and is designed to accommodate a 30-foot-long freight trucks without blocking the sidewalk on Washington Street. The loading dock would include features similar to those in the proposed project and would not conflict with operations of the replacement fire station. Further, the residential variant would include similar streetscape features that would remove a similar number of existing freight loading spaces and existing freight loading demand could be accommodated in nearby freight loading spaces. Therefore, freight loading activity generated by the residential variant and the removal of existing freight loading spaces would not result in an unmet freight loading demand that would create potentially hazardous conditions people walking, bicycling, or driving, or substantially delay public transit. In addition, the proposed project or residential variant would implement a driveway loading and operations plan, which would create protocols for large vehicle deliveries (such as residential move-in) to ensure that these infrequent activities do not introduce potentially hazardous conditions for other roadway users. Thus, the residential variant would result in a ***less-than-significant*** freight loading impact.

Passenger Loading. Similar to the proposed project, the residential variant would provide an approximately 100-foot-long passenger loading zone (approximately five spaces) on Sansome Street and an approximately 40-foot-long p.m. peak traffic period (3 p.m. to 7 p.m.) passenger loading zone (approximately two spaces) on Merchant Street.[77] The residential variant would generate demand for 12 p.m. peak-hour passenger loading occurrences and one passenger loading space per minute during the peak 15-minute period of the peak loading period.[78] Similar to the proposed project, the passenger loading demand generated by the residential variant would be accommodated within the passenger loading zones on Sansome or Merchant streets during the p.m. peak period. A valet service for residents would be stationed at each passenger loading zone, similar to the proposed project. Therefore, similar to the proposed project, the residential variant would not result in an unmet passenger loading demand that would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit. Thus, the residential variant would result in a ***less-than-significant*** impact on passenger loading conditions.

CUMULATIVE TRANSPORTATION IMPACTS

The analysis of whether the proposed project would contribute considerably to any significant cumulative impacts takes into account foreseeable changes in the transportation network; land development projects within approximately 0.25 mile of the project site that are approved or under review (see Table 3, p. 35). The cumulative projects from Table 3 included in the analysis are the 447 Battery Street and 545 Sansome Street

[77] The Merchant Street loading spaces would be used for loading during the p.m. peak period (3 p.m. to 7 p.m.).
[78] Peak passenger loading demand is calculated using equations included in the 2019 SF Guidelines, which note that half of peak hour passenger loading demand occurs during the peak 15 minutes and the average stop duration is one minute.

projects. These cumulative projects are described below. Other foreseeable changes in the transportation network and land development projects either would have a negligible effect on transportation and circulation in the immediate vicinity of the project site or are still in the planning stages where a detailed project description is not available.

- 447 Battery Street Project – A new mixed-use hotel building that would include streetscape and color curb changes to Merchant and Battery streets.
- 545 Sansome Street Project – An approximately 50,000-square-foot office and 2,400-square-foot retail addition to an existing mixed-use retail and office building; no streetscape changes are proposed.
- Muni Forward – SFMTA is planning to implement the following Muni Forward service changes through the study area:
  - *10 Townsend:* Improve headways during the weekday a.m. and p.m. peak periods (from 20 minutes to 6 minutes) and during the weekday mid-day period (from 20 minutes to 10 minutes). South of the study area SFMTA would change the route west of Fourth Street through Showplace Square and the northern portions of Potrero Hill (replacing the existing route via Townsend Street with a new route through Mission Bay) and at the southern terminal near San Francisco General Hospital.
  - *12 Folsom/Pacific:* Replace the 12 Folsom/Pacific south of Washington Street/Clay Street through the Financial District, Transbay, Central SoMa, West SoMa, and the Mission with a new 11 Downtown Connector, and to the north with a more frequent 10 Townsend. The new 11 Downtown Connector route would follow Columbus Avenue, Powell Street, and North Point Street through North Beach and Fisherman's Wharf to a terminus at Aquatic Park (Van Ness Avenue/North Point Street).

Impact C-TR-1: The proposed project or residential variant, in combination with cumulative projects in the vicinity of the project site, would not result in a considerable contribution to construction-related cumulative transportation and circulation impacts. ***(Less than Significant)***

Construction of the proposed project or residential variant may overlap with construction of the nearby projects at 447 Battery Street and 545 Sansome Street, which are adjacent to and across the street from the project site, respectively. The Muni Forward program does not include any physical construction through the study area.

While the construction timing of the 447 Battery Street project is currently unknown, under a worst-case scenario (i.e., a most impactful scenario), it would begin in December 2021 and overlap with construction of the proposed project or residential variant. If construction were to start before or after December 2021, the impacts associated with the combined construction would be less than those discussed below as peak construction activities would not overlap. In general, the two projects are expected to have similar truck routes, although the 447 Battery Street project would provide primary access to the project site from Washington and Battery streets rather than Sansome Street. The construction schedule for the 545 Sansome Street project is also unknown; however, it would likely be much shorter than that for the proposed project or residential variant or the 447 Battery Street project as it includes the expansion of an existing building rather than construction of a new building. For the purposes of a conservative analysis, the construction period for the 545 Sansome Street project is assumed to occur at the same time as the proposed project or residential variant and the 447 Battery Street project.

The combination of the proposed project or residential variant and 447 Battery Street project would increase the average number of truck trips accessing the site by 29 truck trips and 155 worker trips over the length of

the proposed project or residential variant's construction schedule for 29 months. The maximum daily number of trucks required at either site would increase from 60 trucks to 120 trucks during the site preparation and grading/excavation phases. While construction of the two projects would temporarily increase traffic to the proposed site, cumulative conditions would not substantially differ from the project-specific conditions identified in Impact TR-1 for the proposed project or residential variant. The construction schedules and truck and worker routes required for the 545 Sansome Street project are unknown. However, the construction activities for the 545 Sansome Street project would be relatively minor compared to the proposed project or residential variant or 447 Battery Street project. The 545 Sansome Street project would require fewer workers and vehicles on-site as it includes the expansion of an existing building rather than construction of a new building. Although the 545 Sansome Street project is across the street from the 530 Sansome Street project site, a different route would be required for construction trucks to access that site as trucks would not be allowed to turn left into the 545 Sansome Street project site from Sansome Street. Therefore, they would approach from Washington Street, which would generally not overlap with the primary access to the proposed project or residential variant.

Given the uncertainty of the construction timing for the above cumulative projects, if construction periods do overlap for the proposed project or residential variant and these cumulative projects, the proposed project or residential variant would be required to obtain a special traffic permit from SFMTA prior to the commencement of any construction work and comply with all applicable requirements in the Blue Book and public work code. As conditions for the special traffic permit, the sponsor for the 530 Sansome Street project would be required to work with various city departments to develop measures to minimize potential construction impacts related to construction vehicle routing, traffic control, transit vehicle operations, and accessibility and safety for people walking and biking adjacent to the construction area.

Overall, the proposed project or residential variant and the cumulative projects' construction activities would be temporary and limited in duration, and conducted in accordance with city requirements. Thus, the proposed project or residential variant, in combination with cumulative projects in the vicinity of the project site, would result in ***less-than-significant*** cumulative construction-related transportation impacts.

Impact C-TR-2: The proposed project or residential variant, in combination with cumulative projects in the vicinity of the project site, would not result in a considerable contribution to operation-related cumulative transportation and circulation impacts. ***(Less than Significant)***

Hazardous Conditions for People Walking, Bicycling, or Driving, or Public Transit Operations. As discussed in Impact TR-2, the proposed project or residential variant would not create potentially hazardous conditions for people walking or bicycling or otherwise interfere with bicycle or pedestrian accessibility to or from the site or adjoining areas. Likewise, none of the cumulative projects would create potentially hazardous conditions for people walking or bicycling or otherwise interfere with bicycle or pedestrian accessibility to or from the site or adjoining areas. With respect to the Vision Zero designation of Washington Street from mid-block between Sansome and Battery streets extending to the west, the 447 Battery Street project would add 10 vehicles to this roadway segment, while the 545 Sansome Street project would add fewer than this.[79] The proposed Muni forward program would not add any vehicles to this roadway segment.

[79] No transportation study is available for the 545 Sansome Street project (Case No. 2020-001410ENV). Based on extrapolating the 14 p.m. peak hour office vehicle trip generation for the proposed project's approximately 50,000 square feet of office use, this would result in fewer than 20 vehicle trips total on the roadway network.

This level of cumulative traffic (5 to 10 percent changes) would not represent a substantial increase in traffic nor result in potentially hazardous conditions along Washington Street.

Further, the fire department emergency vehicle access on Washington Street would include audible warnings to alert people walking and bicycling and would not substantially change fire station activities and, therefore, would not result in potentially hazardous conditions along Washington Street or other surrounding streets.

The proposed project or residential variant also would not conflict with any planned or proposed improvements to bikeway facilities or affect pedestrian conditions. The proposed project or residential variant propose the following physical changes to streets fronting the project site: streetscape changes along Merchant Street, a passenger loading zone along Sansome Street, a red curb on the south side of Washington Street, the removal of existing parking spaces on the north and south sides of Washington Street, and the removal of 7 of 14 existing on-street loading spaces on the block surrounding the project site. Although the proximity of the 447 Battery Street project to the proposed project or residential variant could result in an increase in vehicle traffic in the immediate vicinity of the project site, the increased vehicle activity would unlikely be large enough to create potentially hazardous conditions for people walking or bicycling. In particular, both the 447 Battery Street project and either the proposed project or residential variant would involve replacement of existing land uses that already generate some level of vehicle activity, and would not propose a substantial amount of accessory automobile parking (the proposed project and residential variant would include 48 and 82 on-site parking spaces, respectively; the 447 Battery Street project would include 24 spaces). The 447 Battery Street project proposes to widen the sidewalks along Merchant Street fronting the 447 Battery Street project site, and, similar to the proposed project, to create a POPOS in those widened sidewalks. This would narrow the portion of Merchant Street fronting the 447 Battery Street project and would be expected to slow vehicle traffic on Merchant Street.

The 545 Sansome Street project would not include any physical changes at the street-level; furthermore, the building does not have an off-street parking facility, and as such, vehicle traffic traveling to or from the project site would be dispersed to or from off-site public parking facilities at nearby locations. Therefore, the proposed project or residential variant, in combination with cumulative projects, would not result in a cumulative transportation impact on bicycle and pedestrian conditions. Accordingly, cumulative impacts related to this topic would be ***less than significant***, and no mitigation measures are required.

Accessibility. The 447 Battery Street project would improve accessibility for people walking or bicycling surrounding the project site through streetscape improvements described above, while the 545 Sansome Street project would not affect accessibility because it would not include any changes to off-street parking, driveways, or the streetscape. While the sidewalk on Washington Street proposed by the project would not meet the Better Streets Plan standards, the highest number of people walking generated by the 447 Battery Street or 545 Sansome Street projects would occur along their project frontages. As discussed above in *Project-Level Transportation Impacts*, sidewalks along the project site frontages on Sansome and Merchant streets and, to a lesser extent, Washington Street, would host the majority of people walking to/from the project site; these sidewalks provide direct routes for a limited number of routes for people walking to and from the 447 Battery Street or 545 Sansome Street projects. Therefore, the 447 Battery Street or 545 Sansome Street projects would not generate a substantial amount of people walking on the sidewalks fronting the project site, and the proposed sidewalks would, therefore, be sufficient for anticipated cumulative pedestrian volumes and activity.

Similar to the existing plus project conditions discussed in Impact TR-3, the combination of the proposed project or the residential variant with cumulative projects would not create design features that would result in inadequate emergency access. The 447 Battery Street project's proposed streetscape changes on Merchant Street were reviewed to ensure that they provide adequate access for larger emergency vehicle trucks and were approved by the City's Street Design Advisory Team.[80] The proposed project or residential variant includes streetscape elements consistent with those proposed by the 447 Battery Street project, and would undergo similar review and approval process to ensure that emergency vehicle access is not inhibited by the combination of proposed streetscape changes for the two projects. The 447 Battery Street and 545 Sansome Street projects do not propose driveways or other physical features that would inhibit emergency vehicle access into or out of the replacement fire station. The proposed driveway for the 447 Battery Street project would be located on Merchant Street, same as the proposed project or residential variant, and the 545 Sansome Street project does not propose any driveways for access to off-street facilities. The proposed project or residential variant's measures to prioritize fire department emergency access would ensure that traffic growth under cumulative conditions, including traffic generated by the nearby 447 Battery Street and 545 Sansome Street projects, would not interfere with emergency vehicle access. These measures include the preemption traffic signal system on Washington Street at the Sansome Street and Battery Street intersections and a fire only lane and 'KEEP CLEAR' markings on Washington Street.

Based on the above discussion, the proposed project or residential variant in combination with cumulative projects would not interfere with accessibility related to pedestrian, bicycle, or emergency access; therefore, cumulative impacts would be ***less-than-significant***.

Public Transit Delay. The combination of the proposed project (86 p.m. peak hour vehicle trips) and residential variant (28 p.m. peak hour vehicle trips) with the adjacent 447 Battery Street project (which would add an additional 48 p.m. peak hour vehicle trips during typical, non-special event conditions, and 87 p.m. peak hour vehicle trips during a regional event) would remain below the planning department's transit delay screening criterion of 300 p.m. peak hour vehicle trips under cumulative conditions. The only other cumulative project within a block of the project site, the 545 Sansome Street project, would add fewer than 20 p.m. peak hour vehicle trips to the roadway network. Therefore, the proposed project or residential variant would not combine with cumulative projects to cause substantial public transit delay. Therefore, this impact would be ***less than significant***, and no mitigation measures are required.

Vehicle Miles Traveled. VMT by its nature is largely a cumulative impact. The number and distance of vehicular trips associated with cumulative projects might contribute to the secondary physical environmental impacts associated with VMT. It is likely that no single project by itself would be sufficient in size to prevent the region or state in meeting its VMT reduction goals. Instead, a project's individual VMT contributes to cumulative VMT impacts. The department uses near-term baseline plus project-level thresholds of significance based on levels at which the department does not anticipate new projects to conflict with state and regional long-term greenhouse gas emission reduction targets and statewide VMT per capita reduction targets.

Therefore, the planning department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed the same quantitative thresholds of significance described under existing plus project conditions. The analysis uses the 2040 modeling of VMT estimates to present VMT for residential, office, and retail in San Francisco and the region. The planning department uses that data and

[80] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036ENV), November 7, 2019.

associated maps to determine whether a project site's location is below the aforementioned VMT quantitative threshold of significance, including for the other land use types described above.

Table 6 presents the future (2040) average daily VMT per capita for residents for the nine-county San Francisco Bay Area and TAZ 804. The future average daily VMT per capita for residential uses in TAZ 804 (2.2 miles) is approximately 86 percent lower than the regional Bay Area average (16.1 miles). The future average daily VMT per employee for office uses in TAZ 804 (6.3 miles) is approximately 63 percent lower than the regional Bay Area average (17.1 miles). The future average daily VMT per employee for retail uses in TAZ 804 (7.9 miles) is approximately 46 percent lower than the regional Bay Area average (14.6 miles). As noted previously under *Project Travel Demand*, retail is presented as a proxy for the proposed gym and restaurant land uses, and the visitors and employees of the hotel would reflect the travel characteristics of retail and office space. Because the project site is in an area where the VMT for the land uses in the proposed project or residential variant are each more than 15 percent below future 2040 regional averages, the proposed project or residential variant's contribution to any substantial cumulative increase in VMT would be less than considerable. Therefore, this impact would be ***less than significant***, and no mitigation measures are required.

Table 6 Average Daily Vehicle Miles Traveled in TAZ 804 (Cumulative 2040)

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Significance Threshold)	TAZ 804
Residential	16.1	13.7	2.2
Office	17.1	14.5	6.3
Retail	14.6	12.4	7.9

SOURCE: San Francisco Transportation Information Map, 2019; Fehr & Peers, 2020.

Loading. As discussed in Impact TR-6, the proposed project or residential variant would not create result in a loading deficit.

PROPOSED PROJECT

The combination of the proposed project and the 447 Battery Street project would remove all of the existing freight loading along the frontages of the project site block on Merchant, Battery, and Washington streets, while also removing the existing land uses that generate demand for on-street freight loading. The proposed Muni Forward improvements would not affect loading conditions in the study area.

Under the condition where the Merchant Street POPOS is extended the length of Merchant Street (in coordination with the proposed project or 447 Battery Street project), the four remaining freight loading spaces on the east side of Battery Street would serve the freight demand for existing land uses to the east of the project site. The 447 Battery Street project would accommodate its expected freight loading demand through the provision of an off-street loading dock and therefore would not create an unmet freight loading demand. The transportation study prepared for the 447 Battery Street project identifies Improvement Measure I-Loading-1: Management of Freight Loading/Service Vehicle Activities, which includes the provision for attendants to help manage the freight loading dock in the case that special events or other loading

activities generate more freight loading demand than can be accommodate off-street.[81] The freight loading plans for the 545 Sansome Street project are not available. Freight loading activity associated with the 545 Sansome Street project would occur off-street if loading dock access is provided, or within the existing on-street loading zone on Washington Street along the 545 Sansome Street frontage and would therefore not generate freight loading that would overlap with the proposed project. Therefore, freight loading activity generated by the proposed project and nearby projects would not create potentially hazardous conditions for people walking, bicycling, or driving, or substantially delay public transit due to unmet freight loading demand. Thus, the cumulative freight loading impacts of the proposed project, in combination with the cumulative projects, would be less than significant.

Similar to the proposed project, the 447 Battery Street project would accommodate the anticipated passenger loading demand for that project (two simultaneous passenger loading events) within the proposed on-street passenger loading zone along the entire Battery Street frontage of that project site. The transportation study prepared for the 447 Battery Street project identifies Improvement Measure I-Loading-2, Management of Passenger Loading Activities, which includes the provision to monitor passenger loading activity to ensure that loading demand does not exceed supply and provide attendants to actively manage loading during special events that could occur at the proposed hotel.[82] Passenger loading activity on Battery Street associated with the 447 Battery Street project would not overlap with the passenger loading for the proposed project due to the adjacency of new proposed loading zones to each project's main building entrances. The additional office space proposed by the 545 Sansome Street project would generate less passenger loading activity compared to the 447 Battery Street project due to the smaller size of the project. This activity would occur along the 545 Sansome Street project's frontage on Washington Street and would not interfere with passenger loading activities of the proposed project on Sansome and Merchant streets, as people arriving at or leaving a building or other destination typically do so as close to the entrance as possible.

Therefore, passenger loading activity generated by the proposed project and nearby cumulative projects would not combine to create potentially hazardous conditions for people walking bicycling, or driving, or substantially delay public transit due to unmet passenger loading demand. Thus, the cumulative passenger loading impacts of the proposed project, in combination with the cumulative projects, would be ***less than significant***.

RESIDENTIAL VARIANT

The residential variant would generate less freight loading and passenger loading demand than the proposed project while providing the same number of freight and passenger loading spaces. Therefore, similar to the proposed project, the cumulative passenger and freight loading impacts of the residential variant, in combination with cumulative projects, would be ***less than significant***.

---

[81] Ibid.
[82] Ibid.

6. Noise

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
6. NOISE. Would the project:					
a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐	☐
b) Generate excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☐	☒

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. Therefore, topic E.6(c) is not applicable and is not discussed further.

The information in this section is based on a noise and vibration analysis prepared for the proposed project and residential variant, which is included as Appendix C to this initial study.[83]

Impact NO-1: Construction of the proposed project or residential variant would not generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. ***(Less than Significant)***

The Federal Transit Administration (FTA) has developed general quantitative assessment criteria for analyzing construction noise, which is based on the simultaneous operation of the two noisiest pieces of equipment. The general assessment criteria sets construction noise limits, as summarized in **Table 7**. To evaluate a reasonable worst-case scenario, the analysis assumes that the two loudest pieces of equipment would operate simultaneously at the same location.

[83] Environmental Science Associates, *Final Noise Technical Memorandum - 530 Sansome Street Project*, March 31, 2021.

Table 7 FTA General Assessment Criteria for Construction Noise Limits

Land Use	One-hour Leq (dBA)	
	Day	Night
Residential	90	80
Commercial	100	100
Industrial	100	100

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Office of Planning and Environment, 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed December 10, 2020.

ABBREVIATIONS:

dBA = A-weighted decibel
L_{eq} = equivalent sound level

EXISTING NOISE IN THE PROJECT VICINITY

Two long-term (24-hour) and one short-term (15-minutes) ambient noise measurements were taken near the project site in order to establish the existing ambient noise levels in the project area. Two long-term (24-hour) ambient noise measurements were collected between Tuesday August 27 and Wednesday August 28, 2019, adjacent to residential apartments on the northeast corner of Battery and Washington streets and adjacent to the Club Quarters Hotel on the corner of Merchant and Battery streets.[84] These measurements were conducted prior to shelter-in-place orders resulting from Covid-19 and are therefore representative of more typical traffic levels within the Financial District.[85] One short-term noise measurement was taken on Wednesday, December 2, 2020 to establish existing daytime noise levels at more distant residential receptors near the intersection of Hotaling Place and Washington Street.

The noise measurement sites are shown in **Figure 26**. **Table 8** summarizes the results of the noise measurement survey.

[84] City and County of San Francisco, *Draft Environmental Impact Report, 447 Battery Street Project, Case 2014-1036E, Appendix B, Initial Study*, October 21, 2020.
[85] The complete dataset of measured noise levels is available in Environmental Science Associates, *Noise Technical Memorandum – 530 Sansome Street Project*, March 31, 2021.

Table 8 Summary of Long-Term and Short-Term Noise Monitoring in the Project Vicinity

Measurement Location		Date and Time Period	Daytime L_{eq} dBA	24-hour L90 dBA	L_{dn}	Noise Sources
LONG-TERM MEASUREMENTS (24 HOURS)						
LT-1	Near 550 Battery Street, in front of the Gateway Apartments	August 27, 2019	73	65	75	Vehicle and bus traffic
LT-2	Southeast of project site at corner of Merchant and Battery Streets, adjacent to existing hotel building	August 27, 2019	69	63[a]	76	Vehicle and bus traffic
SHORT-TERM MEASUREMENT (15 MINUTES)						
ST-1	Northeast corner of Washington Street and Hotaling Place	December 2, 2020	65	60[b]	NA	Vehicle traffic[c]

SOURCES: ICF, 2019; ESA, 2021.

NOTES:

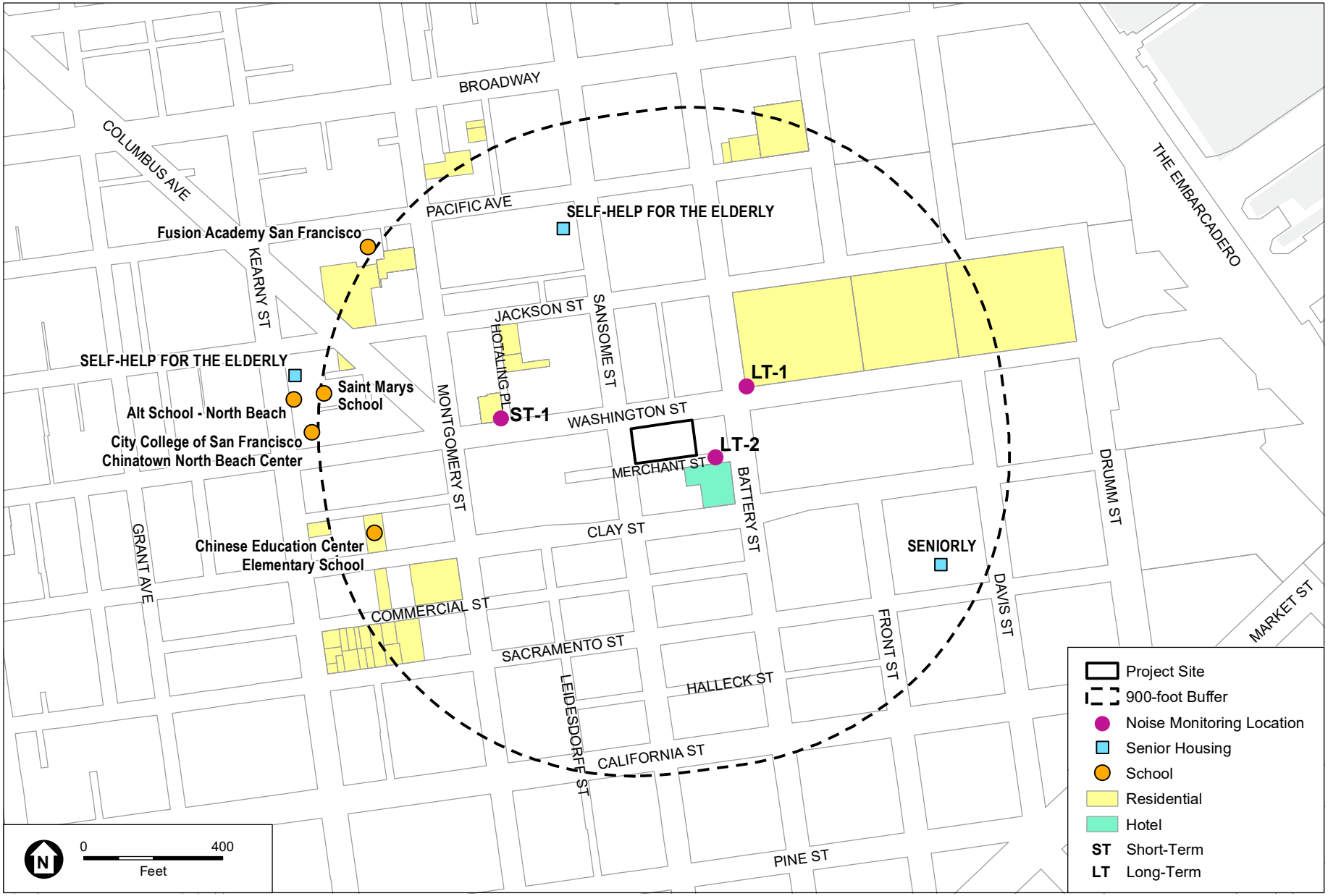
NA = data point not applicable to short term measurements
LT = Long-Term
ST = Short Term

[a] This L90 metric is a 24-hour average. The nighttime average (10 p.m. to 7 a.m.) is 62 dBA.
[b] The L90 metric for the short-term measurement is not a 24-hour average.
[c] During monitoring, the noise technician noted use of a standard, consumer grade sander at Hotaling Place. The sander was used intermittently during the monitoring event and contributed marginally to the recorded noise level based on the observations of the noise technician.

Existing noise levels in the project area are characteristic of an urban/city environment, with both long-term measurements having a day-night sound level (L_{dn}) of 75 dBA or greater. Fire Station 13 is located on the project site, approximately 300 feet from the noise measurement location LT-1. The fire station contributes intermittent siren and truck noise to the ambient noise environment.

EXISTING SENSITIVE RECEPTORS

Some land uses are more sensitive to noise levels than others due to the types of activities typically associated with the uses. Residences, hotels, schools, senior care facilities, and hospitals are generally more sensitive to noise than commercial and industrial land uses. There are no existing hospitals or skilled nursing facilities within 900 feet of the project site. The Gateway Apartments are located at 550 Battery Street (LT-1 in Figure 26) and is the nearest residential receptor in the project vicinity. The Club Quarters Hotel at 424 Clay Street (LT-2 in Figure 26) is approximately 35 feet southeast of the project site and while a commercial use, would be considered a sensitive receptor during nighttime hours. Other residential uses are located on the upper floors of Hotaling Place (ST-1 in Figure 26), approximately 360 to 480 feet west of the project site.



SOURCE: San Francisco Planning Department, 2020; Google, 2020; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

FIGURE 26
NOISE MONITORING LOCATIONS AND SENSITIVE RECEPTORS WITHIN 900 FEET OF THE PROJECT SITE

DAYTIME CONSTRUCTION NOISE EVALUATION

Table 9 shows the hourly noise levels (L_{max}) produced by various types of equipment proposed by the project sponsor at a reference distance of 50 feet between the equipment and noise receptor as well as the 100-foot distance dictated by the city's noise ordinance. Section 2907 of the city's noise ordinance prohibits operation of any powered construction equipment (non-impact), regardless of age or date of acquisition, if such operation emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment. As shown in Table 9, construction equipment used for the proposed project or residential variant would operate within the constraints of the noise ordinance standards.

Table 9 Maximum Noise Levels from Construction Equipment

Construction Equipment	Noise Level at 50 Feet (dB, L_{max})	Noise Level at 100 Feet (dB, L_{max})
Air Compressors	78	72
Backhoes	78	72
Bore/Drill Rigs	84	78
Vibratory Compactor	83	77
Cranes	81	75
Concrete truck	79	73
Concrete Pump	81	75
Excavator	81	75
Forklifts	83	78
Pavers	77	71
Paving Equipment	77	71
Roller	80	74
Skid steer loaders	79	73
Sweepers	82	76

SOURCE: Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, 2006.

The daytime construction noise analysis quantitatively evaluates noise from the two loudest pieces of equipment at sensitive receptor locations to determine if construction noise would exceed 90 dBA at a residential receptor during daytime hours or would be 10 dBA above the ambient noise level. If so, the evaluation then qualitatively considers the frequency, duration, and intensity of noise levels in determining whether the proposed project or residential variant would result in a significant noise impact. Analysis of construction noise relative to the FTA's commercial and industrial general assessment criterion of 100 dBA noise limit, as shown in **Table 10**, is also considered. Table 10 shows the worst-case noise levels for each major phase of construction. Construction for the proposed project or residential variant would use the same equipment and construct a replacement fire station and similar 219-foot-tall tower; therefore, construction noise is anticipated to be the same under the proposed project or residential variant. As noted above, the worst-case noise levels assume that the two loudest pieces of equipment from each construction phase would be operating simultaneously. Detailed tables regarding noise from each construction phase are included in Appendix C of this initial study.

Table 10 Exterior Noise at Nearest Off-Site Sensitive Use from Daytime Construction

Construction Phase	Nearest Off-Site Sensitive Receptor	Distance to Receptor (feet)[a]	Existing Monitored Noise Level (dBA L_{eq})[b]	Loudest Two Noise Sources	Estimated Construction Noise Level (dBA L_{eq})	Exceed 90 dBA Exterior Daytime Standard?	Resultant Noise Level (Existing + Construction) (dBA L_{eq})	Increase over Existing (dBA L_{eq})	Exceed Ambient + 10 dBA Standard?
Phase 1: Demolition	Residential: 500 Battery Street	300	73	Backhoe Backhoe	61	No	73	0	No
Phase 2: Site Preparation	Residential: 500 Battery Street	300	73	Compactor Excavator	62	No	73	0	No
Phase 3: Grading/Excavation	Residential: 500 Battery Street	300	73	Drill Rig Excavator	65	No	74	1	No
Phase 4: Drainage/ Utilities/Subgrade	Residential: 500 Battery Street	300	73	Backhoe Compactor	63	No	73	0	No
Phase 5: Foundations	Residential: 500 Battery Street	300	73	Drill Rig Excavator	65	No	74	1	No
Phase 6: Building Construction/ Architectural Coatings/Paving	Residential: 500 Battery Street	300	73	Crane Forklift	65	No	74	1	No

SOURCE: ESA, 2021.

NOTES:

[a] The approximate distances are measured from the nearest edge of the construction activity (excluding restriping of roadways and bike lanes) to the nearest sensitive-receptor property line.

[b] Though existing noise levels in the general project area vary between 65 and 73 dBA, the monitored noise level of 73 dBA in this table is specific to the nearest receptor being analyzed at 500 Battery Street (where potential for noise impacts would be highest).

As shown in Table 10, L_{eq} noise levels would range from 61 to 65 dBA at the nearest daytime (residential) receptor at a distance of 300 feet. The construction noise would be below the FTA general assessment criterion of 90 dBA for sensitive residential receptors.

For the evaluation of noise impacts with respect to the 10 dBA increase above ambient noise levels, construction noise is added to the daytime ambient L_{eq} noise level in the project area, which range from approximately 65 to 73 dBA. Though existing noise levels in the general project area vary between 65 and 73 dBA, as reflected in Table 10, noise levels at the sensitive receptors nearest to the project site (where potential for noise impacts would be highest) measure at 73 dBA. As shown in Table 10, the estimated daytime construction noise levels generated by the proposed project would range from 61 to 65 dBA L_{eq} at the nearest residential receptor. Daytime noise during all phases of construction would not result in an increase of greater than 10 dBA over existing levels at the nearest sensitive receptor or exceed the 90 dBA criterion for daytime construction noise at a residential receptor. Therefore, this impact would be ***less than significant***.

CONSTRUCTION TRUCK HAULING NOISE IMPACTS

Construction of the proposed project or residential variant would require the use of on-road vehicles to deliver and haul materials to and from the site. Maximum daily haul and vendor truck trips are anticipated to be approximately 60 truck trips per day. Spread across the proposed 10-hour workday, maximum hourly truck trips would be approximately six per hour. These six hourly truck trips would contribute 57.2 dBA to the hourly L_{eq} level at 50 feet from the roadway center.[86] As shown in Table 8, p. 93, daytime hourly L_{eq} monitored in the project vicinity is 69 dBA. The addition of the project's haul and vendor trucks would result in an increase of less than 0.3 dBA over existing noise levels and would not result in a perceptible increase in noise. Therefore, there would be no substantial increase in noise from construction traffic and this impact would be ***less than significant***.

NIGHTTIME CONSTRUCTION NOISE IMPACTS

Section 2908 of the San Francisco Police Code prohibits any person between the hours of 8 p.m. of any day and 7 a.m. of the following day from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line, unless a special permit has been applied for and granted.

Although most of the construction equipment would operate only during daytime hours, the proposed project or residential variant would require construction activities that would extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), such as a 20-hour concrete pour, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling.

The analysis of nighttime construction noise considers the closest sensitive receptor at 424 Clay Street (Club Quarters Hotel), located 35 feet southeast of the project site. Although the receptor at 424 Clay Street is a commercial use, it is considered a sensitive receptor during nighttime hours as it is a land use where people would reasonably be expected to sleep. The receptor distance for nighttime concrete pours assumes concrete mixer trucks and concrete pumps would be on Sansome or Washington streets, which are approximately 150 feet from 424 Clay Street. As shown in **Table 11**, the existing L90 ambient nighttime noise

[86] Based on the Federal Highway Administration's Traffic Noise Model.

level at monitoring location LT-2 at the 424 Clay Street is 62 dBA. Therefore, the applicable nighttime construction standard would be 67 dBA.

Table 11 Nighttime Noise Levels from Concrete Pours

Receptor	Existing Nighttime Noise Level (dBA, Leq)	Noise Source	Reference Noise Level (dBA)[a]	Distance to Receptor[a] (feet)	Adjusted L_{eq} Level (dBA)	Exceed 80 dBA Exterior Nighttime Standard?	Existing plus Construction Noise Exterior Noise Level (dBA)	Existing plus Construction Noise Interior Noise Level (dBA)	Exceed 45 dBA Interior Nighttime Standard?
424 Clay Street	62[b]	Concrete truck and concrete pump on Washington Street or Sansome Street	79 81	150	68	**No**	69	**44**	No

SOURCE: ESA, 2021.

[a] Distance for nighttime concrete pours assumes concrete mixer trucks and concrete pumps would be on Sansome Street or Washington Street.
[b] The existing nighttime value is the average of the monitored L90 metric between the hours of 10 p.m. and 7 a.m.

As shown in Table 11, nighttime concrete pours would be expected to result in a nighttime noise level of 69 dBA, which would result in noise levels 5 dBA or more above existing nighttime noise levels.

Nighttime noise impacts are also assessed based on FTA's 80 dBA exterior noise criterion and for the potential to result in sleep disturbance at nearby residential and hotel uses (increase interior noise levels above 45 dBA) as established in the police code. For the nearest receptor to the project site at 424 Clay Street, a standard assumption of exterior-to-interior noise reduction of 25 dBA with windows closed is applied.[87] As shown in Table 11, noise levels from nighttime concrete pours would be up to 67 dBA at the closest receptor at 424 Clay Street, which is below the 80 dBA exterior nighttime criterion for residential receptors.

Also presented in Table 11 is the predicted interior noise levels from nighttime concrete pours at the nearest sensitive receptor located at 424 Clay Street. Interior noise levels at the hotel receptor from nighttime deliveries would be below the 45 dBA standard.

Nighttime construction of the proposed project or residential variant would not exceed the 80 dBA exterior noise criterion or the 45 dBA interior noise criterion, but could result in nighttime noise levels exceeding the existing ambient noise levels by 5 dBA or more at the sensitive receptor location at 424 Clay Street. The nighttime work would therefore require a special permit from the director of public works or the director of the building department for noise that would exceed the ambient noise level by 5 dBA at the nearest property plane. The project sponsor would need to comply with all requirements of the special permit to engage in nighttime work; therefore, nighttime noise would be subject to the limits of the permit that is granted. Nighttime construction noise resulting from the proposed project or residential variant would be ***less than significant***.

[87] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed January 23, 2019.

Impact NO-2: Operation of the proposed project or residential variant would not generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. ***(Less than Significant)***

Section 2909 of the San Francisco Police Code, enforced by the health department during the day and the police department during the night, limits stationary-source noise and generally prohibits noise levels from any machine, device, or music or entertainment venue (or any combination) as follows:

a. For residential properties, no more than 5 dBA above the local ambient noise level, as measured at any point outside the property plane;

b. For commercial and industrial properties, no more than 8 dBA above the local ambient noise level, as measured at any point outside the property plane;

c. For public property, no more than 10 dBA above the local ambient noise level at a distance of 25 feet or more from the noise source (unless the noise source is being operated to serve or maintain the property or as otherwise provided in the noise ordinance); and

d. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10 p.m. and 7 a.m. or 55 dBA between the hours of 7 a.m. and 10 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

The criteria provided in section 2909(a) through (c) are limits for the specified locations (e.g., the property plane, or for public properties, 25 feet from the noise source) and do not refer to a receptor. Section 2909(d) establishes maximum noise levels for fixed sources (e.g., mechanical equipment) at sensitive receptors (i.e., 55 dBA from 7 a.m. to 10 p.m. and 45 dBA from 10 p.m. to 7 a.m.) inside any sleeping or living room in any dwelling unit on residential property to prevent sleep disturbance with windows open, except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

Common noise sources in San Francisco that typically do not result in a substantial temporary increase in ambient noise levels include emergency backup generator testing, provided a project proposes no more than two emergency back-up generators. For both the proposed project or residential variant, a backup generator with an assumed 400 horsepower power output would be installed for the 219-foot-tall tower. Under either the proposed project or residential variant, the existing 200 horsepower generator at Fire Station 13 would be replaced by a 464-horsepower generator. Both generators would be located on the building rooftops and within a mechanical penthouse. These generators would only operate for approximately one hour per week for testing purposes; therefore, due to the infrequent nature of the noise source, the proposed generators would not result in a substantial increase in ambient noise levels and these sources are not considered further.

PROPOSED PROJECT

Stationary mechanical equipment at the project site, including building equipment, would contribute to the ambient noise environment. The proposed project would introduce new stationary noise sources, including heating, ventilation, and air-conditioning (HVAC) equipment, exhaust fans, a chiller, cooling towers, and an emergency generator. All equipment in the mechanical penthouse would be shielded by the shell of the mechanical penthouse, which would attenuate noise and avoid disturbances for hotel guests. As noted

above, operation of stationary mechanical equipment of the proposed project would be subject to section 2909(b) of the San Francisco Police Code, which limits noise produced at commercial and industrial properties to no more than 8 dBA above the local ambient condition at any point outside the property plane. In addition, stationary mechanical noise would be limited by section 2909(d), which provides that noise from stationary mechanical equipment at residential interiors cannot exceed 55 dBA during daytime hours (7 a.m. to 10 p.m.) and 45 dBA during nighttime hours (10 p.m. to 7 a.m.).

Although the exact noise levels from stationary equipment cannot be quantified at this time, some of the louder equipment, such as HVAC equipment and exhaust fans, can produce sound levels in the range of 70 to 75 dBA at 50 feet, depending on the size of the unit.[88] All equipment would be located in the mechanical penthouse at the top of the buildings and therefore would be shielded.

As shown in Table 8, p. 93, the ambient (24-hour L90) noise level measured at LT-2 on Merchant Street closest to the project site was 63 dBA. Therefore, the applicable standard under section 2909(b) would be 71 dBA (63 dBA + 8 dBA) outside the property plane at ground level, which is where the measurement was taken. The proposed project's HVAC equipment would be located in the mechanical penthouse at the top of the building, which would attenuate noise levels due to vertical separation. The hotel to the southeast at 424 Clay Street (11 stories), and the commercial building to the east at 423 Washington Street (seven stories) and 447 Battery Street (three stories) are mid- or low-rise buildings; therefore, there would be a substantial vertical distance between the proposed project and residential variant's mechanical penthouse (above the 19th story) and the top floors of the adjacent buildings. At minimum, the eight stories of vertical attenuation (approximately 100 feet) between the project's mechanical penthouse and the 11 story hotel at 424 Clay Street would reduce noise by 6 dBA, and the penthouse enclosure would reduce noise by an additional 5 dBA. Therefore, the distance provided by the vertical separation and the shielding provided by the penthouse enclosure would reduce noise levels from the stationary mechanical equipment by 11 dBA, which would result in ground-level noise of 64 dBA. This would be below the applicable 2909(b) standard of 71 dBA.

Stationary mechanical equipment, which would result in a noise level of 64 dBA at the ground level would result in interior noise levels at the closest nighttime receptor (424 Clay Street) of 39 dBA, assuming 25 dBA of exterior to interior attenuation from the building shell.[89] This interior noise level would be below the nighttime noise standard of 45 dBA. Therefore, stationary mechanical equipment noise from the proposed hotel would not exceed the section 2909(b) or 2909(d) standards.

The replacement fire station would also have a mechanical penthouse for its independent equipment above the fourth floor on the east end of the building. As a public land use, the applicable standard under section 2909(c) would be ambient noise (63 dBA) plus 10 dBA, or 73 dBA. Assuming a high-end HVAC equipment sound levels of 75 dBA and similar to the HVAC equipment for the proposed hotel, the mechanical penthouse would attenuate noise by at least 5 dBA. However, given the placement of the HVAC equipment above the fourth floor, there would be no vertical distance attenuation similar to the proposed hotel. As such, noise at the ground level for the replacement fire station's stationery mechanical equipment would be 70 dBA at the property line, which would be below the applicable section 2909(c) standard of 73 dBA for this public land use.

[88] Hoover and Keith, Noise Control for Buildings and Manufacturing Plants, Equipment and Products, 1981.
[89] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed November 25, 2020.

Stationary mechanical equipment of the replacement fire station, which would result in a noise level of 70 dBA at the ground level, as discussed above, would result in interior noise levels at the closest nighttime receptor (424 Clay Street) of 45 dBA, assuming 25 dBA of exterior to interior attenuation from the building shell.[90] This interior noise level would not exceed the nighttime noise standard of 45 dBA. Therefore, stationary mechanical equipment noise of the replacement fire station would not exceed the section 2909(c) or 2909(d) standards.

Consequently, the stationary mechanical equipment associated with the proposed project and replacement fire station would not result in a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in sections 2909(b), 2909(c), and 2909(d). This impact would be ***less than significant***, and no mitigation measures would be required.

RESIDENTIAL VARIANT

Operation of stationary mechanical equipment for the residential variant would be subject to section 2909(a) of the noise ordinance, which limits noise produced at residential properties to no more than 5 dBA above the ambient condition at any point outside the property plane.

As shown in Table 8, p. 93, the ambient (24-hour L90) noise level measured at LT-2 on Merchant Street nearest to the project site was 63 dBA. Therefore, the applicable standard under section 2909(a) would be 68 dBA (63 dBA + 5 dBA) outside the property plan at ground level, which is where the measurement was taken.

As under the proposed project, all equipment in the mechanical penthouse would be shielded by the shell of the mechanical penthouse, which would attenuate noise and prevent disturbances for residents. Based on high-end of HVAC equipment sound levels of 75 dBA, operation of the residential variant's HVAC equipment would not produce noise greater than 71 dBA at any point outside the property plane at ground level on Merchant Street. Further attenuation would also occur due to the vertical distance between the mechanical penthouse and the nearest upper floors of existing adjacent buildings. Therefore, the distance provided by the vertical separation and the shielding provided by the penthouse enclosure would reduce noise levels from the stationary mechanical equipment by 11 dBA, which would reduce the ground level noise to 64 dBA. This would be below the applicable 2909(a) standard of 68 dBA.

Stationary mechanical equipment would result in a noise level of 64 dBA at the ground level, similar to the proposed project. The HVAC equipment noise of the residential variant would result in interior noise levels at the closest nighttime receptor (424 Clay Street) of 39 dBA, assuming 25 dBA of exterior to interior attenuation from the building shell.[91] This interior noise level would be below the nighttime noise standard of 45 dBA. Therefore, stationary mechanical equipment noise from the residential variant would not exceed the section 2909(a) or 2909(d) standards.

The replacement fire station's mechanical penthouse under the residential variant would be the same as under the proposed project. As discussed above, noise at the ground level for the replacement fire station's stationery mechanical equipment would be 70 dBA at the property line, which would be below the applicable section 2909(c) standard of 73 dBA for this public land use. Stationary mechanical equipment of the fire station under the residential variant would also result in interior noise levels of 45 dBA at the closest nighttime

[90] Ibid.
[91] Ibid.

receptor, which would not exceed the nighttime noise standard of 45 dBA. Therefore, stationary mechanical equipment noise of the replacement fire station would not exceed the section 2909(c) or 2909(d) standards.

The stationary mechanical equipment associated with residential variant and replacement fire station would not result in a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in section 2909(a), 2909(c), and 2909(d). This impact would be ***less than significant***, and no mitigation measures are required.

OPERATIONAL FIRE STATION NOISE

The existing fire station generates noise from sirens associated with emergency response calls and occasional truck maintenance operations. While the proposed project or residential variant would replace the existing station and relocate the vehicle access bays from Sansome Street to Washington Street, there would be no increase in number of employees, the service area, or the level of operations; therefore, the proposed project would have ***no impact*** with respect to an increase in operational noise associated with the fire station.

TRAFFIC NOISE

The increase in traffic resulting from implementation of the proposed project or residential variant would increase the ambient noise levels at sensitive uses located in proximity to the project area. A doubling (100 percent increase) in traffic volumes would result in a 3 dBA change in the noise level, which is barely noticeable to the human ear. Therefore, any increase in traffic that would be less than a doubling in volume would not be noticeable to existing sensitive receptors in the project vicinity.

The proposed project and residential variant would generate up to 86 and 28 additional peak hour vehicle trips on the local roadway network, respectively. Peak hour traffic volume counts compiled by SFMTA indicate that existing peak hour volumes on Sansome and Washington streets are 323 and 425, respectively. Conservatively adding all of the proposed project's peak hour traffic to Sansome Street would increase traffic volumes by 27 percent, while adding all proposed project traffic to Washington Street would increase traffic volumes by 20 percent. The addition of the residential variant's peak hour traffic would increase traffic volumes on Sansome and Washington streets by 9 percent and 7 percent, respectively. These increases are well below the doubling of traffic volumes needed to produce a barely noticeable change in traffic noise (i.e., a doubling of traffic volumes). Therefore, traffic noise associated with the proposed project or residential variant would not exceed the identified criteria and the impact would be ***less than significant***.

Impact NO-3: Construction of the proposed project or residential variant could generate excessive groundborne vibration or groundborne noise levels. ***(Less than Significant with Mitigation)***

The proposed project or residential variant could result in vibration impacts resulting from construction activities. Construction-related vibrations can potentially impact modern or historic structures or, if occurring during nighttime hours, can result in sleep disturbance. While construction vibration can also impact vibration-sensitive equipment, there are no hospitals near the project site that may contain vibration-sensitive equipment, such as magnetic resonance imaging equipment or high-resolution lithographic, optical, or electron microscopes. As such, the proposed project and residential variant would not cause vibration that would affect vibration-sensitive equipment and such potential impacts are not considered in the following analysis.

Once construction is complete, the proposed project or residential variant would not involve the use of heavy machinery that is often associated with large commercial or industrial uses. Therefore, no sources of operational vibration are anticipated as part of the proposed project or residential variant and this topic is not discussed further.

CONSTRUCTION VIBRATION

The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to structural damage at the highest levels. Construction activities would include grading and excavation, which would have the potential to generate low levels of groundborne vibration. As such, existing structures located within 100 feet of the project site could be exposed to the generation of excessive groundborne vibration or groundborne noise levels related to construction activities.

Groundborne vibration levels resulting from construction activities at the project site were estimated using data published by the FTA.[92] Potential vibration levels resulting from construction of the proposed project or residential variant are identified for off-site locations based on their distance from construction activities.

The proposed project or residential variant would not involve types of construction activities that could generate excessive groundborne vibration, such as from impact pile-driving or blasting for building demolition. However, equipment used for grading and excavation activities, such as a vibratory compactor, caisson drill, and loaded trucks, could generate varying degrees of groundborne vibration, as shown in **Table 12**. The PPV levels for the types of construction equipment that would operate during the construction of the proposed project or residential variant, and vibration levels at the closest structures are identified in Table 12. Drilling and compaction activities at the project site could occur as close as 5 feet from the adjacent buildings at 423 Washington Street and 447 Battery Street. As shown in Table 11, temporary groundborne vibration levels from the caisson drill could reach as high as approximately 0.523 inch per second PPV if drilling for piles occurs within 5 feet of the adjacent building, and as high as approximately 1.23 inch per second PPV if vibratory compaction were to occur within 5 feet of the adjacent building. The proposed project or residential variant would also require the use of heavy trucks for material deliveries and off-site hauling of excavated soils. The groundborne vibration from the loaded trucks within 5 feet of the adjacent buildings could reach 0.44 inch per second PPV.

While the city has not adopted any thresholds for construction or operational groundborne vibration impacts, this analysis uses the vibration criteria established in Caltrans' *Transportation and Construction Vibration Guidance Manual* document to evaluate the impact of vibration on buildings. The most frequently used method to describe vibration impacts on buildings is peak particle velocity (PPV). As shown in **Table 13**, the Caltrans guidelines for assessing vibration damage potential to various types of buildings range from 0.08 to 0.12 inch per second PPV for extremely fragile historic buildings, ruins, and ancient monuments to 0.50 to 2.0 inch per second PPV for modern industrial/commercial buildings.

[92] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed January 4, 2021.

Table 12 Vibration Levels from Construction Equipment

Equipment	Approximate PPV (inch per second)				
	5 feet (423 Washington Street, 447 Battery Street)	10 feet	25 feet (FTA reference Level)	60 feet (555 Battery Street, 545 Sansome Street)	200 feet (617–619 Sansome Street)
Vibratory Compactor	1.23	0.58	0.21	0.08	0.02
Caisson Drill	0.523	0.243	0.089	0.033	0.009
Loaded Trucks	0.44	0.208	0.076	0.030	0.008

SOURCES: FTA, 2018; ESA, 2021.

NOTES: Dark-gray-shaded and light-gray-shaded vibration levels exceed the criteria for historic and modern structures. Light-gray-shaded vibration levels exceed the criteria for historic structures only.

PPV = peak particle velocity

Table 13 Caltrans Vibration Guidelines for Potential Damage to Structures

Structure and Condition	Maximum PPV (inches per second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

SOURCE: Caltrans, *Transportation and Construction Vibration Guidance Manual* (Table 19, p.38), September 2013.

NOTES: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity

The building at 423 Washington Street was constructed in 1983 and falls within the "modern industrial/commercial building" category with regard to the criteria presented in Table 13. The building at 447 Battery Street was constructed in 1907 and falls within the "historic and some older buildings" category with regard to the criteria presented in Table 13. As shown in Table 12, construction activities within 5 feet of the adjacent buildings would result in vibration levels that would exceed the Caltrans criterion of 0.5 PPV applicable to modern structures (423 Washington Street) and the 0.25 PPV criterion for the closest historic structure (447 Battery Street). Construction activities near the existing structures at 447 Battery Street and 423 Washington Street could therefore result in structural damage and this impact would be ***significant***. Implementation of **Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction**, would reduce the vibration impact on the buildings at 447 Battery Street and 423 Washington Street.

All other historic structures in the immediate vicinity (630 Sansome Street, 555 Battery Street, 545 Sansome Street, and 617–619 Sansome Street) are greater than 60 feet from the proposed construction areas. As indicated in Table 13, groundborne vibration levels would result in estimated PPV levels between 0.017 to 0.08 inch per second, well below the 0.25 PPV criterion for causing damage to historic structures. Therefore, construction activities would not result in structural damage to these buildings.

Mitigation Measure M-NO-3: Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings, which are 423 Washington Street and 447 Battery Street. Should demolition on the building at 447 Battery Street occur, this measure is no longer applicable to that structure; however, to the extent a new structure exists or is under construction at 447 Battery Street, the Pre-construction Survey and Vibration Management and Monitoring Plan shall meet the requirements of this mitigation measure for non-historic buildings to avoid damage to such new structure. The project sponsor shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary.

- ***Pre-construction Survey.*** Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected historic building at 447 Battery Street and the non-historic building 423 Washington Street. The project sponsor shall engage a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of both buildings, provided that if the historic building at 447 Battery Street has not been demolished, then the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake (in coordination with the structural engineer) the pre-construction survey of 447 Battery Street. If the historic building at 447 Battery Street has not been demolished, the pre-construction survey shall include descriptions and photograph of 447 Battery Street, including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage such as cracks and loose or damaged features (as allowed by the property owner). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. If the historic building at 447 Battery Street has not been demolished, the historic architect or qualified historic preservation professional shall be the lead author of the pre-construction survey for 447 Battery Street. These reports shall be submitted to the ERO and planning department preservation staff for review and approval prior to the start of vibration-generating construction activity.
- ***Vibration Management and Monitoring Plan.*** The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to the adjacent buildings and/or structures at 447 Battery Street and 423 Washington Street to ensure that any such damage is documented and repaired. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Vibration Management and Monitoring Plan that lays out the monitoring program to the ERO for approval. If the historic building at 447 Battery Street has not

been demolished, the Vibration Management and Monitoring Plan shall also be submitted to planning department preservation staff for review and approval.

The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

- *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected buildings and/or structures, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and, in the case the historic building at 447 Battery Street has not been demolished, a historic architect or qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded based on existing conditions, soil conditions, anticipated construction practices, and in the event the historic building at 447 Battery Street has not been demolished, character-defining features of that building (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings, a peak particle velocity [PPV] of 0.3 inch per second for older residential structures, and a peak particle velocity [PPV] of 0.5 inch per second for new residential structures and modern industrial/commercial buildings).
- *Vibration-Generating Equipment.* The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
- *Alternative Construction Equipment and Techniques.* Should construction vibration levels be observed in excess of the established standard, the contractor(s) shall halt construction and put alternative construction techniques into practice, to the extent feasible (e.g., non-vibratory compaction equipment). Following incorporation of the alternative construction techniques, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.
- *Vibration Monitoring.* The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard.
    - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
    - The historic architect or qualified historic preservation professional (for effects on the historic building at 447 Battery Street if it has not been demolished) and/or structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
    - If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.

- If vibration has damaged the historic building at 447 Battery Street, the historic preservation consultant shall immediately notify the ERO or the ERO's designee and preservation staff and prepare a damage report documenting the features of the building and/or structure that has been damaged.
- If no damage has occurred to the buildings at 447 Battery Street and Washington Street, then the historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall submit a monthly report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
- Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at 447 Battery Street and 423 Washington Street are not exceeded.

– *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The historic architect or qualified historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall conduct regular periodic inspections of each building and/or structure (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections and reporting shall occur.

– *Repair Damage.* The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site. Should damage occur at the historic building at 447 Battery Street, the building and/or structure shall be restored to its pre-construction condition in consultation with the historic architect or qualified historic preservation professions and planning department preservation staff.

– *Vibration Monitoring Results Report.* After construction is complete the project sponsor shall submit a final report from the historic architect or qualified historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer to the planning department. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The planning department shall review and approve the Vibration Monitoring Results Report.

Implementation of Mitigation Measure M-NO-3 would reduce or eliminate the likelihood of structural damage to adjacent historic buildings, and therefore would reduce the vibration impact on the buildings at 423 Washington Street and 447 Battery Street to a less-than-significant level. For these reasons, the proposed project or residential variant would not result in exposure of persons or structures to or generation of excessive groundborne vibration or groundborne noise levels. This impact would be ***less than significant with mitigation***.

Impact C-NO-1: The proposed project or residential variant, in combination with cumulative projects, would not result in significant cumulative noise and vibration impacts. ***(Less than Significant with Mitigation)***

CONSTRUCTION NOISE

Construction activities in the vicinity of the project site, such as excavation, grading, or construction of other buildings in the area, would occur on a temporary and intermittent basis. Project construction-related noise would not substantially increase ambient noise levels at locations greater than a few hundred feet from the project site. Other than renovation projects, there are two development projects that are close enough (within 500 feet) to combine with the noise created during construction of the proposed project or residential variant to result in a cumulative construction noise impact.

The 447 Battery Street project, adjacent to the east of the project site, proposes demolition of the existing three-story building and construction of a new 18-story hotel with ground floor retail project. Construction noise from this project are predicted to result in an increase in ambient noise levels from 73 to 74 dBA at the nearest sensitive receptor, the Gateway Apartments (noise measurement location LT-1 in Table 8, p. 93).[93] This project is approximately 150 feet from the Gateway Apartments. The 545 Sansome Street project proposes to demolish a single-story retail building at 501–505 Washington Street and a concrete capped, below-grade story at 517 Washington Street and construct an office addition to the existing nine-story building. This project is even further from the Gateway Apartments than the project site.

As shown in Table 8, maximum daytime construction noise from the proposed project or residential variant at the nearest daytime receptor would be 65 dBA. If construction activities from the projects at 447 Battery Street and 545 Sansome Street, and the proposed project or residential variant occur simultaneously, the combined construction would result in a noise level of approximately 75 dBA, assuming the 74 dBA contribution from the project at 447 Battery Street, a 65 dBA contribution from the proposed project, and a 65 dBA contribution from the project at 545 Sansome Street. Therefore, the resultant noise level would not result in an increase of greater than 10 dBA over existing levels at the nearest receptor, or exceed the FTA's 90 dBA criteria for daytime construction noise at a residential receptor.

Based on the above, cumulative construction-related noise impacts from the proposed project or residential variant would be ***less than significant***.

CONSTRUCTION VIBRATION

Of the 10 cumulative projects identified within 0.25 mile of the project site, only the 447 Battery Street project would be located within 25 feet of the project site.[94] Therefore, the cumulative context for construction vibration impacts is the immediate area surrounding the project site. Under the cumulative scenario, the 447 Battery Street project would demolish the existing historic building and construct a new hotel building with ground-floor retail. Therefore, the 447 Battery Street project building would be considered a "modern industrial/commercial building" with regard to the criteria presented in Table 12. If construction of the proposed project or residential variant overlaps with construction activities for the 447 Battery Street project, cumulative vibration levels could exceed the building damage threshold (0.5 PPV) for the closest non-historic building at 423 Washington Street. If pile drilling or compaction from both the

[93] Draft Environmental Impact Report 447 Battery Street Project, Planning Department Case Number 2014.1035E, Appendix B: Initial Study.
[94] This distance was selected because, as shown in Table 8, p. 85, the operation of construction equipment and activities generates vibration levels below the applicable threshold for historic structures.

proposed project or residential variant and the 447 Battery Street project were to occur adjacent to 423 Washington Street, vibration levels could exceed 1.0 PPV. Consequently, the proposed project or residential variant, in combination with the cumulative project at 447 Battery Street, has the potential to result in a ***significant*** cumulative impact. Additionally, should the new structure at 447 Battery Street already be constructed in the cumulative scenario, construction-related vibration for the proposed project or residential variant could result in vibration levels that exceed the building damage threshold (0.5 PPV) for a "modern industrial/commercial building." Implementation of Mitigation Measure M-NO-3 would reduce cumulative vibration impacts.

Implementation of Mitigation Measure M-NO-3 would reduce or eliminate the likelihood of structural damage to adjacent buildings, and therefore would reduce cumulative vibration impacts. The proposed project or residential variant would not combine with cumulative projects to create a significant vibration impact. This impact would be ***less than significant with mitigation***.

TRAFFIC NOISE

Localized traffic noise would increase in conjunction with foreseeable residential and commercial growth in the project vicinity. Therefore, the cumulative context for operational traffic noise includes the roadways in the vicinity of the project site and cumulative development.

Cumulative traffic volumes on roadways used to access the project area (i.e., Battery, Washington, Clay, Sansome streets) would increase by no more than 27 percent compared to existing conditions.[95] As discussed above under Impact NO-2, conservatively adding all of the proposed project's peak hour traffic to Sansome Street would increase traffic volumes by 27 percent, while adding all project traffic to Washington Street would increase traffic volumes by 20 percent. Even with this conservative allocation of traffic to these roadways, these increases would be well below the traffic volumes needed to produce a noticeable change in traffic noise (i.e., a doubling of traffic volumes, or a 100 percent increase). Therefore, cumulative traffic noise impacts would be ***less than significant***, and no mitigation measures are necessary.

FIXED MECHANICAL EQUIPMENT NOISE

Proposed project- or residential variant-related stationary-source noise, such as from HVAC equipment, exhaust fans, or emergency generators, would not substantially increase ambient noise levels at locations that are more than a few hundred feet from the project site. The projects at 447 Battery Street and 545 Sansome Street are the only cumulative development projects close enough (within 500 feet) to consider the potential to result in a cumulative operational noise impact.

The 545 Sansome Street project proposes to demolish a single-story retail building at 501–505 Washington Street and construct an office addition to the existing nine-story building. The building at 545 Sansome already contains operational rooftop HVAC equipment and mechanical penthouses; therefore, this project is not expected to further contribute cumulatively to mechanical equipment noise that has not already been included in the monitored values for the project area. The 447 Battery Street project is adjacent to the project site and would have rooftop stationary-source equipment. Because both the proposed project or residential variant and the project at 447 Battery Street would have equipment that (a) would be shielded or enclosed; and (b) be located at substantial heights (100 feet or more for both projects) above the nearest

[95] San Francisco Planning Department, *Draft Environmental Impact Report 447 Battery Street Project, Planning Department Case Number 2014.1035E*, Appendix B: Initial Study.

receptors to result in marked attenuation of noise levels, operational noise from cumulative projects' stationary sources is anticipated to be substantially attenuated to comply with section 2909 of the noise ordinance.

Therefore, the proposed project or residential variant would result in ***less-than-significant*** cumulative impacts related to operational noise, and no mitigation measures are necessary.

7. Air Quality

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
7. AIR QUALITY. Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard?	☐	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐	☐

OVERVIEW

The Bay Area Air Quality Management District (air district) is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin (air basin), which includes: San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties, and portions of Sonoma and Solano Counties. The air district is responsible for attaining and maintaining air quality in the air basin within federal and state air quality standards, as established by the federal Clean Air Act (federal clean air act) and the California Clean Air Act (clean air act), respectively. Specifically, the air district has the responsibility to monitor ambient air pollutant levels throughout the air basin and to develop and implement strategies to attain the applicable federal and state standards. The federal clean air act and the clean air act require plans to be developed for areas that do not meet air quality standards, generally.

The most recent air quality plan, the *2017 Clean Air Plan* (clean air plan), was adopted by the air district on April 19, 2017. The clean air plan updates the most recent Bay Area ozone plan, the 2010 clean air plan, in accordance with the requirements of the state Clean Air Act to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases

(GHGs) in a single, integrated plan; and establish emission control measures to be adopted or implemented. The clean air plan contains the following primary goals:

- Protect air quality and health at the regional and local scale: attain all state and national air quality standards, and eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Protect the climate: reduce Bay Area greenhouse gas emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The clean air plan represents the most current applicable air quality plan for the air basin. Consistency with this plan is the basis for determining whether the proposed project or residential variant would conflict with or obstruct implementation of air quality plans (checklist question E.7.a).

CRITERIA AIR POLLUTANTS

In accordance with the state and federal clean air acts, air pollutant standards are identified for the following six criteria air pollutants: ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. The air basin is designated as either in attainment or unclassified for most criteria pollutants with the exception of ozone, $PM_{2.5}$, and PM_{10},[96] for which these pollutants are designated as non-attainment for either the state or federal standards.[97] Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NOx).

By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in non-attainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is "considerable," then the project's impact on air quality would be considered significant.

Land use projects typically result in ozone precursor and particulate matter emissions because of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. For this reason, the air district has established significance thresholds for non-attainment criteria air pollutants, as shown in **Table 14**.

[96] PM_{10} is often termed "coarse" particulate matter and is made of particulates that are 10 microns in diameter or smaller. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.
[97] "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there is not enough data to determine the region's attainment status for a specified criteria air pollutant.

Table 14 Criteria Air Pollutants Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (Pounds/day)	Average Daily Emissions (Pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NOx	54	54	10
PM10	82 (exhaust)	82	15
PM2.5	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

The significance thresholds for ROG and NOx are based on the stationary source limits in air district regulation 2, rule 2, which requires that any new source that emits criteria air pollutants above the ROG and NOx emissions limit in Table 14, must offset those emissions. The significance thresholds for particulate matter is based on the emissions limit in the federal New Source Review for stationary sources in nonattainment areas. The air district's California Environmental Quality Act Air Quality Guidelines[98] and supporting materials[99] provide additional evidence to support these thresholds. Projects that would result in criteria air pollutant emissions below these significance thresholds would not result in a cumulatively considerable net increase in non-attainment criteria air pollutants within the air basin.[100] Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive Dust. Additionally, fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices at construction sites significantly control fugitive dust, and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[101] The air district has identified a number of best management practices to control fugitive dust emissions from construction activities.[102] The city's Construction Dust Control Ordinance (Ordinance No.176-08, effective July 30, 2008) requires a number of measures to control fugitive dust and the best management practices employed in compliance with the city's construction dust control ordinance are an effective strategy for controlling construction-related fugitive dust.

LOCAL HEALTH RISKS AND HAZARDS

In addition to criteria air pollutants, individual projects may emit *toxic air contaminants*. Toxic air contaminants collectively refer to a diverse group of air pollutants that can cause chronic (i.e., of long duration) and acute (i.e., severe but short-term) adverse effects to human health, including carcinogenic effects. Human health effects of toxic air contaminants include birth defects, neurological damage, cancer,

[98] Bay Area Air Quality Management District (air district), *California Environmental Quality Act Air Quality Guidelines,* May 2017. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed February 5, 2021.
[99] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/revised-draft-ceqa-thresholds-justification-report-oct-2009.pdf?la=en. Accessed February 5, 2021.
[100] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[101] Western Regional Air Partnership. *2006. WRAP Fugitive Dust Handbook.* September 7, 2006. This document is available online at http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf, accessed February 5, 2020.
[102] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

and mortality. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity; at a given level of exposure, one toxic air contaminant may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, toxic air contaminants do not have ambient air quality standards but are regulated by the air district using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.[103] Exposures to fine particulate matter ($PM_{2.5}$) are strongly associated with mortality, respiratory diseases, and decreased lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.[104] In addition to $PM_{2.5}$, diesel particulate matter (DPM) is also of concern. The California Air Resources Board (air board) identified diesel particulate matter as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans.[105] The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other toxic air contaminants routinely measured in the region.

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 7 days a week, for 30 years.[106] Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

In an effort to identify areas of San Francisco most adversely affected by sources of toxic air contaminants, San Francisco partnered with the air district to conduct a citywide health risk assessment based on an inventory and assessment of air pollution and exposures from mobile, stationary, and area sources within San Francisco. Areas with poor air quality, termed the *air pollutant exposure zone* were identified based on health-protective criteria that consider estimated cancer risk, exposures to fine particulate matter, proximity to freeways, and locations with particularly vulnerable populations, as further described below.

Excess Cancer Risk. The air pollutant exposure zone includes areas where modeled cancer risk exceeds 100 incidents per million persons exposed. This criterion is based on United States Environmental Protection Agency (EPA) guidance for conducting air toxic analyses and making risk management decisions at the

[103] In general, a health risk assessment is required if the air district concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

[104] San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008.

[105] California Air Resources Board (ARB), Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines," October 1998.

[106] California Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spot Program Risk Assessment Guidelines*, February, 2015. Pg. 4-44, 8-6.

facility and community-scale level.[107] The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on air district regional modeling.[108]

Fine Particulate Matter. In April 2011, the EPA published the Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards, Particulate Matter Policy Assessment." In this document, EPA staff strongly support a $PM_{2.5}$ standard within the range of 12 to 11 µg/m^3.[109] The air pollutant exposure zone for San Francisco is based on the health-protective $PM_{2.5}$ standard of 11 µg/m^3, as supported by the EPA's Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards, although lowered to 10 µg/m^3 to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

Proximity to Freeways. According to the air board, studies have shown an association between the proximity of sensitive land uses to freeways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children. Siting sensitive uses near freeways increases both exposure to air pollution and the potential for adverse health effects. As evidence shows that sensitive uses in an area within a 500-foot buffer of any freeway are at an increased health risk from air pollution,[110] lots that are within 500 feet of freeways are included in the air pollutant exposure zone.

Health Vulnerable Locations. Based on the air district's evaluation of health vulnerability in the Bay Area, those zip codes (94102, 94103, 94110, 94124, and 94134) in the worst quintile of Bay Area health vulnerability scores as a result of air pollution-related causes were afforded additional protection by lowering the standards for identifying lots in the air pollutant exposure zone to: (1) an excess cancer risk greater than 90 per one million persons exposed, and/or (2) $PM_{2.5}$ concentrations in excess of 9 µg/m^3.[111]

The above citywide health risk modeling is referenced in the Enhanced Ventilation Required for Urban Infill Sensitive Use Developments, or health code article 38 (Ordinance No. 224-14, effective December 8, 2014) (article 38). The purpose of article 38 is to protect the public health and welfare by establishing an air pollutant exposure zone and imposing an enhanced ventilation requirement for all urban infill sensitive use development within that zone. The project site is located within the air pollutant exposure zone and health code article 38 does apply to the proposed project. In addition, projects within the air pollutant exposure zone require special consideration to determine whether the project's activities would add a substantial amount of emissions to areas already adversely affected by poor air quality.

[107] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 67.
[108] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines,* May 2017, page D-43.
[109] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, page 67.
[110] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005, http://www.arb.ca.gov/ch/landuse.htm, accessed February 5, 2021
[111] San Francisco Planning Department and San Francisco Department of Public Health, *San Francisco Citywide Health Risk Assessment: Technical Support Documentation*, September 2020.

IMPACT ANALYSIS

Impact AQ-1: The proposed project or residential variant would not conflict with or obstruct implementation of the 2017 Clean Air Plan. *(Less than Significant)*

The most recently adopted air quality plan for the air basin is the air district's 2017 clean air plan.[112] The clean air plan is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. In determining consistency with clean air plan, this analysis considers whether the project would: (1) support the primary goals of the plan, (2) include applicable control measures from the plan, and (3) avoid disrupting or hindering implementation of control measures identified in the plan.

The primary goals of the clean air plan are to: (1) protect air quality and health at the regional and local scale; (2) eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and (3) protect the climate by reducing greenhouse gas emissions. To meet the primary goals, the plan recommends 85 specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. To the extent that the air district has regulatory authority over an emissions source generated by the project, the control measures may be requirements of the proposed project. Other measures in the plan not within the air district's regulatory authority may be advisory or are otherwise not specifically applicable to land use development projects.

The clean air plan recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are close at hand, and people have a range of viable transportation options. The control measures most applicable to the proposed project or residential variant are transportation control measures and energy and climate control measures. The proposed project or residential variant's impact with respect to GHGs are discussed in Section E.8, *Greenhouse Gas Emissions*, p. 126, which demonstrates that the proposed project or residential variant would comply with the applicable provisions of the city's Greenhouse Gas Reduction Strategy.

The infill nature of the proposed project or residential variant and high availability of viable transportation options ensure that hotel guests, employees, and residents could bicycle, walk, and ride transit to and from the project site instead of taking trips via private automobile. These features ensure that the proposed project or residential variant would avoid substantial growth in automobile trips and vehicle miles traveled. The proposed project's 916 daily vehicle trips and the residential variant's 332 daily vehicle trips would result in a negligible increase in air pollutant emissions. Transportation control measures that are identified in the clean air plan are implemented by the *San Francisco General Plan* and the planning code, for example, through the city's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with these requirements would ensure the project includes relevant transportation control

[112] Bay Area Air Quality Management District, Spare the Air Cool the Climate, *Final 2017 Clean Air Plan*, April 2017. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed February 5, 2021.

measures specified in the clean air plan. Therefore, the proposed project and residential variant would include applicable control measures identified in the clean air plan to the meet the plan's primary goals.

Examples of a project that could cause the disruption or delay of the clean air plan control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond parking requirements. The proposed project would add a 200-room hotel, approximately 40,490 square feet of office space, approximately 35,230 square feet of fitness center space, and approximately 6,470 square feet of retail/restaurant space, while the residential variant would add 256 residential units. The proposed project and residential variant would add 27 and 61 parking spaces, respectively. The number of parking spaces for the proposed project or residential variant are within permitted limits. The replacement fire station would reduce existing parking by 3 spaces, for a total of 18 spaces, which would be within the permissible limits with a conditional use authorization. Either of these scenarios would be added to a dense, walkable urban area near a concentration of regional and local transit service, would not preclude the extension of a transit line or a bike path or any other transit improvement, and thus would not disrupt or hinder implementation of the clean air plan's control measures.

For the reasons described above, the proposed project or residential variant would not conflict with or obstruct implementation of the clean air plan and this impact would be ***less than significant***.

Impact AQ-2: The proposed project or residential variant's construction activities would generate fugitive dust and criteria air pollutants, but would not result in a cumulatively considerable net increase of non-attainment criteria air pollutants within the air basin. ***(Less than Significant)***

Construction activities (short-term) typically result in emissions of ozone precursors and particulate matter in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and particulate matter are primarily a result of the combustion of fuel from on-road and off-road vehicles and other construction equipment. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. The proposed project or residential variant's construction activities involve the following phases: demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. During the proposed project's or residential variant's approximately 28-month construction period, construction activities would have the potential to result in emissions of ozone precursors and particulate matter, as discussed below.

FUGITIVE DUST

Proposed project- or residential variant-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter into the local atmosphere. Depending on exposure, adverse health effects can occur due to this particulate matter in general and due to specific contaminants, such as lead or asbestos that may be constituents of soil. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure.

In response, the San Francisco Board of Supervisors approved the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) with the intent of reducing the quantity of dust generated during site preparation, demolition and construction work in order to protect the health of the general public and of onsite workers, minimize public nuisance complaints, and to avoid orders to stop work by the department of building inspection.

The construction dust control ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the department of building inspection.[113]

In compliance with the dust control ordinance, the project sponsor and the contractor responsible for construction activities at the project site would be required to control construction dust on the site through a combination of watering disturbed areas, covering stockpiled materials, street and sidewalk sweeping, and other measures. Compliance with the regulations and procedures set forth by the dust control ordinance would ensure that potential dust-related air quality impacts would be reduced to ***less than significant***.

CRITERIA AIR POLLUTANTS

As discussed above, construction activities would result in emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment. To assist lead agencies in determining whether short-term construction-related air pollutant emissions require further analysis as to whether the project may exceed the criteria air pollutant significance thresholds shown in Table 14, p. 112, the air district developed screening criteria.[114] If a proposed project meets the screening criteria, then construction of the project would result in less-than-significant criteria air pollutant impacts. A project that exceeds the screening criteria may require a detailed air quality assessment to determine whether criteria air pollutant emissions would exceed significance thresholds. The *CEQA Air Quality Guidelines* note that the screening levels are generally representative of new development on greenfield[115] sites without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions.

The proposed project would construct a 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building with 200 hotel rooms, approximately 40,490 square feet of office space, and approximately 35,230 square feet of fitness center space. The building would also include approximately 6,470 square feet of retail/restaurant space at the first and second level. The three below-grade levels would provide parking space and utility and back-of-house rooms for the fire station, hotel, and retail uses. The proposed project would demolish the existing Fire Station 13 and construct a four story, 20,240-square-foot replacement fire station on the eastern portion of the project site. The residential variant, under which the massing/height of the building and replacement fire station use would remain the same as the proposed project, would construct 256 residential units instead of commercial uses). For both the proposed project and residential variant, a backup generator with an assumed 400-brake horsepower power output would be installed for the 218-foot-tall building. The existing 200 horsepower generator at Fire Station 13 would be replaced by a 464-brake horsepower generator.

The size of proposed construction activities for the proposed project would be below the criteria air pollutant screening sizes for a 200-guest-room hotel and approximately 82,190 square feet of office, retail, and fitness center space identified in the air district's CEQA Guidelines. Thus, quantification of construction-related criteria air pollutant emissions is not required and the proposed project's construction activities would result in a ***less-than-significant*** criteria air pollutant impact.

[113] The director of the department of building inspection may waive this requirement for activities on sites less than one half-acre that are unlikely to result in any visible wind-blown dust.
[114] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines,* May 2017.
[115] A greenfield site refers to agricultural or forest land or an undeveloped site earmarked for commercial, residential, or industrial projects.

However, the residential variant exceeds the criteria air pollutant screening criteria; therefore, a quantitative analysis was conducted. Although the proposed project does not exceed the screening criteria, the quantitative analysis of construction emissions presented below also represents the proposed project's construction. Construction-related criteria air pollutants generated by the proposed project and residential variant were quantified using the California Emissions Estimator Model (CalEEMod).[116] The model was developed, including default data (e.g., emission factors, meteorology), in collaboration with California regional air districts' staff. Default assumptions were used where project-specific information was unknown. Construction of the proposed project or residential variant would occur over approximately 29 months, five days per week. Emissions were converted from tons per year to pounds per day using the estimated construction duration of 30 working days in 2021, 260 working days in 2022 and 2023, and 58 working days in 2024. Additional assumptions, methodology for calculating criteria air pollutants, and detailed results by construction phase are included as Appendix D to this initial study. Construction-related emissions are presented in **Table 15**. As shown in Table 15, proposed project or residential variant construction emissions would not exceed any of the significance thresholds for criteria air pollutants in any given year in which construction would be taking place, and would result in ***less-than-significant*** impact with respect to criteria air pollutant emissions during construction.

Table 15 Average Daily Construction Emissions by Year for the Proposed Project and Residential Variant

	Average Daily Emissions (pounds/day)			
	Unmitigated			
Year	ROG	NOx	PM10	PM2.5
2021	1.55	18.41	0.90	0.69
2022	1.86	19.15	0.93	0.74
2023	11.13/15.79[a]	11.15	0.57	0.43
2024	0.73	7.42	0.39	0.26
Average Daily Significance Threshold (pounds/day)	**54.0**	**54.0**	**82.0**	**54.0**

SOURCE: ESA, 2021; 2017 Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, May 2017, p. 2-1.

ABBREVIATIONS:

ROG = reactive organic gases
NOx = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter

NOTES:

[a] ROG emissions from architectural coating are presented in this one table cell for the proposed project and residential variant, respectively, separated by a "/". These are the only emissions that differ between the proposed project and residential variant, as the residential variant would require more surface area coating.

[116] Environmental Science Associates, *530 Sansome Street Project Air Quality Technical Memorandum,* March 2021.

Impact AQ-3: During operations, the proposed project or residential variant would result in emissions of criteria air pollutants, but not at levels that would result in a cumulatively considerable net increase in non-attainment criteria air pollutants. ***(Less than Significant)***

As discussed above in Impact AQ-2, the proposed project would be below the criteria air pollutant screening sizes for hotel, office, and retail identified in the air district's *CEQA Air Quality Guidelines*. Thus, quantification of project-generated operational criteria air pollutant emissions is not required, and the proposed project would not exceed any criteria pollutant significance threshold, and would result in ***less than significant*** impact with respect to criteria air pollutants. However, the residential variant exceeds the criteria air pollutant screening criteria; therefore, a quantitative analysis was conducted for both the proposed project (for disclosure purposes) and the residential variant.

The proposed project or residential variant would generate criteria pollutant emissions associated with vehicle traffic (mobile sources), on-site area sources (i.e., natural gas combustion for space and water heating, and combustion of other fuels by building and grounds maintenance equipment), energy usage, and testing of backup diesel generators. Operational-related criteria air pollutants generated by the proposed project or residential variant were quantified using CalEEMod and provided in Appendix D of this initial study. Default assumptions were used where project-specific information was unknown. Refer to Appendix D for detailed assumptions, methodology and results.

The average daily and maximum annual emissions associated with operation of the proposed project or residential variant are shown in **Table 16**. Table 16 also includes the thresholds of significance for criteria for air pollutants.

As shown in Table 16, the proposed project or residential variant would not exceed any of the significance thresholds for criteria air pollutants and would result in ***less than significant*** impact with respect to criteria air pollutants.

Table 16 Summary of Unmitigated Operational Criteria Pollutant Emissions for the Proposed Project and Residential Variant

	Average Daily Emissions (pounds/day)				Maximum Annual Emissions (tons/year)			
	ROG	NOx	PM_{10}	$PM_{2.5}$	ROG	NOx	PM10	PM2.5
PROPOSED PROJECT								
Area Source Emissions	6.05	<0.01	<0.01	<0.01	1.10	<0.01	<0.01	<0.01
Energy Emissions	0.24	2.18	0.17	0.17	0.04	0.40	0.03	0.03
Mobile Source Emissions	3.29	33.91	3.28	0.89	0.60	6.19	0.60	0.16
Stationary Source Emissions	0.19	0.54	0.03	0.03	0.04	0.10	0.01	0.01
Total Emissions	***9.77***	***36.64***	***3.48***	***1.09***	***1.78***	***6.69***	***0.63***	***0.20***
Significance Threshold	**54.0**	**54.0**	**82.0**	**54.0**	**10.0**	**10.0**	**15.0**	**10.0**
RESIDENTIAL VARIANT								
Area Source Emissions	7.39	0.16	0.22	0.22	1.35	0.03	0.04	0.04
Energy Emissions	0.07	0.56	0.05	0.05	0.01	0.10	0.01	0.01
Mobile Source Emissions	1.19	11.71	1.31	0.38	0.22	2.14	0.24	0.07
Stationary Source Emissions	0.19	0.54	0.03	0.03	0.04	0.10	0.01	0.01
Total Emissions	***8.84***	***12.97***	***1.60***	***0.68***	***1.61***	***2.37***	***0.29***	***0.12***
Significance Threshold	**54**	**54**	**82**	**54**	**10.0**	**10.0**	**15.0**	**10.0**

SOURCE: BAAQMD, 2017; ESA 2021

ABBREVIATIONS:

ROG = reactive organic gases
NOx = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter

Impact AQ-4: The proposed project or residential variant's construction and operational activities would generate toxic air contaminants, including diesel particulate matter, that would expose sensitive receptors to substantial pollutant concentrations. ***(Less than Significant with Mitigation)***

As discussed above, the project site is located within an air pollutant exposure zone; therefore, the existing health risks from air pollution for sensitive receptors in the vicinity of the project site are substantial. The proposed project or residential variant would generate toxic air contaminants during construction from the use of diesel-powered construction equipment and during operations resulting from increased vehicle trips and the use of a new diesel-powered generator for the hotel or residential tower and a larger replacement diesel-powered generator for the replacement fire station. The construction and operational health risks from the proposed project or residential variant emissions are further analyzed below.

CONSTRUCTION EMISSIONS

According to the California air board, off-road equipment, which includes construction equipment, was the third largest source of mobile particulate matter emissions in California in 2012, the latest year for which inventory data is available.[117]However, a number of federal and state regulations require cleaner off-road equipment. Specifically, both the EPA and the California air board have set emissions standards for new off-road equipment engines, ranging from *Tier 1 to Tier 4*. Tier 1 emission standards were phased in between 1996 and 2000 and Tier 4 Interim and Final emission standards for all new engines were phased in between 2008 and 2015. Although the full benefits of these regulations will not be realized for several years, EPA estimates that by implementing the federal Tier 4 standards, NOx and particulate matter emissions will be reduced by more than 90 percent.[118]

In addition, construction activities do not lend themselves to analysis of long-term health risks because of their temporary and variable nature. As explained in the air district's CEQA Guidelines:

> *"Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk."*[119]

Therefore, project-level analyses of construction activities have a tendency to overestimate assessments of long-term health risks. However, within the air pollutant exposure zone, additional construction activity may adversely affect populations that are already at a higher risk for adverse long-term health risks from existing sources of air pollution.

Sensitive land uses near the project site include residences located at 550 Battery Street (approximately 300 feet from the project site) and Hotaling Place, on the north side of Washington Street just east of Montgomery Street (approximately 200 feet from the project site). In addition, a senior housing facility is located at 731 Sansome Street (approximately 630 feet from the project site), and another is located at 2 Embarcadero Center on the eighth floor, (approximately 960 feet from the project site).

Emission modeling conducted for the proposed project and residential variant assumes the off-road construction fleet predicted by the air resources board for the construction years of 2021 through 2024, which is a composite of equipment with Tier 0 through Tier 4 Final engines.

The proposed project or residential variant would require construction activities over an approximate 28-month construction period. The proposed project or residential variant's construction activities would result in short-term emissions of diesel particulate matter and other toxic air contaminants. The project site is located in an area that already experiences poor air quality and project construction activities would

[117] California Air Resources Board, 2017, *2012 Base Year Emissions, Off-Road Sources*, Available: https://ww3.arb.ca.gov/ei/emissiondata.htm, accessed February 3, 2021.
[118] United States Environmental Protection Agency, Clean Air Nonroad Diesel Rule: Fact Sheet, May 2004.
[119] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2012, page 8-6.

generate additional air pollution, affecting nearby sensitive receptors and resulting in a significant impact. Implementation of **Mitigation Measure M-AQ-4a, Off-Road Construction Equipment Emissions Minimization**, would reduce this impact to a less than significant with mitigation.

Mitigation Measure M-AQ-4a: Off-Road Construction Equipment Emissions Minimization

The project sponsor or the project sponsor's contractor shall comply with the following:

A. Engine Requirements.

1. All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall have engines that meet or exceed U.S. Environmental Protection Agency (EPA) Tier 4 Interim or Tier 4 Final off-road emission standards.
2. Where access to alternative sources of power are available, portable diesel engines shall be prohibited.
3. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The project sponsor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.
4. The project sponsor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

B. Waivers.

1. The planning department's Environmental Review Officer or designee (ERO) may waive the alternative source of power requirement of Subsection (A)(2) if an alternative source of power is limited or infeasible at the project site. If the ERO grants the waiver, the project sponsor must submit documentation that the equipment used for onsite power generation meets the requirements of Subsection (A)(1).
2. The ERO may waive the equipment requirements of Subsection (A)(1) if the project sponsor demonstrates that use of the alternative equipment would not result in a cancer risk from project construction and operation that exceeds 7 per one million exposed and annual average PM2.5 concentrations that exceed 0.2 $\mu g/m^3$.

C. Construction Emissions Minimization Plan. Before starting on-site construction activities, the project sponsor shall submit a Construction Emissions Minimization Plan (plan) to the ERO for review and approval. The Plan shall state, in reasonable detail, how the project sponsor will meet the requirements of Section A:

1. The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. As reasonably available, the description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification

(Tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For any VDECS installed, the description may include: technology type, serial number, make, model, manufacturer, air board verification number level, and installation date and hour meter reading on installation date.

2. The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The Plan shall include a certification statement that the project sponsor agrees to comply fully with the Plan.

3. The project sponsor shall make the plan available to the public for review onsite during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the Plan. The sign shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

D. Monitoring. After start of construction activities, the project sponsor shall submit quarterly reports to the ERO documenting compliance with the plan. After completion of construction activities and prior to receiving a final certificate of occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.

While emission reductions from limiting idling, educating workers and the public, and properly maintaining equipment are difficult to quantify, other measures, specifically the requirement for equipment with Tier 4 compliant engines, can reduce construction emissions of diesel particulate matter by 93 to 96 percent compared to equipment with engines meeting Tier 1 or Tier 2 emission standards.[120] Such a reduction provides reasonable certainty to conclude that there is no potential for a significant impact from construction period toxic air contaminant emissions. Therefore, compliance with Mitigation Measure M-AQ-4a would reduce construction period toxic air contaminant emissions on nearby sensitives receptors to less than significant with mitigation.

OPERATIONAL EMISSIONS

The proposed project or residential variant would generate new vehicle trips and include a diesel emergency generator for the new building and for the replacement fire station, all of which emit toxic air contaminants. The air district considers roads with less than 10,000 vehicles per day "minor, low-impact" sources that do not pose a significant health impact even in combination with other nearby sources. These determinations were made through extensive modeling, source tests, and evaluation of their toxic air contaminant emissions.[121] The proposed project's 916 daily vehicle trips and the residential variant's 332 daily vehicle trips would each be well below this level and would be distributed among the local roadway network; therefore, an assessment of project-generated toxic air contaminants resulting from vehicle trips is not

[120] PM emissions benefits are estimated by comparing off-road PM emission standards for Tier 1 and Tier 2 with Tier 4 final emissions standards. Tier 1 PM emissions standards were established for equipment with 25 to <50 horsepower and equipment with horsepower <175. Tier 1 emissions standards for these engines were compared against Tier 4 final emissions standards, resulting in a 96 percent reduction in PM. The EPA established PM standards for engines with horsepower between 50 and <175 as part of the Tier 2 emission standards. For these engines Tier 2 emissions standards were compared against Tier 4 final emissions standards, resulting in between 93 and 95 percent reduction in PM.

[121] Bay Area Air Quality Management District, Recommended Methods for Screening and Modeling Local Risks and Hazards, p. 12. May 2011, https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx, Accessed February 2, 2021.

required and the proposed project and residential variant would not generate a substantial amount of toxic air contaminant emissions that could affect nearby sensitive receptors.

The proposed project and residential variant would also include a 400-brake horsepower diesel emergency generator for the 218-foot-tall building. In addition, a new, 464-brake horsepower generator would be installed at the replacement fire station to replace the existing 200 horsepower generator. Emergency generators are regulated by the air district through its New Source Review (Regulation 2, Rules 2 and 5) permitting process. The project sponsor would be required to obtain applicable permits to operate the emergency generators from the air district. Although emergency generators are intended only to be used in periods of power outages, monthly testing of the generators of the proposed project or residential variant would be required. The fire department tests their generators once a week for approximately 30 minutes.[122] The air district limits testing to no more than 50 hours per year. Additionally, as part of the permitting process, the air district would limit the excess cancer risk from any facility to no more than 10 per one million population and requires any source that would result in an excess cancer risk greater than one per one million population to install best available control technology for toxics.

However, because the project site is located in an area that already experiences poor air quality, the proposed emergency back-up generators have the potential to expose sensitive receptors to substantial concentrations of diesel emissions, a known toxic air contaminant, resulting in a significant air quality impact. Implementation of **Mitigation Measure M-AQ-4b, Diesel Backup Generator Specifications**, would reduce the magnitude of this impact to less than significant.

> **Mitigation Measure M-AQ-4b: Diesel Backup Generator Specifications**
>
> The project sponsor shall ensure that the proposed diesel backup generators meet or exceed California Air Resources Board Tier 4 off-road emission standards. Additionally, once operational, the diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generators are located shall maintain records of the testing schedule for the diesel backup generators for the life of those diesel backup generators and to provide this information for review to the planning department within three months of requesting such information.

Mitigation Measure M-AQ-4b would result in an approximate 96 percent reduction in diesel particulate matter compared to exhaust from generators without emissions controls.[123] Therefore, although the proposed project and residential variant would add a new source of toxic air contaminants within an area that already experiences poor air quality, implementation of Mitigation Measure M-AQ-4 would reduce this impact to a ***less than significant with mitigation***.

In summary, the proposed project's and residential variant's toxic air contaminant emissions would be less than significant with implementation of M-AQ-4a: Clean Off-Road Construction Equipment and M-AQ-4b: Clean Diesel Generators for Building Operations.

[122] DeWitt, Dawn, Assistant Deputy Chief, Support Services, San Francisco Fire Department, e-mail correspondence with Susan Yogi, Senior Managing Associate, Environmental Science Associates, March 3, 2021.
[123] PM emission benefits are estimated for backup diesel generators by comparing PM emission standards for Tier 4 with Tier 1 in the 175 to 750 hp range. The PM emission factor change results in approximately a 96 percent reduction, from 0.4 g/bhp-hr to 0.015 g/bhp-hr.

SITING SENSITIVE LAND USES

The residential variant would include development of 256 residential units and is considered a sensitive land use for purposes of air quality evaluation. For sensitive land use projects within the air pollutant exposure zone as defined by planning code article 38, such as the project site, article 38 requires that the project sponsor submit an Enhanced Ventilation Proposal for approval by the health department that achieves protection from $PM_{2.5}$ (fine particulate matter) equivalent to that associated with a Minimum Efficiency Reporting Value 13 (MERV-13) filtration. The department of building inspection will not issue a building permit without written notification from the director of the health department that the applicant has an approved enhanced ventilation proposal. The proposed project does not include residential units and would not be considered a sensitive land use for purposes of air quality evaluation.

In compliance with article 38, the project sponsor has submitted an initial application to the health department.[124] The regulations and procedures set forth by article 38 would reduce exposure of sensitive receptors to substantial pollutant concentrations; therefore, this impact would be ***less than significant***.

Impact AQ-5: The proposed project or residential variant would not create objectionable odors that would affect a substantial number of people. ***(Less than Significant)***

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. During construction, diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. The proposed project or residential variant uses are not typical odor sources of concern and would not create a significant source of new odors. Therefore, the proposed project or residential variant would not result in other emissions, such as odors, that could adversely affect a substantial number of people and this impact would be ***less than significant***.

Impact C-AQ-1: The proposed project or residential variant, in combination with cumulative projects would contribute to cumulative air quality impacts. ***(Less than Significant with Mitigation)***

As discussed above, regional air pollution is by its very nature largely a cumulative impact. Emissions from cumulative projects contribute to the region's adverse air quality on a cumulative basis. No single project by itself would be sufficient in size to result in regional non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.[125] The project-level thresholds for criteria air pollutants are based on levels below which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, cumulative criteria air pollutant analysis is presented in Impacts AQ-2 and AQ-3. Impacts AQ-2 and AQ-3 concluded that cumulative criteria air pollutant impacts would be less than significant. The remainder of this cumulative air quality analysis address cumulative health risks and odors to sensitive receptors.

As discussed above, the project site is in the air pollutant exposure zone and nearby sensitive receptors already experience poor air quality. This means significant air quality health risk impacts exist even without

[124] J. Abrams Law (on behalf of EQX Jackson SQ Holdco LLC, San Francisco Fire Department, and San Francisco Bureau of Real Estate), Application for Article 38 Compliance Assessment, March 10, 2021.
[125] BAAQMD, *CEQA Air Quality Guidelines*, May 2017, page 2-1.

the proposed project or residential variant. The proposed project or residential variant and cumulative projects in the vicinity such as 875 Sansome Street, 17 Osgood Place, 545 Sansome Street, 447 Battery Street, 650 Sacramento Street, 400 California Street, and 220 Battery Street, would result in additional emissions of toxic air contaminants, including diesel particulate matter emissions from new vehicle trips and other stationary emissions sources similar to the proposed project or residential variant's diesel generator emissions, as well as diesel emissions from construction activities.

As described in Impact AQ-4, above, the proposed project's 916 average daily vehicle trips and the residential variant's 332 average daily vehicle trips would be considered minor low-impact sources that do not pose a significant health impact even in combination with other nearby sources. However, the proposed project or residential variant would involve construction activities that require off-road equipment and/or backup generators that emit diesel particulate matter and other TACs. Therefore, the proposed project or residential variant could result in a considerable contribution to significant cumulative health risks. This would be a significant cumulative impact. As described in Impact AQ-4, the proposed project or residential variant would implement Mitigation Measures M-AQ-4a, Clean Off-road Construction Equipment, and M-AQ-4b, Diesel Backup Generator Specifications.

The proposed project would be required to implement Mitigation Measures M-AQ-4a Clean Off-road Construction Equipment and M-AQ-4b Diesel Backup Generator Specifications, which could reduce the proposed project or residential variant's diesel particulate emissions by as much as 96 percent. Implementation of these mitigation measures would reduce the proposed project or residential variant's contribution to cumulative health risk impacts to a ***less-than-significant*** level.

The proposed project or residential variant and cumulative projects would generate some odors during construction, but odors would be temporary. Upon completion of construction activities cumulative projects combined with the proposed project or residential variant would not generate substantial odors. Therefore, cumulative odor impacts would be considered ***less than significant***.

---

8. Greenhouse Gas Emissions

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
8. GREENHOUSE GAS EMISSIONS. Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will continue to contribute to global climate change and its associated environmental impacts.

The air district has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of GHGs and describes the required contents of such a plan. Accordingly, San Francisco has prepared Strategies to Address Greenhouse Gas Emissions,[126] which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's qualified GHG reduction strategy in compliance with the CEQA guidelines. These GHG reduction actions have resulted in a 28 percent reduction in GHG emissions in 2015 compared to 1990 levels,[127] exceeding the year 2020 reduction goals outlined in the air district's 2017 Clean Air Plan, Executive Order S-3-05, and Assembly Bill 32 (also known as the Global Warming Solutions Act).[128]

The fire department developed a departmental climate action plan (DepCAP) that was submitted in 2014, which reports on the city's fiscal year 2012–2013 data for its greenhouse gas inventory. To further reduce emissions, the fire department has committed to focusing efforts on: (1) fire station facility upgrades; (2) modernizing the vehicle fleet by acquiring efficient replacement vehicles; (3) converting to lower emission fuels; and (4) modifying employee behavior to reduce energy, fuel, and water usage.[129]

Given that the city has met the state and region's 2020 GHG reduction targets and San Francisco's GHG reduction goals are consistent with, or more aggressive than, the long-term goals established under order S-3-05,[130] order B-30-15,[131,132] and Senate Bill 32[133,134] the city's GHG reduction goals are consistent with order S-3-05, order B-30-15, Assembly Bill 32, Senate Bill 32 and the 2017 Clean Air Plan. Therefore, proposed

---

[126] San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions in San Francisco,* July 2017. This document is available online at: https://sfplanning.org/project/greenhouse-gas-reduction-strategies, accessed December 7, 2020.
[127] San Francisco Department of the Environment, *San Francisco's Carbon Footprint.* Available at https://sfenvironment.org/carbon-footprint, accessed December 7, 2020.
[128] Executive Order S-3-05, Assembly Bill 32, and the air district's 2017 Clean Air Plan (continuing the trajectory set in the 2010 Clean Air Plan) set a target of reducing GHG emissions to below 1990 levels by year 2020.
[129] San Francisco Fire Department, Departmental Climate Action Plan, Fiscal Year 2012-2013, April 11, 2014, https://sfenvironment.org/sites/default/files/fliers/files/sfe_cc_2014_sffd_cap_fy1213.pdf, accessed December 7, 2020.
[130] Office of the Governor, Executive Order S-3-05, June 1, 2005. Executive Order S-3-05 sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide equivalents ($MTCO_2E$)); by 2020, reduce emissions to 1990 levels (approximately 427 million $MTCO_2E$); and by 2050 reduce emissions to 80 percent below 1990 levels (approximately 85 million $MTCO_2E$). Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.
[131] Office of the Governor, *Executive Order B-30-15,* April 29, 2015. Executive Order B-30-15, issued on April 29, 2015, sets forth a target of reducing GHG emissions to 40 percent below 1990 levels by 2030 (estimated at 2.9 million $MTCO_2E$).
[132] San Francisco's GHG reduction goals are codified in section 902 of the environment code and include: (i) by 2008, determine City GHG emissions for year 1990; (ii) by 2017, reduce GHG emissions by 25 percent below 1990 levels; (iii) by 2025, reduce GHG emissions by 40 percent below 1990 levels; and by 2050, reduce GHG emissions by 80 percent below 1990 levels.
[133] Senate Bill 32 amends California Health and Safety Code Division 25.5 (also known as the California Global Warming Solutions Act of 2006) by adding Section 38566, which directs that statewide greenhouse gas emissions to be reduced by 40 percent below 1990 levels by 2030.
[134] Senate Bill 32 was paired with Assembly Bill 197, which would modify the structure of the State Air Resources Board; institute requirements for the disclosure of greenhouse gas emissions criteria pollutants, and toxic air contaminants; and establish requirements for the review and adoption of rules, regulations, and measures for the reduction of greenhouse gas emissions.

projects that are consistent with the city's GHG reduction strategy would be consistent with the aforementioned GHG reduction goals, would not conflict with these plans or result in significant GHG emissions, and would therefore not exceed San Francisco's applicable GHG threshold of significance.

The following analysis of the proposed project or residential variant's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Because no individual project could emit GHGs at a level that could result in a significant impact on the global climate, this analysis is in a cumulative context, and this section does not include an individual project-specific impact statement.

Impact C-GG-1: The proposed project or residential variant would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. ***(Less than Significant)***

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers; energy required to pump, treat, and convey water; and emissions associated with waste removal, disposal, and landfill operations.

The proposed project or residential variant would increase the intensity of use of the site by constructing either a 218-foot-tall building and a four-story replacement fire station, with hotel, fitness center, office, and restaurant/retail uses, or a residential building with 256 units. Therefore, the proposed project and residential variant would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources) and commercial or residential operations that result in an increase in energy use, water use, wastewater treatment, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions.

The proposed project or residential variant would be subject to regulations adopted to reduce GHG emissions as identified in the GHG reduction strategy. As discussed below, compliance with the applicable regulations would reduce the project's GHG emissions related to transportation, energy use, waste disposal, wood burning, and use of refrigerants.

Compliance with the city's Commuter Benefits Ordinance, Emergency Ride Home Program, transportation management programs, Transportation Sustainability Program, Jobs-Housing Linkage Program, bicycle parking requirements, low-emission car parking requirements, and car sharing requirements would reduce the proposed project and residential variant's transportation-related emissions. These regulations reduce GHG emissions from single-occupancy vehicles by promoting the use of alternative transportation modes with zero or lower GHG emissions on a per capita basis.

The proposed project or residential variant would be required to comply with the energy efficiency requirements of the city's green building code, Stormwater Management Ordinance and Water Efficient Irrigation Ordinance which would promote energy and water efficiency, thereby reducing the proposed project's energy-related GHG emissions.[135] The proposed project would also be required to comply with the Commercial Water Conservation Ordinance, and the residential variant would be required to comply with

[135] Compliance with water conservation measures reduce the energy (and GHG emissions) required to convey, pump and treat water required for the project.

the Residential Water Conservation Ordinance and Residential Energy Conservation Ordinance. Additionally, the proposed project and residential variant would be required to meet the renewable energy criteria of the green building code, including renewable energy generation or green roof installation, further reducing the project's energy-related GHG emissions.

The proposed project or residential variant's waste-related emissions would be reduced through compliance with the city's Recycling and Compositing Ordinance, Construction and Demolition Debris Recovery Ordinance, Construction and Demolition Debris Recycling, and green building code requirements. These regulations reduce the amount of materials sent to a landfill, reducing GHGs emitted by landfill operations. These regulations also promote reuse of materials, conserving their embodied energy[136] and reducing the energy required to produce new materials.

Compliance with the city's street tree planting requirements would serve to increase carbon sequestration. Other regulations, including those limiting refrigerant emissions and the air district's wood-burning regulations, would reduce emissions of GHGs and black carbon, respectively. Regulations requiring low-emitting finishes would reduce volatile organic compounds.[137] Thus, the proposed project and residential variant were determined to be consistent with San Francisco's GHG reduction strategy.[138]

The project sponsor is required to comply with these regulations, which have proven effective as San Francisco's GHG emissions have measurably decreased when compared to 1990 emissions levels, demonstrating that the city has met and exceeded Executive Order S-3-05, Assembly Bill 32, and the 2017 Clean Air Plan GHG reduction goals for the year 2020. Furthermore, the city has met its 2017 GHG reduction goal of reducing GHG emissions to 25% below 1990 levels by 2017. Other existing regulations, such as those implemented through Assembly Bill 32, will continue to reduce a proposed project or residential variant's contribution to climate change. In addition, San Francisco's local GHG reduction targets are consistent with the long-term GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32 and the 2017 Clean Air Plan. Therefore, because the proposed project is consistent with the city's GHG reduction strategy, it is also consistent with the GHG reduction goals of Executive Order S-3-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32 and the 2017 Clean Air Plan, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance. Additionally, the proposed project or residential variant would involve the construction of a replacement fire station, which would result in an upgraded, more energy efficient fire station, consistent with the fire department's DepCAP strategy of reducing fire department emissions through fire station facility upgrades. As such, the proposed project or residential variant would result in a ***less-than-significant*** impact with respect to GHG emissions. No mitigation measures are necessary.

---

[136] Embodied energy is the total energy required for the extraction, processing, manufacture and delivery of building materials to the building site.
[137] While not a GHG, volatile organic compounds are precursor pollutants that form ground level ozone. Increased ground level ozone is an anticipated effect of future global warming that would result in added health effects locally. Reducing volatile organic compound emissions would reduce the anticipated local effects of global warming.
[138] San Francisco Planning Department, *Greenhouse Gas Analysis: Compliance Checklist for 530 Sansome Street*, December 20, 2019.

9. Wind

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
9. WIND. Would the project:					
a) Create wind hazards in publicly accessible areas of substantial pedestrian use?	☐	☐	☒	☐	☐

The information in this section is based on a pedestrian wind study prepared for the proposed project and residential variant, which is included as Appendix E to this initial study. Average wind speeds in the city are the highest in the summer and lowest in winter. However, the strongest peak wind speeds occur in winter (wind direction is also most variable in the winter). Wind speeds are diurnal and fluctuate throughout the day, with the highest average wind speeds occurring during the mid-afternoon and the lowest in the early morning. Based on over 40 years of recordkeeping at the old San Francisco Federal Building near Civic Center, the highest mean hourly wind speeds (approximately 20 miles per hour [mph]) occur in July, while the lowest mean hourly wind speeds (in the range of 6 mph to 9 mph) occur in November.

In the city, westerly to northwesterly winds are the most frequent and strongest winds during all seasons.[139] Of the 16 primary wind directions, five have the greatest frequency of occurrence: the northwest, west-northwest, west, west-southwest, and southwest.[140] Additionally, most of measured winds over 13 mph—the speed at which pedestrians begin to feel discomfort—blow from these directions.

APPROACH TO ANALYSIS

Tall buildings and exposed structures can strongly affect the wind environment for pedestrians. A building that stands alone or is much taller than the surrounding buildings can intercept and redirect winds that might otherwise flow overhead and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence (variability in wind speed and pressure).

Planning code section 148, Reduction of Ground-Level Wind Currents in C-3 districts, requires buildings to be shaped so as not to cause ground-level wind currents to exceed, more than 10 percent of the time, the pedestrian comfort criteria of 11 mph in substantial pedestrian use areas, and 7 mph in public seating areas. Similarly, the planning code requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph for a single full hour of the year. Because the hazard criterion is stated in terms of 1 hour per year of exceedance, it is most appropriate to report exceedances of this criterion in terms of the

[139] Wind directions are reported as directions from which the winds blow.
[140] The 16 primary wind directions, clockwise beginning with west winds, are west, west-northwest, northwest, north-northwest, north, north-northeast, northeast, east-northeast, east, east-southeast, southeast, south-southeast, south, south-southwest, southwest, and west-southwest.

number of hours per year that the excess occurs, rather than the accompanying wind speeds.[141] The wind ordinance comfort criteria are defined in terms of equivalent wind speed, which is an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence. Throughout this discussion, references to "wind speeds" are to equivalent wind speeds exceeded 10 percent of the time, while "wind hazard" refers to equivalent wind speeds that reach or exceed the hazard level of 26 mph for a single full hour of the year.

Section 148 focuses largely on projects meeting the wind comfort criteria, but it permits exceptions to allow a project to exceed the comfort criteria by the "least practical amount" if meeting the criteria would create "an unattractive and ungainly building form" and "unduly restrict" a site's development potential, and it can be concluded that, because of the limited amount by which the comfort level is exceeded or the limited location or time of the exceedance, the added winds would be "insubstantial." Conversely, with respect to wind hazards, section 148 states that new buildings and additions may not cause wind speeds that meet or exceed the hazard criterion and no exception may be granted for buildings that result in winds that meet or exceed the hazard criterion. Accordingly, for the purposes of CEQA review, the planning department has determined that the pedestrian wind hazard criterion set forth in the San Francisco Planning Code is the standard for determining whether pedestrian winds would "substantially affect public areas" and therefore would result in a significant impact. Therefore, the CEQA significance criterion for wind is whether a project would meet or exceed the wind hazard speed (36 mph, 1-minute average) for a single hour of the year. With respect to conditions in which the wind hazard criterion is exceeded under existing conditions, a significant impact would normally result if the total number of hours during which the hazard criterion is exceeded or the number of locations where exceedances would occur would increase. This is because a CEQA evaluation is based on the change from existing conditions.

Impact WI-1: The proposed project or residential variant would not result in a net increase in wind hazards in publicly accessible areas of substantial pedestrian use. ***(Less than Significant)***

The project site is at the northern edge of Downtown San Francisco. The closest tall buildings include the Transamerica Pyramid, an 850-foot-tall, 48-story building located one-half block to the west at 600 Montgomery Street; the 20-story, approximately 245-foot-tall office building at 505 Sansome Street, southwest across Sansome Street; and the 15-story, 225-foot-tall U.S. Appraisers' Building north across Washington Street at 630 Sansome Street. Other nearby buildings include a nine-story, approximately 105-foot-tall, office building at 545 Sansome Street, directly west across Sansome Street; and an eight-story, approximately 110-foot-tall office building at 500 Sansome Street. Half a block east of the project site is a seven-story, 85-foot-tall office building at 423 Washington Street. The project site is generally flat with a ground surface elevation of approximately 3 feet above mean sea level.

Existing wind conditions in the vicinity of the project site are generally windy. As shown in **Table 17**, 53 of 77 test points in the vicinity of the project site exceed the pedestrian comfort criterion of 11 mph in areas of

[141] The wind hazard criterion of 26 mph is derived from a wind condition that would generate a 3-second gust of wind at 20 meters per second (45 mph), a commonly used guideline for wind safety. This wind speed, on an hourly basis, is 26 mph averaged for a full hour. However, because the Civic Center Federal Building wind data were collected at one-minute averages, the 26-mph one-hour average wind speed is converted to a corresponding one-minute average wind speed of 36 mph, which is then used to determine compliance with the planning code hazard criterion. (Arens, E. et al., "Developing the San Francisco Wind Ordinance and its Guidelines for Compliance," *Building and Environment*, Vol. 24, No. 4, pp. 297–303, 1989.) That is, when stated on the same basis as the comfort criteria winds, the hazard criterion speed is a one-minute average of 36 mph. Accordingly, all hazard wind speeds in this analysis are presented based on the 36-mph wind speed averaged over one-minute, and the hazard criterion is based on 36 mph. Therefore, the wind test results are comparable between the comfort and hazard analyses.

substantial pedestrian use,[142] and 12 of 77 test points exceed the wind hazard criterion speed of 36 mph (averaged over one minute). Across all test points, the existing average wind speed exceeded 10 percent of the time is 14 mph, and the average wind speed exceeded at least 1 hour per year is 28 mph. The total number of hours per year that the hazard criterion is exceeded under existing conditions is 249.

Table 17 Pedestrian-Level Wind Impacts for the Proposed Project and Residential Variant

Scenario	Wind Comfort (Criterion = 11 MPH)			Wind Hazard (Criterion = 36 MPH)		
	Average Speed (mph)	Average (percent)	Total Exceedances (Exceedances/Number of Test Locations)	Average Speed (mph)	Total Hours	Total Exceedances (Exceedances/Number of Test Locations)
Existing	14	21	53/77	28	249	12/77
Proposed Project and Residential Variant	14	20	55/77	28	138	10/77
Cumulative	14	22	54/77	28	263	14/77

SOURCE: RWDI, 2021.

The proposed project and residential variant would essentially have the same building envelope. Both scenarios would include a 218-foot-tall building; however, the residential variant would have three additional stories through reduced floor-to-floor heights and minor modifications to the top floor mechanical penthouse plan. While wind tunnel testing was undertaken for the proposed project only, the wind study concluded that impacts from the residential variant would be substantially similar to those of the proposed project.[143] Therefore, the impacts described herein with respect to the proposed project would be substantially the same as or very similar to those resulting from the residential variant.

With implementation of the proposed project or residential variant, the number of test points exceeding the wind comfort criterion would increase from 53 to 55. However, implementation of the proposed project or residential variant would reduce the percent of the time wind speeds would exceed the comfort criterion from 21 to 20, and the average wind speed exceeded 10 percent of the time would be unchanged. Because the proposed project or residential variant would increase the number of test points exceeding the wind comfort criterion, the proposed project or residential variant would require an exception to planning code section 148 pursuant to planning code section 309.

With respect to the hazard criterion, 12 of the test points exceed the criterion under existing conditions. With implementation of the proposed project and residential variant, this would be reduced from 12 to 10; four existing hazard exceedances would be eliminated and there would be two new exceedances. The total hours exceeding the hazard criterion would be reduced from 249 to 138. Moreover, the average wind speed exceeded 1 hour per year would be 28 mph, the same as existing conditions. The two hazard criterion exceedances that would be eliminated by the proposed project and residential variant would occur along Washington and Sansome streets within close proximity to the project site.

[142] All sidewalk test points were evaluated in comparison to the 11imph pedestrian comfort criterion; only test point 53, within Transamerica Redwood Park, and test point 54, in the pedestrian portion of Merchant Street adjacent to the park, qualify as seating locations.
[143] RWDI, 530 Sansome Street, *Pedestrian Wind Study*, p. 10, February 1, 2021.

As stated above, the significance criterion for wind is whether a project would exceed 26 mph for a single hour of the year; however, when the wind hazard criterion is exceeded under existing conditions, the significance determination is made on the basis of whether pedestrian conditions would further deteriorate. As shown in Table 17, the proposed project and residential variant would result in 10 exceedances of the hazard criterion, but this would represent a reduction in the number of test points exceeding the hazard criterion as compared to existing conditions. Moreover, the total hours exceeding the hazard criterion would be reduced from 249 to 138, representing a substantial improvement in the total number of hazardous wind hours as compared to existing conditions. Therefore, because wind conditions would generally improve as compared to existing conditions with respect to the hazard criterion, the proposed project or residential variant would not result in a net increase in the number of wind hazards in publicly accessible areas of substantial pedestrian use when compared to existing conditions. Therefore, this impact would be ***less than significant***.

Impact C-WI-1: The proposed project or residential variant, in combination with cumulative projects, would not alter wind in a manner that substantially affects public areas. ***(Less than Significant)***

As shown in Table 17, with the introduction of cumulative development (i.e., the 220 Battery Street, 447 Battery Street, 545 Sansome Street, 875 Sansome Street, and 17 Osgood Place projects), wind hazard conditions would worsen, as compared to existing conditions. The number of exceedances of the hazard criterion would increase from 12 to 14, and the number of hours during which the hazard criterion would be exceeded would increase from 249 under existing conditions to 263 under cumulative conditions. The average wind speed exceeded one hour per year would remain the same as existing conditions (28 mph). However, the net increase in the number of exceedances would be two. Specifically, four new locations would exceed the hazard criterion that do not exceed the criterion under existing conditions, and two exceedances under existing conditions would be eliminated under the cumulative projects scenario. The four new exceedances would occur on the block containing the project site: one test point at the intersection of Battery and Washington streets, one test point adjacent to the project site on Washington Street, one test point on Sansome Street adjacent to the project site, and one test point across Washington Street from the project site. Two exceedances under existing conditions would be eliminated under the cumulative project scenario: one on Washington Street adjacent to the project site, and one on Washington Street adjacent to 447 Battery Street, a cumulative project. Because the cumulative scenario would result in a net increase of two hazard exceedances as compared to existing conditions, and an increase in the number of hours exceeding the hazard criterion, this would be a potentially significant cumulative impact.

However, as discussed under Impact WI-1 above, when compared to existing conditions the proposed project or residential variant alone would result in a reduction in the number of locations with wind hazard exceedances (from 12 to 10) and an overall reduction in the total number of annual hours exceeding the hazard criterion (from 249 to 138). Moreover, the pedestrian wind study prepared for the proposed project and residential variant concluded the increase in the number of total hours and locations exceeding the hazard criterion would primarily be caused by the proposed project at 545 Sansome Street, which would be developed upwind of the proposed project or residential variant.[144] Notably, the cumulative project at 545 Sansome Street would both incrementally increase the height of an existing structure and replace an adjacent single-story building at the southwest corner of Sansome and Washington streets with a 105-foot tall addition to the existing building, thereby substantially narrowing the space along Washington Street and channeling and accelerating westerly winds towards the project site. The wind study determined west-

[144] Ibid.

northwesterly prevailing winds would downwash from the north façade of 545 Sansome Street, accelerate around its northeast corner (through the narrowed gap noted above), and accelerate further as they channel between 545 Sansome Street and the proposed project or residential variant. While the increase in wind hazard exceedances and speeds under the cumulative scenario would occur as a result of the interaction between 545 Sansome Street and the proposed project or residential variant, it is also noted that the proposed project or residential variant alone would decrease wind speeds at the two test points on the project's Sansome Street frontage at which winds exceed the hazard criterion under existing conditions—points 10 and 12, thereby eliminating two existing wind hazard exceedances. With cumulative development—notably 545 Sansome Street—these two hazard exceedances would reappear, albeit with somewhat lesser wind speeds than under existing conditions. However, as explained above, the proposed cumulative project at 545 Sansome Street would play the largest role in these increases. Therefore, the proposed project or residential variant would not contribute considerably to this cumulative impact and the proposed project or residential variant's contribution to a cumulative impact would be ***less than significant***.

---

10. Shadow

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
10. SHADOW. Would the project:					
a) Create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces?	☐	☐	☒	☐	☐

The information in this section is based on a shadow analysis report prepared for the proposed project and residential variant, which is included as Appendix F to this initial study.

Impact SH-1: the proposed project or residential variant would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces. ***(Less than Significant)***

Section 295 of the San Francisco Planning Code was adopted through voter approval of Proposition K in November 1994 to protect certain public open spaces from shadowing by new structures. Section 295 effectively limits shadow on city parks, requiring that specific findings be made before buildings greater than 40 feet in height can be approved that would shade property under the jurisdiction of or designated to be acquired by the San Francisco Recreation and Park Commission. Compliance with section 295 occurs independent of the CEQA process. While the shadow analysis report depicts shadow on Maritime Plaza, Sue Bierman Park, Transamerica Redwood Park, and streets and sidewalks in the vicinity of the project site, shadow impacts are quantified for Maritime Plaza and Sue Bierman Park and not for Transamerica Redwood Park because only the former are under the jurisdiction of the San Francisco Recreation and Park Department, and thus subject to section 295. Therefore, the analysis in this section includes quantification of shadow impacts for Maritime Plaza and Sue Bierman Park only. However, the impact determination under CEQA is based on qualitative criteria adopted by the recreation and parks commission and planning

commission. The qualitative criteria include evaluation of a proposed project and residential variant's shadow impact during the time of day and time of year when shadow would be cast, the size, duration, and location within the park of the new shadow, and the public good served by the building casting the shadow.

Implementation of the proposed project or residential variant would result in the construction of a building exceeding 40 feet in height. To identify the publicly accessible open spaces affected by propose project or residential variant shadow, a full-year shadow fan diagram was prepared, which takes into account the presence of existing shadow from nearby buildings. The shadow fan diagram identified three publicly accessible open spaces that would receive net new shadow from the proposed project and residential variant. These are Maritime Plaza, Sue Bierman Park, and Transamerica Redwood Park. The first two open spaces are city parks under the jurisdiction of the San Francisco Recreation and Park Commission, while Transamerica Redwood Park is a POPOS, created and regulated under planning code section 138. In addition, nearby streets and sidewalks are analyzed pursuant to planning code section 147, which requires that new buildings exceeding 50 feet in height in C-3 districts avoid substantial shadow impacts on public open spaces, other than those under the jurisdiction of the Recreation and Park Commission. Because the proposed project or residential variant would shade public open spaces, as discussed below, the proposed project or residential variant would require an exception to planning code section 147 pursuant to planning code section 309.

MARITIME PLAZA

Maritime Plaza is a 1.99-acre publicly accessible open space under the jurisdiction of the San Francisco Recreation and Parks Department. This plaza is above a parking structure, about 25 feet above street level, and contains two separate areas between Washington and Clay streets, one on each side of the 400-foot-tall Alcoa building at One Maritime Plaza. Public access to the Maritime Plaza is via stairwells at Washington and Clay streets and elevated walkways. The two separate areas of the plaza are connected by a breezeway through the Alcoa building. The western portion of the plaza contains a lawn, a sculpture garden, landscaping, seating areas, and a one-story office building that also contains the Punch Line, a private comedy club. The eastern portion of the plaza contains a sculpture garden; a fountain; landscaping; seating areas; and a one-story office building.

A quantitative assessment of existing and net new shadow was performed for the Maritime Plaza. These results are summarized in **Table 18**.

As shown in Table 18, the proposed project or residential variant would affect Maritime Plaza 223 days per year (between March 2 and October 10 annually). On the affected days, net new shadow would occur for an average of 2 hours, 31 minutes and would reach the park no earlier than 3:30 p.m. On affected days, proposed project or residential variant net new shadow would cover an average of 4.9 percent of the park. The total net new shading from the proposed project and residential variant would represent 0.71 and 0.69 percent of the theoretical annual available sunlight,[145] respectively.

[145] The theoretical annual available sunlight is the number of square foot-hours that would theoretically fall on a publicly accessible open space each day from an hour after sunrise to an hour before sunset summed over the course of a year, ignoring all shadow from any source.

Table 18 Shadow on Maritime Plaza

	Proposed Project	Residential Variant
Annual Existing Shadow	67.88%	67.88%
Annual Net New Shadow Cast	0.71%	0.69%
Annual Total Shadow (Existing + Net New Shadow)	68.59%	68.57%
Number of Days Annually When Net New Shading Would Occur	223	223
Average Daily Project Net New Shadow Duration on Affected Dates	2 hours, 31 minutes	2 hours, 31 minutes
Date of Most Square-Foot Hours of Annual Net New Shading	August 16 & April 26	August 16 & April 26
Date and Time With Largest Instantaneous Net New Shadow Area	August 23 & April 19 at 6 p.m.	August 23 & April 19 at 6 p.m.
Area and Percentage of Net New Shadow on Date with Largest Instantaneous Shadow Area	11,524 sq. ft. (13.3%)	11,489 sq. ft. (13.3%)

SOURCE: Prevision Design, February 5, 2021.

On the affected days, net new shading would cover portions of a seating area in the northwest portion of the park, portions of a walkway, and on the date of maximum shading (August 16 and April 26), net new shadow would cover nearly the entire lawn in front (east) of the one-story office building containing the Punch Line venue from 6 p.m. until sunset. In addition, a seating area adjacent to the lawn would also be shaded from 6:15 p.m. until sunset at 7:02 p.m. The park was observed over six 30-minute observation periods on October 21 and 24, 2020, to identify park usage and to determine whether park users would be adversely or substantially affected by net new shadow.[146] During the observed times, the number of park users ranged from 12 to 35 people, and the majority of people passed through the park without stopping. Those who did stop in the park primarily used the park for eating or conversing while seated on benches or the lawn. Overall, park usage was characterized as low to moderate, the periods of peak activity were during the weekday midday and afternoon hours, and the majority of activities were characterized as active or transitory in nature.

Because active or transitory activities are less sensitive to the availability of sunlight than passive uses, such as reading or napping, shadow occurring in the afternoon in spring, summer, and fall after 3:30 p.m. is not likely to affect the majority of park users. During most affected times, there would be other seating areas of the park that would be unshaded where, assuming sunlight is desirable for the park user, would be able to sit or lie down in sunlight instead of the areas receiving net new shadow from the proposed project or residential variant. One exception is the date of maximum shading (August 16 and April 26) where nearly the entire park would be shaded for approximately 17 minutes from 6:45 p.m. until sunset at 7:02 p.m. At this point in the day, the majority of the plaza is shaded under existing conditions. Therefore, it is anticipated park users would be accustomed to shade, and would expect it given the time of day just before sunset. Therefore, given the time of day and relatively limited extent of net new shadow, park users are not anticipated to be substantially or adversely affected by new shadow.

[146] Park usage was observed during the COVID-19 pandemic, and, as a result, weekday midday and afternoon activity levels observed by Prevision Design in 2020 may not be representative of typical use conditions at Maritime Plaza.

SUE BIERMAN PARK

Sue Bierman Park is a 4.09-acre urban park under the jurisdiction of the San Francisco Recreation and Parks Department. The park is physically divided into two parts by Drumm Street, the western portion is bounded by Washington Street to the north, Clay Street to the south, and Davis Street to the west, while the eastern portion is bounded by Washington Street to the north, Clay Street to the south, and Embarcadero to the east. The western portion contains lawns, vegetated areas, a sculpture, and a pedestrian pathway, and the eastern portion contains lawns, a pedestrian pathway, benches, and a playground. The western portion of the park also includes a small utility building complex owned by the SFPUC.

A quantitative assessment of existing and net new shadow was performed for Sue Bierman Plaza. These results are summarized in **Table 19**.

Table 19 Shadow on Sue Bierman Plaza

	Proposed Project	Residential Variant
Annual Existing Shadow	42.61%	42.61%
Annual Net New Shadow Cast	0.0001%	0.0001%
Annual Total Shadow (Existing + Net New Shadow)	42.6055%	42.6055%
Number of Days Annually When Net New Shading Would Occur	26	26
Average Daily Project Net New Shadow Duration on Affected Dates	12.3 minutes	12.3 minutes
Date of Most Square-Foot Hours of Annual Net New Shading	September 20 & March 22	September 20 & March 22
Date and Time With Largest Instantaneous Net New Shadow Area	September 20 & March 22 at 6 p.m.	September 20 & March 22 at 6 p.m.
Area and Percentage of Net New Shadow on Date with Largest Instantaneous Shadow Area	344 sq. ft. (0.2%)	315 sq. ft. (0.2%)

SOURCE: Prevision Design, February 5, 2021.

As shown in Table 19, the proposed project and residential variant would contribute 0.0001 percent net new shadow as a percentage of the theoretical annual available sunlight. The average daily net new shadow on the affected dates (March 16 to March 28; September 14 to September 26) would occur for an average of 12.3 minutes and would cover on average 0.23 and 0.21 percent of the park under the proposed project and residential variant, respectively.

The park was observed over six 30-minute observation periods on October 21 and 24, 2020, to identify park usage and to determine whether park users would be adversely or substantially affected by net new shadow. During the times of observation, the majority of people passed through the park without stopping. Overall, park usage was characterized as low to moderate, and the majority of activities were characterized as active or transitory in nature. Net new shadow would affect a sliver of the northern portion of the park along the Washington Street sidewalk where there is a narrow portion of the lawn. During these times (late spring and early fall after 4 p.m.), the majority of park would be shaded from other buildings, and while there would be net new shading from the proposed project or the residential variant, park users would not be likely to notice this new shadow given the time of day and large amount of existing shadow. Moreover, because net new

shadow would be limited in area and duration, and would only affect the park on 26 days during the year in the late afternoon, new shadow would not be noticeable to park users and is not likely to substantially or adversely affect usage of the park.

TRANSAMERICA REDWOOD PARK

The Transamerica Redwood Park is a 1.25-acre POPOS between the Transamerica Building, Washington Street, Sansome Street, and Clay Street.

This park contains several dozen mature redwood and other trees, landscaping, a fountain, fixed benches, and points of access to nearby buildings. Pursuant to planning department guidance for shadow analysis, shadow from existing trees is not depicted in the shadow diagrams. However, it should be noted that the several dozen mature redwood and other trees provide tree cover, and this is a defining feature of the park, and these trees also cast a substantial amount of shadow on the park.

The proposed project or residential variant would cast net new shadow on this park from early April through early September, with the largest amount of shadow occurring around the summer solstice (June 21). Net new shadow cast on this park would range from a few minutes in the spring and fall to approximately four hours on the summer solstice. New shadow would cover portions of the entrance to the park along Washington Street along with a seating area containing approximately 10 benches. The area of new shadow would cover 5 percent or less of the park area at any given time. Moreover, the seating area is adjacent to tall redwood trees that currently shade this area throughout the year. Therefore, net new shadow resulting from the project would likely not be noticeable given the amount of existing shadow from the large redwood trees adjacent to the seating area, and thus would not substantially or adversely affect the use and enjoyment of this park.

SIDEWALKS

The proposed project or residential variant would add shade to portions of streets, sidewalks, and private property in the vicinity of the project site at various times throughout the year. Shadows on streets and sidewalks would not exceed levels commonly expected in urban areas and would be considered a less-than-significant effect under CEQA. Although occupants of nearby properties may regard the increase in shadow as undesirable, shading of private properties as a result of the proposed project would not be considered a significant impact under CEQA.

Overall, the proposed project or residential variant would cast net new shadow on the Maritime Plaza, Sue Bierman Park, Transamerica Redwood Park in the vicinity of the project. Net new shadow at the Sue Bierman Park and Transamerica Redwood Park would likely not be noticeable; however, net new shadow would reach Maritime Plaza for 232 days per year, which could be noticeable to park users that are particularly sensitive to the availability of sunlight. However, it was observed that the majority of park users engage in transitory activities that are less sensitive to the availability of sunlight. Therefore, while some passive park users may notice additional shadow during the afternoon in spring, summer, and fall, net new shadow would not substantially affect the use and enjoyment of this park. As a result, the proposed project or residential variant would have a ***less-than-significant*** impact on affected open spaces.

Impact C-SH-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact. ***(Less than Significant)***

The cumulative development for the shadow analysis consists of the 220 Battery Street, 447 Battery Street, 545 Sansome Street, and 425 Broadway projects. The four cumulative projects considered in this section would combine with the shadow effects from the proposed project or residential variant. Of these reasonably foreseeable projects in the vicinity of the project site, only 447 Battery Street would cast shadow that would combine with the shadow effects from the proposed project or residential variant in a cumulative manner. Shadow from the 447 Battery Street project, in combination with shadow from the proposed project or residential variant, would increase shadow at Maritime Plaza by 1.2 percent compared to existing conditions. No other parks would be affected by cumulative project shadow in combination with the proposed project or residential variant.

Net new cumulative shadow would affect Maritime Plaza for up to 307 days per year from January 19 to November 21. Average daily shadow on the affected dates would last for 3 hours, 12 minutes, and would cover on average 4.6 percent of the park. Net new cumulative shadow would be cast only during afternoon hours and would not affect the plaza until 2:15 p.m. in the winter, or until 4 p.m. in the spring and summer. On the affected days, shadow would cover walking paths, vegetation, and some seating areas. On the dates of maximum shading (August 23 and April 19) at 6 p.m., net new shadow from the 447 Battery Street project would cover a minor portion of the northeast corner of the lawn in front of the Punch Line venue.

As described under Impact SH-1 for Maritime Plaza, observations of the park characterized park usage as low to moderate, and the majority of activities were characterized as active or transitory in nature. Because active or transitory activities are less sensitive to the availability of sunlight than passive uses, such as reading or napping, shadow occurring in the afternoon is not likely to affect the majority of park users. Furthermore, on the date of maximum cumulative shading, there would be unshaded portions of the park to the north and south of the lawn in front of the one-story office building containing the Punch Line venue where park users could choose to sit on concrete benches instead of the lawn. Therefore, people using the park for passive uses who would be more sensitive to shadow could continue using the park for the same purpose (sitting, reading, or napping) while still in sunlight. Overall, because most users of the park that could be affected by net new cumulative shadow would be passing through the park and would be unaffected by new shadow, the cumulative impact from the proposed project or residential variant shadow in combination with reasonably foreseeable projects, would not result in a significant cumulative shadow impact. Therefore, cumulative impacts related to shadow would be ***less than significant***.

11. Recreation

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
11. RECREATION. Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☒	☐	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐	☐

IMPACT EVALUATION

Impact RE-1: The proposed project or residential variant would increase the use of existing parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated or such that the construction of new or expanded facilities would be required. ***(Less than Significant)***

The project site is in a densely developed urban neighborhood that does not contain large regional park facilities but does include a number of smaller neighborhood parks, open spaces, and other recreational facilities.

The following public parks, open spaces, and recreation facilities are located within 0.3 mile of the project site:

- Transamerica Redwood Park (0.03 mile west of the project site);
- Maritime Plaza (0.04 mile east of the project site);
- Sydney G. Walton Square (0.13 mile northeast of the project site);
- Empire Park (0.15 mile southwest of the project site);
- Portsmouth Square Plaza (0.19 mile west of the project site);
- Sue Bierman Park (0.24 mile east of the project site);
- St Mary's Square (0.29 mile southwest of the project site);
- Mechanics Monument Plaza (0.30 mile southeast of the project site);
- Willie “Woo Woo” Wong Playground (0.32 mile southwest of the project site); and
- One Bush Plaza (0.33 mile south of the project site).

The proposed project does not propose residential units; therefore, project implementation would not result in a permanent increase in demand for parks and recreational facilities in the vicinity. However, site visitors,

including hotel, fitness center, office, and restaurant/retail patrons and the approximately 435 employees who would work at the project site, may use nearby recreational facilities, as listed above. The proposed project would convert a portion of Merchant Street into a shared street/living alley with approximately 4,810 square feet of POPOS. This open space would partially offset the demand for open space generated by visitors and employees. With the availability of open space on and near the project site, proposed project-generated recreational demand could be accommodated by existing recreational facilities.

The residential variant would result in 605 residents on the project site and would result in a permanent increase in demand for parks and recreational facilities in the vicinity. The residential variant would provide approximately 6,384 square feet of common open space for the residents in the form of a solarium, which would partially offset the demand for open space generated by the residential variant. Additionally, demand for existing parks and recreation facilities would be expected to be balanced among facilities, and demand would not result in substantial physical deterioration of any existing resource.

Overall, implementation of the proposed project or residential variant would result in an increase in the demand for recreational resources on the project site, in the project area, and at the citywide level. On a citywide/regional basis, the increased demand on recreational facilities from 605 new residents would be minimal considering the number of people living and working in San Francisco and the region as well as the number of existing recreational facilities. The anticipated use of recreational resources would not be expected to substantially increase or accelerate the physical deterioration or degradation of existing recreational resources, and would not result in the need to provide new or expanded parks or recreational facilities since that demand would be partially offset by the development of common open space facilities for residents on the project site, and demand for parks and recreation facilities would be expected to be balanced among existing facilities. For these reasons, implementation of the proposed project or residential variant would not increase the use of existing recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Therefore, the proposed project or residential variant's impact to recreational resources would be ***less than significant***, and no mitigation is necessary.

CUMULATIVE IMPACTS

Impact C-RE-1: The proposed project or residential variant, in combination with cumulative projects in the vicinity of the project site, would not result in significant cumulative impact on recreational facilities. ***(Less than Significant)***

Cumulative development projects located within an approximately 0.25-mile radius of the project site are identified in Table 3, p. 36. The cumulative projects at 425 Broadway, 650 Sacramento Street, and 220 Battery Street would consist of residential development in the project vicinity and would result in an intensification of land uses. The intensification of land uses would result in a cumulative increase in the demand for recreational facilities and resources in the area and in the city overall. The city has accounted for such growth in the 2014 update of the ROSE of the San Francisco General Plan.[147] As discussed above in Section E.2, *Population and Housing*, p. 48, the additional growth proposed by the residential variant would not result in a net increase in city growth not accounted for in citywide projections. As discussed under Impact RE-1, there are 10 parks, open spaces, or other recreational facilities within 0.3 mile of the project site. The proposed project or residential variant would convert Merchant Street into a shared street/living alley with approximately 4,810 square feet of POPOS and the residential variant would also include approximately 6,384 square feet of common open space for project residents on the project site. It is expected that these

[147] San Francisco Planning Department, *ROSE*, April 2014, pp. 20–36.

existing and proposed recreational facilities would be able to accommodate the increase in demand for recreational resources generated by the proposed project (visitors and 435 employees) or the residential variant (approximately 605 new residents) and cumulative projects noted above, which would consist of residential development, would also comply with on-site open space requirements. For these reasons, the proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact on recreational resources; therefore, impacts would be ***less than significant***.

12. Utilities and Service Systems

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
12. UTILITIES AND SERVICE SYSTEMS. Would the project:					
a) Require or result in the relocation or construction of new or expanded, water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒	☐

The project site is within an urban area that is served by existing utility service systems, including water, wastewater and stormwater collection and treatment, solid waste collection and disposal, electric power, natural gas, and telecommunications facilities.

The proposed project would add a new daytime and nighttime population to the site in the form of office, hotel, retail, and restaurant patrons and employees. This increase in the non-residential population would increase the demand for utilities and service systems on the site. The residential variant would add 605 residents on the project site, which would also increase the demand for utilities and service systems on the site.

Impact UT-1: The proposed project or residential variant would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, would not exceed the capacity of the wastewater treatment provider serving the project site, or require construction of new stormwater drainage facilities, wastewater treatment facilities, or electric power, natural gas, or telecommunications facilities or expansion of existing facilities. ***(Less than Significant)***

The project site is entirely paved and is currently developed with existing buildings and Fire Station 13.

The project site is served by San Francisco's combined sewer system, which handles both sewage and stormwater runoff. The Southeast Water Pollution Control Plant (Southeast Plant) provides wastewater and stormwater treatment and management for the east side of the city, including the project site. The SFPUC provides and operates water supply and wastewater/stormwater collection and treatment facilities for the city. Pacific Gas and Electric Company provides electricity and natural gas to the project site, and various private companies provide telecommunications facilities.

Implementation of the proposed project would incrementally increase wastewater flows from the project site due to the introduction of office space, retail/restaurant use, fitness center, 200 hotel guest rooms, and approximately 435 employees. Implementation of the residential variant would incrementally increase wastewater flows from the project site due to the introduction of approximately 605 residents on the project site.

The project site is within a designated recycled water use area. Because the proposed project or residential variant would involve new construction totaling 40,000 square feet or more, the proposed project or residential variant would be required to comply with the Recycled Water Program[148] by installing recycled water systems for all applicable uses, including toilets and irrigation. The proposed project and residential variant would incorporate water-efficient fixtures, as required by Title 24 of the California Code of Regulations and the San Francisco Green Building Ordinance. The residential variant would also include a graywater treatment plant, which would treat water from showers, bathtubs, washing machines, and bathroom sinks. The treated graywater would be used for landscape irrigation, reducing the amount of water entering the wastewater system. Compliance with these regulations would reduce wastewater flows and the amount of potable water used for building functions. The SFPUC infrastructure capacity plans account for projected population and employment growth. The incorporation of water-efficient fixtures into new development is also accounted for by the SFPUC because widespread adoption can lead to more efficient use of existing capacity. For these reasons, the proposed project and residential variant would not require the construction of new or an expansion of existing wastewater treatment facilities.

The project site is developed and covered with impervious surfaces, thus the proposed project or residential variant would not create additional impervious surfaces. The proposed project and residential variant would be required to comply with the San Francisco Stormwater Management Ordinance (Ordinance No. 83-10),[149] adopted in 2010 and amended in 2016, and the 2016 Stormwater Management Requirements and Design Guidelines,[150] which would require the project to reduce or eliminate the existing volume and rate of stormwater runoff discharged from the project site. Furthermore, because more than 50 percent of the

[148] SFPUC, *Recycled Water Installation Procedures for Developers,* 2015, https://www.sfwater.org/modules/showdocument.aspx?documentid=1292, accessed December 18, 2020.
[149] City and County of San Francisco, Ordinance No. 83-10, Requiring the Development and Maintenance of Stormwater Management Controls, 2010.
[150] City and County of San Francisco, *Stormwater Management Requirements and Design Guidelines*, 2016, ttps://sfwater.org/Modules/ShowDocument.aspx?documentID=9026, accessed December 18, 2020.

project site is currently covered by impervious surfaces, some of which would be replaced by pervious surfaces as part of project design (e.g., landscaping), and because the project site is currently served by the combined sewer system, the stormwater management approach must reduce the existing runoff flow rate and volume for a two-year 24-hour design storm by 25 percent.

To achieve compliance with the Stormwater Management Requirements and Design Guidelines, the proposed project or residential variant would be required to implement and install appropriate stormwater management systems that retain runoff onsite, promote stormwater reuse, and limit site discharges from entering the city's combined stormwater/sewer system. This, in turn, would limit the incremental demand on both the collection system and wastewater facilities resulting from stormwater discharges and would minimize the potential for constructing new or expanding existing stormwater drainage facilities. A stormwater control plan, required per the city's Stormwater Management Ordinance (Ordinance No. 83-10), would be designed for review and approval by the SFPUC because the proposed project would result in ground disturbance of an area greater than 5,000 square feet. The stormwater control plan would also include a maintenance agreement, signed by the project sponsor, to ensure proper care of the necessary stormwater controls. Therefore, the proposed project or residential variant would not substantially increase the amount of stormwater runoff to the extent that existing facilities would need to be expanded or new facilities would need to be constructed. Impacts on stormwater infrastructure would be less than significant.

The proposed project or residential variant would result in an incremental increase in the demand for electricity, natural gas, and telecommunications; however, this modest increase would not exceed the demand expected and provided for in the project area by utility service providers. As discussed in Impact UT-2 below, the proposed project or residential variant would result in an incremental increase in the demand for water supply, but would not itself result in the need for the construction of new or expanded water treatment facilities or delivery infrastructure.

For these reasons, the utilities demand associated with the proposed project or residential variant would not exceed the service capacity of the existing providers and would not require the construction of new facilities or expansion of existing facilities. Therefore, this impact would be ***less than significant*** and no mitigation measures are necessary.

Impact UT-2: Sufficient water supplies are available to serve the proposed project or residential variant, and reasonably foreseeable future development in normal, dry, and multiple dry years unless the Bay-Delta Plan Amendment is implemented; in that event, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years, but this would occur with or without the proposed project or residential variant. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near-term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the proposed project or residential variant would not make a considerable contribution to impacts from increased rationing. ***(Less than Significant)***

The SFPUC adopted the 2015 Urban Water Management Plan for the City and County of San Francisco.[151] The plan estimates that current and projected water supplies will be sufficient to meet future retail demand[152]

[151] SFPUC, 2015 Urban Water Management Plan for the City and County of San Francisco, June 2016, https://sfwater.org/index.aspx?page=75, accessed December 18, 2020.
[152] "Retail" demand represents water the SFPUC provides to individual customers within San Francisco. "Wholesale" demand represents water the SFPUC provides to other water agencies supplying other jurisdictions.

through 2035 under normal year, single dry-year and multiple dry-year conditions; however, if a multiple dry-year event occurs, the SFPUC would implement water use and supply reductions through its drought response plan and a corresponding retail water shortage allocation plan.

In December 2018, the State Water Resources Control Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which establishes water quality objectives to maintain the health of our rivers and the Bay-Delta ecosystem (the Bay-Delta Plan Amendment).[153] The state water board has stated that it intends to implement the Bay-Delta Plan Amendment by the year 2022, assuming all required approvals are obtained by that time. Implementation of the Bay Delta Plan Amendment would result in a substantial reduction in the SFPUC's water supplies from the Tuolumne River watershed during dry years, requiring rationing to a greater degree in San Francisco than previously anticipated to address supply shortages not accounted for in the 2015 Urban Water Management Plan.

The SFPUC has prepared a memorandum discussing future water supply scenarios given adoption of the Bay-Delta Plan Amendment.[154] As discussed in the memorandum, implementation of the plan amendment is uncertain for several reasons and whether, when, and the form in which the Bay Delta Plan Amendment would be implemented, and how those amendments could affect the SFPUC's water supply, is currently unknown. The memorandum estimates total shortfalls in water supply (that is, total retail demand minus total retail supply) to retail customers through 2040 under three increasingly supply-limited scenarios:

1. Without implementation of the Bay-Delta Plan Amendment wherein the water supply and demand assumptions contained in the 2015 Urban Water Management Plan and the 2009 Water Supply Agreement as amended would remain applicable.
2. With implementation of a voluntary agreement between the public utilities commission and the State Water Resources Control Board that would include a combination of flow and non-flow measures that are designed to benefit fisheries at a lower water cost, particularly during multiple dry years, than would occur under the Bay-Delta Plan Amendment).
3. With implementation of the Bay-Delta Plan Amendment as adopted.

As estimated in the SFPUC memorandum, water supply shortfalls during dry years would be lowest without implementation and highest with implementation of the Bay-Delta Plan Amendment. Shortfalls under the proposed voluntary agreement would be between those with and without implementation of the Bay-Delta Plan Amendment.[155]

[153] State Water Resources Control Board Resolution No.2018-0059, Adoption of Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document, December 12, 2018, https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.

[154] Memorandum from Steven R. Ritchie, SFPUC, to Lisa Gibson, Environmental Review Officer, San Francisco Planning Department, Environmental Planning Division, May 31, 2019.

[155] On March 26, 2019, the SFPUC adopted Resolution No.19-0057 to support its participation in the voluntary agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency. The SFPUC submitted a proposed project description that could be the basis for a voluntary agreement to the state water board on March 1, 2019. As the proposed voluntary agreement has yet to be accepted by the state water board as an alternative to the Bay-Delta Plan Amendment, the shortages that would occur with its implementation are not known with certainty; however, if accepted, the voluntary agreement would result in dry year shortfalls of a lesser magnitude than under the Bay-Delta Plan Amendment.

Under these three scenarios, the public utilities commission would have adequate water to meet total retail demands through 2040 in normal years.[156] For single dry and multiple (years 1, 2 and 3) dry years of an extended drought, the public utilities commission memorandum estimates that shortfalls of water supply relative to demand would occur both with and without implementation of the Bay-Delta Plan Amendment. Without implementation of the plan amendment, shortfalls would range from approximately 3.6 to 6.1 mgd or 5 to 6.8 percent shortfall during dry years through the year 2040.

With implementation of the Bay-Delta Plan Amendment, shortfalls would range from 12.3 mgd (15.6 percent) in a single dry year to 36.1 mgd (45.7 percent) in years seven and eight of the 8.5-year design drought based on 2025 demand levels and from 21 mgd (23.4 percent) in a single dry year to 44.8 mgd (49.8 percent) in years seven and eight of the 8.5-year design drought based on 2040 demand.

The proposed project or residential variant do not require a water supply assessment under the California Water Code. Under sections 10910 through 10915 of the California Water Code, urban water suppliers like the public utilities commission must prepare water supply assessments for certain large "water demand" projects, as defined in CEQA Guidelines section 15155.[157] The proposed project would not employ more than 1,000 persons, would not have more than 250,000 square feet of office or commercial floor space, and the hotel would not have more than 500 rooms. The residential variant would construct 256 residential units instead of the hotel, office, fitness center, and retail/restaurant uses in the proposed project. The development of 256 residential units represents approximately half of the 500-unit limit provided in CEQA Guidelines section 15155(1)(A). Consequently, neither the proposed project nor residential variant qualifies as a "water demand" project as defined by CEQA Guidelines section 15155(a)(1), and a water supply assessment is not required.

While a water supply assessment is not required, the following discussion provides an estimate of the proposed project and residential variant's maximum water demand in relation to the three supply scenarios. No single development project alone in San Francisco would require the development of new or expanded water supply facilities or require the SFPUC to take other actions, such as imposing a higher level of rationing across the city in the event of a supply shortage in dry years. Therefore, a separate proposed project- or residential variant-only analysis is not provided for this topic. The following analysis instead considers whether the proposed project or residential variant in combination with both existing development and projected growth through 2040 would require new or expanded water supply facilities, the construction or relocation of which could have significant cumulative impacts on the environment. It also considers whether a high level of rationing would be required that could have significant cumulative impacts. It is only under this cumulative context that development in San Francisco could have the potential to require new or

[156] Based on historic records of hydrology and reservoir inflow from 1920 to 2017, current delivery and flow obligations, and fully implemented infrastructure under the 2018 Phased Water System Improvement Program Variant, normal or wet years occurred 85 out of 97 years. This translates into roughly nine normal or wet years out of every 10 years. Conversely, system-wide rationing is required roughly one out of every 10 years. This frequency is expected to increase as climate change intensifies.

[157] Pursuant to CEQA Guidelines section15155(1), "a water-demand project" means:

(A) A residential development of more than 500 dwelling units.
(B) A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(C) A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor area.
(D) A hotel or motel, or both, having more than 500 rooms.
(E) An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 50,000 square feet of floor area.
(F) A mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.
(G) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

expanded water supply facilities or require the SFPUC to take other actions, which in turn could result in significant physical environmental impacts related to water supply. If significant cumulative impacts could result, then the analysis considers whether the project would make a considerable contribution to the cumulative impact.

Based on guidance from the California Department of Water Resources and a citywide demand analysis, the SFPUC has established 50,000 gallons per day as an equivalent project demand for projects that do not meet the definitions provided in CEQA Guidelines section 15155(a)(1). The development under the proposed project would represent 40 percent of the 500 dwelling unit hotel room limit provided in section 15155(1)(D), and total commercial space would represent 33 percent of the 250,000 square feet of commercial space provided in section 15155(1)(C). The development under the residential variant would represent 51 percent of the 500 dwelling unit limit provided in section 15155(1)(G). In addition, the proposed project would incorporate water-efficient fixtures as required by Title 24 of the California Code of Regulations and the city's Green Building Ordinance. It is therefore reasonable to assume that the proposed project would result in an average daily demand of less than 50,000 gallons per day of water.

The SFPUC has prepared estimates of total retail demand in five-year intervals from 2020 through 2040. Assuming the project would demand no more than 50,000 gallons of water per day (or 0.05 mgd), the maximum demand would represent a small fraction of the total projected retail water demand, ranging from 0.07 to 0.06 percent between 2020 and 2040. As such, the project's water demand is not substantial enough to require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Sufficient water supplies are available to serve the proposed project or residential variant and reasonably foreseeable future development in normal, dry, and multiple dry years unless the Bay-Delta Plan Amendment is implemented. As indicated above, the proposed project or residential variant's maximum demand would represent less than 0.06 percent of the total retail demand in 2040 when implementation of the Bay-Delta Plan Amendment would result in a retail supply shortfall of up to 49.8 percent in a multi-year drought. The SFPUC has indicated that it is accelerating its efforts to develop additional water supplies and explore other projects that would increase overall water supply resilience in the case that the Bay-Delta Plan Amendment is implemented. The SFPUC has identified possible projects that it will study, but it has not determined the feasibility of the possible projects, has not made any decision to pursue any particular supply projects, and has determined that the identified potential projects would take anywhere from 10 to 30 years or more to implement. The potential impacts that could result from the construction and/or operation of any such water supply facility projects cannot be identified at this time. In any event, under such a worst-case scenario, the demand for the SFPUC to develop new or expanded dry-year water supplies would exist regardless of whether the proposed project or residential variant is constructed.

Given the long lead times associated with developing additional water supplies, in the event the Bay-Delta Plan Amendment were to take effect sometime after 2022 and result in a dry-year shortfall, the expected action of the SFPUC for the next 10 to 30 years (or more) would be limited to requiring increased rationing. As discussed in the SFPUC memorandum, the SFPUC has established a process through its Retail Water Shortage Allocation Plan for actions it would take under circumstances requiring rationing. The level of rationing that would be required of the proposed project or residential variant is unknown at this time. Both direct and indirect environmental impacts could result from high levels of rationing. However, the small increase in potable water demand attributable to the project compared to citywide demand would not substantially affect the levels of dry-year rationing that would otherwise be required throughout the city.

Therefore, the proposed project or residential variant would not make a considerable contribution to a cumulative environmental impact caused by implementation of the Bay-Delta Plan Amendment. This impact would be ***less than significant*** and no mitigation measures are necessary.

Impact UT-3: The proposed project or residential variant would be served by a landfill with adequate permitted capacity to accommodate the project's solid waste disposal needs and comply with all applicable statutes and regulations related to solid waste. ***(Less than Significant)***

In September 2015, the city entered into a landfill disposal agreement with Recology, Inc. for disposal of all solid waste collected in San Francisco, at the Recology Hay Road Landfill in Solano County, through September 2024 or until 3.4 million tons have been disposed, whichever occurs first. The city would have an option to renew the agreement for a period of six years or until an additional 1.6 million tons have been disposed, whichever occurs first.[158] The Recology Hay Road Landfill is permitted to accept up to 2,400 tons per day of solid waste. At that maximum permitted rate, the landfill has the capacity to accommodate solid waste until approximately 2034. Under existing conditions, the landfill receives an average of approximately 1,850 tons per day from all sources, with approximately 1,200 tons per day from San Francisco, which includes residential and commercial waste and demolition and construction debris that cannot be reused or recycled.[159] At the current rate of disposal, the landfill closure has operating capacity until 2041. The city's contract with the Recology Hay Road Landfill will extend until 2031 or when the city has disposed 5 million tons of solid waste, whichever occurs first. At that point, the city would either further extend the landfill contract or find and entitle an alternative landfill site.

Further, the proposed project or residential variant would be required to implement the city's Mandatory Recycling and Composting Ordinance (Ordinance No. 100-09), the objective of which is to minimize the city's landfill trash generation. In compliance with this ordinance, the proposed project or residential variant would be required to provide convenient facilities for the separation of recyclables, compostables, and landfill trash for its users. Occupants of the project site would be required to separate disposed material.

Construction of the proposed project or residential variant also would generate demolition and construction waste. The city's Construction and Demolition Debris Recovery Ordinance (Ordinance No. 27-06) prohibits construction and demolition material from being taken to landfill or placed in the garbage. All mixed debris must be transported by a registered hauler to a registered facility to be processed for recycling, and source separated material must be taken to a facility that recycles or reuses those materials.

As discussed above, the city has access to adequate landfill capacity at least through 2031 and potentially through 2041 and anticipates that an adequate alternative site will be identified at that point. On this basis, the city has adequate solid waste capacity to serve the proposed project or residential variant, and the impact with respect to landfill capacity would be ***less than significant***, and no mitigation measures are required.

[158] San Francisco Planning Department, *Agreement for Disposal of San Francisco Municipal Solid Waste at Recology Hay Road Landfill in Solano County, Final Negative Declaration, Planning Department Case No. 2014.0653*, May 21, 2015, http://sfmea.sfplanning.org/2014.0653E_Revised_FND.pdf, accessed December 13, 2020.
[159] Ibid.

Impact UT-4: Construction and operation of the proposed project or residential variant would follow all applicable statutes and regulations related to solid waste. ***(No Impact)***

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) requires municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs related to waste disposal, management, source reduction, and recycling. Reports filed by the San Francisco Department of the Environment show that the city generated approximately 870,000 tons of waste material in 2000. By 2010, that figured decreased to approximately 455,000 tons. Waste diverted from landfills is defined as recycled or composted. San Francisco has a goal of 75 percent landfill diversion by 2010 and 100 percent by 2020. As of 2012, 80 percent of San Francisco's solid waste was being diverted from landfills, indicating that San Francisco exceeded the 2010 diversion target.[160]

San Francisco's Construction and Demolition Ordinance (Ordinance No. 27-06) requires a minimum of 65 percent of all construction and demolition debris to be recycled and diverted from landfills. Furthermore, San Francisco Ordinance No. 100-09 (the Mandatory Recycling and Composting Ordinance) requires everyone in San Francisco to separate their solid waste into recyclables, compostables, and trash. The proposed project or residential variant would be subject to and would comply with San Francisco Ordinance No. 27-06, San Francisco Ordinance No. 100-09, and all other applicable statutes and regulations related to solid waste. Accordingly, the proposed project and residential variant would be required to follow state and federal regulations related to the disposal of hazardous wastes, and hazardous wastes would be transported to a permitted disposal or recycling facility. The proposed project or residential variant would comply with all applicable local, state, and federal laws and regulations pertaining to solid waste, and there would be ***no impact***.

Impact C-UT-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact on utilities and service systems. ***(Less than Significant)***

Implementation of the proposed project or residential variant, in combination with cumulative development in the project vicinity would result in an incremental increase in population, water consumption, and wastewater and solid waste generation. The SFPUC has accounted for such growth in its water demand and wastewater service projections, and the city has implemented various programs to divert solid waste from landfills. For these reasons, the proposed project or residential variant would not combine with cumulative projects in the project vicinity to create a significant cumulative impact on utilities and service systems and impacts would be ***less than significant***.

[160] San Francisco Department of the Environment, Zero Waste FAQ, http://www.sfenvironment.org/zerowaste/overview/zero-waste-faq, accessed December 13, 2020.

13. Public Services

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
13. PUBLIC SERVICES. Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services such as fire protection, police protection, schools, parks, or other public facilities?	☐	☐	☒	☐	☐

The proposed project's impacts on parks and open spaces are discussed in Section E.11, *Recreation*, p. 140. Impacts on other public services are discussed below.

Impact PS-1: The proposed project or residential variant would not result in an increase in demand for police protection, fire protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities, the construction of which could result in significant environmental impacts. ***(Less than Significant)***

FIRE PROTECTION SERVICES

The San Francisco Fire Department provides fire suppression services and unified emergency medical services and transport, including basic life support and advanced life support services, in the city. The project site is within the service area of the fire department's Battalion 1, and Fire Station 13 is located on the project site.[161] Other stations in Battalion 1 include Station 2 (1340 Powell Street at Broadway), Station 28 (1814 Stockton Street at Greenwich Street), and Station 41 (1325 Leavenworth Street at Jackson Street). Of these three, Station 2 is the closest fire station, located approximately 0.45 mile northwest of the project site.

As part of the proposed project or residential variant, all buildings on the project site would be demolished, including Fire Station 13. As described in Section A, *Project Description*, p. 1, during construction, fire department personnel and firetrucks would be relocated to nearby offsite fire stations, and would continue to serve the Financial District neighborhood and the city in general, and no interruption of fire department service would occur. Thus, the existing levels of fire protection would be maintained during construction of the proposed project or residential variant.

Thus, impacts to fire protection during construction would be temporary and ***less than significant***.

[161] San Francisco Fire Department, Fire Station Locations, http://sf-fire.org/fire-station-locations, accessed December 7, 2020.

As discussed in Section A, *Project Description*, p. 1, the proposed project or residential variant would construct a replacement fire station on the eastern portion of the project site. The replacement fire station would be approximately 1,725 and 1,675 square feet larger than the existing fire station on the project site for the proposed project and residential variant, respectively. The environmental impacts of construction of the replacement fire station are analyzed throughout this initial study. As described throughout this document, construction of the proposed project or residential variant would not result in any significant environmental impacts. Operational impacts related to the replacement fire station, such as noise impacts from sirens and staffing levels, would be similar to existing conditions.

The fire department and building department would review building plans to ensure that proposed buildings comply with the latest California Building Code requirements for fire and life safety measures as specified in the San Francisco Fire Code. These requirements include measures related to emergency access and egress; fire hydrants and sprinkler systems; fire-rated design, construction, and materials; restrictions on occupant loads; emergency lighting; smoke alarms; and mechanical smoke control and emergency notification systems. The proposed project, residential variant, and replacement fire station design has been prepared with the input of the fire department. The project sponsor would continue to work with the fire department to determine utility and access requirements for fire protection and emergency services at the project site. Adherence to San Francisco Fire Code requirements as part of the project design would minimize demand for future fire protection services.

The proposed project or residential variant would be constructed in a fully developed area of San Francisco. However, implementation of the proposed project and residential variant would result in a more intensive use of the project site than currently exists. The proposed project or residential variant's increase in use and service population at the project site would therefore increase demand for public fire protection and emergency medical services. Once constructed and under operation, the proximity of the project site to Fire Station 13 would help minimize fire department response times should incidents occur at the project site. The environmental impacts of demolition, temporary relocation of fire equipment and personnel, and construction of the replacement fire station are analyzed throughout this initial study, and the construction of additional fire facilities beyond those proposed by the project sponsor would not be required. This impact would be ***less than significant***, and no mitigation measures are necessary.

POLICE PROTECTION SERVICES

The San Francisco Police Department (police department) provides police protection in the city. Police department services include responding to calls for police assistance, monitoring and managing traffic, and performing general surveillance duties. The project site is within the police department's Central District, and the closest police station is the Central Police Station at 766 Vallejo Street (between Stockton and Powell streets), approximately 0.50 mile northwest of the project site.[162]

The proposed project would result in a more intensive use at the project site compared with current conditions with the addition of hotel rooms, fitness center, office, and restaurant/retail space; therefore, it would most likely incrementally increase the number of police service calls in the project area. The increased demand for police services related to the residential variant's new residents would also be incremental. The increased demand from the proposed project or residential variant would not be considered substantial given the ongoing staffing analysis and dynamic resource deployment that occurs on a citywide basis. In compliance with city charter mandate, police department resources are regularly redeployed based on need

[162] San Francisco Police Department, Central Station, https://www.sanfranciscopolice.org/stations/central-station, accessed December 7,2020.

in order to maintain charter-mandated staffing and acceptable service ratios. Therefore, implementation of the proposed project or residential variant would not require the construction of new or alteration of existing police facilities. This impact would be ***less than significant***, and no mitigation measures are necessary.

Impact PS-2: The residential variant would increase the population of school-aged children and the demand for school services, but not to the extent that would require new or physically altered school facilities, the construction of which could result in significant environmental impacts. ***(Less than Significant)***

The proposed project would not include any residential units and, thus, would not directly contribute to school-aged children or the demand for school services. The residential variant would increase the project site population by an estimated 605 residents, of which a portion would be school-aged children who would be anticipated to attend public schools in San Francisco. The residential variant would result in the generation of approximately 26 public school students.[163]

John Yehall Chin Elementary School, at 350 Broadway (about 0.20 mile north of the project site); Gordon J. Lau Elementary School, at 950 Clay Street (about 0.40 mile west of the project site); and Garfield Elementary School, at 420 Filbert Street (about 0.50 mile northwest of the project site) are the nearest public elementary schools to the project site. The closest middle school is Francisco Middle School, about 0.80 mile to the northwest, and the closest high school is the Galileo Academy of Science and Technology, approximately 1.32 miles northwest of the project site.

According to a facilities survey, the San Francisco Unified School District has capacity for approximately 63,400 students. Student enrollment as of fall 2016 was approximately 57,500 students, with an expected enrollment increase to 64,000–73,000 by 2030.[164] Given the district's overall capacity, the increase of 26 students associated with the residential variant would contribute to the overall demand for schools but would not by itself result in the need for new facilities.

Ultimately, given the school district's overall capacity of approximately 63,400 students, the estimated increase of up to 26 public school students under the residential variant would not substantially change the demand for schools. Residential variant-generated growth would be within the existing available capacity of school district system. Therefore, implementation of the proposed project or residential variant would not necessitate the need for new school facilities or the expansion of existing school facilities and the impacts would be ***less than significant***, and no mitigation measures are necessary.

Impact PS-3: The proposed project or residential variant would increase demand for other public services, but not to the extent that would require new or physically altered governmental facilities, the construction of which could result in significant environmental impacts. ***(Less than Significant)***

Because the proposed project would not include new residential units, increased demand for government services and facilities, such as public libraries, is not anticipated with proposed project implementation.

---

[163] Student generation rates are calculated based on the following: 256 market-rate units, therefore (256 units x 0.10 students/unit) = 26 students. This is based on data provided by: Lapkoff & Gobalet Demographic Research, Inc., *Demographic Analyses and Enrollment Forecasts for the San Francisco Unified School District*, February 16, 2018, p. 36, table II-10, https://archive.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/demographic-analyses-enrollment-forecast.pdf, accessed December 7, 2020.

[164] San Francisco Unified School District, Growing Population, Growing Schools. SPUR Forum Presentation, Slide 14, dated August 31, 2016, https://www.spur.org/sites/default/files/events_pdfs/SPUR%20Forum_August%2031%202016.pptx_.pdf, accessed December 2, 2018.

Although some hotel patrons and employees may use government services and facilities, such use would not be expected to rise to a level that could not be accommodated by existing facilities.

The residential variant would incrementally increase demand for local library services. The Chinatown Branch of the San Francisco Public Library is located at 1135 Powell Street, approximately 0.46 mile west of the project site.[165] The North Beach Branch is located at 850 Columbus Avenue, approximately 0.79 mile northwest of the project site.[166] Given there are multiple library facilities within one mile of the project site, these resources would satisfy the demand for library services generated by the residential variant's estimated 605 residents. Therefore, the proposed project or residential variant would not require construction of new or expanded library facilities. Therefore, impacts on library services would be ***less than significant***, and no mitigation measures are necessary.

Impact C-PS-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact on public services. ***(Less than Significant)***

The geographic context for cumulative fire, police, and library impacts are the police, fire, and library service areas, while the geographic context for cumulative school impacts is the school district service area. Cumulative development in the project vicinity would result in an intensification of land uses and a cumulative increase in the demand for fire protection, police protection, school services, and other public services. The fire and police departments, the school district, libraries, and other city agencies respond to growth and other changing service needs through ongoing analysis of applicable metrics, such as staffing, capacity, response times, and call volumes. As a result, projected future development would not result in any service gap in citywide police, fire, emergency medical services, and libraries. The residential variant, in combination with cumulative development in the project vicinity would result in the construction of 322 residential units, which would generate approximately 32 public school students.[167] As described under Impact PS-2, the San Francisco Unified School District has capacity for additional students. Given the district's overall capacity, the increase of 32 students associated with the residential variant and cumulative projects would not substantially change the demand for schools and would be within the existing available capacity of school district system. Because there is no shortfall with respect to schools in the surrounding area, the proposed project or residential variant, there would not be any service gaps in citywide school and library services. Therefore, the proposed project or residential variant would not combine with reasonably foreseeable future projects in the project vicinity to create a significant cumulative impact on public services. This impact would be ***less than significant***, and no mitigation measures are necessary.

---

[165] San Francisco Public Library, Chinatown/Him Mark Lai, https://sfpl.org/locations/chinatown, accessed December 7, 2020.
[166] San Francisco Public Library, North Beach, https://sfpl.org/locations/north-beach, accessed December 7, 2020.
[167] Student generation rates are calculated based on the following: 322 market-rate units, therefore (322 units x 0.10 students/unit) = 32 students. This is based on data provided by: Lapkoff & Gobalet Demographic Research, Inc., *Demographic Analyses and Enrollment Forecasts for the San Francisco Unified School District*, February 16, 2018, p. 36, Table II-10, https://archive.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/demographic-analyses-enrollment-forecast.pdf, accessed December 7, 2020.

14. Biological Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
14. BIOLOGICAL RESOURCES. Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☐	☒
c) Have a substantial adverse effect on state- or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	☐
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☐	☒

The project site is paved with existing buildings and located within a built urban environment. The project site does not contain any riparian habitat, other sensitive natural community, or federally protected wetlands. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, state, or regional habitat conservation plans that apply to the project site. Therefore, topics E.14.b, E.14.c, and E.14.f are not applicable to the proposed project or residential variant.

Impact BI-1: The proposed project or residential variant would not have a substantial adverse effect, either directly or indirectly through habitat modifications, on any special-status species and would not interfere with the movement of native resident or wildlife species or with established native resident or migratory wildlife corridor, or impede the use of native wildlife nursery site. ***(Less than Significant)***

The project site is fully developed and entirely impervious. Therefore, it does not provide habitat for any special-status plant or wildlife species. Thus, project implementation would not affect the habitat of any such species. However, migrating birds regularly pass through San Francisco, which is situated along the Pacific Flyway, a migratory route that is used by numerous avian species.[168] Nesting birds, their nests, and eggs are fully protected by the federal Migratory Bird Treaty Act (MBTA).[169] Although the proposed project and residential variant would be subject to the MBTA, the site does not contain habitat that supports migratory birds. The proposed project and residential variant would construct new buildings that would be taller than those currently on the project site. The location, building height, and building materials, particularly transparent or reflective glass, may present risks for birds as they travel along their migratory paths. The likelihood of migratory bird collisions could increase because of the proposed façade, which would include a contemporary glass design. The city has adopted guidelines to address this issue and has regulations for bird-safe designs within the city. Planning code section 139, Standards for Bird-Safe Buildings, establishes building design standards to reduce avian mortality rates associated with bird strikes.[170] The building standards are based on two types of hazards: (1) location-related hazards where the siting of a structure inside or within 300 feet of an Urban Bird Refuge (open spaces that are 2 acres and larger and dominated by vegetation or open water) creates an increased risk to birds, and (2) feature-related hazards, which may increase risks to birds regardless of where the structure is located. For new building construction where the location-related standard would apply, the façade requirements include no more than 10 percent untreated glazing and minimal lighting. Any lighting that is used must be shielded and prevented from resulting in any uplighting. Feature-related hazards include free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 square feet or larger in size. Any structure that contains these elements must treat 100 percent of the glazing.

The project site is not in or within 300 feet of an Urban Bird Refuge. Therefore, the standards related to location-specific hazards are not applicable to the proposed project and residential variant. The proposed project and residential variant would comply with the feature-related hazards standards[171] of section 139 by using bird-safe glazing on 100 percent of any feature-related hazards.

The proposed project or residential variant would be subject to, and would comply with, City-adopted regulations for bird-safe buildings, as well as federal and state migratory bird regulations. Therefore, because implementation of the proposed project or residential variant would not have a substantial adverse effect on migratory avian species, and because the project site does not support habitat for any special-status species, impacts would be ***less than significant***, and mitigation measures are not necessary.

[168] Audubon Society, The Flyways: Pacific Flyway, https://www.audubon.org/pacific-flyway, accessed November 11, 2020.
[169] USFWS, Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service: Migratory Bird Treaty Act of 1918, 2017, https://www.fws.gov/laws/lawsdigest/migtrea.html, accessed November 11, 2020.
[170] San Francisco Planning Department, Standards for Bird-Safe Buildings, July 14, 2011, https://sfplanning.org/sites/default/files/documents/reports/bird_safe_bldgs/Standards%20for%20Bird%20Safe%20Buildings%20-%2011-30-11.pdf, accessed November 11, 2020.
[171] Feature-related hazards are defined as the uninterrupted glazed segments of a building that measure 24 square feet or larger.

Impact BI-2: The proposed project or residential variant would not conflict with any local policies protecting biological resources, such as a tree preservation policy or ordinance. ***(Less than Significant)***

The project site does not contain existing trees or other vegetation that would need to be removed as part of the proposed project or residential variant. The removal of street trees or significant trees, as well as the planting of new street trees, is subject to the provisions of the San Francisco Urban Forestry Ordinance, which is codified as article 16 of the San Francisco Public Works Code.[172]

Implementation of the proposed project or residential variant would remove three street trees along the north side of Merchant Street. The proposed project or residential variant would comply with San Francisco Public Works Code section 806(d)(2) requirements for street trees associated with new developments by including three new street trees along Washington Street, four new street trees along Sansome Street, and five new street trees along Merchant Street. An in-lieu fee would be paid for street tree plantings otherwise required by the public works code that cannot reasonably be accommodated on the site. The proposed project or residential variant would not conflict with the City's local tree ordinance and impacts would be ***less than significant***, and no mitigation measures are necessary.

Impact C-BI-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact related to biological resources. ***(Less than Significant)***

The cumulative development projects identified in Table 3, p. 36, would result in an overall intensification of land uses within the surrounding dense urban environment, as is typical of infill development. The project site is fully developed and impervious. It does not provide habitat for any special-status plant or wildlife species. However, the proposed project or residential variant and other nearby projects would add numerous tall buildings in the vicinity, which could, in the event of a bird strike, injure or kill birds. However, as with the proposed project or residential variant, nearby cumulative projects would be subject to the MBTA, which protects special-status bird species; the California Fish and Game Code; and the bird-safe building and urban forestry ordinances. As with the proposed project or residential variant, compliance with these ordinances would reduce the effects of other development projects to less-than-significant levels. Therefore, the proposed project or residential variant would not combine with cumulative development projects to result in a significant cumulative impact related to biological resources. Cumulative impacts on biological resources would be ***less than significant***, and no mitigation measures are necessary.

[172] Street trees and significant trees are defined in Article 16, Sections 802 and 810A, respectively, of the San Francisco Public Works Code.

15. Geology and Soils

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
15. GEOLOGY AND SOILS. Would the project:					
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	☐
iv) Landslides?	☐	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐	☐

The proposed project or residential variant would connect to the existing sewer system; there would be no use of septic tanks or alternative wastewater disposal systems for the proposed project or residential variant. Therefore, topic E.15(e) is not applicable.

This section describes the geology, soils, and seismicity characteristics of the project area as they relate to the proposed project and residential variant. The analysis in this section is based on the geotechnical report prepared for the proposed project and residential variant by an independent consultant.[173] This geotechnical report is the primary source of information included in this section. The scope of the geotechnical

[173] Langan, *Geotechnical Investigation, 530 Sansome Street, 425 and 435-445 Washington Street, San Francisco, California*, December 20, 2019.

investigation included rotary-wash borings, a downhole geophysical survey, laboratory testing for engineering properties, and evaluation of soil and groundwater conditions at the site.

Impact GE-1: The proposed project or residential variant would not directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, liquefaction, or landslides. ***(Less than Significant)***

The project site is not located within an earthquake fault zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known fault or potentially active fault exists within the project site.[174] In a seismically active area, such as the San Francisco Bay Area, the remote possibility exists for future faulting in areas where no faults were previously known to exist, but the likelihood of such fault rupture is extremely low.

The San Andreas, Hayward, and San Gregorio faults are the closest major faults.[175] The project site is approximately 13 miles east of the San Andreas Fault Zone, 16 miles west of the Hayward Fault Zone, and 19 miles east of the San Gregorio Fault. In addition, according to the U.S. Geological Survey, the overall probability of moment magnitude 6.7 or greater earthquake to occur within the San Francisco Bay Area during the next 30 years is 72 percent.[176] The proposed project or residential variant would most likely experience periodic minor earthquakes and perhaps a major earthquake (moment magnitude greater than 6) on one of the nearby faults during its service life.

The proposed project or residential variant would cantilever over the third floor of the replacement fire station and the buildings would be structurally separated above grade. However, the proposed buildings would include a continuous basement beneath the entire site. The top of the basement slab would be approximately 40 feet bgs (near an elevation of -37 feet). The proposed structures may be supported on deep foundations (piles) that gain support in the stiff- to- hard clay, in the dense to very dense sand above the Old Bay Clay, and in bedrock. Alternatively, because excavation for the three basement levels would extend through the fill and Bay Mud, support of the proposed structures may be on a mat foundation. The geotechnical investigation indicated that additional investigation is needed to evaluate the appropriate foundation design. At this time, the geotechnical consultant recommends augured-cast-in-place piles.

To ensure that the potential for adverse effects related to geology and soils are adequately addressed, San Francisco relies on the state and local regulatory process for review and approval of building permits, pursuant to the California Building Code and the San Francisco Building Code, which is the state building code plus local amendments that supplement the state code, including the building department's administrative bulletins. The proposed project or residential variant would be required to follow the building department's local implementing procedures, including administrative bulletins, which are part of the local building code, and information sheets, which clarify building department requirements and procedures. On November 21, 2018, the building department issued Administrative Bulletin AB-082, Guidelines and

[174] California Geological Survey, Earthquake Zones of Required Investigation, 2020, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed on November 6, 2020.
[175] Langan Engineering and Environmental services, Inc., *Geotechnical Investigation, 530 Sansome Street, 425 and 435-445 Washington Street, San Francisco, California*, December 20, 2019.
[176] U.S. Geological Survey, Uniform California Earthquake Rupture Forecast (UCERF3), Fact Sheet 2015-3009, UCERF3: A New Earthquake Forecast for California's Complex Fault System, March 2015.

Procedures for Structural, Geotechnical, and Seismic Hazard Engineering Design Review,[177] superseding AB-082, originally issued March 25, 2008, and revised December 19, 2016. The guidelines describe the review process for structural, geotechnical, and seismic hazard engineering design, including the characteristics considered in determining whether review is required and, if so, which reviews are required.

Because of the building department's permit review process, ensuring that structural and foundation plans comply with applicable building code provisions and conform to the measures recommended in the project-specific geotechnical report, and the recommendations made by the engineering design review team, as required by AB-082,[178] the impacts of the proposed project or residential variant related to strong seismic ground shaking would be ***less than significant***.

With respect to landslides, the project site is relatively level and not within a mapped landslide zone or within a designated earthquake-induced landslide zone.[179] Therefore, the proposed project would have no impact with respect to the potential for landslides, and this topic is not discussed further.

As described above, the project site is mapped as situated within a state-designated liquefaction hazard zone, according to the seismic hazards map for the area.[180] This means that there is potential for permanent ground displacement onsite, such as liquefaction. The California Geological Survey provided recommendations for the content of site investigation reports within seismic hazard zones in Special Publication 117A, which recommends that at least one exploration point extend to a depth of at least 50 feet to evaluate liquefaction potential.[181] Loose sand above the groundwater table may densify and loose to medium-dense sand below the groundwater table may liquefy during strong ground shaking due to a seismic event on a nearby fault.

The potential for liquefaction was analyzed during the geotechnical investigation. The geotechnical investigation identified the surface fill down to as deep as 18 feet bgs and the sand units below the Bay Mud below about 53 feet bgs as potentially susceptible to liquefaction during a future seismic event at the site. However, because the upper approximately 40 feet of soil would be excavated at the site, the fill materials susceptible to liquefaction would be removed. The geotechnical investigation estimates that post-earthquake, liquefaction-induced settlement at the bottom of the lowest basement slab from this layer could be on the order of 0.5 to 1 inch following a maximum considered earthquake event on a nearby active fault generating a peak ground acceleration of 0.51 times gravity amount of seismic shaking. For a 35-foot-deep excavation, assuming bottom of foundation at elevation -37 feet, the geotechnical investigation estimates about one inch of liquefaction-induced settlement could occur at the bottom of the foundation subgrade. In addition, the geotechnical investigation concludes that additional investigation for liquefaction potential is needed in the southern portion of the project site. The geotechnical investigation concluded that the potential for lateral spreading to impact the proposed building foundation is low and that the planned excavation would remove the soils within the building footprint that are susceptible to cyclic densification and the potential for cyclic densification to impact the proposed building foundation is considered to be low also.

[177] San Francisco Department of Building Inspection, Administrative Bulletin 082, Guidelines and Procedures for Structural Design Review, November 21, 2018, http://sfdbi.org/sites/default/files/AB-082.pdf, accessed November 11, 2020.
[178] Ibid.
[179] Langan Engineering and Environmental services, Inc., *Geotechnical Investigation, 530 Sansome Street, 425 and 435-445 Washington Street, San Francisco, California*, December 20, 2020.
[180] Ibid.
[181] California Geological Survey, Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117A, September 11, 2008.

Although the risk of liquefaction, lateral spreading, and seismic densification is considered to be low, in accordance with the provisions of the 2019 state building code and Special Publication 117A, the building department permit review process would ensure that the project's structural and foundation plans comply with applicable building code provisions and conform to the measures recommended in the project-specific geotechnical report. Conformance with the review process and recommendations made by the engineering design review team, as required by AB-082, would ensure that the proposed project and residential variant would not exacerbate the potential for seismic-related ground failure, including liquefaction and lateral spreading. Therefore, this impact would be ***less than significant***.

Although the proposed project or residential variant would be located in a seismically active area, neither would exacerbate the potential for fault rupture, ground shaking, or liquefaction-related geologic hazards. Although future occupants could be subjected to such hazards in a future geologic event, the proposed project and residential variant design and compliance with applicable building standards, Administrative Bulletin AB-083, and the Seismic Hazards Act would minimize potential hazards. Therefore, this impact would be ***less than significant***, and no mitigation measures are required.

Impact GE-2: The proposed project or residential variant would not result in substantial loss of topsoil or erosion. ***(Less than Significant)***

The project site is generally flat, impervious, and underlain by artificial fill, and does not contain native topsoil. Site preparation and excavation activities would disturb soil to a depth of up to 40 feet bgs, which would require excavation of approximately 28,000 cubic yards of material, creating the potential for windborne and waterborne soil erosion. However, compliance with the Construction Dust Control Ordinance would reduce the risk of erosion (see Impact AQ-1). For these reasons, construction of the proposed project or residential variant would not result in the loss of topsoil.

During construction and operation, the construction contractor would be required to implement an erosion and sediment control plan for construction activities, in accordance with article 4.2 of the San Francisco Public Works Code. Compliance with these requirements would ensure that the proposed project would not result in soil erosion. Therefore, impacts related to soil erosion or loss of topsoil would be ***less than significant***. No mitigation measures would be required.

Impact GE-3: The proposed project or residential variant would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. ***(Less than Significant)***

As discussed under Impact GE-1, the project site is not within an area that is susceptible to landslides or lateral spreading. The project site and vicinity do not include any hills or cut slopes that could cause or be subject to a landslide or soil movement. The proposed project or residential variant do not include the injection or extraction of water or petroleum oil and therefore would not be subject to or cause subsidence. As discussed above, the project site is within a state-designated seismic hazard zone for liquefaction and would be subject to the requirements of the Seismic Hazards Act. In addition, the sides of the excavation could be susceptible to collapse during construction.

In addition, the proposed project or residential variant are required to comply with the provisions of the California Building Code and the San Francisco Building Code that address issues related to seismic safety

and unstable soil. The geotechnical report includes recommendations related to the following aspects of construction: demolition and site preparation; grading; excavation; foundation; and shoring. Implementation of these recommendations would ensure that would ensure that the proposed project or residential variant would not result in unstable soil conditions that could result in onsite or offsite subsidence, liquefaction, or collapse. This impact would be ***less than significant***, and no mitigation measures are required.

Impact GE-4: The proposed project or residential variant would not create substantial risks as a result of being located on expansive soil. ***(Less than Significant)***

Expansive soils expand and contract in response to changes in soil moisture, most notably when near-surface soils fluctuate from saturated to low-moisture-content conditions and back again. Determinations regarding the presence of expansive soils are typically based on site-specific data. The site is underlain by fill, Bay Mud, and dense to very dense clayey sands/medium-stiff to hard sandy clays and dense to very dense sands. However, the proposed project or residential variant would remove all of the shallow soils for construction of the underground parking levels, thus eliminating the potential for expansive soils to damage the structure. Accordingly, potential impacts related to expansive soils would be ***less than significant***. No mitigation measures are required.

Impact GE-5: The proposed project or residential variant could directly or indirectly destroy a unique paleontological geologic feature. ***(Less than Significant with Mitigation)***

Paleontological resources include fossilized remains or traces of animals, plants, and invertebrates from a previous geological period. Paleontological resources are deposited and preserved within particular lithologic (rock) units. Lithologic units that may contain fossils include sedimentary and volcanic formations. Collecting localities and the geologic formations containing those localities are also considered paleontological resources because they represent a limited, nonrenewable resource that, once destroyed, cannot be replaced. Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered have high potential for containing additional significant paleontological resources.[182]

The excavation for the three basement levels would extend down to approximately 40 feet bgs. The geotechnical investigation indicates that the materials encountered would be fill, Bay Mud, and then an Upper Sand unit. The fill would not contain paleontological resources. The Bay Mud would likely be too young (less than 5,000 years) to contain unique paleontological resources. The Upper Sand would be older and may correspond with the Colma Sand,[183] known to contain paleontological resources. Previous occurrences of large late Pleistocene vertebrate remains from three individuals of Colombian mammoth (*Mammuthus columbi*) and remains from a single giant bison (*Bison latifrons*) have been recovered from gravelly sandy clay of the Colma Formation exposed in an excavation at the intersection of Pacific Avenue and Kearny Street, approximately 0.25 mile northwest of the project site.[184] As a result, the proposed project or residential variant have a moderate potential to encounter as-yet unknown paleontological features. Implementation of **Mitigation Measure M-GE-5a, Worker Environmental Awareness Training during Ground-Disturbing Construction Activities; M-GE-5b, Discovery of Unanticipated Paleontological Resources during Ground-Disturbing Construction Activities; and M-GE-5c, Preconstruction**

[182] Society of Vertebrate Paleontology, *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*, 2010.
[183] Simpson, Lori A., *Case Studies in Mission Bay, San Francisco: Deep Foundations in Challenging Soil Conditions*, 2006.
[184] Rodda, Peter U. and Nina Baghai, *Late Pleistocene Vertebrates from Downtown San Francisco, California, Journal of paleontology, Vol. 67, No.6*, November, 1993.

Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitivity Areas, would ensure that the proposed project or residential variant would not cause a substantial adverse change to the scientific significance of a paleontological feature.

Mitigation Measure M-GE-5a: Worker Environmental Awareness Training during Ground-Disturbing Construction Activities

Prior to commencing construction, and ongoing throughout ground disturbing activities (e.g., excavation, utility installation, the property owner or their designee (herein referred as property owner) shall ensure that all project construction workers are trained on the contents of the Paleontological Resources Alert Sheet, as provided by the environmental review officer (ERO). The Paleontological Resources Alert Sheet shall be prominently displayed at the construction site, during ground disturbing activities, to provide pre-construction worker environmental awareness training regarding potential paleontological resources.

In addition, the property owner shall inform construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are unearthed at the project site. As new workers that will be involved in ground disturbing activities arrive at the project site, the construction supervisor shall train them.

The property owner shall submit in writing (email, letter, memo) the timing of the worker training to the ERO. The letter shall confirm the project's location, the date of training, the location of the informational handout display, and the number of participants. The letter shall be transmitted to the ERO within 5 business days of conducting the training.

Mitigation Measure M-GE-5b: Discovery of Unanticipated Paleontological Resources during Ground-Disturbing Construction Activities

In the event of the discovery of an unanticipated paleontological resource during construction, ground disturbing activities shall temporarily be halted within 20 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards (SVP 2010) and Best Practices in Mitigation Paleontology (Murphey et al. 2019). Work within the sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO.

The qualified paleontologist shall determine: (1) if the discovery is scientifically significant; (2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and (3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this conclusion shall be documented in a Paleontological Evaluation Letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, California Public Resources Code chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The Paleontological Evaluation Letter shall be submitted to the ERO for review within 30 days of the discovery.

If the qualified paleontologist determines that a paleontological resource is of scientific importance, and there are no feasible measures to avoid disturbing this paleontological resource, the qualified paleontologist shall prepare a Paleontological Impact Reduction Program (impact reduction

program). The impact reduction program shall include measures to fully document and recover the resource of scientific importance. The qualified paleontologist shall submit the impact reduction program to the ERO for review and approval. The impact reduction program shall be submitted to the ERO for review within 10 business days of the discovery. Upon approval by the ERO, ground disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities.

The impact reduction program shall include: (1) procedures for construction monitoring at the project site; (2) fossil preparation and identification procedures; (3) curation of paleontological resources of scientific importance into an appropriate repository; and (4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground disturbing activities. The report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The property owner shall be responsible for the preparation and implementation of the impact reduction program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground disturbing activities, or as negotiated following consultation with the ERO.

Mitigation Measure M-GE-5c: Preconstruction Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitivity Areas

The project site is located in San Francisco in Moderate Sensitivity Area (Class 3), which require ground disturbance activities deeper than 5 feet and would include the removal of more than 2,500 cubic yards of soil. The property owner shall engage a qualified paleontologist to complete a site-specific Preconstruction Paleontological Resources Evaluation (paleontology preconstruction evaluation) prior to commencing soil-disturbing activities occurring on the project site, for projects located in moderate sensitivity zones. Prior to issuance of any demolition or building permit, the property owner shall submit the Preconstruction Paleontological Evaluation to the ERO for approval.

The purpose of the site-specific preconstruction evaluation is to identify early the potential presence of significant paleontological resources on the project site. At a minimum, the study shall include:

1. Project Description
2. Regulatory Environment – outline applicable federal, state and local regulations
3. Summary of Sensitivity Classification
4. Research Methods, including but not limited to:

    4.1. Field studies conducted by the approved paleontologist to check for fossils at the surface and assess the exposed sediments.

    4.2. Literature Review to include an examination of geologic maps and a review of relevant geological and paleontological literature to determine the nature of geologic units in the project area.

4.3. Locality Search to include outreach to the University of California Museum of Paleontology in Berkeley.

5. Results: to include a summary of literature review and finding of potential site sensitivity for paleontological resources; and depth of potential resources if known.

6. Recommendations for any additional measures that could be necessary to avoid or reduce any adverse impacts to recorded and/or inadvertently discovered paleontological resources of scientific importance, in addition to paleontology standard requirements for Worker Environmental Awareness Training during Construction (M-GE-4a) and Discovery of Unanticipated Paleontological Resources during Construction (M-GE-4b). Such measures could include:

   6.1. Avoidance: If the cost of fossil recovery or other impact reduction options is determined to be too high, or permanent damage to the resource caused by surface disturbance is considered to be unavoidable, given the proposed construction, it may be necessary to "avoid" or "reroute" the portion of the project that intersects the fossil locality in order to prevent adverse impacts on the resource. Avoidance should also be considered if a known fossil locality appears to contain critical scientific information that should be left undisturbed for subsequent scientific evaluation. Avoidance for later scientific research is the typical mitigation recommendation made for scientifically significant extensive paleontological discoveries.

   6.2. Fossil Recovery: If isolated small, medium- or large-sized fossils are discovered within a project area during field surveys or construction monitoring, and they are determined to be scientifically significant, they should be recovered. Fossil recovery may involve simply collecting a fully exposed fossil from the ground surface, or may involve a systematic excavation, depending upon the size and complexity of the fossil discovery. Fossil excavations should be designed in such a way as to minimize construction delays while properly collecting the fossil and associated data according to professional paleontological standards.

   6.3. Sampling: Scientifically significant microfossils (vertebrate, invertebrate, plant, or trace fossils) may be identified in rock matrix during surveys or monitoring, or, if they are known to occur elsewhere in the same geologic unit or type of deposit in the general area, a determination of their presence or absence may require the use of test sampling of rock matrix for screen-washing in a paleontological laboratory. In some cases, depending upon the geologic unit involved, test sampling may be appropriate even if microfossils are not visible in the field. The fossils found, if any, will then be inspected and evaluated to determine their significance and whether additional steps are necessary to reduce paleontological impacts. Such steps may include collection of additional matrix for screen-washing. The decision to sample may not be made until monitoring is occurring, because it is usually triggered by conditions in the field.

   6.4. Monitoring: If scientifically important paleontological resources are known to be present in an area, or if there is a moderate or high likelihood that subsurface fossils are present in geologic units or members thereof within a given project area based on prior field surveys, museum records, or scientific or technical literature, paleontological monitoring of construction excavations would be required. Monitoring involves systematic inspections of graded cut slopes, trench sidewalls, spoils piles, and other types of construction excavations

for the presence of fossils, and the fossil recovery and documentation of these fossils before they are destroyed by further ground disturbing actions. Standard monitoring is typically used in the most paleontologically sensitive geographic areas/geologic units (moderate, high and very high potential); while spot-check monitoring is typically used in geographic areas/geologic units of moderate or unknown paleontological sensitivity (moderate or unknown potential). The goal of monitoring is to identify scientifically significant subsurface fossils as soon as they are unearthed in order to minimize damage to them and remove them and associated contextual data from the area of ground disturbance, thereby resulting in subsurface paleontological clearance. Microfossil sampling, macrofossil recovery, and avoidance of fossils may all occur during any monitoring program.

With implementation of Mitigation Measure M-GE-5a through M-GE-5c, impacts on unique paleontological features would be ***less than significant with mitigation***.

Impact C-GE-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a significant cumulative impact to on geology and soils. ***(Less than Significant)***

Geology, soil, and paleontological impacts are generally site specific and localized. Cumulative projects could require various levels of excavation or cut-and-fill activity, which would affect local geologic conditions and could affect paleontological resources. Cumulative projects would also be subject to building department requirements regarding geotechnical review and the state and local building codes. In addition, site-specific geotechnical review and monitoring for paleontological resources would reduce each project's impacts associated with geology, seismic safety, and paleontological resources. Furthermore, site- specific mitigation would be developed, when necessary, based on site conditions. Similar to the proposed project or residential variant, the projects listed in Table 3, p. 36, would be subject to these mandatory seismic safety standards and design review procedures. Compliance with these standards and procedures would ensure that the effects from nearby cumulative projects would be reduced to less-than-significant levels. Therefore, cumulative impacts would be ***less than significant***.

---

16. Hydrology and Water Quality

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
16. HYDROLOGY AND WATER QUALITY. Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐	☐

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:					
i) Result in substantial erosion or siltation on- or offsite;	☐	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	☐	☐	☒	☐	☐
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐	☐

The project site is located well inland from both the San Francisco Bay and the Pacific Ocean. It would not be subject to seiche or potential inundation in the event of a tsunami occurring along the San Francisco coast (see Maps 5 and 6 of the San Francisco General Plan Community Safety Element). The Storm Flood Risk Map indicates that the site is not within a Special Flood Hazard Area,[185] an area subject to a 100-year flood. Therefore, topic E.16(d) does not apply.

Impact HY-1: The proposed project or residential variant would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. *(Less than Significant)*

Site preparation and excavation activities associated with the proposed project or residential variant would disturb soil to a depth of up to 40 feet bgs, which would require excavation of approximately 28,000 cubic yards of material, which could adversely affect water quality. Contaminants from construction vehicles and equipment as well as sediment from soil erosion could increase the pollutant load in runoff being transported to receiving waters during construction.

Groundwater encountered during construction of the proposed project and residential variant would be subject to the requirements of article 4.1 of the San Francisco Public Works Code, Industrial Waste, which requires groundwater to meet specified water quality standards before it is discharged to the combined

[185] San Francisco Public Utilities Commission, *100-Year Storm Flood Risk Map*, July 2019, *https://sfplanninggis.org/floodmap/*, accessed February 17, 2021

sewer system. These measures ensure the protection of water quality during construction, which represents a temporary condition. The Bureau of Systems Planning, Environment, and Compliance of the SFPUC must be notified regarding projects that necessitate dewatering. In this case, the SFPUC may require water quality analysis prior to discharge. The project sponsor would be required to obtain a Batch Wastewater Discharge Permit from the SFPUC Wastewater Enterprise Collection System Division prior to any dewatering activities.

As discussed in Section E.12, *Utilities and Service Systems*, p. 142, wastewater and stormwater from the project site would continue to flow into the city's combined stormwater and sewer system and be treated to the standards contained within the city's NPDES permit for the Southeast Water Pollution Control Plant prior to discharge into San Francisco Bay. Treatment would be provided pursuant to the effluent discharge standards included within the city's NPDES permit for the treatment plant. In addition, as new construction, the proposed project and residential variant would be required to meet the standards for stormwater management identified in the San Francisco Stormwater Management Ordinance and meet the SFPUC stormwater management requirements, per the 2016 Stormwater Management Requirements and Design Guidelines.

The project sponsor would be required to submit for approval by the SFPUC a Stormwater Control Plan that complies with the city's 2016 Stormwater Management Requirements and Design Guidelines. Because the project would disturb more than 5,000 square feet of ground surface, the proposed project and residential variant would be required to comply with public works code article 4.2, section 146 et seq. (Construction Site Runoff Control). A construction site runoff control permit would be obtained prior to any land-disturbing activities and would include an erosion and sediment control plan.

The proposed project or residential variant's construction and operational activities would not substantially degrade surface water or groundwater quality or violate water quality standards and waste discharge requirements. The proposed project or residential variant would have ***less-than-significant*** impacts on water quality, and no mitigation measures are necessary.

Impact HY-2: The proposed project or residential variant would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin. ***(Less than Significant)***

The project site is impervious; the proposed project and residential variant would not increase the amount of impervious surface on the site. Therefore, the proposed project or residential variant would not result in any change in infiltration on or increase runoff from the project site.

Although groundwater was located approximately 10 feet bgs during the geotechnical investigation, this depth may vary with the seasons and the amount of rainfall. Because the proposed project or residential variant would excavate to approximately 40 feet bgs, it is likely that groundwater would be encountered; therefore, dewatering would be required during construction.

The project site is located in the downtown San Francisco groundwater basin. All groundwater resources are managed by the SFPUC's groundwater management program, ensuring that local groundwater resources designated for current or future beneficial uses are properly protected to prevent overdraft, pollution, or contamination.

Project operation would not extract underlying groundwater supplies. Therefore, groundwater resources would not be substantially depleted, and the proposed project or residential variant would not otherwise substantially interfere with groundwater recharge or impede sustainable groundwater management. The proposed project or residential variant would have a ***less-than-significant*** impact on groundwater, and no mitigation measures are necessary.

Impact HY-3: The proposed project or residential variant would not substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or the addition of impervious surfaces that would result in substantial erosion, siltation, or flooding; substantially increase the rate or amount of surface runoff and result in flooding onsite or offsite; or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. ***(Less than Significant)***

The project site is impervious; no streams or creeks are present on the project site. The proposed project or residential variant would not change the area of impervious surfaces. However, new construction is subject to the 2016 Stormwater Management Ordinance. The ordinance requires stormwater runoff to be reduced by 25 percent from existing conditions. The proposed project or residential variant would be designed to incrementally reduce the amount of impervious surface material on the project site through implementation of low-impact development and other measures identified in the Stormwater Management Ordinance, which also requires a decrease in the amount of stormwater runoff associated with a proposed project, per the city's Stormwater Management Requirements and Design Guidelines. Overall, impervious surfaces on the site would not change substantially as part of the proposed project and residential variant. The project site's drainage patterns would generally remain the same, and, ultimately, drainage would be improved. As such, the proposed project or residential variant would not be expected to result in substantial erosion or flooding associated with changes in drainage patterns; the potential to result in erosion or flooding would be similar to existing conditions. The impact would be ***less than significant***.

During construction and operation of the proposed project or residential variant, all wastewater and stormwater runoff from the project site would be treated at the Southeast Water Pollution Control Plant. As noted above, treatment would be provided pursuant to the effluent discharge standards contained in the city's NPDES permit for the plant. During construction and operation, the proposed project or residential variant would be required to comply with all local wastewater discharge, stormwater runoff, and water quality requirements, including the 2016 Stormwater Management Requirements and Design Guidelines, described above under Impact HY-1, and the Stormwater Management Ordinance. Compliance with the Stormwater Management Requirements and Design Guidelines would ensure that stormwater generated by the proposed project would be managed onsite to reduce the runoff flow rate and volume for a two-year 24-hour design storm by 25 percent such that the proposed project or residential variant would not contribute additional volumes of polluted runoff to the city's stormwater infrastructure. Compliance with the Stormwater Management Ordinance would ensure that the design of the proposed project or residential variant would include the installation of appropriate stormwater management systems that would retain runoff onsite, promote stormwater reuse, and limit discharges from the site to the city's combined stormwater/sewer system. Furthermore, the addition of new street trees along the project site frontages and POPOS along a portion of Merchant Street would allow runoff to infiltrate, thereby minimizing runoff that could exceed the capacity of existing or planned stormwater drainage systems. Therefore, the proposed project or residential variant would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Furthermore, the proposed project or

residential variant would not impede or redirect flood flows. Therefore, this impact would be ***less than significant***, and no mitigation measures are necessary.

Impact HY-4: The proposed project or residential variant would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. ***(Less than Significant)***

As described above, the proposed project or residential variant would be required to meet the standards for stormwater management as well as the city's NPDES permit and SFPUC stormwater management requirements. In addition, the proposed project or residential variant would also have to comply with the appropriate water quality objectives for the region. Commonly practiced best management practices would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground-disturbing or other construction activities, implementation of water quality control measures and best management practices would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the basin plan.

The NPDES Construction General Permit also requires stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. In addition, implementation of the SFPUC's groundwater management program and general plan policies would require protection for groundwater recharge areas and groundwater resources, as required by a sustainable groundwater management plan. Therefore, the proposed project or residential variant would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The impacts would be ***less than significant***, and no mitigation measures are necessary.

Impact C-HY-1: The proposed project or residential variant, in combination with cumulative projects, would not result in significant cumulative impacts on hydrology and water quality. ***(Less than Significant)***

Cumulative development in the project area would result in an intensification of land uses in the project vicinity, similar to the proposed project or residential variant and could result in an increase in polluted runoff and stormwater discharges. However, other development projects would be subject to the same water conservation and stormwater management ordinances that are applicable to the proposed project. Because other development projects would be required to comply with drainage, dewatering, and water quality regulations, similar to the proposed project or residential variant, peak stormwater drainage rates and volumes for the design storm would gradually decrease over time with new development, meaning that no substantial cumulative effects would occur. Compliance with these ordinances would reduce the effects of cumulative projects to less-than-significant levels. Therefore, the proposed project or residential variant, in combination with past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to hydrology and water quality. Cumulative impacts would be ***less than significant***. No mitigation measures are necessary.

17. Hazards and Hazardous Materials

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
17. HAZARDS AND HAZARDOUS MATERIALS. Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☐	☒

The project site is not located within an airport land use plan area, or within or adjacent to a wildland fire area. Therefore, topics E.17(e), and E.17(g) are not applicable.

Impact HZ-1: The proposed project or residential variant would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. ***(Less than Significant)***

The proposed project or residential variant would involve the demolition of structures, excavation of the site, and construction of a hotel or residential building, fire station, and basement levels approximately 40 feet deep. Construction activities would require the use and transport of limited quantities of hazardous materials such as fuels and oils, solvents and cleaning solutions, paints and thinners, and other common

construction materials. These materials could be released during transport, use, or disposal of building materials and could cause a hazard for the public. However, the city would require the project sponsor and contractor to implement best management practices as part of grading permit requirements, including hazardous materials management measures, which would reduce short-term construction-related impacts pertaining to the transport, use, and disposal of hazardous materials. The project sponsor's contractors would be required to comply with Occupational Health and Safety Administration (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA) health and safety requirements, all of which would be specified in the construction contracts. These regulations are effective in reducing potential risks to workers by requiring the contractor to adhere to safety standards and provide safety training to workers. In addition, hazardous materials must be transported to and from the project site in accordance with the Resource Conservation and Recovery Act and U.S. Department of Transportation regulations and disposed of in accordance with the Resource Conservation and Recovery Act and the California Code of Regulations at a licensed facility that is permitted to accept the waste. These regulations provide a framework for controlling hazardous waste from cradle to grave, ensuring the safe transport, use, and disposal of hazardous materials during construction. These regulations govern record-keeping for all aspects of the hazardous materials lifecycle, mitigating and cleaning up existing contamination and hazardous materials spills, closing facilities with hazardous waste in place, describing requirements for emergency response, and ensuring that workers are trained to handle hazardous materials and respond appropriately to hazardous materials incidents. Because compliance with existing regulations is mandatory, construction of the proposed project or residential variant would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Accordingly, impacts associated with short-term construction-related transport, use and, disposal of hazardous materials would be ***less than significant***.

Once constructed, the proposed project or residential variant would likely result in the use of common types of hazardous materials that are typically associated with hotel and residential uses, such as cleaning products, disinfectants, and solvents. These products are labeled to inform users of their potential risks and provide instruction regarding appropriate handling procedures. However, most of these materials are consumed through use, resulting in relatively little waste.

The proposed project's hotel, office, retail/restaurant, and fitness center uses and the replacement fire station would also be subject to San Francisco Health Code articles 21 and 22, implemented by the health department to ensure employee safety by identifying hazardous materials in the workplace, providing safety information to workers who handle hazardous materials, and adequately training workers. Under article 21, any facility that handles hazardous materials, including hazardous wastes, in excess of specified quantities would be required to obtain a certificate of registration from the health department and to implement a hazardous materials business plan that includes inventories, a program for reducing the use of hazardous materials and generation of hazardous wastes, site layouts, a program and implementation plan for training all new employees. and annual training for all employees, and emergency response procedures and plans. Under article 22 of the health code, generators of hazardous waste must pay an annual fee to the health department, based on the quantity of hazardous wastes generated annually. The replacement fire station would continue to store and use diesel and unleaded fuel for its vehicles and carbon dioxide (CO2) tanks for its CO2 unit,[186] as it does now. The fire station has no plans to increase the amount of hazardous materials at the replacement station. The fire department would be required to update their hazardous materials

[186] The CO2 unit is a portable fire extinguishing apparatus that can be used in electrical vault fires or confined spaces. The CO2 is discharged as vapor and has a smothering effect on fire, excludes oxygen from the fire, and is a non-conducting extinguishing agent. San Francisco Fire Department, *San Francisco Fire Department Apparatus Inventory,* August 2009.

business plan for the replacement fire station. For these reasons, hazardous materials used during proposed project or residential variant operation would not pose substantial public health or safety hazards resulting from routine use, transport, or disposal. Therefore, the project would result in ***less-than-significant*** impacts related to the use, transport, or disposal of hazardous materials during project construction or operation.

Impact HZ-2: The proposed project or residential variant would not create a significant hazard to the public or the environment through reasonably foreseeable conditions involving the release of hazardous materials into the environment. ***(Less than Significant)***

The project site is located within the Maher zone and is therefore subject to the requirements of the San Francisco Health Code article 22A (also known as the Maher Ordinance).[187] The goal of the Maher Ordinance is to protect public health and safety by requiring appropriate handling, treatment, disposal and when necessary, remediation of contaminated soils that are encountered in the building construction process. Projects that disturb 50 cubic yards or more of soil that are located on sites with potentially hazardous soil or groundwater are subject to this ordinance. The proposed project and residential variant would require excavation to a depth of approximately 40 feet bgs and the disturbance of approximately 28,000 cubic yards of soil. Therefore, the proposed project and residential variant are subject to the Maher Ordinance, which is administered and overseen by the health department.

The Maher Ordinance requires the project sponsor to retain the services of a qualified professional to prepare an environmental site assessment that meets the requirements of San Francisco Health Code section 22.A.6. A site assessment determines the potential for site contamination and the level of exposure risk as a result of a project. Based on that information, the project sponsor may be required to conduct soil and groundwater sampling and analysis; where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor is required to submit a site mitigation plan to the health department or other appropriate state or federal agency and remediate any site contamination in accordance with the approved site mitigation plan prior to issuance of a building permit.

The Maher application and Phase I environmental site assessment were submitted to the health department in in June 2020.[188] The project sponsor has prepared a Phase I environmental site assessment to determine the potential for site contamination. The Phase I environmental site assessment included (1) a reconnaissance-level site visit to look for evidence of past or current use that may involve release of hazardous materials or petroleum products; (2) review of information provided by the property owners; (3) environmental database records review; (4) review of local, state, and federal records pertinent to a Phase I environmental site assessment; (5) review of relevant documents and maps regarding local geologic and hydrogeologic conditions; and (6) review of historical documents, including aerial photographs, Sanborn maps, and topographical maps.[189]

The Phase I environmental site assessment found that three underground storage tanks (USTs), one 100-gallon waste oil UST, one 1,000-gallon diesel UST, and one 1,000-gallon gasoline UST, were removed from the 530 Sansome Street property in 1987 and 1995. Over excavation was completed as part of the UST removal, and five groundwater monitoring wells were installed on the property for groundwater monitoring. Based on

[187] San Francisco Planning Department, San Francisco Property Information Map – Map Viewer, 2019, https://sfplanninggis.org/pim/map.html?layers=Maher%20Ordinance, accessed December 5, 2020.
[188] EQX Jackson SQ Holdco LLC, *Maher Ordinance Application,* June 11, 2020.
[189] Langan Engineering and Environmental Services, *Phase I Environmental Site Assessment, 425 and 435-445 Washington Street, and 530 Sansome Street, San Francisco, California,* April 17, 2019.

the removal of the former USTs, and the analytical results of soil and groundwater sampling, the health department issued a case closure letter dated October 30, 1998, in regard to the former USTs. The case closure summary identified that the majority of the petroleum contamination source had been removed by over excavation. Groundwater results indicated that the concentrations of total petroleum hydrocarbons (TPH) as gasoline (TPHg), as diesel (TPHd), and benzene, toluene, ethyl benzene, and xylenes (BTEX) were decreasing. Benzene was detected at a concentration of less than one part per million (ppm) in groundwater.

The Phase I environmental site assessment identified one recognized environmental condition[190] (i.e., being located in the Maher zone) and one historical recognized condition (i.e., UST removals and cleanup described above).[191] Based on the information provided in the Phase I environmental site assessment, the project sponsor would be required to conduct soil and groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor would be required to submit a site mitigation plan to the health department or other appropriate state or federal agency and remediate any site contamination in accordance with the approved site mitigation plan prior to issuance of a building permit. This required action would address any residual contamination from the former USTs that may be present at concentrations above regulatory standards.

The proposed project or residential variant would include demolition of buildings constructed prior to 1970. Based on the dates of construction of these buildings, some of the building materials may pre-date the 1970s ban on the use of asbestos-containing materials and lead-based paint. Any hazardous materials currently on the site, such as asbestos or lead-based paint, would be removed during or prior to demolition of the building and project construction. The materials would be handled in compliance with applicable laws and regulations.

The California Department of Toxic Substance Control considers asbestos hazardous and requires removal of asbestos-containing materials prior to demolition or construction activities that could result in disturbance of these materials. Asbestos-containing materials must be removed in accordance with local and state regulations as well as air district, Cal/OSHA, and California Department of Health Services requirements. Specifically, section 19827.5 of the California Health and Safety Code, adopted January 1, 1991, requires that local agencies not issue demolition or alteration permits until a project sponsor has demonstrated compliance with the notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos.

The California legislature vests the local air district, in this case the air district, with the authority to regulate airborne pollutants, including asbestos-containing material, through both inspection and law enforcement. The air district is to be notified 10 days in advance of any proposed demolition or abatement work. Any disturbance of asbestos-containing material at the project site would be subject to the requirements of air district Regulation 11, Rule 2, Hazardous Materials—Asbestos Demolition, Renovation, and Manufacturing. The local office of Cal/OSHA must also be notified of asbestos abatement. Asbestos abatement contractors must follow state regulations contained in California Code of Regulations Title 8, section 1529 and sections 341.6 through 341.14, when their work involves 100 gross square feet or more of asbestos-containing

[190] Recognized environmental conditions are defined by ASTM Standard Practice E1527-05 as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.
[191] Historical recognized environmental conditions are defined by ASTM Standard Practice E1527-05 as environmental conditions that, in the past, would have been considered a recognized environmental condition but may or may not be considered a recognized environmental condition currently.

material. Pursuant to California law, the building department would not issue the required permit until the project sponsor has complied with the requirements described above.

For buildings constructed prior to 1978, such as all the existing buildings at the project site, it is highly likely that lead-based paint was used during their construction. Work that could result in any disturbance of lead-based paint must comply with section 3423 of the San Francisco Building Code, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Section 3423 identifies prohibited practices that may not be used when removing lead-based paint, as well as notification requirements. Where work would disturb or remove lead-based paint on the exterior of a building, or the interior of occupied buildings built prior to or on December 31, 1978, section 3407 requires specific notification and work standards and identifies prohibited work methods and penalties.

The demolition would also be subject to the Cal/OSHA lead in construction standard (California Code of Regulations title 8, section 1532.1). This standard requires development and implementation of a lead compliance plan when materials containing lead are disturbed during construction. The plan must describe activities that could emit lead, methods that would be used to comply with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction. Cal/OSHA would require 24-hour notification if more than 100 square feet of lead-containing material would be disturbed.

The proposed project or residential variant would be required to conduct soil and groundwater sampling and prepare a site mitigation plan, if determined necessary by the health department. The health department would oversee this process, and compliance with health code article 22A and the related regulations identified above would ensure that project activities that disturb or release of hazardous substances that may be present at the project site would not expose people in the project vicinity to unacceptable risk levels. Based on mandatory compliance with existing regulatory requirements, the proposed project or residential variant would not result in a significant hazard to the public or environment from contaminated soil and/or groundwater, asbestos, or lead-based paint, and the proposed project would result in a ***less-than-significant*** impact with respect to these hazards, and no mitigation measures are necessary.

Impact HZ-3: The proposed project or residential variant would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. ***(Less than Significant)***

The project site is within 0.25 mile of Edwin and Anita Lee Newcomer School (formerly the Chinese Education Center) located at 657 Merchant Street, Sterne School (also called the St. Mary's Bilingual Preschool) located at 838 Kearney Street, and John Yehall Chin Elementary School located at 350 Broadway.

During construction of the proposed project or residential variant, any hazardous materials currently on the site, such as asbestos-containing material and lead-based paint, would be removed before or during demolition of the existing buildings and prior to construction. The materials would be handled in compliance with applicable laws and regulations, as described under Impact HZ-2 above. During operations, the project sponsor would be required to store, handle, and dispose of hazardous materials in accordance with the regulations described under Impact HZ-1, which would ensure that hazardous materials are handled safely and there would be no potential for such materials to affect the nearest schools. Therefore, the proposed project or residential variant would have a ***less-than-significant*** impact related to hazardous emissions or materials within 0.25 mile of a school. No mitigation measures are necessary.

Impact HZ-4: The proposed project or residential variant would not interfere with implementation of an adopted emergency response plan or evacuation plan. ***(Less than Significant)***

The city's Emergency Management Program is part of a jurisdiction-wide system that provides emergency management guidance related to prevention, preparedness, response, and recovery. The city's Emergency Response Plan uses an all-hazards approach to emergency planning and, therefore, encompasses all hazards that are applicable to the city and county, both natural and man- made, ranging from planned events to large-scale disasters.[192]

San Francisco ensures fire safety primarily through provisions of the building and fire codes. Final building plans would be reviewed and approved by the fire department and building department, to ensure conformance with these provisions. In this way, potential fire hazards, including those associated with hydrant water pressures and emergency access, would be mitigated during the permit review process. Compliance with fire safety regulations would ensure that the proposed project and residential variant would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan or expose people or structures to a significant risk of loss, injury, or death involving fires. Implementation of the proposed project and residential variant could add incrementally to transportation conditions in the immediate area in the event of an emergency evacuation. As discussed in Section E.5, *Transportation and Circulation*, p. 66, the proposed project or residential variant's contribution to traffic conditions would not be substantial within the context of the urban setting of the project site, and it is expected that project-related traffic would be dispersed within the existing street grid, such that there would be no significant adverse impacts on transportation conditions. Therefore, the proposed project or residential variant would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. This impact would be ***less than significant***, and no mitigation measures are necessary.

Impact C-HZ-1: The proposed project or residential variant, in combination with cumulative projects, would not result in significant cumulative impacts related to hazards and hazardous materials. ***(Less than Significant)***

Impacts from hazards and hazardous materials are generally site specific and typically do not combine with impacts from cumulative projects to result in significant cumulative impacts. New developments in the vicinity of the project site would be subject to the same regulatory requirements as the proposed project or residential variant. Therefore, large, unexpected releases of hazardous materials of the type that would contribute to significant cumulative impacts are not expected. Compliance with existing regulations pertaining to the treatment and management of hazardous materials would ensure that the proposed project or residential variant would not combine with cumulative projects in the vicinity to result in a significant cumulative impact. Therefore, cumulative hazards impacts would be ***less than significant***, and no mitigation measures would be required.

[192] City and County of San Francisco, Emergency Response Plan, December 2010.

18. Mineral Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
18. MINERAL RESOURCES. Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒	☐

Impact MR-1: The proposed project or residential variant would not result in the loss of availability of a known mineral resource or a locally-important mineral resource recovery site. ***(No Impact)***

All land in San Francisco, including the project site, is designated Mineral Resource Zone 4 (MRZ-4) by the California Division of Mines and Geology under the Surface Mining and Reclamation Act of 1975.[193] This designation indicates that there is inadequate information available for assignment to any other mineral resource zone. Based on the MRZ-4 designation, the project site is not a designated area of known mineral deposits or a locally important mineral resource recovery site. For this reason, the proposed project or residential variant would have ***no impact*** on mineral resources.

Impact C-MR-1: The proposed project or residential variant, in combination with cumulative projects, would not result in a cumulative impact on mineral resources. ***(No Impact)***

As discussed above, San Francisco is not a designated area of significant mineral deposits and does not have locally important mineral resource recovery sites. Implementation of nearby cumulative projects would have no impact on mineral resources. For these reasons, the proposed project or residential variant would not combine with cumulative projects in the project vicinity to create a significant cumulative impact on mineral resources.

[193] California Department of Conservation, Division of Mines and Geology, Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production-Consumption Zone, Open File Report 96-03, 1996.

19. Energy

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
19. ENERGY. Would the project:					
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐	☐

Impact EN-1: The proposed project or residential variant would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. ***(Less than Significant)***

The proposed project or residential variant would increase the population and intensity of the use on the project site. However, this increased intensity would not exceed anticipated growth in the area. As new buildings in San Francisco, the proposed project or residential variant would be subject to the energy conservation standards included in the San Francisco Green Building Ordinance. This would require the project to meet a number of conservation standards (e.g., install water-efficient fixtures and energy-efficient appliances) and provide features that encourage alternative modes of transportation, such as bicycle racks. Documentation showing compliance with the San Francisco Green Building Code would be submitted with building permits and enforced by the building department. In addition, the proposed project or residential variant would be required to comply with title 24 of the California Code of Regulations, which regulates energy consumption associated with heating, cooling, and ventilation as well as lighting in residential and nonresidential buildings; it is enforced by the building department. Compliance with title 24 and the San Francisco Green Building Ordinance would ensure a reduction in the use of fuel, water, and energy by the proposed project or residential variant. The proposed project or residential variant by its character, would conserve fuel and energy because it would provide hotel/office/retail or residential uses in an urban area that is accessible by transit and is also bicycle and pedestrian friendly. Therefore, the proposed project or residential variant would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with state or local plans for renewable energy and energy efficiency. The impact would be ***less than significant***, and no mitigation would be required.

Impact C-EN-1: The proposed project or residential variant, in combination with past, present, and reasonably foreseeable future projects, would increase the use of energy, fuel and water resources, but not in a wasteful manner. ***(Less than Significant)***

While overall energy demand in California is increasing commensurate with increasing population, the state is also making concerted energy conservation efforts. While the city produces a substantial demand for energy and fuel, both city and state policies seek to minimize increases in demand through conservation and energy efficiency regulations and policies such that energy is not used in a wasteful manner, and the

cumulative impacts with respect to energy and fuel use. Because San Francisco is substantially built out, development in the city's urban core focuses on densification, which effectively reduces per capita use of energy and fuel by concentrating utilities and services in locations where they can be used efficiently. Similarly, the City recognizes the need for water conservation and has instituted programs and policies to maximize water conservation. San Francisco has one of the lowest per capita water use rates in the state[194] and routinely implements water conservation measures through code requirements and policy. Nearby cumulative development projects would be subject to the same energy and water conservation ordinances applicable to the proposed project or residential variant. Therefore, the proposed project or residential variant, in combination with other past, present, and reasonably foreseeable future projects, would result in a ***less-than-significant*** cumulative impact related to energy, fuel, and water resources.

20. Agriculture and Forestry Resources

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
20. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☒

[194] San Francisco Public Utilities Commission, Water Resources Division Annual Report, Fiscal Year 2018–19, https://sfwater.org/Modules/ShowDocument.aspx?documentid=14560, accessed January 5, 2021.

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
e) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or forest land to non-forest use?	☐	☐	☐	☐	☒

The project site does not contain any prime farmland, unique farmland, farmland of statewide importance, forest, or timberlands; does not support agricultural or timber uses; is not zoned for agricultural or timber uses; and is not under a Williamson Act contract.[195,196] Because the project site does not contain agricultural uses or forest land and is not zoned for such uses, the proposed project or residential variant would not result in the conversion of farmland to non-agricultural use or forest land to non-forest use. Therefore, none of the agriculture and forest resources significance criteria is applicable to the proposed project or residential variant, and these topics are not discussed further.

[195] California Department of Conservation, California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed December 6, 2020.

[196] The Williamson Act is a California law enacted in 1965 that provides property tax relief to owners of farmland and open space land in exchange for a 10-year agreement that the land will not be developed or converted into another use. The City and County of San Francisco does not offer Williamson Act contracts.

21. Wildfire

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
21. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a) Substantially impair an adopted emergency response plan or emergency evacuation plans?	☐	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☐	☒

San Francisco County does not contain any state responsibility area land or lands classified as very high fire severity zones.[197] There are no landslide-prone areas in the immediate vicinity of the site.[198] Therefore, none of the wildfire significance criteria are applicable to the proposed project or residential variant, and these topics are not discussed further.

[197] California Department of Forestry and Fire Protection (CAL FIRE), San Francisco County Fire Hazard Severity Zone (FHSZ) Map, November 2008, https://osfm.fire.ca.gov/media/6791/fhszl06_1_map38.pdf, accessed December 6, 2020.
[198] City and County of San Francisco, *San Francisco General Plan*, Community Safety, an Element of the General Plan of the City and County of San Francisco, Map 04 October 2012.

22. Mandatory Findings of Significance

Topic	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact	Not Applicable
22. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:					
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

NOTE: Authority cited: Public Resources Code sections 21083 and 21083.05, 21083.09. Reference: Section 65088.4, Gov. Code; Public Resources Code sections 21073, 21074, 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21080.3.1, 21080.3.2,21082.3, 21084.2, 21084.3, 21093, 21094, 21095, and 21151; *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

a) The proposed project or residential variant would not substantially degrade or reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

As described in Section E.3, *Cultural Resources*, p. 51, and Section E.4, *Tribal Cultural Resources*, p. 64, construction activities associated with the proposed project and residential variant could result in potential impacts on historic architectural resources, unknown archeological resources, human remains, and tribal cultural resources. These impacts would be less than significant with implementation of Mitigation Measures M-CR-1: Interpretation and Relocation Plan, M-CR-3, Archeological Testing, and M-TCR-1, Tribal Cultural Resources Archeological Resource Preservation Plan and/or Interpretive Program. As described in Section E.15, *Geology and Soils*, p. 157, construction activities associated with the proposed project and residential variant could result in potential impacts on paleontological resources. This impact would be less than significant with implementation of Mitigation Measure M GE 5a, Worker Environmental Awareness Training during Ground-Disturbing Construction Activities, M-GE-5b, Discovery of Unanticipated Paleontological Resources during Ground-Disturbing Construction Activities,

and M-GE-5c, Preconstruction Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitivity Areas. Therefore, the proposed project or residential variant would not result in a significant impact through the elimination of important examples of major periods of California history or prehistory.

b) The proposed project or residential variant, in combination with cumulative projects, as described in Section E, *Evaluation of Environmental Effects*, p. 46, of this initial study, would not result in significant cumulative impacts on land use and planning, population and housing, cultural resources, tribal cultural resources, transportation and circulation, noise, air quality, GHG emissions, wind, shadow, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy resources, agricultural and forest resources, and wildfire with implementation of identified mitigation, if required. Consequently, the proposed project or residential variant would not have impacts that are individually limited, but cumulatively considerable.

c) Potential adverse effects on human beings have been considered as a part of the analysis of individual environmental topics in this initial study. As discussed above, the proposed project or residential variant is anticipated to have less-than-significant impacts on most of the environmental topics discussed. Where necessary, mitigation measures have been identified to reduce impacts to less-than-significant levels. Consequently, the proposed project or residential variant would not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

   As described in Section E.7, *Noise*, p. 91, the proposed project or residential variant would result in temporary groundborne vibration impacts on adjacent buildings at 423 Washington Street and 447 Battery Street. Section E.3, *Cultural Resources*, p. 51, also identifies a potentially significant impact on 447 Battery Street related to groundborne vibration levels exceeding the Caltrans criterion for historic structures. This impact would be less than significant with implementation of Mitigation Measure M-NO-3, Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction. As described in Section E.7, *Air Quality*, p. 91, the proposed project or residential variant would result in potentially significant impacts related to health risk. These impacts would be less than significant with implementation of Mitigation Measure M-AQ-4a, Off-Road Construction Equipment Emissions Minimization and Mitigation Measure M-AQ-4b, Diesel Backup Generator Specifications. Therefore, the proposed project or residential variant would not cause substantial adverse effects on human beings, either directly or indirectly, with the implementation of the mitigation measures.

F. Mitigation Measures

The following mitigation measures have been identified in this initial study to reduce potentially significant impacts resulting from the proposed project or residential variant to less-than-significant levels. The project sponsor has agreed to implement all mitigation measures identified in the initial study.

Mitigation Measure M-CR-1: Interpretation and Relocation Plan

Interpretation for* Untitled *Sculpture. The project sponsor shall facilitate the development of an interpretive program focused on the history and design of the *Untitled* sculpture. The interpretive program shall be developed and implemented by a qualified professional with demonstrated experience in displaying information and graphics to the public, such as a museum or exhibit curator. The primary goal of the program is to educate the public about the sculpture, the work of

artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13.

This program shall be initially outlined in a proposal for an Historic Resources Public Interpretive Plan (HRPIP) subject to review and approval by planning department preservation staff. The HRPIP shall lay out the various components of the interpretive program that shall be developed in consultation with an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards and approved by planning department staff prior to issuance of a site permit or demolition permit.

The interpretative program shall include the installation of a permanent on-site interpretive display. All interpretative material shall be publicly available. For physical interpretation the plan shall include the proposed format and accessible location of the interpretive content, as well as high-quality graphics and written narratives. The interpretative plan may also explore contributing to digital platforms that are publicly accessible, such as the History Pin website or phone applications. Interpretive material could include elements such as virtual museums and content, such as oral history, brochures, and websites. The interpretative program should also coordinate with other interpretative programs currently proposed or installed in the vicinity or for similar resources in the city, such as the San Francisco Fire Department Museum.

The HRPIP shall be approved by planning department preservation staff prior to issuance of the architectural addendum to the site permit. The detailed content, media and other characteristics of such interpretive program shall be approved by planning department preservation staff prior to issuance of a temporary certificate of occupancy.

Relocation Plan for* Untitled *Sculpture. Prior to issuance of the architectural addendum to the site permit, the project sponsor shall provide a relocation plan to be reviewed and approved by the planning department to ensure that the sculpture will be removed from the building, transported, and stored during construction in a manner that will protect the historical resource. The relocation plan shall identify the storage location for the sculpture and storage and monitoring protocols. The sculpture shall be relocated to the exterior of the new fire station portion of the project, either along its north (Washington Street) or south (Merchant Street) façades; or, if approved by planning department preservation staff, to another prominent publicly accessible location on the project site. The relocation plan shall also include an initial reinstallation plan and maintenance plan for the sculpture and schedule for reviewing and finalizing those plans in consultation with planning department preservation staff prior to issuance of temporary certificate of occupancy.

Mitigation Measure M-CR-3: Archeological Testing

Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources and on human remains and associated or unassociated funerary objects. The project sponsor shall retain the services of an archeological consultant from the rotational qualified archeological consultants list maintained by the planning department's archeologist who specializes in geoarchaeology and maritime resources. After the first project approval action or as directed by the Environmental Review Officer, the project

sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the qualified archeological consultants list.

The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the Environmental Review Officer. All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the Environmental Review Officer for review and comment and shall be considered draft reports subject to revision until final approval by the Environmental Review Officer. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the Environmental Review Officer, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means for reducing potential effects on a significant archeological resource, as defined in CEQA Guidelines sections 15064.5 (a) and (c) to a less-than-significant level.

Consultation with Descendant Communities. On discovery of an archeological site associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative of the descendant group and the Environmental Review Officer shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the Environmental Review Officer regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the final archeological resources report shall be provided to the representative of the descendant group.

Archeological Testing Program. The archeological consultant shall prepare and submit to the Environmental Review Officer for review and approval an archeological testing plan. The archeological testing program shall be conducted in accordance with the approved archeological testing plan.

Testing shall include monitoring of basement demolition, trenching from the base of basement to 20 feet for historical resources and coring to Old Bay Clay to test for submerged resources.

The archeological testing plan shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the Environmental Review Officer. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the Environmental Review Officer in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include preservation in place, additional archeological testing, archeological monitoring, and/or an

archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the Environmental Review Officer or the planning department archeologist.

If the Environmental Review Officer determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, the Environmental Review Officer, in consultation with the project sponsor shall determine whether preservation of the resource in place is feasible. If so, the proposed project shall be redesigned so as to avoid any adverse effect on the significant archeological resource. If preservation in place is not feasible, a data recovery program shall be implemented, unless the Environmental Review Officer determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.

Archeological Monitoring Program. If the Environmental Review Officer in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall include, at a minimum, the following provisions:

- The archeological consultant, project sponsor, and Environmental Review Officer shall meet and consult on the scope of the archeological monitoring program reasonably prior to any project-related soils disturbing activities commencing. The Environmental Review Officer in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;
- The archeological consultant shall undertake a worker training program for soil-disturbing workers that will include an overview of expected resource(s), how to identify the evidence of the expected resource(s), and the appropriate protocol in the event of apparent discovery of an archeological resource;
- The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the archeological consultant and the Environmental Review Officer until the Environmental Review Officer has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits;
- The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis;
- If an intact archeological deposit is encountered, irrespective of whether an archeologist is present, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. The archeological consultant shall immediately notify the Environmental Review Officer of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the Environmental Review Officer.

Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the Environmental Review Officer.

Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan. The archeological consultant, project sponsor, and Environmental Review Officer shall meet and consult on the scope of the archeological data recovery plan prior to preparation of a draft archeological data recovery plan. The archeological consultant shall submit a draft archeological data recovery plan to the Environmental Review Officer. The archeological data recovery plan shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.

The scope of the archeological data recovery plan shall include the following elements:

- Field Methods and Procedures. Descriptions of proposed field strategies, procedures, and operations.
- Cataloguing and Laboratory Analysis. Description of selected cataloguing system and artifact analysis procedures.
- Discard and Deaccession Policy. Description of and rationale for field and post-field discard and deaccession policies.
- Interpretive Program. Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program.
- Security Measures. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities.
- Final Report. Description of proposed report format and distribution of results.
- Curation. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities.

Human Remains Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco and, in the event of the medical examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission, which will appoint a most likely descendant. The most likely descendant will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (Public Resources Code section 5097.98). The Environmental Review Officer also shall be notified immediately upon the discovery of human remains.

The project sponsor and Environmental Review Officer shall make all reasonable efforts to develop a Burial Agreement ("Agreement") with the most likely descendant, as expeditiously as possible, for the treatment and disposition, with appropriate dignity, of human remains and associated or unassociated funerary objects (as detailed in CEQA Guidelines section 15064.5(d)). The Agreement shall take into consideration the appropriate excavation, removal, recordation, scientific analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the most likely descendant agrees to scientific analyses of the remains and/or associated or unassociated funerary objects, the archeological consultant shall retain possession of the remains and associated or unassociated funerary objects until completion of any such analyses, after which the remains and associated or unassociated funerary objects shall be reinterred or curated as specified in the Agreement.

Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the Environmental Review Officer to accept treatment recommendations of the most likely descendant. However, if the Environmental Review Officer, project sponsor and most likely descendant are unable to reach an Agreement on scientific treatment of the remains and associated or unassociated funerary objects, the Environmental Review Officer, with cooperation of the project sponsor, shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance.

Treatment of historic-period human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity, additionally, shall follow protocols laid out in the project's archeological treatment documents, and in any related agreement established between the project sponsor, medical examiner and the Environmental Review Officer.

Final Archeological Resources Report. The archeological consultant shall submit a final archeological resources report to the Environmental Review Officer that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/monitoring/data recovery program(s) undertaken. The final archeological resources report shall include a curation and deaccession plan for all recovered cultural materials. The final archeological resources report shall also include an Interpretation Plan for public interpretation of all significant archeological features.

Copies of the final archeological resources report shall be sent to the Environmental Review Officer for review and approval. Once approved by the Environmental Review Officer, the consultant shall also prepare a public distribution version of the final archeological resources report. Copies of the final archeological resources report shall be distributed as follows: California Archeological Site Survey Northwest Information Center shall receive one (1) copy and the Environmental Review Officer shall receive a copy of the transmittal of the final archeological resources report to the Northwest Information Center. The Environmental Planning Division of the planning department shall receive one bound and one unlocked, searchable PDF copy on CD of the final archeological resources report along with copies of any formal site recordation forms (California Department of Parks and Recreation 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of public interest in or the high interpretive value of the resource, the Environmental Review Officer may require a different or additional final report content, format, and distribution than that presented above.

Mitigation Measure M-TCR-1: Tribal Cultural Resources Archeological Resource Preservation Plan and/or Interpretive Program

In the event of the discovery of an archeological resource of Native American origin, the Environmental Review Officer, the project sponsor, and the tribal representative, shall consult to determine whether preservation in place would be feasible and effective. If it is determined that preservation-in-place of the tribal cultural resource would be both feasible and effective, then the archeological consultant shall prepare an archeological resource preservation plan, which shall be implemented by the project sponsor during construction. If the ERO in consultation with the project sponsor and the tribal representative determines that preservation–in–place of the TCR is not a sufficient or feasible option, then archeological data recovery shall be implemented as required by the ERO in consultation with the tribal representative. In addition, the project sponsor shall prepare an interpretive program of the TCR in consultation with affiliated Native American tribal representatives. The plan shall identify proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists' oral histories with local Native Americans, cultural displays and interpretation, and educational panels or other informational displays. Upon approval by the ERO and the tribal representative, and prior to project occupancy, the interpretive program shall be implemented by the project sponsor.

Mitigation Measure M-NO-3: Protection of Adjacent Buildings/Structures and Vibration Monitoring during Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings, which are 423 Washington Street and 447 Battery Street. Should demolition on the building at 447 Battery Street occur, this measure is no longer applicable to that structure; however, to the extent a new structure exists or is under construction at 447 Battery Street, the Pre-construction Survey and Vibration Management and Monitoring Plan shall meet the requirements of this mitigation measure for non-historic buildings to avoid damage to such new structure. The project sponsor shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary.

- ***Pre-construction Survey.*** Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected historic building at 447 Battery Street and the non-historic building 423 Washington Street. The project sponsor shall engage a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of both buildings, provided that if the historic building at 447 Battery Street has not been demolished, then the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake (in coordination with the structural engineer) the pre-construction survey of 447 Battery Street. If the historic building at 447 Battery Street has not been demolished, the pre-construction survey

shall include descriptions and photograph of 447 Battery Street, including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage such as cracks and loose or damaged features (as allowed by the property owner). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. If the historic building at 447 Battery Street has not been demolished, the historic architect or qualified historic preservation professional shall be the lead author of the pre-construction survey for 447 Battery Street. These reports shall be submitted to the ERO and planning department preservation staff for review and approval prior to the start of vibration-generating construction activity.

- ***Vibration Management and Monitoring Plan.*** The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to the adjacent buildings and/or structures at 447 Battery Street and 423 Washington Street to ensure that any such damage is documented and repaired. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Vibration Management and Monitoring Plan that lays out the monitoring program to the ERO for approval. If the historic building at 447 Battery Street has not been demolished, the Vibration Management and Monitoring Plan shall also be submitted to planning department preservation staff for review and approval.

  The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

  - *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected buildings and/or structures, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and, in the case the historic building at 447 Battery Street has not been demolished, a historic architect or qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded based on existing conditions, soil conditions, anticipated construction practices, and in the event the historic building at 447 Battery Street has not been demolished, character-defining features of that building (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings, a peak particle velocity [PPV] of 0.3 inch per second for older residential structures, and a peak particle velocity [PPV] of 0.5 inch per second for new residential structures and modern industrial/commercial buildings).
  - *Vibration-Generating Equipment.* The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
  - *Alternative Construction Equipment and Techniques.* Should construction vibration levels be observed in excess of the established standard, the contractor(s) shall halt construction and put alternative construction techniques into practice, to the extent feasible (e.g., non-vibratory compaction equipment). Following incorporation of the alternative construction techniques, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.
  - *Vibration Monitoring.* The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected

building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard.

- Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
- The historic architect or qualified historic preservation professional (for effects on the historic building at 447 Battery Street if it has not been demolished) and/or structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
- If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.
- If vibration has damaged the historic building at 447 Battery Street, the historic preservation consultant shall immediately notify the ERO or the ERO's designee and preservation staff and prepare a damage report documenting the features of the building and/or structure that has been damaged.
- If no damage has occurred to the buildings at 447 Battery Street and Washington Street, then the historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall submit a monthly report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
- Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at 447 Battery Street and 423 Washington Street are not exceeded.

- *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The historic architect or qualified historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall conduct regular periodic inspections of each building and/or structure (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections and reporting shall occur.
- *Repair Damage.* The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site. Should damage occur at the historic building at 447 Battery Street, the building and/or structure shall be restored to its pre-construction condition in consultation with the historic architect or qualified historic preservation professions and planning department preservation staff.
- *Vibration Monitoring Results Report.* After construction is complete the project sponsor shall submit a final report from the historic architect or qualified historic preservation

professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer to the planning department. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The planning department shall review and approve the Vibration Monitoring Results Report.

Mitigation Measure M-AQ-4a: Off-Road Construction Equipment Emissions Minimization

The project sponsor or the project sponsor's contractor shall comply with the following:

A. Engine Requirements.

1. All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities shall have engines that meet or exceed U.S. Environmental Protection Agency (EPA) Tier 4 Interim or Tier 4 Final off-road emission standards.
2. Where access to alternative sources of power are available, portable diesel engines shall be prohibited.
3. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The project sponsor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.
4. The project sponsor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

B. Waivers.

1. The planning department's Environmental Review Officer or designee (ERO) may waive the alternative source of power requirement of Subsection (A)(2) if an alternative source of power is limited or infeasible at the project site. If the ERO grants the waiver, the project sponsor must submit documentation that the equipment used for onsite power generation meets the requirements of Subsection (A)(1).
2. The ERO may waive the equipment requirements of Subsection (A)(1) if the project sponsor demonstrates that use of the alternative equipment would not result in a cancer risk from project construction and operation that exceeds 7 per one million exposed and annual average PM2.5 concentrations that exceed 0.2 $\mu g/m^3$.

C. Construction Emissions Minimization Plan. Before starting on-site construction activities, the project sponsor shall submit a Construction Emissions Minimization Plan (plan) to the ERO for

review and approval. The Plan shall state, in reasonable detail, how the project sponsor will meet the requirements of Section A:

1. The plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. As reasonably available, the description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel use and hours of operation. For any VDECS installed, the description may include: technology type, serial number, make, model, manufacturer, air board verification number level, and installation date and hour meter reading on installation date.
2. The project sponsor shall ensure that all applicable requirements of the plan have been incorporated into the contract specifications. The Plan shall include a certification statement that the project sponsor agrees to comply fully with the Plan.
3. The project sponsor shall make the plan available to the public for review onsite during working hours. The project sponsor shall post at the construction site a legible and visible sign summarizing the Plan. The sign shall also state that the public may ask to inspect the Plan for the project at any time during working hours and shall explain how to request to inspect the Plan. The project sponsor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.

D. Monitoring. After start of construction activities, the project sponsor shall submit quarterly reports to the ERO documenting compliance with the plan. After completion of construction activities and prior to receiving a final certificate of occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.

Mitigation Measure M-AQ-4b: Diesel Backup Generator Specifications

The project sponsor shall ensure that the proposed diesel backup generators meet or exceed California Air Resources Board Tier 4 off-road emission standards. Additionally, once operational, the diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generators are located shall maintain records of the testing schedule for the diesel backup generators for the life of those diesel backup generators and to provide this information for review to the planning department within three months of requesting such information.

Mitigation Measure M-GE-5a: Worker Environmental Awareness Training during Ground-Disturbing Construction Activities

Prior to commencing construction, and ongoing throughout ground disturbing activities (e.g., excavation, utility installation, the property owner or their designee (herein referred as property owner) shall ensure that all project construction workers are trained on the contents of the Paleontological Resources Alert Sheet, as provided by the environmental review officer (ERO). The

Paleontological Resources Alert Sheet shall be prominently displayed at the construction site, during ground disturbing activities, to provide pre-construction worker environmental awareness training regarding potential paleontological resources.

In addition, the property owner shall inform construction personnel of the immediate stop work procedures and other procedures to be followed if bones or other potential fossils are unearthed at the project site. As new workers that will be involved in ground disturbing activities arrive at the project site, the construction supervisor shall train them.

The property owner shall submit in writing (email, letter, memo) the timing of the worker training to the ERO. The letter shall confirm the project's location, the date of training, the location of the informational handout display, and the number of participants. The letter shall be transmitted to the ERO within 5 business days of conducting the training.

Mitigation Measure M-GE-5b: Discovery of Unanticipated Paleontological Resources during Ground-Disturbing Construction Activities

In the event of the discovery of an unanticipated paleontological resource during construction, ground disturbing activities shall temporarily be halted within 20 feet of the find until the discovery is examined by a qualified paleontologist as recommended by the Society of Vertebrate Paleontology standards (SVP 2010) and Best Practices in Mitigation Paleontology (Murphey et al. 2019). Work within the sensitive area shall resume only when deemed appropriate by the qualified paleontologist in consultation with the ERO.

The qualified paleontologist shall determine: (1) if the discovery is scientifically significant; (2) the necessity for involving other responsible or resource agencies and stakeholders, if required or determined applicable; and (3) methods for resource recovery. If a paleontological resource assessment results in a determination that the resource is not scientifically important, this conclusion shall be documented in a Paleontological Evaluation Letter to demonstrate compliance with applicable statutory requirements (e.g., Federal Antiquities Act of 1906, CEQA Guidelines section 15064.5, California Public Resources Code chapter 17, section 5097.5, Paleontological Resources Preservation Act 2009). The Paleontological Evaluation Letter shall be submitted to the ERO for review within 30 days of the discovery.

If the qualified paleontologist determines that a paleontological resource is of scientific importance, and there are no feasible measures to avoid disturbing this paleontological resource, the qualified paleontologist shall prepare a Paleontological Impact Reduction Program (impact reduction program). The impact reduction program shall include measures to fully document and recover the resource of scientific importance. The qualified paleontologist shall submit the impact reduction program to the ERO for review and approval. The impact reduction program shall be submitted to the ERO for review within 10 business days of the discovery. Upon approval by the ERO, ground disturbing activities in the project area shall resume and be monitored as determined by the qualified paleontologist for the duration of such activities.

The impact reduction program shall include: (1) procedures for construction monitoring at the project site; (2) fossil preparation and identification procedures; (3) curation of paleontological

resources of scientific importance into an appropriate repository; and (4) preparation of a Paleontological Resources Report (report or paleontology report) at the conclusion of ground disturbing activities. The report shall include dates of field work, results of monitoring, fossil identifications to the lowest possible taxonomic level, analysis of the fossil collection, a discussion of the scientific significance of the fossil collection, conclusions, locality forms, an itemized list of specimens, and a repository receipt from the curation facility. The property owner shall be responsible for the preparation and implementation of the impact reduction program, in addition to any costs necessary to prepare and identify collected fossils, and for any curation fees charged by the paleontological repository. The paleontology report shall be submitted to the ERO for review within 30 business days from conclusion of ground disturbing activities, or as negotiated following consultation with the ERO.

Mitigation Measure M-GE-5c: Preconstruction Paleontological Evaluation for Projects located in Class 3 (Moderate) Sensitivity Areas

The project site is located in San Francisco in Moderate Sensitivity Area (Class 3), which require ground disturbance activities deeper than 5 feet and would include the removal of more than 2,500 cubic yards of soil. The property owner shall engage a qualified paleontologist to complete a site-specific Preconstruction Paleontological Resources Evaluation (paleontology preconstruction evaluation) prior to commencing soil-disturbing activities occurring on the project site, for projects located in moderate sensitivity zones. Prior to issuance of any demolition or building permit, the property owner shall submit the Preconstruction Paleontological Evaluation to the ERO for approval.

The purpose of the site-specific preconstruction evaluation is to identify early the potential presence of significant paleontological resources on the project site. At a minimum, the study shall include:

1. Project Description
2. Regulatory Environment – outline applicable federal, state and local regulations
3. Summary of Sensitivity Classification
4. Research Methods, including but not limited to:
   - 4.1. Field studies conducted by the approved paleontologist to check for fossils at the surface and assess the exposed sediments.
   - 4.2. Literature Review to include an examination of geologic maps and a review of relevant geological and paleontological literature to determine the nature of geologic units in the project area.
   - 4.3. Locality Search to include outreach to the University of California Museum of Paleontology in Berkeley.
5. Results: to include a summary of literature review and finding of potential site sensitivity for paleontological resources; and depth of potential resources if known.
6. Recommendations for any additional measures that could be necessary to avoid or reduce any adverse impacts to recorded and/or inadvertently discovered paleontological resources of scientific importance, in addition to paleontology standard requirements for Worker

Environmental Awareness Training during Construction (M-GE-4a) and Discovery of Unanticipated Paleontological Resources during Construction (M-GE-4b). Such measures could include:

6.1. Avoidance: If the cost of fossil recovery or other impact reduction options is determined to be too high, or permanent damage to the resource caused by surface disturbance is considered to be unavoidable, given the proposed construction, it may be necessary to "avoid" or "reroute" the portion of the project that intersects the fossil locality in order to prevent adverse impacts on the resource. Avoidance should also be considered if a known fossil locality appears to contain critical scientific information that should be left undisturbed for subsequent scientific evaluation. Avoidance for later scientific research is the typical mitigation recommendation made for scientifically significant extensive paleontological discoveries.

6.2. Fossil Recovery: If isolated small, medium- or large-sized fossils are discovered within a project area during field surveys or construction monitoring, and they are determined to be scientifically significant, they should be recovered. Fossil recovery may involve simply collecting a fully exposed fossil from the ground surface, or may involve a systematic excavation, depending upon the size and complexity of the fossil discovery. Fossil excavations should be designed in such a way as to minimize construction delays while properly collecting the fossil and associated data according to professional paleontological standards.

6.3. Sampling: Scientifically significant microfossils (vertebrate, invertebrate, plant, or trace fossils) may be identified in rock matrix during surveys or monitoring, or, if they are known to occur elsewhere in the same geologic unit or type of deposit in the general area, a determination of their presence or absence may require the use of test sampling of rock matrix for screen-washing in a paleontological laboratory. In some cases, depending upon the geologic unit involved, test sampling may be appropriate even if microfossils are not visible in the field. The fossils found, if any, will then be inspected and evaluated to determine their significance and whether additional steps are necessary to reduce paleontological impacts. Such steps may include collection of additional matrix for screen-washing. The decision to sample may not be made until monitoring is occurring, because it is usually triggered by conditions in the field.

6.4. Monitoring: If scientifically important paleontological resources are known to be present in an area, or if there is a moderate or high likelihood that subsurface fossils are present in geologic units or members thereof within a given project area based on prior field surveys, museum records, or scientific or technical literature, paleontological monitoring of construction excavations would be required. Monitoring involves systematic inspections of graded cut slopes, trench sidewalls, spoils piles, and other types of construction excavations for the presence of fossils, and the fossil recovery and documentation of these fossils before they are destroyed by further ground disturbing actions. Standard monitoring is typically used in the most paleontologically sensitive geographic areas/geologic units (moderate, high and very high potential); while spot-check monitoring is typically used in geographic areas/geologic units of moderate or unknown paleontological sensitivity (moderate or unknown potential). The goal of monitoring is to identify scientifically significant subsurface fossils as soon as they are unearthed in order to minimize damage to them and remove them and associated contextual data from the area of ground disturbance, thereby resulting in

subsurface paleontological clearance. Microfossil sampling, macrofossil recovery, and avoidance of fossils may all occur during any monitoring program.

G.1 Public Notice and Comment

On November 19, 2020 the planning department mailed a Notification of Project Receiving Environmental Review to owners and occupants within 300 feet of the project site, neighborhood groups for the project vicinity, and public agencies. The planning department received three comment letters expressing concerns about:

- Number of vehicle and bike parking spaces under the residential variant;
- Shadow;
- Water supply; and
- Temporary relocation of Fire Station 13 during construction and community safety.

These concerns were incorporated into the environmental review of the proposed project and residential variant and addressed in Section D.2, *Aesthetics and Parking Analysis*, p. 45; Section E.15, *Geology and Soils*, p. 157; Section E.10, *Shadow*, p. 134; Section E.12, *Utilities and Service Systems*, p. 142; and Section E.13, *Public Services*, p. 150.

G.2 Notice of Intent to Adopt a Mitigated Negative Declaration

On April 28, 2021, the planning department circulated a Notice of Availability and Intent to Adopt a Mitigated Negative Declaration. The notice was circulated to interested organizations and individuals, property owners and residents within 300 feet of the project site, and published in a newspaper of general circulation. Notices were also posted at multiple locations around the project site on Washington, Sansome and Merchant streets. The planning department received one question asking to confirm the total height of the proposed building, but no comments during the 20-day comment period (April 28 to May 18, 2021). On May 20, 2021, after the close of the 20-day public comment period, the planning department received a comment letter on the preliminary mitigated negative declaration from a local labor organization voicing concerns about the project's impacts related to transportation and circulation, wind, shadow, and recreation.

As to transportation and circulation, the letter expressed concern about potential conflicts between project freight loading and operation of emergency vehicles at the replacement fire station, the viability of both freight and passenger loading, and the relationship between loading activities and the proposed POPOS on Merchant Street. As described in the project description on pages 17 and 22, the proposed project or residential variant would provide an off-street freight loading dock accessible from Washington Street and two additional freight loading/service vehicle spaces in the basement accessible from Merchant Street.

As to potential conflicts between emergency vehicles and freight loading, trucks arriving at the Washington Street loading dock would pull past the dock and back into the dock. As explained on page 82 and presented in Appendix G to the 530 Sansome Street Transportation Study, "these truck movements could be accommodated within Washington Street and would not interfere with fire department vehicles exiting the fire station on Washington Street. Furthermore, a gate arm or other traffic control feature at this loading dock

would restrict commercial vehicle egress from the loading dock during a fire department departure event." The letter also expresses concern about commercial delivery vehicles attempting to enter the loading dock when fire trucks are exiting the fire station. Should this occur, the delivery vehicle would comply state law requiring vehicles to move over, and would wait for the fire truck to exit the station and pass the delivery vehicle before attempting to enter the loading dock. Accordingly, neither the proposed project nor residential variant's freight loading would result in conflicts with or obstruct fire department emergency response, and no significant effects would occur.

As to the viability of freight and passenger loading, including potential interactions with the proposed POPOS programming on Merchant Street, analysis supports that proposed freight and passenger loading would adequately serve the proposed uses without creating potentially hazardous conditions for other roadway users, including people walking, bicycling, and driving. As addressed under Impact TR-6 on page 82, most project freight loading activity for the hotel and retail uses would entail the use of relatively smaller trucks and other vehicles that could be accommodated within the proposed two service vehicle loading spaces accessible from Merchant Street. As also discussed on page 82, vehicles longer than 30 feet are expected to serve the project site once or twice a day under the proposed project. Vehicles longer than 30 feet are expected occasionally for the residential variant for move-in/move-out activities (Impact TR-6 on page 84). For both the proposed project and residential variant, vehicles longer than 30 feet would be able to load at convenient loading zones on adjacent streets, such as at the yellow loading zones on the west side of Sansome Street, south of Merchant Street. As further discussed under Impact TR-6 on pages 82 to 84, the implementation of a driveway loading and operations plan would help further ensure that freight loading activities generated by the proposed project or residential variant do not introduce potentially hazardous conditions for other roadway users. The driveway loading and operations plan would be imposed as a condition of approval for the proposed project or residential variant, implemented by the project sponsors or building operator, and enforced by the Planning Department in coordination with SFMTA and San Francisco Public Works.

Passenger loading is addressed under Impact TR-6 on pages 83 to 84. The comment letter asserts that methodology for studying hotels is out of date and regularly underestimates the intensity of hotel uses, citing conferences that generate intensified activity of tour buses and demand on transit. As an initial matter, the proposed project's hotel may host small conferences of up to 100 people in the approximately 5,000 gross square feet of the hotel designed for flexible meeting space, and this number of users would be comparatively small to conference-oriented hotels with large ballrooms and meeting rooms. Hotel conference activity is therefore not anticipated to generate a substantial number of trips and any related increase in trips would be of a short duration. Further, the comment letter incorrectly states that the trip generation rates used for assessing loading demand for the proposed hotel date to 2012. Instead, the 530 Sansome Street Transportation Study and this MND use trip generation rates from the 2019 SF Guidelines, which account for recent increases in the number of vehicles operated by transportation network companies such as Uber and Lyft. As stated on page 83, the peak loading demand from 5 p.m. to 8 p.m. is based on the 2019 SF Guidelines and methodology. The proposed project or residential variant would provide an approximately 100-foot-long (approximately five spaces) passenger loading zone on Sansome Street and an approximately 40-foot-long p.m. peak traffic period (3 p.m. to 7 p.m.) passenger loading zone (approximately two spaces) on Merchant Street. Both of these loading zones would be served by curbside valet stations where valet drivers would shuttle cars to and from the loading zones and the off-street parking facility accessible from Merchant Street. Analysis of the proposed project and residential variant supports that these zones would adequately accommodate the proposed project or residential variant's passenger loading demand.

Regarding potential freight and passenger loading activity interaction with the proposed POPOS programming on Merchant Street, the comment letter incorrectly refers to the Merchant Street POPOS programming hours as 3 p.m. to 7 p.m. Instead, the Merchant Street POPOS would function as a shared street/living alley and its programming would not necessarily be limited to certain hours each day. The period of 3 p.m. to 7 p.m. represents the p.m. peak traffic period and the period when the proposed Sansome Street on-street passenger loading zone would be unavailable due to existing peak hour tow-away restrictions. During this p.m. peak period, the proposed passenger loading zone within the Merchant Street POPOS would be made available for passenger loading activity. As stated in footnote 75 on page 83, the passenger loading zone within the Merchant Street POPOS would be "programmed with movable furniture during typical business hours," which would allow the passenger loading zone to be programmed for pedestrian uses when not used for p.m. peak period passenger loading. In addition, the comment letter incorrectly states that the POPOS programming proposes to entirely prohibit service vehicles from going through Merchant Street. Instead, although the POPOS programming would slow and may limit the volume of through vehicle traffic on Merchant Street, it would not completely prohibit vehicles, including those generated by the project and by cumulative projects, from going through Merchant Street. Accordingly, and for the reasons further set forth in Section E.6, the proposed project or residential variant's potential loading impacts would be less than significant.

Regarding wind, the comment letter states that the project would worsen existing wind comfort conditions, asks about wind-related adverse health effects on pedestrians, and asks what would happen in the cumulative project scenario were the designs of the projects at 447 Battery Street and 545 Sansome Street to change. Regarding comfort criteria, the approach to the wind analysis on page 131 specifies that the results of the wind analysis related to the planning code section 148 comfort criteria are presented solely for informational purposes (as they relate to the planning code section 309). These results are not relevant to CEQA nor related to the determination of significant wind impacts under CEQA. Instead, the CEQA significance criterion for wind is whether a project would meet or exceed the wind hazard speed for a single hour of the year. Where the wind hazard speed would be exceeded, a significant impact would normally result if either the total number of hours during which the hazard criterion is exceeded or the total number of locations where exceedances would occur would increase. The comment letter notes that the wind hazard criterion would be exceeded at ten test points; however, as discussed under Impact WI-1 on pages 132 and 133, this would represent a reduction in wind hazard criterion exceedances from 12 to 10 test points and, further, the total hours exceeding the hazard criterion would be reduced from 249 to 138. This is an improvement in wind hazard conditions compared to existing conditions, and therefore the impact would be less than significant.

As discussed under Impact C-WI-1 on page 133, the cumulative scenario would result in a net increase of two test points exceeding the wind hazard criterion. However, as stated on page 133, the pedestrian wind study prepared for the proposed project and residential variant concluded that the increase in the number of total hours and locations exceeding the hazard criterion would primarily be caused by the proposed project at 545 Sansome Street, which would be developed upwind of the 530 Sansome Street project site. As described further on page 134, the proposed project or residential variant would eliminate wind hazard exceedances at two test points (points 10 and 12) where winds exceed the hazard criterion under existing conditions. With cumulative development, the wind hazard exceedances would reappear at test points 10 and 12; therefore, the proposed project or residential project would not contribute considerably to the cumulative impact. Should the design of any of the cumulative projects substantially change, the planning department would require updated wind analysis of such project designs under environmental review conducted for those cumulative projects. Accordingly, cumulative wind effects of the proposed project or residential variant would be less than significant.

With respect to shadow, the comment letter states concern about shadow on Maritime Plaza and that the preliminary mitigated negative declaration is not in the "spirit of the Shadow Ordinance." San Francisco does not have a "Shadow Ordinance" but rather San Francisco Planning Code section 295 is also known as the "Sunlight Ordinance." As addressed under Impact SH-1 on pages 134 and 135, compliance with section 295 occurs independent of the CEQA process and the proposed project or residential variant would comply with section 295 as part of project approval. Additionally, analysis conducted under section 295 for the proposed project or residential variant includes quantification of shadow impacts for Maritime Plaza and Sue Bierman Park, the impact determination under CEQA is based on qualitative criteria adopted by the San Francisco Recreation and Parks Commission and the planning department. The qualitative criteria include the time of day and time of year when shadow would be cast, the size, duration, and location of the new shadow, and the types of activities that occur in the affected areas of the park. The comment letter misstates that existing trees in Sue Bierman Park are used to justify a less-than-significant shadow impact. As discussed on pages 137 through 138, park users would not likely notice new shadow due to the time of day, the existing amount of shadow, and the limited increase and duration of new shadow and that this would be unlikely to substantially or adversely affect usage of the park.

Concerning recreation, the comment letter questions whether the proposed open space would adequately serve the residential variant or whether there could be an increase in use of nearby recreational facilities. The residential variant's open space requirements are addressed on page 41. Planning code section 135 requires either 36 square feet of private open space per dwelling unit or 1.33 times the amount of private open space required as common open space (48 square feet). The residential variant would be required to provide 9,216 square feet of private open space, 12,288 square feet of common open space, or a combination thereof. The comment letter incorrectly indicates that the only residential open space proposed by the residential variant would be in the solarium on the building's 21st floor. The residential variant would provide 36 square feet of private open space for 123 dwelling units totaling 4,428 square feet, in addition to the 6,384 square feet of common open space proposed on the 21st floor, for a total of 10,812 square feet of open space. This would meet the planning code open space requirements. As addressed under Impact RE-1 on page 141, the open space provided at the project site would partially offset demand for open space, and demand for existing parks and recreation facilities would be expected to be balanced among existing recreational facilities. The residential variant would not increase the use of existing recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Accordingly, the effects on recreational facilities to be less than significant.

THIS PAGE INTENTIONALLY LEFT BLANK

H. Determination

On the basis of this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Devyani Jain
_____

Lisa Gibson
Environmental Review Officer
for
Rich Hillis
Director of Planning

DATE 4/28/2021

I. Initial Study Preparers

Planning Department, City and County of San Francisco
Environmental Planning Division
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

- Environmental Review Officer: Lisa Gibson
- Principal Environmental Planner: Chris Kern
- Senior Environmental Planner: Alana Callagy
- Current Planner: Nicholas Foster
- Senior Transportation Planner: Jenny Delumo
- Senior Transportation Planner: Kei Zushi
- Senior Transportation Planner: Rachel Schuett
- CEQA Cultural Resources Team Manager: Allison Vanderslice
- Preservation Planner: Jonathan Vimr
- Archeologist: Sally Morgan
- Air Quality Planner: Josh Pollack

Environmental Consultants

Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

- Project Director: Eryn Brennan
- Project Manager: Susan Yogi
- Deputy Project Manager: Steve Smith
- Jill Feyk-Miney
- Johanna Kahn
- Chris Sanchez
- Cheri Velzy
- Brian Schuster
- Heidi Koenig
- Elliott Schwimmer
- Michael Burns
- Karl Heisler
- Joel Miller
- James Songco

Fehr & Peers
345 California Street, Suite 450
San Francisco, CA 94104

- Project Manager: Matt Goyne, PE

PreVision Design
1806 Belles Street, Suite 6B
San Francisco, CA 94129

- Adam Phillips

RWDI
600 Southgate Drive
Guelph, ON, N1G 4P6

- Stefan Gopaul, M.A.Sc., P. Eng.
- Hanqing Wu, Ph.D., P. Eng.
- Raisa Lalui, M. Eng., P. Eng.

Project Sponsors

San Francisco Fire Department
698 Second Street, Room 304
San Francisco, CA 94107

- Deputy Chief of Administration Jose Velo
- Assistant Deputy Chief Dawn DeWitt

EQX Jackson SQ Holdco LLC

- Senior Vice President: Matthew Witte
- Senior Vice President: Jonathan Shum
- Project Manager: Nick Witte

San Francisco Bureau of Real Estate
25 Van Ness Avenue, Unit 400
San Francisco, CA 94102

- Andrico Penick
- Josh Keene

Project Sponsor's Legal Counsel

J. Abrams Law, P.C.
One Maritime Plaza, Suite 1900
San Francisco, CA 94111

- Jim Abrams
- Nick Roosevelt

Project Architect

Skidmore, Owings & Merrill
One Maritime Plaza
San Francisco, CA 94111

- Mark Schwettmann
- Gayle Strang

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

Cultural Resources

A1 425 and 439–445 Washington Street Historic Evaluation

HISTORICAL EVALUATION of
425 and 439-445 WASHINGTON STREET, SAN FRANCISCO

According to California Register Criteria

Top row: 425 and 439-443 Washington Street in 1957
Bottom row: 425 and 439-445 Washington Street in 2016

Block/lot: 425 Washington:206/14
439-445 Washington: 206/13

by

William Kostura, architectural historian
P. O. Box 60211
Palo Alto, CA 94306
(650) 815-1174

May 2017

Summary

The properties at 425 and 439-445 Washington Street lie between Battery and Sansome streets in San Francisco's Financial district. The two buildings were built for different owners in 1906-1907 as two-story brick masonry commercial buildings. The architect of each was S. H. Woodruff, and the construction was by the Woodruff Company. A third story was added to 425 Washington in 1928.

The buildings were occupied by numerous businesses over the years. During its first sixty years 425 Washington was occupied by an assayer and chemist (1907-1910), wholesale poultry businesses (1916-1940), and wholesale fisheries (1942-1965). During the same period, 439-445 Washington was occupied by wholesale grocers (1910-1931), a cigar factory (ca. 1913-1943), the Fulton Paper Company (1936-1965), and a series of restaurants (1944-2015). These buildings' uses as wholesale groceries, poultry, and fish businesses were very similar to the uses in the Produce district that once stood in blocks to the east.

In 1967 the front parts of both buildings were removed to allow for the widening of Washington Street, and new brick facades were built. The new front of #425 was designed by architects Harada and Meu and engineer Russell H. Fuller; while that of #439-445 was designed by architect Gilbert L. Oliver. After the new fronts were built, #425 was occupied by a lithography business (1967-1972) and audio sales (1973-1982), among others; while #439-445 was occupied by restaurants (1967-2015) and a photography studio (1968-1993).

Because these have always been separate properties, each building is being evaluated separately under the criteria of the California Register in this report. Due to loss of integrity neither building appears to be eligible for the California Register under criteria 1, 2 or 3. They also do not fall within a potential California Register historic district. Finally, it does not appear that the the nearby Jackson Square historic district could be extended to include this property. Please see a discussion of these issues in the "Evaluation" section of this report, on pages 16-20.

Description

<u>The general vicinity</u>

This property lies at the northernmost edge of the city's Financial district. Within a block radius are buildings of very diverse types. They include:

* The Golden Gateway Center, occupying several blocks to the east and northeast of the subject property. This is a collection of high-rise and low-rise apartment buildings developed during the 1960s on the site of the former Produce district.

* U. S. Custom House (built during 1906-1911) and the Appraiser's Building (1940-1941). These monumental U. S. government buildings are located directly north of the subject property,

in the block bounded by Washington, Jackson, Battery and Sansome streets. The granite-clad Custom House at 555 Battery is five stories in height and is a landmark example of Beaux-Arts classicism. It was listed on the National Register of Historic Places in 1975. The Appraiser's Building at 630 Sansome is a spare, Moderne style high-rise.

* Jackson Square, an official city historic district occupying several blocks to the northwest of the subject property. This is a collection of two or three story brick masonry buildings built during the 19th and early 20th centuries.

* Three tall office buildings in the block to the west, bounded by Sansome, Montgomery, Clay and Washington streets. These include the nine-story California Ink Building at 545 Sansome (Willis Polk and Company; 1930), the Transamerica Pyramid at 600 Montgomery (1971) and its redwood grove, and a high-rise at 505 Sansome Street (1978). Also in this block are a one-story retail building, 501-505 Washington Street (1977), and a paved lot with the preserved remnants of an old brick building.

<u>The square block containing the subject property</u>

This block is bisected by an alley, Merchant Street. Its early, pre-World War II character was greatly diminished in 1967, when Washington Street was widened by 23 feet to facilitate traffic from the Embarcadero Freeway. When the street was widened, two buildings, those at the southwest corner of Washington and Battery and at the southwest corner of Washington and Sansome, were demolished, and the fronts of two others, 425 and 439-445 Washington, were removed and were given new facades. Another change occurred in ca. 2001, when three old buildings were replaced by a hotel at the corner of Clay and Sansome. Now only three pre-World War Two buildings remain with good integrity. The eight buildings on this block include:

* 401-423 Washington Street (1983). This glassy office mid-rise was built on the narrow sliver of land that remained after Washington Street was widened. Its large windows are divided by muntins into many lights.

* 425 Washington Street (1906-1907). One of the subject properties; described below.

* 439-445 Washington Street (1906-1907). One of the subject properties; described below.

* The Jones-Thierbach Coffee Co. building, 447 Battery Street (1907). Three stories, brick masonry construction, with segmental arched window heads; its window sash has been removed. It is rated "B" in the book *Splendid Survivors*.

* SFFD Fire Station 13, 530 Sansome Street (John Portman, architect, ca. 1974). The plain exterior consists of metal panels and concrete. It was built to replace a fire station demolished when Portman's Embarcadero Center was built.

* Club Quarters Hotel, 424 Clay Street/425 Battery (ca. 2001). Seven to ten stories in height, its bay windows faintly evoke San Francisco's Edwardian-era architecture.

* 432 Clay Street (1912). Two stories in height, of reinforced concrete with restrained classical ornamentation. Rated "C" in *Splendid Survivors*.

* The Printers' Building, 500 Sansome Street (Frederick H. Meyer, 1929). Eight stories, of reinforced concrete. It features an ornate Romanesque entrance and a restrained Art Deco top, and is otherwise plain. It was not listed in *Splendid Survivors* due to its altered window sash and possible loss of ornament. However, the present writer, in his 2007 evaluation of a nearby building, noted its history: "Probably the largest printing building ever built in San Francisco. It was built expressly for the printing industry and held thirteen printers plus seven associated businesses in 1936. Many printers remained here at least through 1953."

Description of 425 Washington Street

This brick masonry building is three stories in height and fills its lot, which measures 40'-6" by 99 feet in depth. The first floor contains a chiropractic office (on the Washington Street side) and a restaurant (on the Merchant Street side); and the upper floors contain offices. The front is clad in olive-colored bricks dating to 1967, while the rear is clad variously in original (1907) bricks and stucco, also painted olive.

The symmetrical front facade is divided into two window and entrance bays. In each, the openings rise from the ground floor entrance to the third floor window and terminate in an arched window head. Each bay is surrounded by a single course of bricks that projects three inches beyond the wall plane. Corresponding brick piers near the east and west sides of the facade rise from the ground to a plain cornice that stretches across the top of the building.

Each bay is filled by recessed entrances with polished steel doors and transoms in the first story; windows of steel that is painted red in the upper stories; and spandrels of plaster, painted beige.

The 424 Merchant Street facade is clad in original bricks only at the second story level. Here, three windows are now filled with advertising, while three others have been filled with bricks. A shallow cornice of layered bricks stretches across the top of the second story and is reinforced with tie rods and plates. Both the first and third stories are clad in stucco. Windows in both of these stories have steel frames that are painted red. Those in the first story storefront are large, while those in the third story are small. Two entrances in the first story, both at left, are recessed. They contain steel doors, that to the restaurant with full-length glazing.

Description of 439-445 Washington Street

This building is two stories in height and fills its lot, which measures 47'-5" in width by 99 feet in depth. The construction type is brick masonry. The building contains two ground floor

storefronts, 439 Washington and 441 Washington; plus upstairs offices at #445. While the Washington Street facade is made of new red bricks, the Merchant Street facade is still principally composed of original bricks.

A cornice of three layers stretches across the top of the Washington Street facade. At each layer projecting bricks alternate with narrow recesses, adding texture to the facade. Shallow horizontal courses run along the top and bottom of this cornice composition.

Below, most of the facade is devoted to three large bays, each rising two stories from the ground to a segmental arched head defined by brick courses and dentils. Raised bricks around the perimeters of these bays create the impression of brick piers between them. These bays are filled by windows, entrances to the storefronts and offices, and signage. They are described below:

In the second story, each opening is filled by a window whose metal sash is divided by muntins into smaller lights. The frieze area between the stories is devoted to signage.

In the first story, the bay at left is filled by a door, transom, and a window, all of glass set in metal frames. These serve the storefront at #439. The middle bay is devoted to signage. The bay at right has paired wooden doors opening into the storefront at #441, and a wooden door with full-length glazing serving the second floor offices (#445). The entrances are slightly recessed within the building envelope and have concrete floors.

By stepping into these recessed entrances, one may observe the contrast between the original bricks of 1906-1907 and the newer bricks of 1967. The newer bricks of the facade are smooth, while the older bricks, in the visible side walls, have rougher texture and a darker hue.

The rear facade appears to be made of older red bricks, many or most of which show clear evidence of having been sandblasted. An extremely shallow cornice of layered bricks stretches across the top. In the second story six rectangular windows -- a group of three at left and a group of three at right -- pierce the wall. Each is topped by a rectangular panel colored bright blue-green. Panels such as these are unique to this building in San Francisco, and they may be an alteration. The sash within each window is made of the same metal as those in the Washington Street facade.

The first story is pierced by four large, evenly-spaced openings, each with segmental arched heads. Three of them have low sills and are now filled with flat stucco; they must have originally been windows or loading docks. The fourth opening, at far left, has a recessed entrance protected by a steel grille. Within, a glazed wooden door leads to the second floor offices and paired solid wooden doors serve the storefront at 441 Washington.

A non-original covering of unknown material spans the width of the building at the second floor area.

History

The Produce district, and the 400 block of Washington Street (south side)

San Francisco's Produce district was along Sacramento, Clay, and Washington streets, and on the adjacent blocks of Front, Davis, and Drumm. It was present before the earthquake and fire of 1906, was rebuilt in the same locale afterward, and persisted until it was demolished in 1963 to make way for the Golden Gateway Center. It then moved to new buildings in the Bayview district.

Dozens of growers of produce and other food items, wholesale buyers and sellers, and commission merchants occupied the two and three-story brick buildings in these blocks for about fifty-six years. The streets were congested by trucks that parked in front of buildings to deliver and pick up produce. Because of the demand for space, some produce dealers and commission merchants overflowed onto adjacent blocks to the west, to Battery and even to Sansome streets.

The south side of the 400 block of Washington Street was also composed of two and three story brick buildings, and during the first half of the 20th century these also housed a small number of wholesale meat and produce businesses. They also housed many other kinds of businesses, including manufacturing, dealers in supplies, and restaurants. General retail shopping (including stores of dry goods, clothing, furniture, and other household items) and offices were typically not located here.

The uses in this area changed little until the 1960s. In that decade the Produce district was replaced by the Golden Gateway Center, and Washington Street was widened to facilitate traffic from the Embarcadero Freeway (which had on and off-ramps at Clay and Washington streets). Widening Washington Street along its north side, where the Custom House and the Appraiser's Building were, was probably never considered. Instead, about eighteen feet were removed from the fronts of buildings along the south side of Washington Street, including from the two subject buildings.

History of 425 Washington Street

Construction and early ownership

This building was built during 1906-1907 for owner Rudolph Jordan. The architect was S. H. Woodruff, and the contractor was the Woodruff Company, which also built 439-445 Washington at the same time.

Rudolph Jordan came to California in 1849 and proceeded to Tuolumne County, where according to his obituary he mined gold successfully and "had many exciting adventures." He then opened a commission business in Sacramento, next moved to San Francisco, then went abroad, and returned to San Francisco permanently in 1875. By this time, it appears, he lived mainly off of

real estate investments. He owned several properties in San Francisco before the earthquake and fire of 1906, including at least two downtown, one on the site of 425 Washington Street. He also co-founded a mining company, and in 1891 was sued by an investor for fraud concerning a supposed gold mine in British Columbia. During the 1870s he was a vice-president of the German Hospital, and he was otherwise active in German social life in San Francisco.

In 1906-1907 he rebuilt on the site of his pre-earthquake building at 425 Washington. He died in 1910, aged 92, after years of illness. His estate continued to own this building until 1922.

Description of the building in 1957

An Assessor's photograph at the San Francisco Public Library, taken in 1957, shows what the facade of this building looked like before it was truncated ten years later. The surface bricks were painted. A simple, layered cornice stretched across the top. Second story windows were rectangular and were arranged as two groups of three. The ground floor had been generally remodeled in stucco, with large plate glass storefront windows, by 1957. At far left was an entrance leading to the staircase to the second floor. This entrance had a variation of an ogee arch at the top. The storefront entrance was recessed, with paired doors.

The third story, which had been added in 1928, was recessed from the front by a foot or two. It had a stepped parapet and two large windows divided by muntins into many lights.

Addresses of this building

The original address of this building was 425 Washington Street, which it remained through 1910. From 1913 to 1919 the address was 429-433 Washington, but from 1920 on it has always been 425 Washington.

Uses and occupants of the building

1907-1910: This was the laboratory of Abbot A. Hanks, assayer and chemist. Hanks was the son-in-law of Rudolph Jordan, his landlord. His father, Henry G. Hanks, founded the Pacific Chemical Works in 1866; it was a business that supplied chemicals and also served as an assayer. Henry Hanks also was the first State Mineralogist of California, founded the State Mineral Collection (still in existence), and was head of the State Mining Bureau from 1880-1886, among many other accomplishments. His son Abbot began working for him in 1888 and took over the chemistry and assaying business in 1896. From 1888 to 1899 the laboratory was at 718 Montgomery Street, a building that still stands in Jackson Square (now numbered 716-720 Montgomery). He next moved to 531 California, which was destroyed in 1906, hence Hank's need for a new laboratory at 425 Washington in 1907. His business incorporated in 1924, becoming owned mainly by his employees, and continued in existence at least into the 1960s.

1911-1915: Unknown occupants

1916-1919: Casini Poultry Company, New California Poultry Company, San Francisco Poultry Company. This wholesale poultry business was owned by Antonio Casini under different names during these years. It also dealt in butter, cheese, and eggs.

1920-1928: Harbaugh Poultry Company. Owned by Van O. Harbaugh (president), G. Odell Harbaugh (vice-president), and Florence Harbaugh (secretary), this wholesale firm sold whole, live, and dressed poultry, and eggs. The Harbaughs purchased the building from Rudolph Jordan's estate in 1922 and continued to own it through 1942. They added the third story in 1928.

1929-1940: Corriea Brothers, wholesale eggs and live and dressed poultry. In the early 1930s Charles Corriea was the president, and George Corriea was the vice-president and secretary. In 1940 the officers were Charles Corriea, Charles Corriea, Jr., and C. J. Ward.

Thus, this building held wholesale poultry firms for 24 years (1916-1940).

1942-1959: Consolidated Fisheries. This wholesale and retail fish business was owned by Ignacio Alioto (president), Salvatore Alioto (vice-president), and L. F. Hubbard (secretary-treasurer) during these seventeen years. The 1950 Sanborn map labels this building as a restaurant, and the 1957 Assessor's photograph shows signage for seafood cocktails, as well as Hamm's, Pabst, Lucky Lager, and Burgermeister beers, so evidently a lunch counter was part of this business then.

Ignacio Alioto and his wife owned the building from 1942 to 1969, and many other family members were part owners from then to 1998.

1960-1965: Tom Lazio Fish Company. Previous to 1960 Lazio had been the vice-president of the F. Alioto Fish Company at 440 Jefferson Street. This Alioto was no known relation to Ignacio Alioto of 425 Washington, nor to the Aliotos who owned the famous restaurant at 8 Fisherman's Wharf.

Thus, this building held wholesale fish firms for 23 years (1942-1965).

After this building was truncated for the widening of Washington Street, and its front was rebuilt, in 1966-1967, occupants included:

1967-1972: Copy Cats Lithographers.

1973-1974: Vacant

1975-1982: Sound Systems and Audio Excellence, two audio sales businesses.

History of 439-445 Washington/440 Merchant

Construction and early ownership

This building was built during 1906-1907 for owner Helen Stanford. The contractor was the Woodruff Company, and while the building permit did not list an architect, the building must have been designed under the supervision of S. H. Woodruff.

Helen Stanford (1830-1909) was the widow of Josiah Stanford, who was the brother of the "Big Four" railroad magnate Leland Stanford. For about forty years she had lived in Warm Springs, now a part of Fremont, where she and Josiah had extensive land holdings. They also owned property in downtown Oakland. Clearly, 439-445 Washington Street was merely one of her real estate investments.

She had also owned the building on this site before the earthquake and fire of 1906. It was also a two-story brick building and in 1899 it was occupied by commission merchants. There is no doubt that the current building on this site was a replacement for the pre-1906 building, instead of being a survivor. Maps showing the burned area in 1906 clearly show that Washington Street was the dividing line between the area that burned (to the south) and buildings that survived the fire (today's Jackson Square and the Appraiser's Building, to the north).

Helen M. Stanford's estate continued to own and rent out this building until 1927. Owners over the next seventeen years were the Commercial Center Realty Co. (1927-1930) and James Basch (1930-1944). Basch managed and lived in the Bertram Apartments at 632 Hyde Street. He seems to have owned this building solely for income.

Description of the building in 1957

An Assessor's photograph at the San Francisco Public Library, taken in 1957, shows what the facade of this building looked like before it was truncated ten years later. It was similar in appearance to its neighbor at 425 Washington, which had had the same architect and builder. The surface bricks were painted (or perhaps clad in stucco). A simple, layered cornice stretched across the top. Second story windows were rectangular and were arranged as two groups of three. Instead of a lintel, it appears that an incised recess could be found over each window. In all likelihood shallowly-projecting brick lintels once existed but had been shaved away at some time.

There were two storefronts, one at left for the Rainbow Club (#439) and one at right for the Fulton Paper Company (#441). The Rainbow Club's storefront windows had clearly been altered before 1957, while the storefront of the paper company was closer to intact, with a great deal of glassy area. At far right was a narrow, recessed entrance (#445) leading to the second story loft.

The flanking buildings to the east (#425) and west (#447-453) were very similar to this one -- brick buildings with simple cornices, narrow upper story windows, and minimal or no ornament. Farther east, the corner building at 401-423 Washington was more architectural in its appearance, with a classical cornice and a shaped parapet. In brief, this was a typical block of small, unpretentious brick commercial buildings similar to those in the nearby Produce district, in parts of Jackson Square, and in other areas just north of the city's Financial district.

Addresses of this building

This building has usually had two ground floor storefronts and a second floor loft space. The address during 1907-1908 was 435-445 Washington. Through the 1910s and most or all of the 1920s the storefront addresses were 441 and 443, while afterward they were 439 and 441. The entrance and staircase to the loft space was always at 445 Washington, and during 1927-1947 the loft also had the address 440 Merchant.

Uses and occupants of the building

1907-1908: Cerruti Mercantile Company (Edward and Peter Cerruti) rented the storefront at 435 Washington. The city directory does not say what the firm sold then, but a later newspaper story on Edward Cerruti reveals this Italian immigrant sold cigars and wines at other locations before and after these years; so he probably did here, too.

1907: Paul Rieger and Company, manufacturers of flavoring extracts and perfumery, rented the other storefront in this building. He later moved his business to First Street and worked as a clerk in 1910.

1907-1909. Charles O'Connor, notary public, occupied a portion of the loft at #445 as his office. He seems to have leased the entire second floor and sub-let the balance of it to the shirt factory listed below.

1908: Quong Lung, shirt factory, in the second floor loft. In June the loft was divided into four rooms and a kitchen, with a new skylight and furnace, for this use. It appears likely that Chinese workers lived in this space.

1910-1923: Schiaffino, Musante, and Company (later, Schiaffino and Co.), wholesale groceries, at #443.

1924-1931: Vittorio Traverso and Co., wholesale groceries (first at #441, later at #443).

1913-1943. A cigar factory occupied the second floor loft at 445 Washington/440 Merchant. It was known as the Nevada Cigar Company and the proprietor was Doo Lee (sometimes listed as Lee Doo) during 1927-1943. The proprietor's name before 1927 is unknown. It appears that some Chinese workers lived in this space. This cigar business never advertised in the classifieds

of city directories and so must have sold its product to an established clientele of retail dealers. The 1950 Sanborn map lists the same use here, but it is not certain that the business lasted past 1943.

1936-1964. Fulton Paper Company, proprietor Renaldo J. Olivi, at #441. This wholesale firm sold wrapping papers. Its primary customers may have been the produce and poultry dealers in the nearby Produce district. It did not remain much past the closing of this district in 1963.

1944-1968. The Rainbow Club, a restaurant, at #439. The first owners were Alf Barsotti and Samuel Ferroni. In 1953 the owners were Louis Columbano and Joseph Luccese. A newspapers search reveals only that this restaurant served continental cuisine in 1961. It survived the truncating and construction of a new facade in 1967, though only by two years. (Note: The Barsotti family owned this property during 1944-1992, and the Columbanos owned it during 1992-2015).

1953-1954. Alfred L. and Edna A. Lemos, bookbinders, at #445. Lemos also sold paper rulers from the printers' building at 500 Sansome Street nearby.

1968-1993. Sansome Photos, photographers, at #439; proprietor Herbert H. Simmons (1921-2011). Simmons' obituary on the SF Gate website gives an account of his dramatic survival and travels as a Jewish refugee from Nazi Germany. Its mention of his photography business is brief: "Given his mechanical aptitudes, Herbert apprenticed himself in a photography business on Sansome Street, which he later bought and owned until he retired." No references to Simmons as a fine arts photographer could be found.

1970-1971. 441 Restaurant, at #441.

1973-1981. The European Farmer, a restaurant, at #441.

1982-1989. The Iron Pot, a restaurant, at #441. Because this restaurant was well-known at its previous location, it is discussed at some length below.

1993-2015. Il Massimo del Panino, an Italian restaurant, at #441.

1993. Wells Fargo Bank occupied the storefront at #439 in that year, and probably did so for some time thereafter.

1969-present. Office use of the second floor. A building permit that documents the remodeling of this space for office use is dated 1969. Multiple businesses have usually occupied this space at a given time, and the occupants changed frequently. They included Carrol and Reed, Inc. (1971), Trafco Freight Consultants (1971), Richard J. Smart and Associates (1971), Advance Systems Consultants, computer consultants (1971), Rockey-Peterson Public Relations (and its successor firm, 1976-1978), Chiat-Day Advertising (1976), California Association of Utilities

(1978), Rivkens Mal Advertising (1978), CIS Equipment Leasing Company (1980-1982), immigration lawyers (present) and Hispanic defense lawyers (present).

The widening of Washington Street and the shortening of these buildings in 1967

Several years after the Embarcadero Freeway was completed, Washington Street and Clay Street were widened in order to accommodate traffic to and from its on and off-ramps. The south side of Washington Street, between Sansome and Battery, was widened by 23 feet in 1967. To accomplish this widening, the two buildings at the corners were demolished, and two other buildings, 425 and 439-445 Washington, were shortened. The fronts were sliced off, and new facades were built onto these two buildings.

The architect for the new work at 425 Washington was Harada and Meu and the engineer was Russell H. Fuller, both of San Francisco. The architect for the new work at 439-445 Washington was Gilbert L. Oliver. These architects are profiled below.

<u>The architects of these buildings</u>

S. H. Woodruff, the original architect of 425 and 439-445 Washington Street

Sidney H. Woodruff (1876-1961) worked as an architect and builder in Buffalo, New York before moving to San Francisco immediately after the earthquake and fire of 1906 to participate in the rebuilding of the city. He provided complete services, including architectural design and engineering, under his name as architect; and construction, as the Woodruff Company. For two years, 1906-1908, he and his staff were busy in the design and construction of commercial buildings.

His works included the Santa Marina Building, at the northeast corner of California and Drumm (1906-1907; demolished); 33 Sutter Street (1906-1907); the Dividend Building at 348-354 Pine Street (1907); 77 Battery Street (1907); the New Mission Bank, 3060 Sixteenth Street (1907); the First United Presbyterian Church at 1455 Golden Gate Avenue (1907); and the Bellevue Hotel, 505 Geary Street (1908). The default style for all of these was Classical Revival, and it was occasionally carried out with conviction. The lower two floors of the Dividend Building, designed in a Doric order, is the best of these. The mansard roof of the Bellevue Hotel, and the pediment of the New Mission Bank, are also pleasing. Mostly, though, Woodruff's work was uninspired.

During these two years Woodruff was involved in lawsuits that severely questioned his ability, experience, and honesty. The owner of the Bellevue Hotel charged that Woodruff had estimated the cost of its construction at half the true cost in order to get the commission to build it.

In 1911 Woodruff headed a group that wanted to resume blasting at the former Gray Brothers' quarry at 26th and Douglass streets, and met vigorous opposition from nearby residents. In 1912

he moved to New York to accept a new position that did not work out and that led to another lawsuit. He next moved to Arizona, where he hoped to bring underground water at the Gila River to the surface for irrigation. He moved to Los Angeles in 1918, and there met with some success. In 1923 he was part of a syndicate that developed Hollywoodland, a tract of fine houses designed by architect John DeLario in French Norman, Tudor, Mediterranean and Spanish styles. The original "Hollywoodland" sign was erected to advertise these houses. (The sign became deteriorated, the last four letters were removed, and in 1978 it was reconstructed as today's famous Hollywood sign.) The Dana Point (Orange County) development began well, but only thirteen houses were built before construction stopped due to the stock market crash. Woodruff and his Dana Point partners limped on for a decade before going bankrupt in 1939. No work of his after that date is known.

Harada and Meu, architects of 425 Washington Street's new facade

George Meu graduated with a B. Arch. from the University of California in 1938, worked briefly for Richard Neutra in the same year, became registered as an architect in 1948, and had his own architectural office from 1952 to 1958. In the latter year he became partners with Walter Harada, who had previously worked as a designer and architect. They remained together as Harada and Meu at 575 Mission Street until 1968, after which George Meu worked on his own again through at least the 1980s. The firm is still in existence as George Meu and Associates, under principal Lester Meu, in Oakland.

No references to their work could be found in several architectural guides to San Francisco that include modern-era buildings. However, an internet search does identify several works by Harada and Meu. The largest was an expansion of the Nugget casino in Sparks, Nevada, in 1961-1962. This expansion included a 500-seat theater and restaurant plus Roof Garden "roomettes." Other known works by this firm were restaurants -- the Blue Fox and Yamato Suki-Yaki House in San Francisco, and the Coral Reef Restaurant in Hawaii. One residence by Meu, at 561 Marina Boulevard (1957) is known.

Gilbert L. Oliver, the architect of 439-445 Washington Street's new facade

Gilbert Lee Oliver (b. 1933) served in the U. S. Navy, attained a bachelor of architecture degree from Stanford University in 1956 and a graduate degree from the University of Oklahoma in 1959, and worked in San Francisco as an architect for the firm of Knorr and Elliot in 1961. He began working on his own in 1962 and was last listed in telephone directories in 1998. For many years his office was in the Mechanics' Institute building.

No references to him or his work could be found in several architectural guides to San Francisco that include modern-era buildings. An internet search lists one house that was designed by him, at 101 Maple Street (1971). The internet also lists these commercial works by Oliver (in San Francisco, unless otherwise indicated):

Coffee Cantata (1967)
Patisserie Edelweiss (1968)
Trans-World Airlines ticket office (1968-1969). Note: TWA had four ticket offices in downtown San Francisco in 1971. Which one was by Oliver is unknown.
Perry's restaurant (1969)
San Mateo Mutual Savings and Loan building, in Burlingame (1969)

It seems likely that most of these were remodelings within existing buildings.

<u>The Iron Pot restaurant, at 441 Washington during 1982-1989</u>

The Iron Pot was founded as the Florence Restaurant in 1928 at 639 Montgomery Street. From the beginning, and continuing into the 1980s, the proprietors were Italian or Italian-American and served mainly Italian cuisine. The change in name to The Iron Pot was gradual. Certainly by 1946, and probably earlier, that name was commonly used. A 1940s or 1950s menu (viewable on the internet) used both the "Florence" and "Iron Pot" names. The restaurant then served Italian food, seafood, beef and pork dishes, wine, and cocktails. City directories continued to use the Florence Restaurant name until 1948-1949 and switched to The Iron Pot only in 1951.

The restaurant became a hangout for Bohemian or artist types, just as other Italian restaurants -- Sanguinetti's, Campi's, and Coppa's -- had a generation earlier. In his book *Baghdad-by-the-Bay* (1951), Herb Caen mentioned The Iron Pot along with the Black Cat and No. 12 Adler Place as the city's three "arty" restaurants. At The Iron Pot this came about when the French entrepreneur Henri Lenoir, for a salary plus a one-third cut of the sale price, organized shows and sales of modern paintings by local artists. This was during 1941-1946. Among the artists that Lenoir promoted, and who later became well-known, were Hilaire Hiller, Charles Surrendorf, Dong Kingman, and Hassel Smith. Once "outsiders" began to visit the place to see the art and the artists, the menu posted this information: "Notice to tourists: The bohemian atmosphere here is strictly phony. For real bohemian atmosphere go to Bohemia. The male customers who need haircuts are not artists. The paintings here are for sale. Limit: one dozen to a customer. But don't ask the help to explain them to you. They don't understand them either."

Much later, in 1980, Allan Temko wrote an article about Lenoir and mentioned The Iron Pot, which was then still at 639 Montgomery: "The present owners, serving a new clientele, prefer photographs of baseball players to avant-garde paintings. The murkily lit dining room seems as remote from the vanished Iron Pot…."

As the result of a proposed new high-rise, the proprietors of The Iron Pot moved the restaurant from 639 Montgomery to the subject building, re-opening in April 1982.

Despite a search of historic literature on San Francisco and the internet, only one reference to The Iron Pot at 441 Washington Street could be found: in his column of May 16, 1984 Herb

Caen mentioned that it was the latest hang-out of Joe DiMaggio. No other references regarding its atmosphere, events, or cuisine could be found.

Regarding commercial buildings that evoke Bohemian or artists' hangouts in San Francisco from the 1940s-1950s, the best examples may be 708 Montgomery Street (where the Black Cat was located); Vesuvio's, at 255 Columbus Avenue; Spec's, at 12 Adler Place; and Caffe Trieste, at 609 Vallejo Street. The last three of these are still in business as bars and a coffee house.

Integrity

Because these buildings would have potential for historic significance if their early appearances were retained, their integrity is being discussed here.

For the period 1907-1966:

Both buildings retain integrity of location. Both have lost integrity of design, materials, workmanship, feeling, association, and setting as a result of the widening of Washington Street and the construction of new facades in 1967. Regarding the rear facades on Merchant Street, only the second story of 425 Washington remains intact, and three windows in that story have been filled in. At 439-445 Washington, the Merchant Street facade also remains partially intact, but its second story window sash has been altered, three of the first story openings have been filled in, and doors in the remaining opening have been altered. The lintels above the second story windows also do not appear to be original. Thus, for each building, the Merchant Street facade, which was a secondary facade to begin with, is not intact enough to overcome the complete remodeling of the Washington Street side and to thus convey the pre-1967 aspects of each building's history.

For the period 1967:

For both buildings, the Washington Street facades are probably mostly intact as built in 1967. At 425 Washington, the polished steel doors and transoms may, or may not, be original, but the balance of the facade, including the brickwork and spandrels, probably is.

At #439-445, the brickwork also remains unchanged. Whether its metal window sash (in the second story) and metal storefront frames (in the bay at left) also date to 1967 is unknown, but it seems likely that they do. The coloration and materials of the signage in the middle bay and along the second floor level have most likely been changed frequently. The doors in the bay at right (a pair of solid doors and a wooden door with glazing) are dissimilar, and at least one of these is probably the result of a change since 1967.

On balance, the 1967 facades of both buildings should probably be considered to retain integrity in all areas -- location, design, materials, workmanship, feeling, association, and setting -- though integrity of materials in the openings may be somewhat diminished.

Evaluation of 425 Washington Street

Evaluation under Criterion 1 of the California Register: Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

This building housed wholesale poultry and fish businesses for 50 years, from 1916 through 1965, and thus was related to the wholesale Produce district to the east, which was demolished in 1963. Because the Produce district was very important in San Francisco's history, and because 425 Washington is one of the few buildings in downtown San Francisco that shares that history, this building would be eligible for the California Register if it retained integrity. However, its integrity is extremely low for the period it held such businesses, and thus this building is not eligible for the California Register under this theme.

This building was one of many small brick commercial buildings that were built north of the Financial district during the several years after 1906. The great majority of such buildings that once stood have been demolished since the 1950s. A moderate number still stand to the southwest (around Commercial, Leidesdorff, Clay, and Sansome streets), to the northwest (in Jackson Square), and to the north (in the block bounded by Jackson, Battery, Sansome, and Pacific streets). Because a fair number still stand, and because this building lacks integrity for the period before 1967, it is not eligible for the California Register under this theme.

No other historical themes related to this building come to mind. Thus, the building does not appear to be eligible for the California Register under Criterion 1.

Evaluation under Criterion 2 of the California Register: Resources that are associated with the lives of persons important to local, California, or national history.

One person of some note had a business in this building: Abbot A. Hanks, a chemist and assayer whose laboratory was in this building during 1907-1910. His father, Henry G. Hanks, however, had a statewide reputation and was much more important in this field. A building in Jackson Square at 716-720 Montgomery, where their laboratory was located during 1888-1899, retains good integrity and represents their history in ways that the heavily altered subject building cannot. Thus, this building cannot be eligible for the California Register under this theme.

The owners of the various poultry and fish businesses at this address do not appear to have been especially important in their fields, and at any rate this building has lost integrity for the period they were here. Post-1967 occupants are unknown by name, and at any rate their history here is only fifty years old or less.

For these reasons, this building does not appear to be eligible for the California Register under Criterion 2.

Evaluation under Criterion 3 of the California Register: Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

The original facade of this building lacked distinction, and at any rate has been removed. The mostly surviving rear facade also lacks distinction. Thus, the building is not eligible for the California Register under this criterion for its original architecture.

The 1967 facade survives mostly intact. Its best features are 1) the original second story cornice of layered bricks on the Merchant Street facade, and 2) on the main facade of 1967, the tall bays outlined by a course of bricks. These are fairly minor design elements; other notable features are lacking; and overall, the design lacks distinction.

For these reasons, and because the architects of the 1967 re-design, Harada and Meu, are very little-known in San Francisco's architectural history, this property does not appear to be individually eligible for the California Register under this criterion.

Evaluation of 439-445 Washington Street

Evaluation under Criterion 1 of the California Register: Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

This building housed wholesale groceries businesses for 21 years, from 1910 to 1931, and thus could have been considered part of the Produce district to the east, which was demolished in 1963. It also housed a Chinese-owned cigar factory for over thirty years, a wholesale paper business (for 28 years), and shorter-lived businesses.

It was thus a typical small brick commercial building housing wholesale and light-manufacturing businesses, one of many that were built north of the Financial district during the several years after 1906. The great majority of such buildings that once stood have been demolished since the 1950s. A moderate number still stand to the southwest (around Commercial, Leidesdorff, Clay, and Sansome streets), to the northwest (in Jackson Square), and to the north (in the block bounded by Jackson, Battery, Sansome, and Pacific streets).

Because buildings of this type once occupied a large percentage of downtown San Francisco, and are now few in number; and because they housed most of the city's wholesale and many of its light industrial businesses; survivors with high integrity have a strong potential for historical significance under this criterion. The Period of Significance would be wide, from the 19th century through the 1930s. This building, however, has very low integrity for the period before 1967. Thus, it does not appear to be eligible for the California Register under this theme.

This building also housed many restaurants from 1944 through 2015. The longest lasting was the Rainbow Club, which was not renowned and which at any rate lasted for only two years after the front of the building was rebuilt. It also housed The Iron Pot from 1982 through 1989. This restaurant had been renowned at its original location on Montgomery Street, but was not nearly as well-known at its Washington Street location. At any rate, that history is fairly recent. Thus, this building does not appear to be eligible for the California Register for its restaurant-related history.

The longest-lasting business in this building after the front was changed was Sansome Photos, here from 1968 to 1993. This business was not known for fine art photography nor historically important in other ways. Thus, this building does not appear to be eligible for the California Register for its photography-related history.

No other historical themes related to this building come to mind. Thus, the building does not appear to be eligible for the California Register under Criterion 1.

Evaluation under Criterion 2 of the California Register: Resources that are associated with the lives of persons important to local, California, or national history.

No historically-significant persons are associated with this building in meaningful ways. Herb Caen once wrote that Joe DiMaggio had made The Iron Pot his "latest" hang-out in 1984, but many places in San Francisco are associated with DiMaggio, most significantly his various residences. Thus, this building does not appear to be eligible for the California Register under this criterion.

Evaluation under Criterion 3 of the California Register: Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

The original facade of this building lacked distinction, and at any rate has been removed. The mostly surviving rear facade also lacks distinction. Thus, the building is not eligible for the California Register under this criterion for its original architecture.

The 1967 facade survives mostly intact. Its best features are 1) the layered cornice where projecting bricks alternate with recesses, and 2) the raised course of bricks that line the perimeter of each large bay, and which creates an impression of piers between each bay. On the other hand, the areas within the openings -- containing windows, storefronts, signage, and entrances -- are poorly done, of inexpensive materials. These areas make up a large percentage of the overall facade.

For this reason, and because the architect, Gilbert L. Oliver, is essentially unknown in San Francisco's architectural history, this property does not appear to be individually eligible for the California Register under this criterion.

Investigation of a potential historic district in the vicinity

In November 2016 the author of this report walked the area surrounding the subject building and to the east of the Jackson Square historic district. The purpose was to determine whether 439-445 Washington should be considered to fall within a historic district; more specifically, whether Jackson Square could be extended to include the building. The discussion below is arranged by square block. Recommended additions to the Jackson Square historic district are in red. (Please see a map of the area that illustrates the findings, below.)

* *The block bounded by Jackson, Pacific, Battery and Sansome streets*. This block should qualify as an extension of Jackson Square. Eight of the ten buildings in this block would be contributors to the district. At least two of the contributing buildings are important: The O. W. Nordwell warehouse at 633 Battery (Sutton and Weeks, 1906), and the Legallet Building at 603-615 Battery (Albert Pissis, 1906).

* *The block bounded by Pacific, Broadway, Battery, and Sansome streets*. Most of this block should qualify as an extension of Jackson Square. Only the northernmost lot (along Broadway) and 735-749 Battery should be excluded.

* *The block bounded by Pacific, Broadway, Front and Battery streets*. Only one building, the Old Ship Saloon at 298 Pacific, should be included within an extension of Jackson Square.

* *The block bounded by Jackson, Pacific, Front, and Battery streets*. It is possible, but doubtful, that Jackson Square should be extended to include this block. Four of the six buildings on Front Street could qualify as contributors to the district. Wrapping around them, however, is a lightly-ornamented, two-story reinforced concrete building at 600-650 Battery/653 Front (1927) that occupies half the block. Unless the character-defining features of Jackson Square are broadened to include reinforced concrete buildings from the 1920s, this building should not count as a possible contributor, and the block should be excluded from the district.

* *The block bounded by Washington, Jackson, Battery and Sansome streets*. This block contains two buildings owned by the Federal government: the five-story Beaux Arts-styled Custom House (1906-1911) and the high-rise Moderne-style Appraiser's Building (Gilbert Stanley Underwood, 1940). The Appraiser's Building acts as a major visual barrier between Jackson Square and the Custom House. Additionally, the Custom House is a major civic building that itself is out of scale with the smaller commercial buildings in Jackson Square. It is already listed individually on the National Register. For these reasons, it seems best to exclude this block from an extension of Jackson Square.

* *The block bounded by Clay, Washington, Sansome, and Montgomery streets*. The four buildings on this block include the Transamerica Pyramid (1971), another high-rise at 505 Sansome (1978), and 501-505 Washington (one-story; 1977). Thus, Jackson Square could not be extended to include this block. The only older building here is a reinforced concrete mid-rise lacking in ornamentation, the California Ink Company Building at 545 Sansome Street (Willis Polk and Company, 1930). In a 2007 evaluation this writer found it to be eligible for the California Register for its printing history. It would not, however, be a contributor to Jackson Square.

* *The block bounded by Clay, Washington, Battery, and Sansome streets*, which includes the subject building, 439-445 Washington. Of the eight buildings in this block, only two could qualify as contributors to an extended Jackson Square district: 447 Battery Street and 432 Clay Street. These two are so far separated from Jackson Square that they could not be plausibly included in that district. The same is true for a handsome, reinforced concrete mid-rise at 500 Sansome Street (Frederick H. Meyer, 1929). It could be considered historic in its own right, for its printing industry history (see its description on page 4 above), but probably could not be considered as a contributor to Jackson Square.

To summarize:

The only way the Jackson Square historic district could be extended to include part of the subject block would be to include the block containing the Appraiser's Building and the Custom House in Jackson Square; and then to extend the district further south to include 401-423 Washington (as a non-contributor) and 447 Battery (as a contributor). Since the Appraiser's Building and the Custom House should probably not be included in Jackson Square, such extension of the district seems implausible. Even if this was done, the altered buildings at 425 and 439-445 Washington would not be in the enlarged district.

In sum, the subject building cannot plausibly be considered to lie within an extended Jackson Square. It is, however, across the street from the U. S. Custom House, which is on the National Register.

References

1894, 1901, 1906, 1909 block books, at the San Francisco History Center, Main Library. The owners' name are given as Rud Jordan and Helen M. Stanford, respectively, for each year.

Sales Ledgers 1914-1999 for sales of these properties. At the Recorder's Office, City Hall.

San Francisco city directory listings 1907-1982 for occupants and owners of these buildings, and for the Florence Restaurant and The Iron Pot at 639 Montgomery.

San Francisco city directories 1850s-1960 for Henry G. Hanks, Abbot A. Hanks, and their businesses at various locations in San Francisco.

1899 Sanborn insurance map, volume 1, page 18.

1913, 1929, and 1950 Sanborn insurance maps, volume 1, page 24.

Building permits for 425 Washington Street. At the Department of Building Inspection, 1660 Mission Street.

Permit #4111, October 1906. Original permit to build. Owner: R. Jordan. Architect: S. H. Woodruff. Contractor: The Woodruff Company. $15,000.
Permit #68253, March 1916. Replace flooring, remove partitions, repair glass, plaster, and roof. Owner: Jordan Estate.
Permit #72438, October 1916. Change window glass in #s 429 and 435. Put doors in entrance.
Permit #169721, April 1928. Add third story. Owner: Harbaugh Company. Contractor: A. Legault. $6,000.
Permit #32818, Feb. 1938. Fill all openings in partition walls with brick.
Permit #67919, Feb. 1942. Interior alterations for use as a fish market. Owner: I. Alioto.
Permit #71680, May 1943. Reinforce floor, build refrigerator ceiling. Owner: Consolidated Fisheries.
Permit #165773, June 1954. Install steel beams. Engineer: L. F. Robinson.
Permit #328676, April 1966. Remove all interior partitions.
Permit #337733, Dec. 1966. Remove northerly 23' of building. Add new floor structures; brick veneer and plaster front; new freight elevator. Owner: Joe Alioto. Design: Harada and Meu. Structural engineer: Russell H. Fuller. Use: Vacant. Proposed use: blueprinter.
Permit #348876, October 1967. Interior partitions for Copy Cat.
Permit #8500225, Jan. 1985. Interior improvements (ceilings, partitions, mechanical, etc.)
Permit #8505100, June 1985. Brace parapets.
Permit #8507857, Sept. 1985. Same as January 1985, above.

Note: The owner in December 1966 was listed as Joe Alioto. There were multiple Joseph Aliotos in San Francisco at the time. Per a title search, this was Joseph I. Alioto, not the future mayor of the city, Joseph L. Alioto.

Building permits for 439-445 Washington Street. At the Department of Building Inspection, 1660 Mission Street. All permits in this address range were searched.

Permit #17469, June 1908. Partition loft into four rooms for a shirt factory. Add a kitchen, skylight, and furnace. Owner: Quong Lung, of 445 Washington.
Permit #77899, October 1944. Two new entrances (for the Rainbow Club).
Permit #214539, August 1958. Remove sidewalk door.

Permit #78871, Jan. 1949. Neon sign for Rainbow Club.
Permit #241449, October 1960. Sign for Rainbow Club.
Permit #254069, August 1961. Remodel dining room of Rainbow Club.
Permit #344202, June 1967. Remove and set back front of building to make way for widening of Washington Street. Convert top floor from loft to offices. Expand restaurant to occupy all of ground floor. Owners: Mr. and Mrs. Alfredo Barsotti. Architect: Gilbert Oliver. Contractors: Lambert and Wells. (Permit attached.)
Permit #356449, May 1968. New partitions for dark room (Sansome Photos). Owner: H. H. Simmons.
Permit #362413, October 1968. Sign for Sansome Photo.
Permit #355333, January 1969. Partitions in second floor.
Permit #377111, November 1969. Bar and restaurant fixtures, kitchen plumbing, etc. (for the 441 Restaurant).
Permit #377948, December 1969. $500 of work (illegible) for second floor offices.
Permit #382198, October 1974. Sign for European Farmer restaurant.
Permit #781673, November 1978. Interior work for second floor offices.
Permit #8404509, April 1984. Partitions for second floor offices.
Permit #8507892, October 1985. Brace existing parapet walls.
Nine permits in 1993. Sign and interior work for Massimo restaurant, sign and ATMs for Wells Fargo Bank, "URM upgrade," re-roofing, more signage, replace sheetrock.

Articles pertaining to 425 Washington Street:

"Another Pioneer Summoned by Death." *San Francisco Chronicle*, July 27, 1919, p. 10. Obituary of Rudolph Jordan.

"An Alleged Mining Swindle." *San Francisco Chronicle*, August 19, 1891. Rudolph Jordan is sued for $5,000 over a fraudulent British Columbia mine.

San Francisco Call, May 11, 1908, and other issues: Advertisements for Abbot A. Hanks, assayer and chemist, at 425 Washington Street.

San Mateo Times, October 13, 1961; and *Reno Gazette-Journal*, July 2 and September 8, 1962. Articles on the expansion of the Nugget casino by Harada and Meu. Their other works are also mentioned.

Mary Brown. *San Francisco Modern Architecture and Landscape Design, 1935-1970, Historic Context Statement*. San Francisco Department of City Planning, 2010. For information on George Meu and Associates.

Articles pertaining to 439-445 Washington Street:

San Francisco Examiner, September 28, 1906, page 5. Building contract for this 443-445 Washington. The owner was Helen M. Stanford, the contractor was the Woodruff Company, and the construction cost was $5,000.

Edward's Abstracts from Records, April 1 and 13, 1907, documented the completion of #439-445.

"An Italian Boy's Successful Struggle…." *San Francisco Chronicle*, January 6, 1914, p. 22. On Edward Cerruti, of the Cerruti Mercantile Company.

"Mrs. Helen M. Stanford is Called by Death." *San Francisco Call*, May 21, 1909.

"Herbert Simmons." Obituary, SF Gate website. From the *San Francisco Chronicle*, December 11, 2011.

George Green. "The Enduring Henri Lenoir." *California Living*, in *San Francisco Examiner*, March 19, 1972.

"Herb Caen." *San Francisco Chronicle*, December 10, 1946, mentions Henri Lenoir being fired as promoter of art at The Iron Pot.

"Herb Caen." *San Francisco Chronicle*, December 16, 1981 and March 9, 1982, mention that The Iron Pot will close at 639 Montgomery and re-open on Washington Street.

"Herb Caen." *San Francisco Chronicle*, May 16, 1984, mentions that The Iron Pot is Joe DiMaggio's latest hang-out.

Rand Richards. *Historic Walks in San Francisco* (2001), pp. 341-342, mentions that artifacts from the old Iron Pot are on display at 655 Montgomery Street.

About S. H. Woodruff:

"Barron Estate Gets Reversal of Action." *San Francisco Call*, August 21, 1912. Regarding the Bellevue Hotel at 505 Geary Street.

Joseph B. Pecora. *The Storied Houses of Alamo Square*. Norfolk Press, pp. 138-140.

Michael Corbett. *Splendid Survivors*. A California Living Book, 1979. Lists the Dividend Building by Woodruff.

Photographs of the south side of the 400 block of Washington Street in 1957
(All three photos from SFPL Assessor's Negatives, Block 206)

At left: 425 Washington Street. Its third story is slightly recessed from the lower two stories. Consolidated fisheries is the occupant.

Below: 439-445 Washington. Occupants include the Rainbow Club and the Fulton Paper Co. At far right is 447-453 Washington, where SFFD Station 13 now stands.

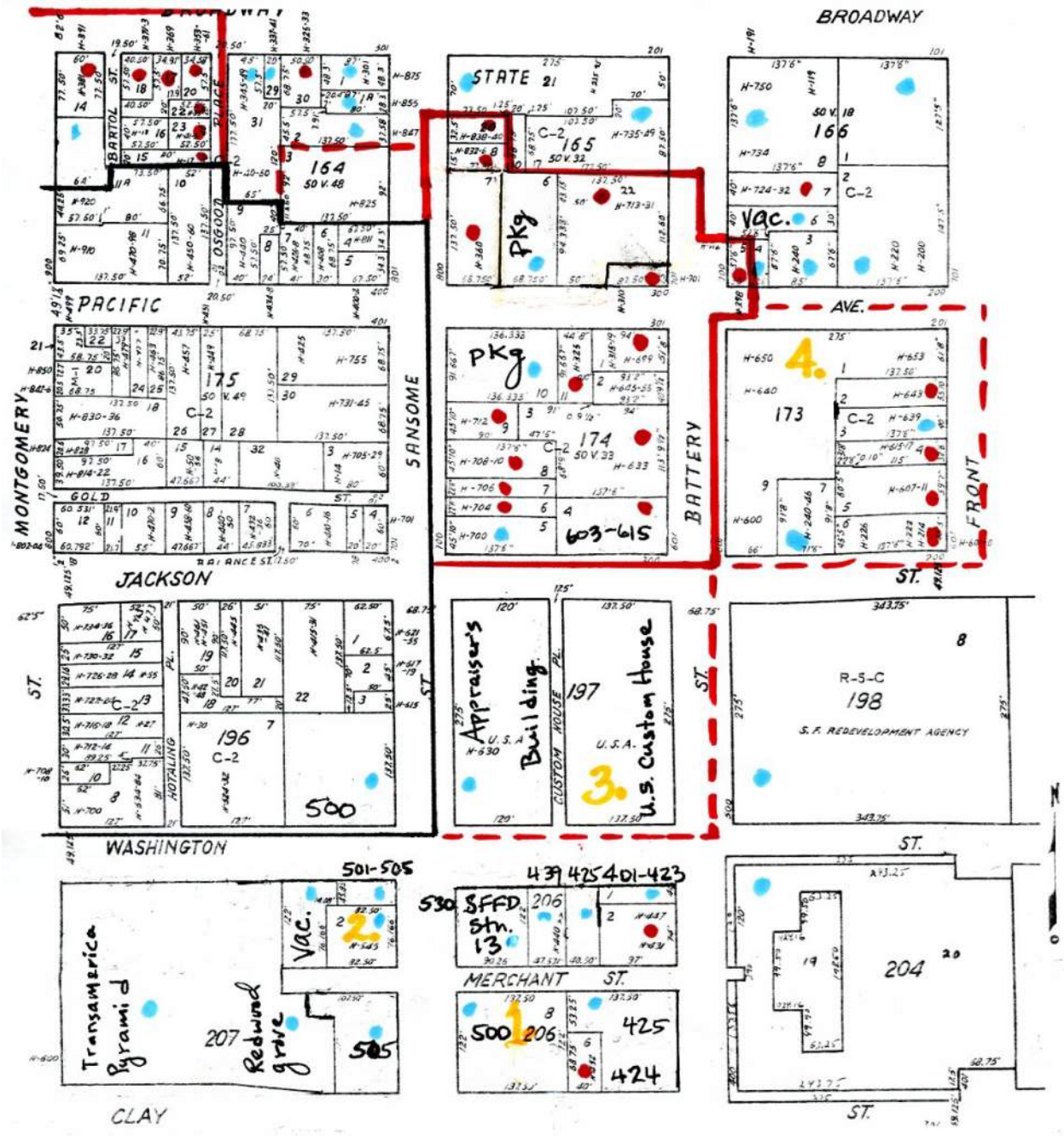
Both buildings were reduced in depth when Washington Street was widened.

View looking SW at 401-423 Washington Street. It was demolished in 1967 when Washington Street was widened. The Jones-Thierbach Coffee Co. building, at 447 Battery, is at far left.

Photograph of the Produce District in 1938

SFPL photo AAD-5456

Map showing possible extensions of the Jackson Square historic district



Original north, south, and east boundaries of Jackson Square

Likely extensions of Jackson Square

Doubtful or uncertain extensions of Jackson Square

Notations re: Jackson Square map:

● These buildings would be contributors in an extended Jackson Square.
● These buildings would not be contributors in an extended Jackson Square.

The U. S. Custom House and three buildings built in the 1920s-1930 are noted on the map above and are discussed below, in order to help determine whether they should be counted as contributors in an extended Jackson Square.

1. The Printers' Building, 500 Sansome (1929) and **2.** The California Ink Building, 545 Sansome (1930) are both fairly old, but as reinforced concrete mid-rises probably could not qualify as contributors to Jackson Square, if one considered extending that district to include these blocks.

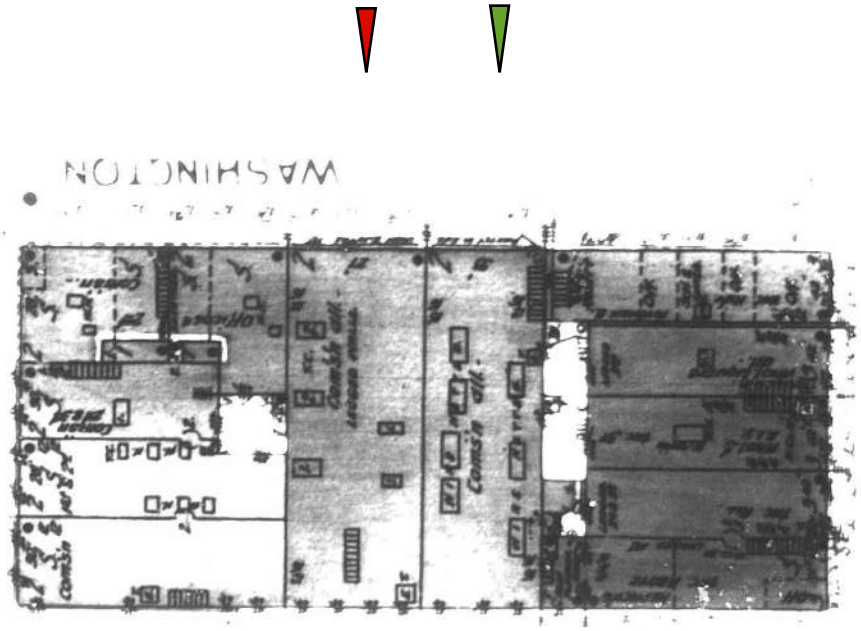
3. The U. S. Custom House is old (1906-1911), and ornate, but at five stories in height and a half-block in area it is out of scale with buildings in Jackson Square. It is already protected with National Register status. The adjacent Appraiser's Building high-rise "hides" the Custom House from the current Jackson Square. For these reasons, the block containing these two buildings probably should not be included in Jackson Square.

4. At two stories in height, 600-650 Battery/653 Front (1927) matches the height of most Jackson Square buildings. However, it is built of reinforced concrete, is extremely spare in its ornamentation, and covers half a block, more area than any Jackson Square building does. If it is not considered to be a contributor to an extended Jackson Square, then the entire block probably should not be included in Jackson Square.

Jackson Square should probably be extended to include the buildings along Broadway, Osgood, and Montgomery Street. (This extension is not discussed in the text above.)

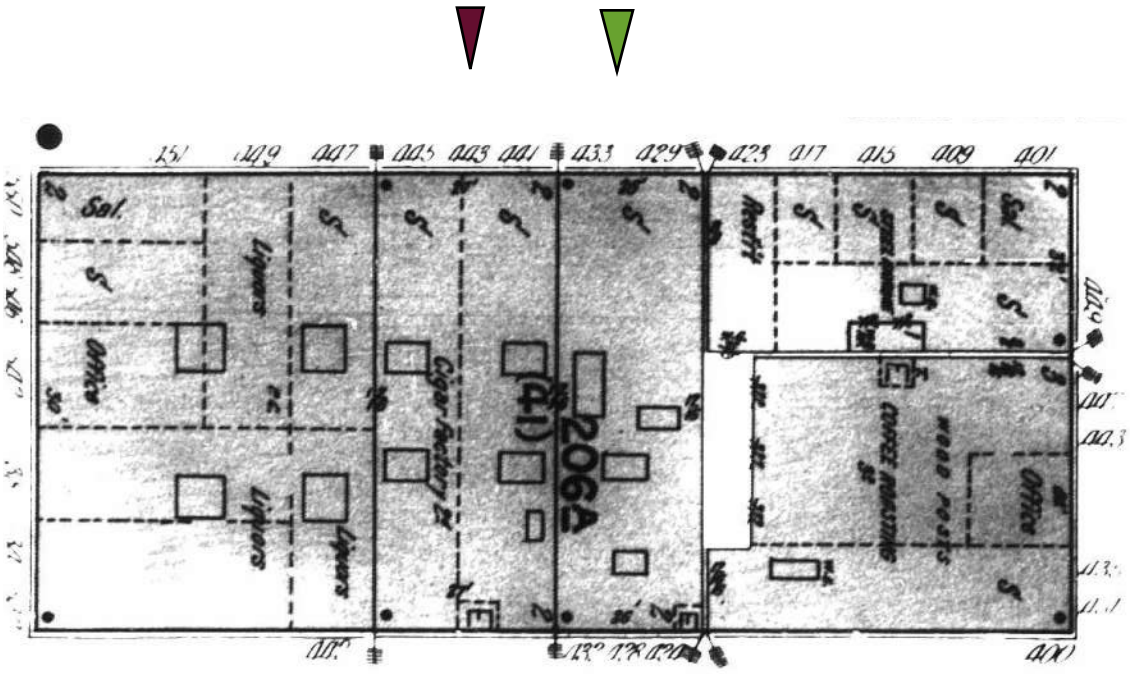
From this map, one can see that it would not be plausible to extend Jackson Square to include the subject building, and it would be very difficult to extend the district to include any part of the block it is in.

Sanborn insurance maps

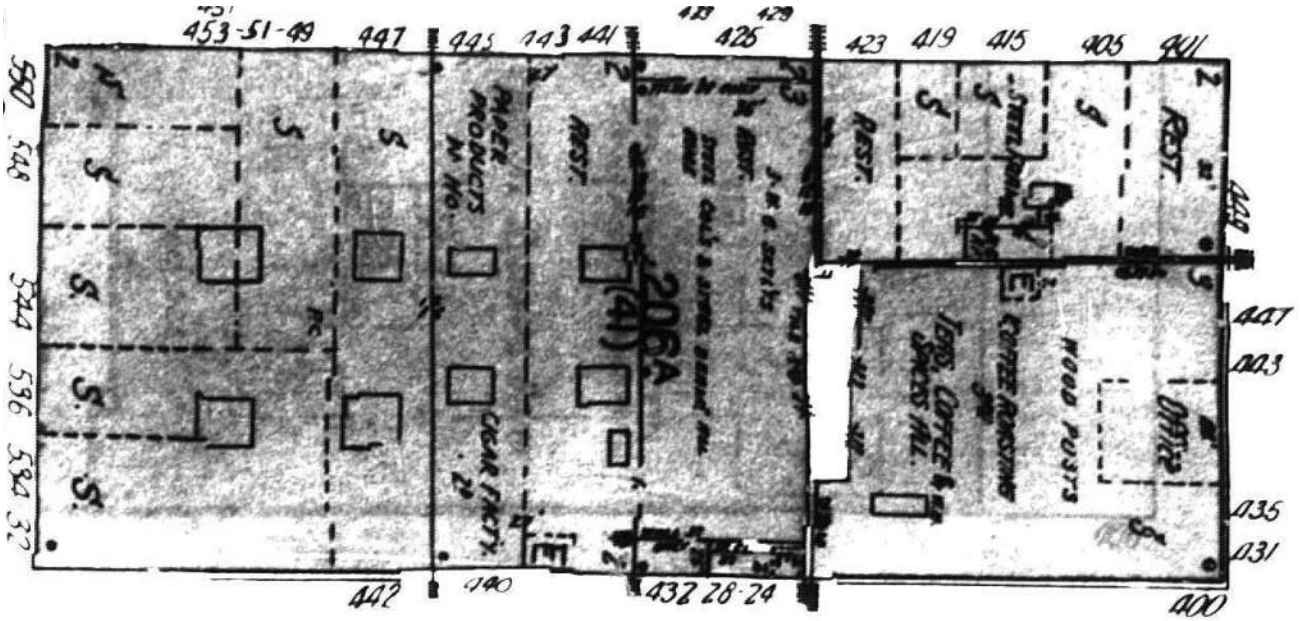


1899 Sanborn map. The red arrow points to the pre-earthquake building at today's 439-445 Washington Street, and the green arrow points to the building where 425 Washington now stands. Both were occupied by commission merchants then.

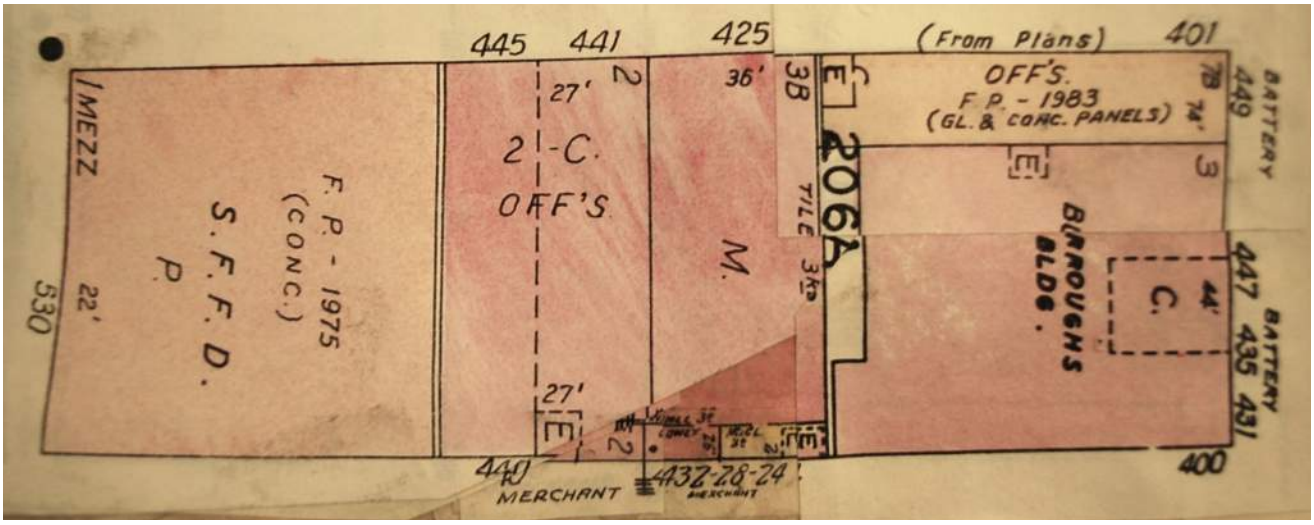
Neither building survived the earthquake and fire of 1906. A building permit and a published building notice for the 1906-1907 buildings both indicate new construction.



1913 Sanborn map. 441-445 Washington is occupied by two ground floor storefronts and a second story cigar factory. 429-433 Washington (now #425) is labeled simply as a "store."

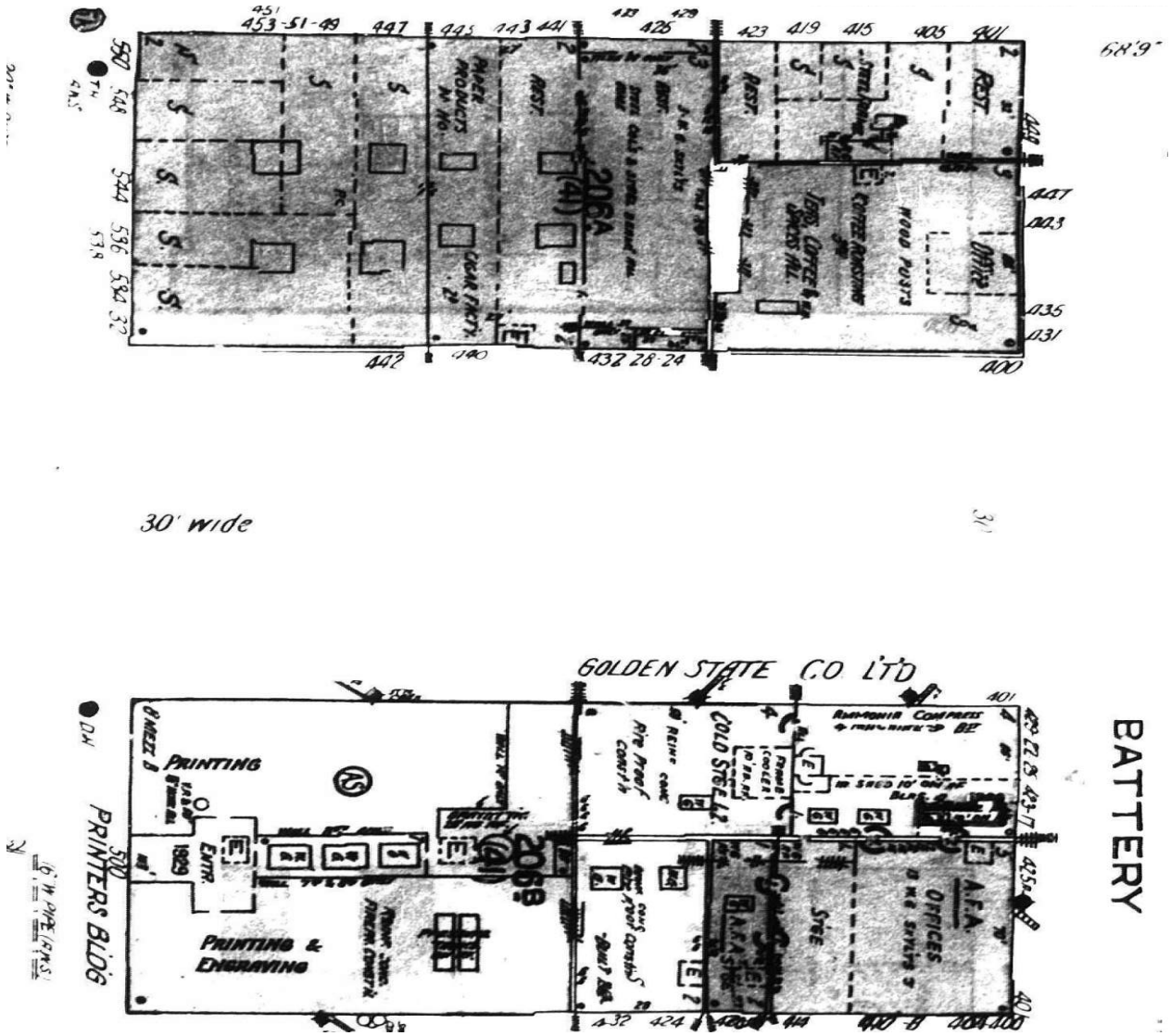


1950 Sanborn map. 425 Washington is occupied by a "restaurant" -- actually, Consolidated Fisheries, which must have had a lunch counter then. 441-445 Washington is occupied by a restaurant (Rainbow Club), paper products (Fulton Paper Company), and a cigar factory in the loft.



1980s Sanborn map, showing 425 and 441-445 Washington after they had been shortened. A seven story office building stands at #401, on the sliver of land where the old 401-423 Washington once stood. SFFD Station #13 is at far left.

WASHINGTON STREET



The 1950 Sanborn map (again), showing the full block. Merchant Street runs through the middle of the block.

Photographs of 425 Washington Street

At left: The top of the building, including its plain cornice.

At right: Second and third story windows, within the arched bay formed by a single course of bricks.

At left: second story steel-sash window. At right: Second floor spandrel.

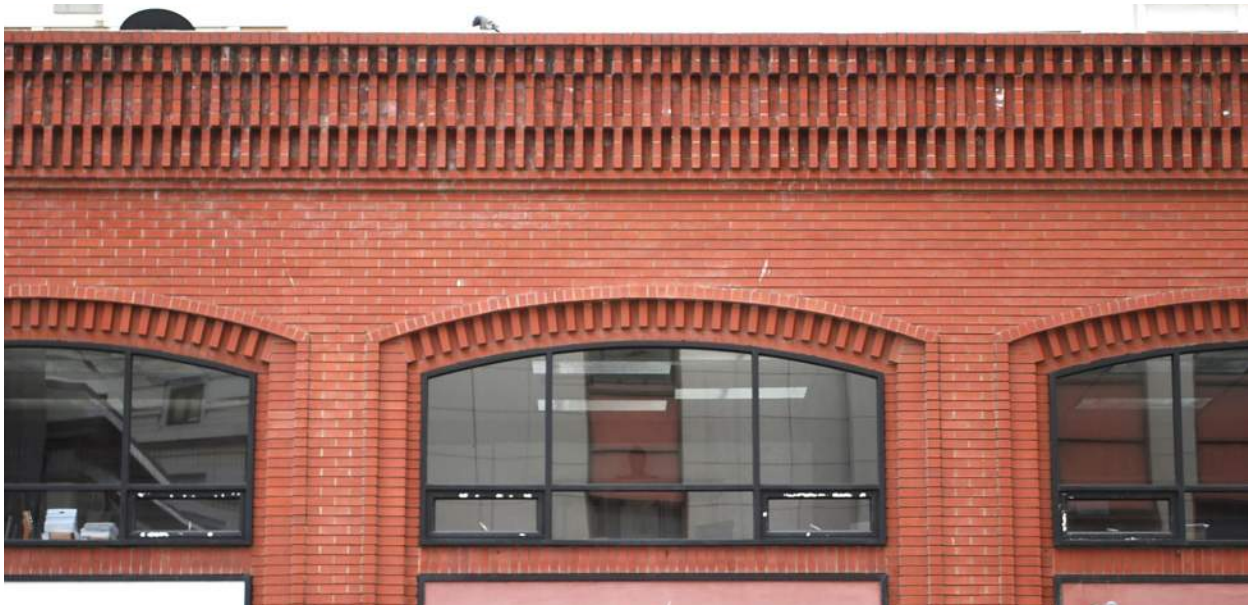
At left: Doors, transom, and sidelights in the west entrance. The east entrance is identical, save that it lacks sidelights.

The Merchant Street facade. Above: The third story windows and the cornice above the second story. Below: detail of the cornice.

Above and at right: The steel-framed restaurant entrance and storefront window.

Photographs of 439-445 Washington Street

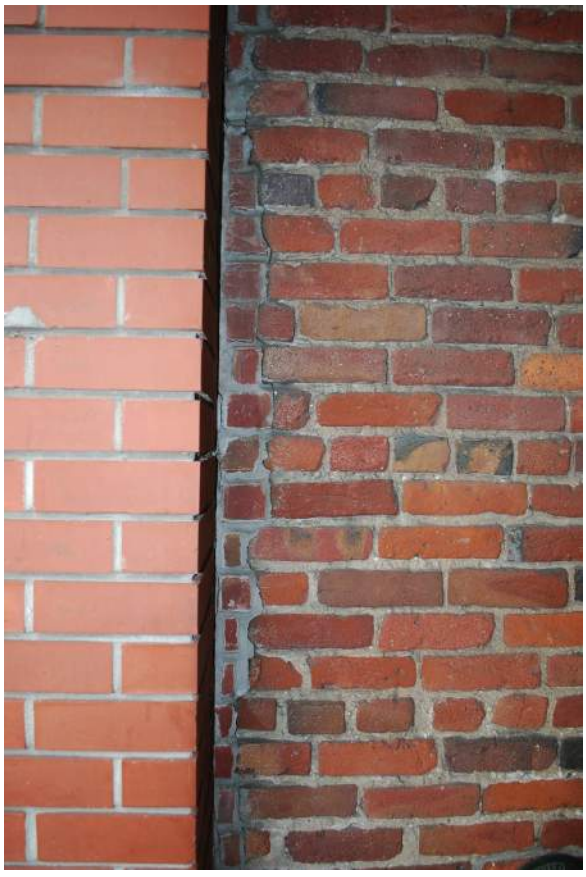
Top: The main facade, on Washington Street. Above: Cornice detail.



The top of the building, centered on the second story window with its metal sash.

Left to right, each of the three bays, showing predominance of signage and entrances.

At left: The metal-framed door, transom, and windows to the storefront at #439. Center: Doors to the restaurant at #441. At right: Door to the second floor offices at #445.



A comparison between the new brick of 1967 (far left) and the old brick of 1906-1907 (at right). This view is in one of the recessed entrances of the main facade.

Above: Rear (Merchant Street) facade

Below: Rear facade, closer. The blue-green lintels are unusual, and are probably not original.

Top left: Rear facade, cornice detail, with added steel reinforcing beam

Middle left: Second through fourth bays, all now filled in

Middle right: Sandblasted brick in the rear facade

Bottom row: Doors and metal-sash window in the rear facade.

Other buildings in the block of Washington, Clay, Battery and Sansome streets

Top: South side of the 400 block of Washington. From left to right: 401-423, 425, and 439-445 Washington; and SFFD Station #13, 532 Sansome, by architect John Portman, ca. 1974.

At left: 401-423 Washington, built in 1983.

At left: Jones-Thierbach building, 447 Battery Street, built in 1907. The north side of the 400 block of Merchant Street is seen at left.

Middle row, at left: Club Quarters Hotel, 424 Clay/ NW corner Battery (2001)

Middle row, at right: 432 Clay (1912)

Bottom row: The Printers' Building, 500 Sansome Street, with entrance (Frederick H. Meyer, architect, 1929)

Other buildings in the environs

Block of Jackson, Washington, Battery and Sansome streets

Appraiser's Building, 630 Sansome Street, with Moderne entrance

This building stands between the Custom House (to the east) and Jackson Square (to the west).

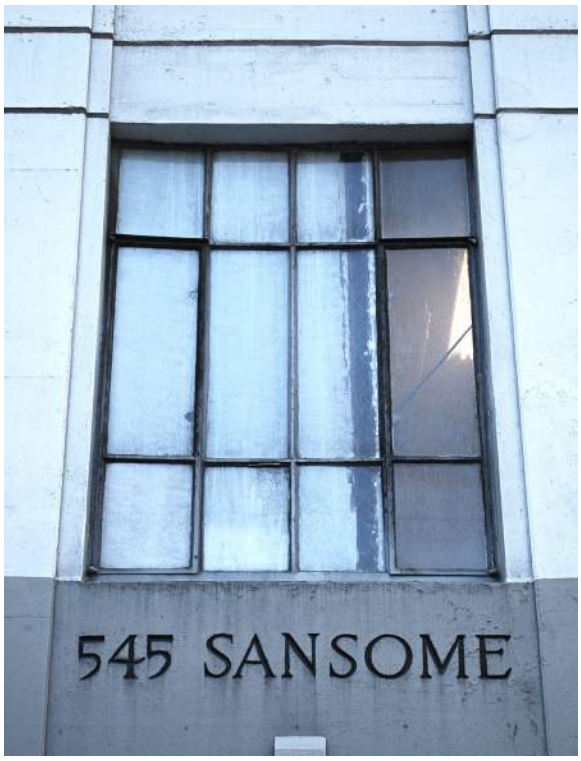
U. S. Custom House, 555 Battery Street

Block of Clay, Washington, Sansome and Montgomery streets

Left to right: The Transamerica Pyramid, 600 Montgomery; 505 Sansome Street; the California Ink Company building, 545 Sansome Street.

At right: Window of the California Ink Company building, 545 Sansome Street

Below: 501 Washington Street



Block of Jackson, Pacific, Battery and Sansome streets

Jackson Square could be extended to include this square block, most of the block to the north (not shown here), and the Old Ship Saloon, at 298 Pacific Avenue (also not shown).

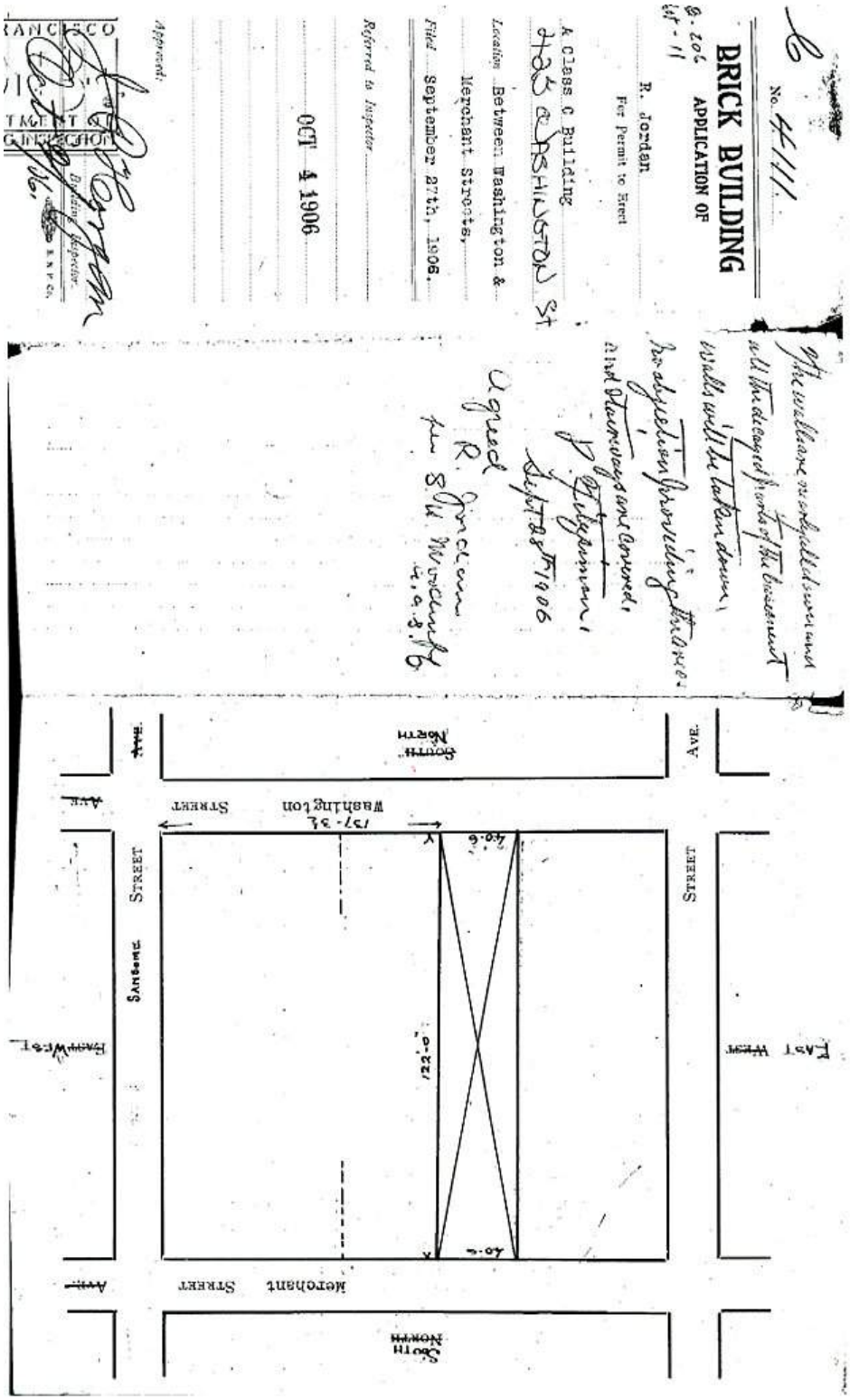
At left: The east side of Sansome Street, from Jackson to Pacific. The corner building is modern, but the four buildings to the north are old and would be contributors to an extended Jackson Square.

The four older buildings are shown again here. Left to right: 712, 710, 706, and 704 Sansome.

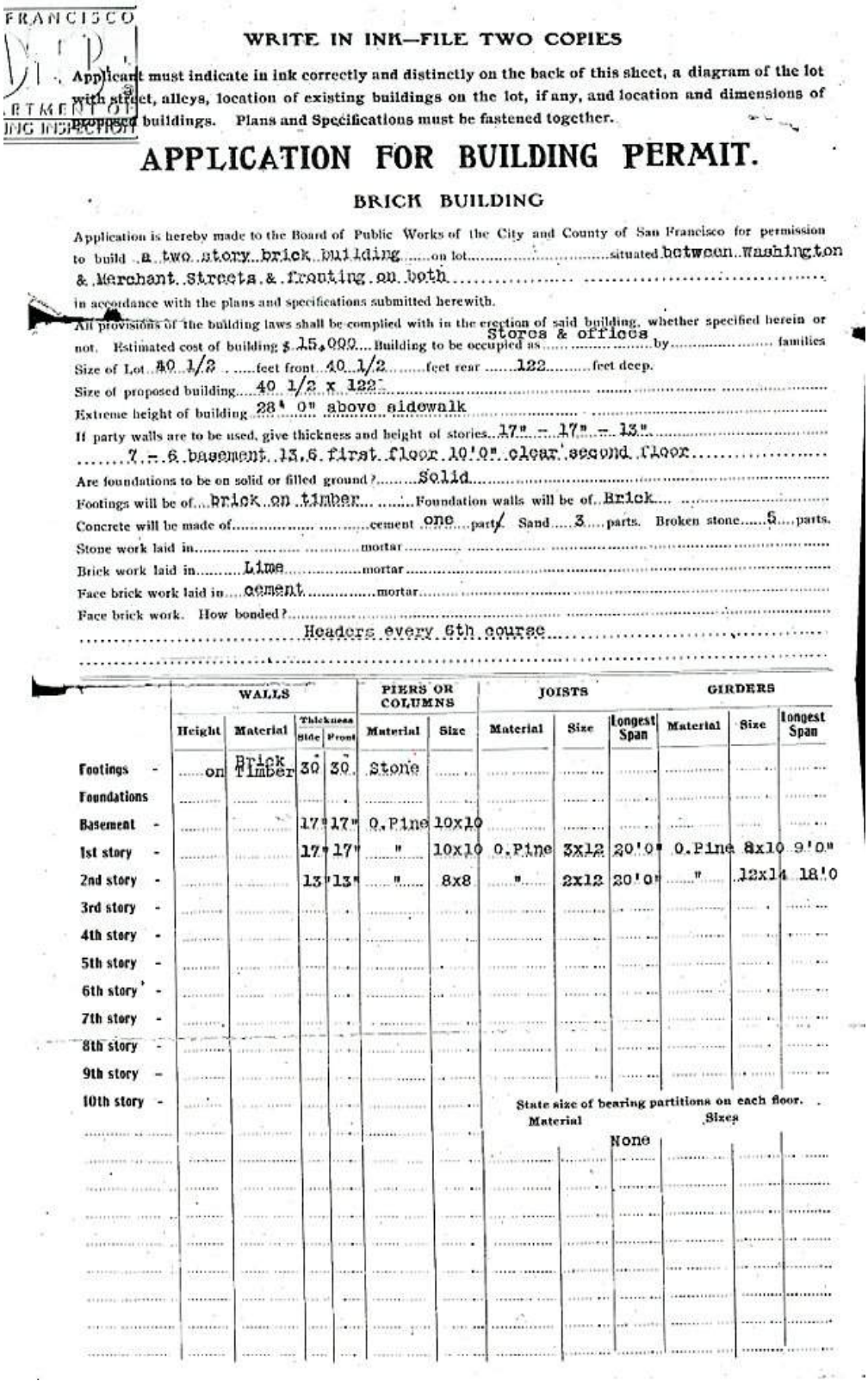
At left: The Legallet Building at 603-615 Battery (Albert Pissis, 1906), and to its right, the O. W. Nordwell warehouse at 633 Battery (Sutton and Weeks, 1906).

Buildings on this square block that are not shown: 645-655 Battery (uncertain historic status), 699 Battery (contributor), and 325 Pacific (contributor).

Building Permits for 425 Washington Street



The original permit to build, page 1 of 3. Dated October 1906.



FRANCISCO
DEPARTMENT OF
BUILDING INSPECTION

WRITE IN INK—FILE TWO COPIES

Applicant must indicate in ink correctly and distinctly on the back of this sheet, a diagram of the lot with street, alleys, location of existing buildings on the lot, if any, and location and dimensions of proposed buildings. Plans and Specifications must be fastened together.

APPLICATION FOR BUILDING PERMIT.

BRICK BUILDING

Application is hereby made to the Board of Public Works of the City and County of San Francisco for permission to build a two story brick building on lot situated between Washington & Merchant Streets & fronting on both in accordance with the plans and specifications submitted herewith.

All provisions of the building laws shall be complied with in the erection of said building, whether specified herein or not. Estimated cost of building $ 15,000 Building to be occupied as Stores & offices by families

Size of Lot 40 1/2 feet front 40 1/2 feet rear 122 feet deep.

Size of proposed building 40 1/2 x 122

Extreme height of building 28' 0" above sidewalk

If party walls are to be used, give thickness and height of stories 17" - 17" - 13"

7 - 6 basement 13.6 first floor 10'0" clear second floor

Are foundations to be on solid or filled ground? Solid

Footings will be of brick on timber Foundation walls will be of Brick

Concrete will be made of cement one part Sand 3 parts. Broken stone 5 parts.

Stone work laid in mortar

Brick work laid in Lime mortar

Face brick work laid in cement mortar

Face brick work. How bonded?

Headers every 6th course

	WALLS				PIERS OR COLUMNS		JOISTS			GIRDERS		
	Height	Material	Thickness Side	Thickness Front	Material	Size	Material	Size	Longest Span	Material	Size	Longest Span
Footings	on	Brick Timber	30	30	Stone							
Foundations												
Basement			17"	17"	O.Pine	10x10						
1st story			17"	17"	"	10x10	O.Pine	3x12	20'0"	O.Pine	8x10	9'0"
2nd story			13"	13"	"	8x8	"	2x12	20'0"	"	12x14	18'0
3rd story												
4th story												
5th story												
6th story												
7th story												
8th story												
9th story												
10th story												

State size of bearing partitions on each floor.

Material: None Sizes

The original permit to build, page 2 of 3.

Floor construction.....Timbers, Girders & Joists.....

Flat roof, construction of.....as above..... Covered with...3 Ply Tar Gravel Roof.....

Steep roof, construction of..... Covered with.....

Walls coped with..Rowlock brick in cement.....Cornices of.....Cement.....

Partition, of...2 x 4 studs & plaster.....Stair partitions, of.....Studs & plaster.....

Light court walls, of.....

Exterior columns, of.....reinforced concrete..... Protected with.....

Interior columns, of.....wood posts..... Protected with.....

.....

Trusses supporting roofs, if of iron, describe.....

.....

.....

Flue linings, of..... height of chimneys above roof.....

Boiler flue of.....lined with..... height of flue above roof.....

No. of stairways, width and construction..Two basement to 1st floor 3.6 wide - wood.....

.....Two first floor to 2nd 4.0 wide - wood.....

Boiler-room location..... walls of boiler-room:.....

Ceiling and floor over boiler-room..... doors to boiler-room.....

Fire-shutters.....

Bay windows, covered with.....

.....

Towers, domes or spires, size and extreme height above..... level.....

.....

Sky-lights, material, number and size.....

No. of elevators.....one.....where located...adjacent to exterior wall of Merchant St.....

Elevator enclosures, of.....2 x 4 studs & plaster.....

Vaults under sidewalk.....

.....

Retaining walls of.....height.....thickness at bottom.....thickness at top.....

Areas, coal holes, etc., state if any, and where.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

I hereby agree to save, indemnify and keep harmless the City and County of San Francisco against all liabilities, judgments, costs and expenses which may in anywise accrue against said city and county in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk place by virtue thereof and will in all things strictly comply with the conditions of this permit.

Architect.....S. H. Woodruff..... Owner.....R. Jordan.....

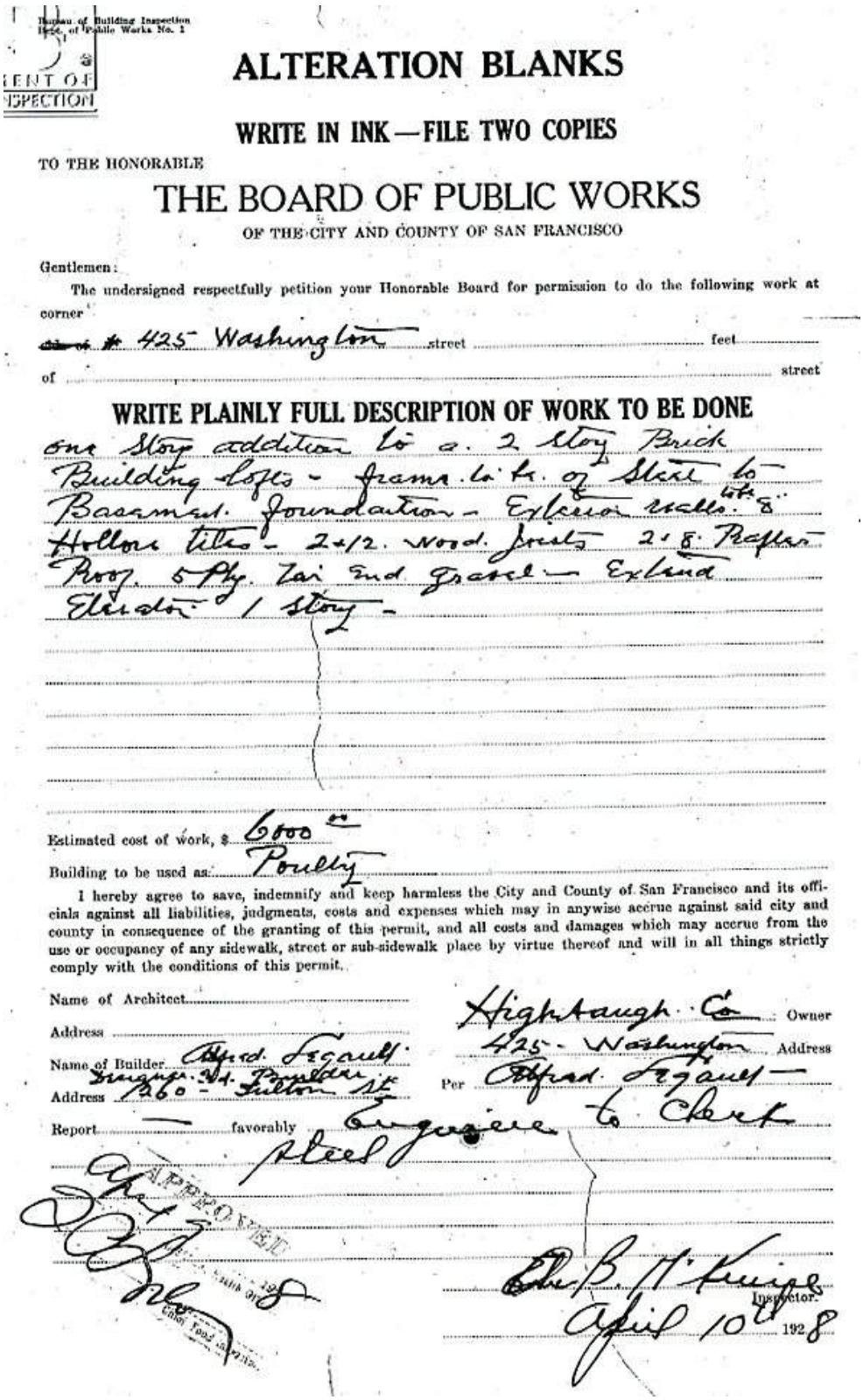
Address.....1557 Franklin Street, City..... Address 2563 Washington Street, City.....

Builder .....The Woodruff Co.:.....

Address.....1557 Franklin Street, City..... By.....

[NOTE—*The owner's name must be signed by himself, or by his Architect or authorized Agent.*]

The original permit to build, page 3 of 3.



Bureau of Building Inspection
Dept. of Public Works No. 1

ENT OF
SPECTION

ALTERATION BLANKS

WRITE IN INK—FILE TWO COPIES

TO THE HONORABLE

THE BOARD OF PUBLIC WORKS

OF THE CITY AND COUNTY OF SAN FRANCISCO

Gentlemen:

The undersigned respectfully petition your Honorable Board for permission to do the following work at corner

~~of~~ # 425 Washington street ..... feet .....

of ..... street

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE

one Story addition to a 2 Story Brick Building Lofts - frame to fr. of Store to Basement. foundation - Excavation walls 4ft 8" Hollow tiles - 2x12. Wood. Joists 2x8. Rafter Roof. 5 Ply. Tar and Gravel - Extend Elevator 1 Story -

Estimated cost of work, $ 6000 ~~00~~

Building to be used as: Poultry

I hereby agree to save, indemnify and keep harmless the City and County of San Francisco and its officials against all liabilities, judgments, costs and expenses which may in anywise accrue against said city and county in consequence of the granting of this permit, and all costs and damages which may accrue from the use or occupancy of any sidewalk, street or sub-sidewalk place by virtue thereof and will in all things strictly comply with the conditions of this permit.

Name of Architect .....

Address .....

Name of Builder Byrd. Legault

Address 260 - 31st Fulton St

Highstaugh Co Owner

425 - Washington Address

Per Alfred Legault

Report — favorably Engineer to Chart

Steel

APPROVED

Chas B. H. Kruse Inspector.

April 10th 1928

1928 permit to add a third story.

CENTRAL PERMIT BUREAU F455

Write in Ink—File Two Copies

CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF PUBLIC WORKS

BLDG. FORM **3**

CENTRAL PERMIT BUREAU

APPLICATION FOR BUILDING PERMIT

ADDITIONS, ALTERATIONS OR REPAIRS

9 December 10.66

Application is hereby made to the Department of Public Works of San Francisco for permission to build in accordance with the plans and specifications submitted herewith and according to the description and for the purpose hereinafter set forth:

(1) Location 425 Washington Street, San Francisco, California

(2) Total Cost ($) ~~75,000.00~~ 125 m ft (3) No. of Stories 3 (4) Basement or Cellar Yes (yes or no)

(5) Present Use of building Empty (6) No. of families

(7) Proposed Use of building Blueprinter (8) No. of families

(9) Type of construction 3 1Hr (1, 2, 3, 4, or 5) (10) 1 6 2 (Proposed Building Code Classification)

(11) Any other building on lot no (yes or no) (must be shown on plot plan if answer is yes.)

(12) Does this alteration create an additional story to the building? no (yes or no)

(13) Does this alteration create a horizontal extension to the building? no (yes or no)

(14) Does this alteration constitute a change of occupancy (yes or no)

(15) Electrical work to be performed separate contract (yes or no) (16) Plumbing work to be performed yes (yes or no)

(17) Automobile runway to be altered or installed no (yes or no)

(18) Sidewalk over sub-sidewalk space to be repaired or altered see below (yes or no)

(19) Will street space be used during construction? yes (yes or no)

(20) Write in description of all work to be performed under this application:
(Reference to plans is not sufficient)

Removed northerly 23'-0" of building facing Washington Street; add new floor structure (steel and wood) 1st and 2nd floors; new toilet rooms and partitions; new steel frame, plaster and brick veneer front (North) wall; new steel stud wall and wood frame roof at 3rd floor rear; new steel stairs (2); new freight elevator, new plumbing system and fixtures; reinforce existing structural steel frame. Interior office partitions and all electrical work by tenant - not in this contract.

(21) Supervision of construction by Harada & Meu Address 553 Mission St., S.F.

(22) General Contractor Not selected California License No.

Address

(23) Architect or Engineer (for design) Harada & Meu California Certificate No. C-1098

Address 553 Mission St., San Francisco, California

(24) Architect or Engineer (for construction) Russell H. Fuller Structural Engineer California Certificate No. S-602

Address 171 Second St., San Francisco, Calif.

(25) I hereby certify and agree that if a permit is issued for the construction described in this application, all the provisions of the permit and all laws and ordinances applicable thereto will be complied with. I further agree to save San Francisco and its officials and employees harmless from all costs and damages which may accrue from use or occupancy of the sidewalk, street or subsidewalk space or from anything else in connection with the work included in the permit. The foregoing covenant shall be binding upon the owner of said property, the applicant, their heirs, successors and assignees.

(26) Owner Joe Alioto c/o Architect, Harada & Meu (Phone 434-4911) For contract by Bureau

Address 553 Mission Street, San Francisco, California

By John M. McWilliams Address 553 Mission Street, San Francisco

Owner's Authorized Agent to be Owner's Authorized Architect, Engineer or General Contractor.

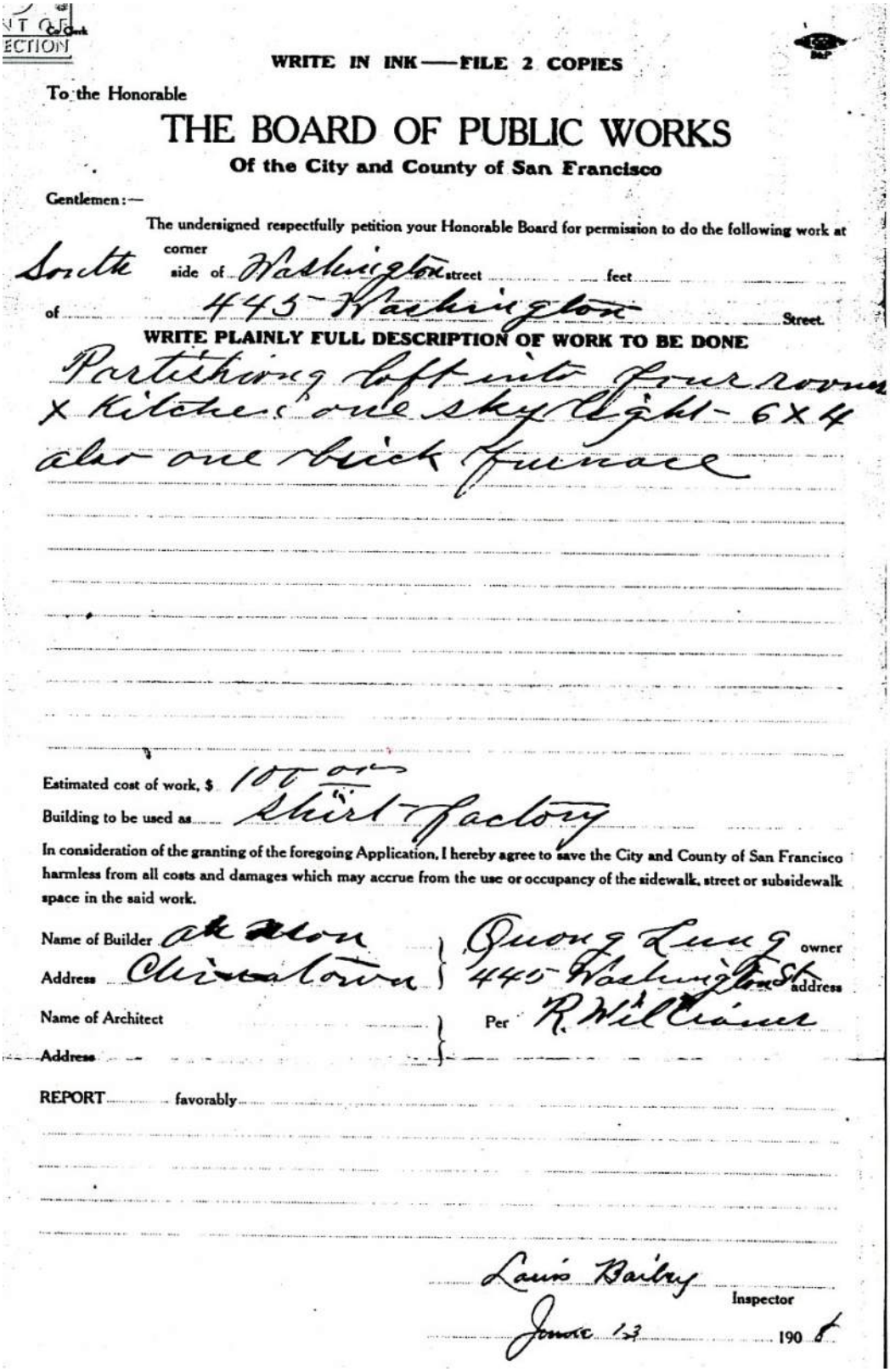
CERTIFICATE OF FINAL COMPLETION AND/OR PERMIT OF OCCUPANCY MUST BE OBTAINED ON COMPLETION OF WORK OR ALTERATION INVOLVING AN ENLARGEMENT OF THE BUILDING OR A CHANGE OF OCCUPANCY PURSUANT TO SEC. 808 AND 809, SAN FRANCISCO BUILDING CODE, BEFORE BUILDING IS OCCUPIED.

Pursuant to Sec. 304, San Francisco Building Code, the building permit shall be posted on job. Owner is responsible for approved plans and application being kept at building site.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED.

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

December 1966 permit to remove the original front 23 feet and add a new plaster and brick front. The architects were Harada and Meu, and the structural engineer was Russell H. Fuller.



WRITE IN INK — FILE 2 COPIES

To the Honorable

THE BOARD OF PUBLIC WORKS

Of the City and County of San Francisco

Gentlemen:—

The undersigned respectfully petition your Honorable Board for permission to do the following work at

corner side of Washington street ..... feet .....

of 445 - Washington Street.

WRITE PLAINLY FULL DESCRIPTION OF WORK TO BE DONE

Partitioning loft into four rooms & kitchen one sky light - 6 x 4 also one brick furnace

Estimated cost of work, $ 100 00

Building to be used as Shirt Factory

In consideration of the granting of the foregoing Application, I hereby agree to save the City and County of San Francisco harmless from all costs and damages which may accrue from the use or occupancy of the sidewalk, street or subsidewalk space in the said work.

Name of Builder Ah Hon } Quong Lung owner

Address Chinatown } 445 - Washington St address

Name of Architect } Per R. Williamer

Address }

REPORT ..... favorably .....

Louis Bailey Inspector

June 13 1908

Building Permits for 425 Washington Street

June 1908 building permit for partitioning the second floor loft as a shirt factory.

CENTRAL PERMIT BUREAU F. NO. 628 — Write in Ink—File Two Copies

CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF PUBLIC WORKS — **CENTRAL PERMIT BUREAU**

BLDG. FORM **3**

APPLICATION FOR BUILDING PERMIT

ALTERATION

10/25/44 19

Application is hereby made to the Department of Public Works of the City and County of San Francisco for permission to build in accordance with the plans and specifications submitted herewith and according to the description and for the purpose hereinafter set forth:

(1) Location 439 Washington St

(2) For what purpose is present building now used? Storage house

(3) For what purpose will building be used hereafter? Saloon and Restaurant

(4) Total Cost $ 200.00

(5) Description of work to be done The two entrance fronts to be new as shown on plans and new mens toilet and ladies toilet to be Builted on 2x4 Studs. Button Board and ciment Plaster on the inside of them, an Plaster outside

(6) APPLICANT MUST FILL OUT COMPENSATION INSURANCE DATA ON REVERSE SIDE.

(7) Supervision of construction by J. Barsotti

Address 2029 Stockton St

I hereby certify and agree, if a permit is issued, that all the provisions of the BUILDING LAW, THE BUILDING ZONE ORDINANCES, SET BACK LINE REQUIREMENTS AND THE FIRE ORDINANCES OF THE CITY AND COUNTY OF SAN FRANCISCO and the STATE HOUSING ACT OF CALIFORNIA will be complied with, whether herein specified or not; and I hereby agree to save, indemnify and keep harmless the City and County of San Francisco against all liabilities, judgments, costs and expenses which may in anywise accrue against said city and county in consequence of the granting of this permit, or from the use or occupancy of any sidewalk, street or sub-sidewalk placed by virtue thereof, and will in all things strictly comply with the conditions of this permit.

(8) Architect

Certificate No. State of California — License No. City and County of San Francisco

Address

(9) Engineer

Certificate No. State of California — License No. City and County of San Francisco

Address

(10) Plans and specifications prepared by Other than Architect or Engineer Dante Ferroni

Address 3110 Laguna St

(11) Contractor Days work

License No. State of California — License No. City and County of San Francisco

Address

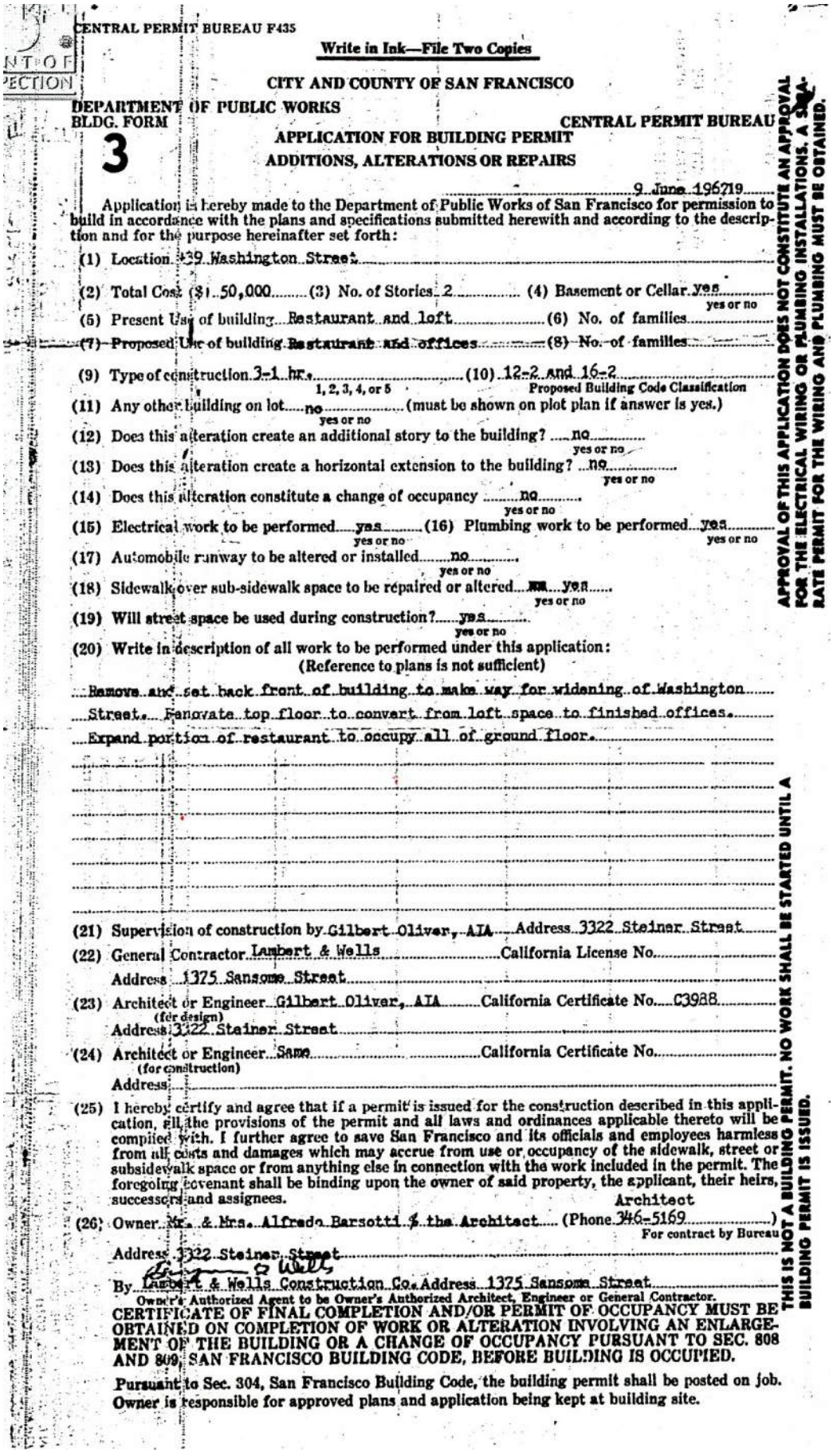
(12) Owner J. Barsotti

Address 2029 Stockton St

By Dante Ferroni — Owner's Authorized Agent.

THE DEPARTMENT WILL CALL UP TELEPHONE NO. Web 1541
IF ANY ALTERATIONS OR CHANGES ARE NECESSARY ON THE PLANS SUBMITTED.

Alf Barsotti purchased this building in 1944 and opened his Rainbow Club restaurant later the same year. This is his October 1944 building permit to build two new entrances and perform interior work.



CENTRAL PERMIT BUREAU F435

Write in Ink—File Two Copies

CITY AND COUNTY OF SAN FRANCISCO

DEPARTMENT OF PUBLIC WORKS

BLDG. FORM 3

CENTRAL PERMIT BUREAU

APPLICATION FOR BUILDING PERMIT

ADDITIONS, ALTERATIONS OR REPAIRS

9 June 19671

Application is hereby made to the Department of Public Works of San Francisco for permission to build in accordance with the plans and specifications submitted herewith and according to the description and for the purpose hereinafter set forth:

(1) Location 439 Washington Street

(2) Total Cost $1.50,000 (3) No. of Stories 2 (4) Basement or Cellar yes (yes or no)

(5) Present Use of building Restaurant and loft (6) No. of families

(7) Proposed Use of building Restaurant and offices (8) No. of families

(9) Type of construction 3-1 hr. (1, 2, 3, 4, or 5) (10) 12-2 and 16-2 (Proposed Building Code Classification)

(11) Any other building on lot no (yes or no) (must be shown on plot plan if answer is yes.)

(12) Does this alteration create an additional story to the building? no (yes or no)

(13) Does this alteration create a horizontal extension to the building? no (yes or no)

(14) Does this alteration constitute a change of occupancy no (yes or no)

(15) Electrical work to be performed yes (yes or no) (16) Plumbing work to be performed yes (yes or no)

(17) Automobile runway to be altered or installed no (yes or no)

(18) Sidewalk over sub-sidewalk space to be repaired or altered no yes (yes or no)

(19) Will street space be used during construction? yes (yes or no)

(20) Write in description of all work to be performed under this application:
(Reference to plans is not sufficient)

Remove and set back front of building to make way for widening of Washington Street. Renovate top floor to convert from loft space to finished offices. Expand portion of restaurant to occupy all of ground floor.

(21) Supervision of construction by Gilbert Oliver, AIA Address 3322 Steiner Street

(22) General Contractor Lambert & Wells California License No.
Address 1375 Sansome Street

(23) Architect or Engineer (for design) Gilbert Oliver, AIA California Certificate No. C3988
Address 3322 Steiner Street

(24) Architect or Engineer (for construction) Same California Certificate No.
Address

(25) I hereby certify and agree that if a permit is issued for the construction described in this application, all the provisions of the permit and all laws and ordinances applicable thereto will be complied with. I further agree to save San Francisco and its officials and employees harmless from all costs and damages which may accrue from use or occupancy of the sidewalk, street or subsidewalk space or from anything else in connection with the work included in the permit. The foregoing covenant shall be binding upon the owner of said property, the applicant, their heirs, successors and assignees.

Architect

(26) Owner Mr. & Mrs. Alfredo Barsotti % the Architect (Phone 346-5169) For contract by Bureau

Address 3322 Steiner Street

By Lambert & Wells Construction Co. Address 1375 Sansome Street
Owner's Authorized Agent to be Owner's Authorized Architect, Engineer or General Contractor.

CERTIFICATE OF FINAL COMPLETION AND/OR PERMIT OF OCCUPANCY MUST BE OBTAINED ON COMPLETION OF WORK OR ALTERATION INVOLVING AN ENLARGEMENT OF THE BUILDING OR A CHANGE OF OCCUPANCY PURSUANT TO SEC. 808 AND 809, SAN FRANCISCO BUILDING CODE, BEFORE BUILDING IS OCCUPIED.

Pursuant to Sec. 304, San Francisco Building Code, the building permit shall be posted on job. Owner is responsible for approved plans and application being kept at building site.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED.

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

June 1967 permit application to "remove and set back front of building to make way for widening of Washington Street." The architect was Gilbert Oliver, A.I.A.

A2 425 and 439–445 Washington Street Preservation Team Review Form

SAN FRANCISCO
PLANNING DEPARTMENT

PRESERVATION TEAM REVIEW FORM

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Preservation Team Meeting Date:		**Date of Form Completion**	2/11/2018

PROJECT INFORMATION:		
Planner:	Address:	
Justin Greving	425 and 439-445 Washington Street	
Block/Lot:	Cross Streets:	
0206/014 and 0206/013	Sansome and Battery streets	
CEQA Category:	Art. 10/11:	BPA/Case No.:
B	n/a	2015-015553ENV

PURPOSE OF REVIEW:			**PROJECT DESCRIPTION:**	
◉ CEQA	○ Article 10/11	○ Preliminary/PIC	○ Alteration	◉ Demo/New Construction

DATE OF PLANS UNDER REVIEW:	

PROJECT ISSUES:	
☒	Is the subject Property an eligible historic resource?
☐	If so, are the proposed changes a significant impact?
	Additional Notes:
	Submitted: Historic Resource Evaluation prepared by William Kostura (dated May, 2017)

PRESERVATION TEAM REVIEW:			
Category:	○ A	○ B	◉ C

Individual	Historic District/Context
Property is individually eligible for inclusion in a California Register under one or more of the following Criteria:	Property is in an eligible California Register Historic District/Context under one or more of the following Criteria:
Criterion 1 - Event: ○ Yes ◉ No	Criterion 1 - Event: ○ Yes ◉ No
Criterion 2 -Persons: ○ Yes ◉ No	Criterion 2 -Persons: ○ Yes ◉ No
Criterion 3 - Architecture: ○ Yes ◉ No	Criterion 3 - Architecture: ○ Yes ◉ No
Criterion 4 - Info. Potential: ○ Yes ◉ No	Criterion 4 - Info. Potential: ○ Yes ◉ No
Period of Significance: n/a	Period of Significance: n/a
	○ Contributor ○ Non-Contributor

Complies with the Secretary's Standards/Art 10/Art 11:	○ Yes	○ No	◉ N/A
CEQA Material Impairment to the individual historic resource:	○ Yes	◉ No	
CEQA Material Impairment to the historic district:	○ Yes	◉ No	
Requires Design Revisions:	○ Yes	◉ No	
Defer to Residential Design Team:	◉ Yes	○ No	

PRESERVATION TEAM COMMENTS:

According to the Historic Resource Evaluation prepared by William Kostura (dated May 2017, HRE) and information found in the Planning Department files, the project site contains two buildings, 425 Washington Street and 439-445 Washington Street. 425 Washington is a 3-story painted brick masonry commercial building located on a through lot between Washington and Merchant streets in the Financial District. The building was constructed in 1906-1907 for Rudolph Jordan and was designed by S.H. Woodruff. Abbot A. Hanks, an assayer and chemist, ran his laboratory out of the building from 1907-1910. From 1915-1965, the upper floors of the building housed offices for a variety of wholesale poultry and fish distributors, while the ground floor contained their retail (and sometimes restaurant), space. During this period a permit was filed for the conversion and expansion of the attic space to a full third story (1928). As part of the Golden Gateway redevelopment project, Washington Street was widened and in 1966 the first 23' feet of the Washington side of the building was demolished and the façade reconstructed. This work was designed by Harada and Meu and the owner at the time was Joe Alioto. After completion of the Golden Gateway Redevelopment project that took place starting in 1965, tenants of 425 Washington reflected the transformation of the area into San Francisco's financial district and the building housed at various times a lithography company and a sound system business.

425 Washington does not appear to be eligible for listing in the California Register under Criterion 1. While it is likely that the building would be significant as one of the few remaining structures associated with San Francisco's wholesale produce market, it has seen substantial alterations on both street-facing elevations such that it does not retain sufficient integrity to convey this significance (see p. 15 of the HRE for a more detailed integrity analysis). None of the owners or occupants have been identified as having made lasting contributions to local, state, or national history or cultural heritage (Criterion 2). While Abbot Hanks was the son of a prominent mineralogist, there is no indication that this specific location had any direct association with either person's importance in the profession of mineralogy. The building does not appear to be significant for its architecture as an early twentieth century commercial building due to the substantial alterations that have taken place on both street-facing facades. Nor has the 1966 modernization effort taken on significance as there are many other adjacent properties that are better representations of this architectural era in the neighborhood.
(see continuation sheet)

Signature of a Senior Preservation Planner / Preservation Coordinator:	Date:
Allison K. Vanderslice Digitally signed by Allison K. Vanderslice Date: 2021.02.12 17:24:33 -08'00'	

Based upon a review of information in the Departments records, 425 Washington Street is not significant under Criterion 4 since this significance criterion typically applies to rare construction types when involving the built environment. The subject building is not an example of a rare construction type. Assessment of archeological sensitivity is undertaken through the Department's Preliminary Archeological Review process and is outside the scope of this review.

439-445 Washington is a 2-story unpainted brick masonry commercial building also located on a through lot between Washington and Merchant streets. The building was constructed in 1906-1907 for Helen Stanford by the Woodruff Company (likely indicating that S.H. Woodruff was the architect). Stanford kept the property as an investment up until 1927 and rented it out to various tenants including the Cerruti Mercantile Company (likely selling cigars and wine), a notary public, and a shirt factory. A number of different restaurants also operated out of the two ground floor storefronts including The Rainbow Club (serving continental cuisine out of 439 from 1944-1968). The storefront at 441 has also operated as a restaurant continually from 1970 to 2015, the most well-known restaurant being the Iron Pot which operated from 1982-1989 after moving out of its Montgomery Street location. Permitted alterations to 439-445 Washington Street include renovation of the ground floor storefronts by Alf Barsotti prior to opening of the Rainbow Club (1944), and removal of the first 23' feet of the Washington Street side of the building and façade reconstruction that was designed by Gilbert Oliver (1967).

439-445 Washington Street does not appear to be individually eligible for listing in the California Register under Criterion 1. While the early merchants did have some tangential relationship to the neighboring produce market, the connection is not as direct or continuous as is the case with 425 Washington Street. Although The Iron Pot was a well-known restaurant in San Francisco it does not rise to the level of being individually eligible nor did the restaurant operate from the Washington Street location during its heyday. None of the owners or occupants have been identified as having made lasting contributions to local, state, or national history or cultural heritage (Criterion 2). 439-445 Washington would not be considered individually eligible for its architecture. The Washington Street façade is a reconstruction from 1966 that has not taken on significance, and the Merchant Street elevation has also seen alterations within most bay openings. While the brickwork on the Washington Street side has some fine detailing around the cornice line and at the window arches, the facade itself would not rise to the level of being individually eligible for its architecture. Furthermore, Gilbert Oliver has also not been recognized as a master architect. Based upon a review of information in the Departments records, the subject building is not significant under Criterion 4 since this significance criterion typically applies to rare construction types when involving the built environment. The subject building is not an example of a rare construction type. Assessment of archeological sensitivity is undertaken through the Department's Preliminary Archeological Review process and is outside the scope of this review.

The subject property is not located within the boundaries of any identified historic district. The subject property is located in the Financial District just south of the Jackson Square Article 10 Landmark District. The Department agrees with the assessment by William Kostura in the HRE that the Landmark District would not have extended boundaries to include the subject property. There is a distinct lack of visual connection between the subject property with the adjacent district that is emphasized by buildings in the immediate surrounding that are out of scale and size with the historic district. The aesthetic separation is further emphasized by widening of Washington Street that has dramatically altered its scale and relationship to the surrounding buildings. Whereas the Jackson

Square Article 10 district features compact rows of low scale brick structures within narrow streets and alleys, this intimate scale ends at Washington Street which is significantly wider than the other streets to the north such as Jackson and Gold streets.

Therefore, the subject property, including both 425 Washington and 439-445 Washington, is not eligible for listing in the California Register under any criteria either individually or as part of a historic district.

Photographs of the south side of the 400 block of Washington Street in 1957
(All three photos from SFPL Assessor's Negatives, Block 206)

At left: 425 Washington Street. Its third story is slightly recessed from the lower two stories. Consolidated fisheries is the occupant.

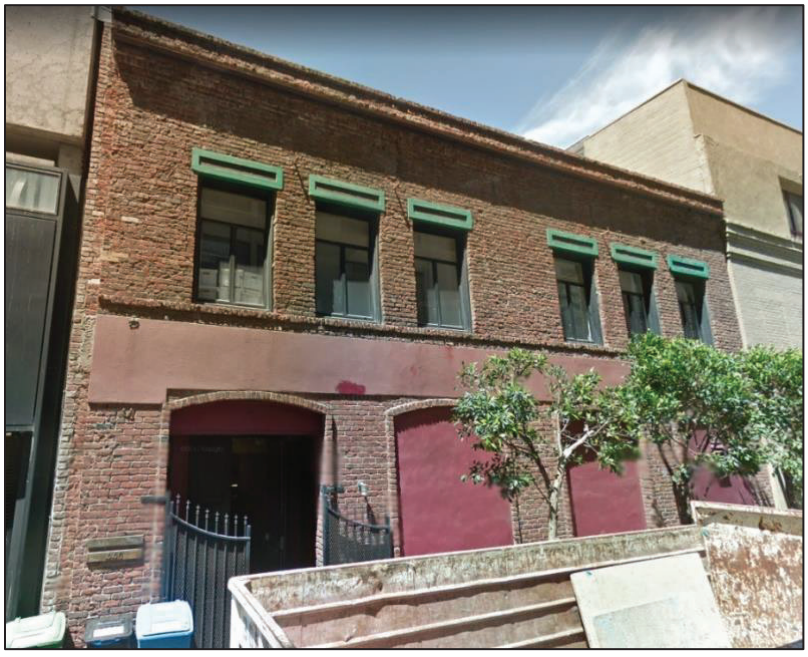
Below: 439-445 Washington. Occupants include the Rainbow Club and the Fulton Paper Co. At far right is 447-453 Washington, where SFFD Station 13 now stands.

Both buildings were reduced in depth when Washington Street was widened.

Excerpt from p. 24 of the HRE by William Kostura showing photographs of the Washington Street façades before they were altered in 1966.

425 and 439-445 Washington Street – The north elevations of both 425 Washington (left), and 439-445 Washington Street (right) were reconstructed in 1966 as a result of a street widening.

425 Washington Street – View northeast of the south Merchant Street-facing elevation.



439-445 Washington Street – View northeast of the south Merchant Street-facing elevation.

A3 530 Sansome Street Historic Resource Evaluation Report

Final

HISTORIC RESOURCE EVALUATION REPORT, PART 1

530 Sansome Street
San Francisco, California

Prepared for
San Francisco Planning Department

September 2020

ESA

Final

HISTORIC RESOURCE EVALUATION REPORT, PART 1

530 Sansome Street
San Francisco, California

Prepared for
San Francisco Planning Department

September 2020

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900
www.esassoc.com

201901423.00

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

TABLE OF CONTENTS

Historic Resource Evaluation Report, Part 1 for 530 Sansome Street

Page

List of Figures

List of Tables

HISTORIC RESOURCE EVALUATION, PART 1

1 Introduction

Environmental Science Associates (ESA) was engaged by EQX Jackson SQ Holdco LLC to prepare a Historic Resource Evaluation, Part 1 report for a proposed project at 530 Sansome Street (APN 206/017, alternately addressed 532 Sansome Street) in San Francisco, California. The subject property is located in the Financial District. It measures 8,936 square feet and is zoned C-3-O (Downtown – Office). The subject property is occupied by the Brutalist-style San Francisco Fire Station No. 13, which was constructed in 1975 and is less than 50 years old. Additionally, an extant sculpture is mounted on the building's north façade and was constructed and installed in 1976.

This report includes: a summary of the current historic status of the subject property; an architectural description; a site history; a building permit history; historic contexts of the Financial District (focused on the immediate vicinity around the subject property as well as the San Francisco Fire Department), the Embarcadero Center, and Brutalist architecture in San Francisco; a list of previous owners and occupants; biographies of known design professionals; and an evaluation of the individual historical significance of the subject property. Planning staff does not require an analysis of the surrounding area as a potential historic district.[1] 530 Sansome Street is not a San Francisco City Landmark, and it is likewise not located within a designated historic district (Article 10) or within a conservation district (Article 11). **Appendix A** contains completed building permits on file at the Department of Building Inspection for 530 Sansome Street.

Methodology

This report was initiated after Governor Gavin Newsom issued Executive Order N-33-20, a statewide shelter-in-place order. This has limited travel and forced the closure of publicly accessible archives, and conducting in-person research at various repositories therefore is not possible. On April 21, 2020, the San Francisco Planning Department issued the following changes to its standard Historic Resource Evaluation (HRE) requirements:

> A. A combination of photos from the applicant along with online mapping and other online sites with dated recent photos can be used instead of a site visit if the property and its surroundings can be accurately understood, described, and evaluated in the HRE using these resources.
>
> B. [Department of Building Inspection (DBI)] permit records are not currently available and will not be required. Please use other sources in order to identify architect/

[1] Jørgen Cleemann, San Francisco Planning Department, email to Johanna Kahn, ESA. January 2, 2020.

builder, year built, property owners, and changes to the property. Please identify other sources you will use to research this information.

C. Both [the San Francisco Public Library] and City Hall are currently closed. Assessor photos are currently not available and will not be required.

D. The Department is working to provide consultants with electronic access to BMI Digital Reel from the Office of the Assessor-Recorder.[2]

Research conducted for this report includes:

- Reviews of building permits on file at DBI. ESA requested and received hard copies of all available building permits for the subject building, which are included in Appendix A. Because DBI is currently closed to the public and in-person research cannot be performed, a review of any architectural drawings was not possible;
- Review of property ownership records available online through the Digital Reel of the City and County of San Francisco Assessor-Recorder's Office;
- Historical aerial photographs available online;
- Sanborn Fire Insurance Co. maps (Sanborn maps) available online;
- Historical photographs available online from the San Francisco Historical Photograph Collection and Calisphere;
- Historical newspapers and periodicals available online; and
- Other online research (e.g. *Internet Archive*, *Guardians of The City*).

ESA staff completed an intensive-level pedestrian survey on May 30, 2020. ESA senior architectural historian Johanna Kahn, M.Ar.H., is the author of this report and meets the Secretary of the Interior's Professional Qualifications Standards for architectural history, architecture, and historic architecture. Becky Urbano, M.S., who meets the Secretary of the Interior's Professional Qualification Standards for architectural history, provided quality assurance and review.

Current Historic Status

In 2000, the San Francisco Landmarks Preservation Advisory Board (precursor to the Historic Preservation Commission) adopted the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register) criteria of evaluation for use in all historic resource surveys in San Francisco.[3] 530 Sansome Street is not listed in the California Office of Historic Preservation's Built Environment Resource Directory (BERD) for San Francisco County. The building was recorded in 2011 when it was only 36 years old and assigned a California

[2] Allison Vanderslice, San Francisco Planning Department. "Historic Resource Evaluation Guidance During Shelter in Place." Memo to San Francisco Historic Resource Consultants, April 21, 2020.

[3] In 2003, the California Office of Historic Preservation released new California Historical Resource Status Codes (formerly known as the National Register Status Codes) to be assigned to evaluated historic resources during local surveys.

Historical Resource Status Code of "6Z," meaning that it was found ineligible for listing in the National Register, California Register, or as a San Francisco City Landmark.[4]

According to the San Francisco Planning Department's Property Information Map (PIM), 530 Sansome Street is currently identified as a "Category B" property, meaning that further consultation and review is required for evaluating whether it is a historical resource for the purposes of CEQA. The subject property is not located within any known historic districts, and Planning staff does not require an analysis of the surrounding area as a potential historic district.[5] The subject property is not identified in the 1968 Junior League of San Francisco Architectural Survey, *Here Today,* or the 1976 San Francisco Department of City Planning (DCP) Architectural Survey. 530 Sansome Street was identified in the 1979 San Francisco Architectural Heritage Survey, *Splendid Survivors,* but it was not assigned a survey rating.[6]

2 Building and Property Descriptions

The following section includes an architectural description of the subject property, a brief site history, and a summary of the building permit search. The architectural description is based on a pedestrian site survey that occurred on May 30, 2020.

Architectural Description

Fire Station No. 13

The subject property at 530 Sansome Street is an 8,937-square-foot, rectangular parcel on the east side of Sansome Street between Washington and Merchant streets. It is occupied by the subject building, a fire station designed in the Brutalist style by architect John C. Portman, Jr. The building's rectangular footprint occupies the entire parcel. It is constructed of poured-in-place, reinforced concrete and is capped by a flat roof. The lower portion of the façades (first floor and mezzanine) is clad in vertically oriented metal panels, and the exposed concrete structure composes the upper portion. The subject property contains no landscaping or other site features.

The primary façade faces west on Sansome Street (**Figure 1**). The first floor is composed of three structural bays. The north and center bays each feature a roll-up metal door that provides access into and out of the apparatus bays where vehicles are parked and maintained. Each doorway is flanked by concrete bollards. The south bay is clad in metal panels and features two bands of metal-sash windows: one at the first floor and one at the mezzanine level. (**Figure 2** shows the mezzanine's location in the south portion of the building.) Some, if not all, of the upper band of windows are awning sash. A glazed, metal-frame door with a fixed sidelight is also located in the south bay. Above the mezzanine level, a recessed channel spans the width of the façade, creating a horizontal shadow. The exposed concrete structure at the second floor above features no window or door openings. A circular metal emblem at the north end of the second floor reads "SFFD" and

4 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study.* February 21, 2012.

5 Jørgen Cleemann, San Francisco Planning Department, email to Johanna Kahn, ESA. January 2, 2020.

6 Michael R. Corbett et al. *Splendid Survivors: San Francisco's Downtown Architectural Heritage* (San Francisco, CA: California Living Books, 1979), p. 218.

SOURCE: ESA 530 Sansome Street

Figure 1
Primary (West) Façade on Sansome Street

SOURCE: ESA 530 Sansome Street

Figure 2
View Showing the Location of the Mezzanine

identifies the building as a fire station. At the south end of the second floor are two vertical flag poles that rise above the roofline. The façade terminates in metal coping at the roofline.

The secondary façade faces north on Washington Street (**Figure 3**). The first floor is clad entirely in metal panels and features two bands of metal-sash windows: one at the first floor and one at the mezzanine level. There are no doors on this façade.

The south façade faces Merchant Street (**Figure 4**). Its design is similar to the north façade. The main difference is that the south façade features a roll-up metal door at the east end of the first floor and a tall, vertical duct that rises above the roofline.

SOURCE: ESA

530 Sansome Street

Figure 3
North Façade on Washington Street

SOURCE: ESA 530 Sansome Street

Figure 4
South Façade on Merchant Street

Untitled (1976)

At the west end of the subject building's north façade is a wall-mounted sculpture by artist Henri Marie-Rose named *Untitled.* The three-dimensional copper sculpture depicts firefighters with a hose next to the letters "SFFD" (**Figure 5**).

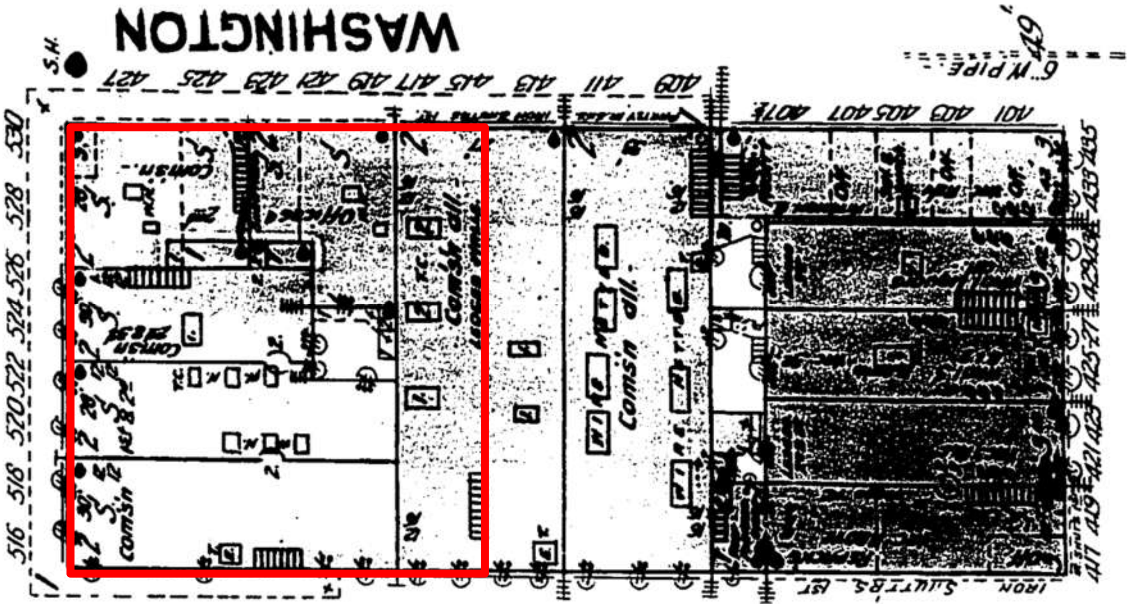
SOURCE: ESA 530 Sansome Street

Figure 5
Untitled (1976) by Henri Marie-Rose

Site History

Before the 1906 Earthquake and subsequent fires caused widespread destruction in downtown San Francisco, the subject property was occupied by a group of adjacent two-story commercial and office buildings (**Figure 6**). By 1907, the subject property was redeveloped with a two-story brick building with multiple commercial businesses and offices (**Figures 7 and 8**).[7]

[7] Figure 7 shows the newly constructed buildings on the subject property in 1907. Building permit application no. 22431, issued March 22, 1909, for alterations to an extant two-story brick building, is the earliest building permit on file for the subject property.

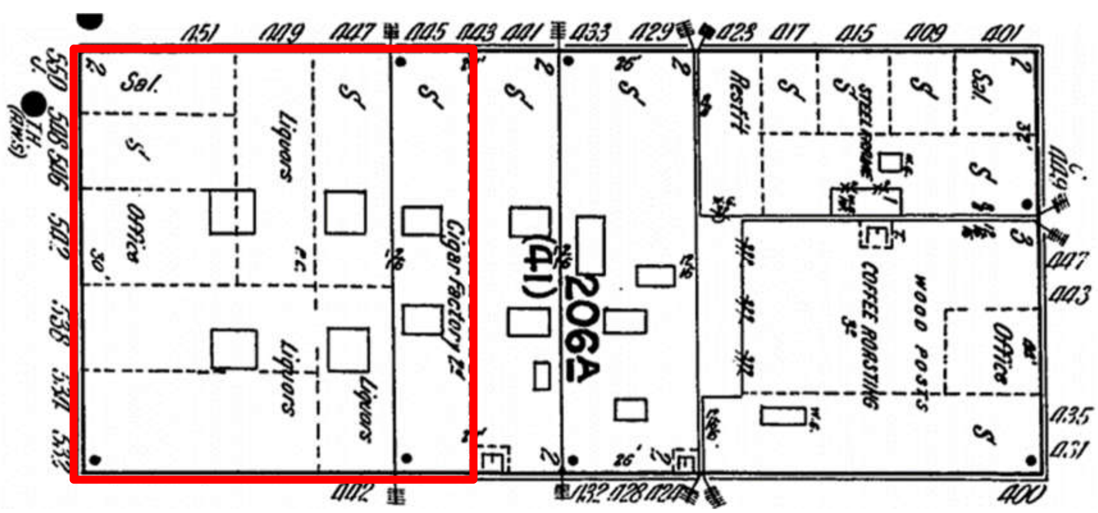


North is up. The subject property is outlined in red.

SOURCE: *ProQuest*

530 Sansome Street

Figure 6
1899 Sanborn Map



North is up. The subject property is outlined in red.

SOURCE: *ProQuest*

530 Sansome Street

Figure 7
1913 Sanborn Map

View of storefronts along Sansome Street. Visible signs for businesses include A. Galli Fruit Co. (516-518 Sansome Street), D. Biagi & Co. (520-522 Sansome Street), and V. Chiuda Commission Merchants (524-526 Sansome Street). Addresses for these businesses found in city directories correspond to the address convention seen in the 1899 Sanborn map.

SOURCE: Roy D. Graves Pictorial Collection Bancroft Library, UC Berkeley, Photo ID #291

530 Sansome Street

Figure 8
Earlier Building on the Subject Property, 1907

By 1909, alterations had already been made to the recently constructed building. That year, the southernmost commercial space was given a new storefront, and the saloon within was enlarged to accommodate a restaurant.[8] The building appears largely unchanged in the 1950 Sanborn map and a 1965 aerial photograph, and it existed on the subject property until it was demolished in 1974.

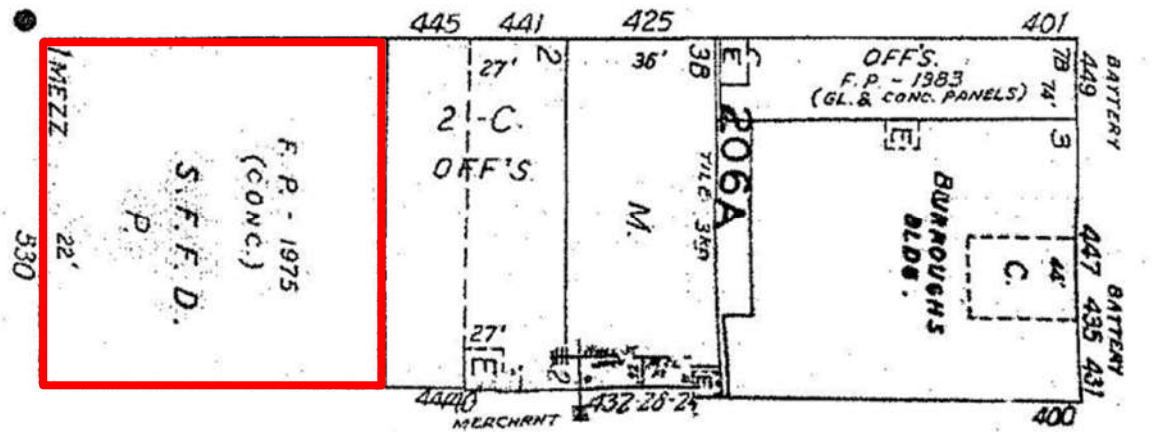
The City of San Francisco has owned the subject property since October 1967.[9] The application for the original building permit for the present firehouse was filed on January 11, 1974, and the earlier building on the subject property had been demolished by that time. The permit described a new three-story-plus-basement fire station at an estimated cost of $1,500,000. The building permit was issued on August 14, 1974,[10] and the fire station was completed and opened in September 1975 (**Figures 9, 10, and 11**).[11]

8 Building permit application no. 22431, issued March 22, 1909.

9 Deed. October 4, 1967. Book of records 182, p. 400. Digital Reel from the City and County of San Francisco Office of the Assessor-Recorder, 2020.

10 The application for Building permit no. 391562 was filed on January 11, 1975, for the construction of a new fire station. It includes the note "no other buildings on lot."

11 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed May 13, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.



North is up. The subject property is outlined in red.

SOURCE: San Francisco Property Information Map

530 Sansome Street

Figure 9
Mid-1990s Sanborn Map

SOURCE: San Francisco Historical Photograph Collection, Photo ID #AAD-8198

530 Sansome Street

Figure 10
Newly Constructed Fire Station No. 13 and Engine No. 13, 1976

SOURCE: San Francisco Historical Photograph Collection, Photo ID #AAD-8199

530 Sansome Street

Figure 11
Fire Station No. 13 and Engine No. 13, 1976

Building Permit History and Alterations

All building permits on file at the San Francisco Department of Building Inspection that have been issued and completed for the subject property are summarized in **Table 1**. Appendix A contains copies of all building permits on file at the Department of Building Inspection. Additionally, from October 2001 to September 2002, the subject building underwent a seismic retrofit.[12]

12 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed May 13, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

TABLE 1
BUILDING PERMIT HISTORY FOR 530 SANSOME STREET

Permit #	Description of Work	Active Dates
391562	Construct a three-story-over-basement fire station measuring 8,930 square feet. Architects: John C. Portman, Jr. (Embarcadero Center) and Charles W. Griffith (City of San Francisco) Valuation: $1.5 million	Filed: January 11, 1974; Issued: August 14, 1974
712987	Alter existing boot room to create new women's toilet and shower room. Construct new boot/locker room and repair suspended acoustical ceiling. Alter plumbing/electrical work for new spaces, miscellaneous painting work as needed. Architect: Norman Karasick, Bureau of Architecture, Department of Public Works Builder: C&L Construction Valuation: $64,700	Filed: Dec. 8, 1992; Completed: Oct. 8, 1993
929069	Provide disabled access at first-floor entry, communication room and toilet, upgrade electrical and mechanical systems. Perform hazardous material abatement, upgrade finishes throughout and perform miscellaneous repairs. No structural work. Reroofing on entire building. Architect: Tara Lamont Valuation: $979,123	Filed: Nov. 12, 1999; Completed: Mar. 12, 2003
1292705	Reroofing in-kind Builder: Benito Olgvin Valuation: $105,000	Filed: Jul. 20, 2012; Completed: Dec. 11, 2013
1311084	Shower renovation inclusive of encapsulation of shower stalls with 1/4-inch solid surface shower pan, walls, dividers, sills, and edge trimming. Replacement of water control valves, shower heads, floor drains, P-trap, and new glass doors. Valuation: $132,000	Filed: Oct. 10, 2013; Completed: Sept. 29, 2015
1318722	Install new secondary containment plate over existing fuel supply piping. No concrete removal required. All work done in existing pipe routes. Builder: Jerry Brown Valuation: $1,500	Filed: Mar. 7, 2014
1361044	Shower replacement at one stall inclusive of tile removal and replacement, drain and valve replacement, widening of existing stall opening, and new glass shower door. Installation of new waterproofing throughout. Builder: Vito Vanoni Valuation: $30,000	Filed: Jun. 2, 2015; Completed May 5, 2016
1458176	Replacement of existing apparatus bay door (telescoping door) with new coiling door. Builder: Vito Vanoni Valuation: $40,000	Filed: Mar. 28, 2018; Completed: Feb. 2, 2019

SOURCE: San Francisco Department of Building Inspection

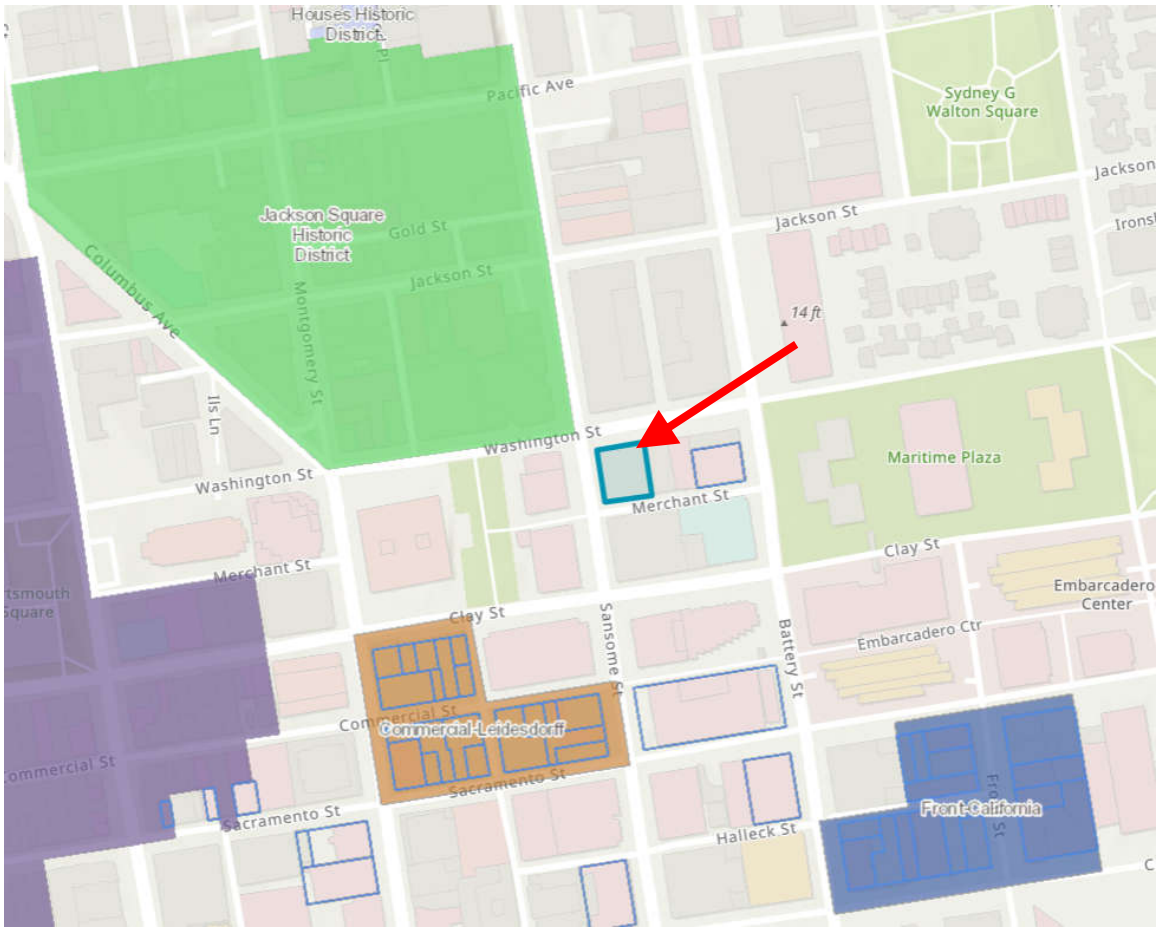
3 Historical Context

Financial District

The subject property is located in the Financial District, which is bordered by Broadway on the north; San Francisco Bay on the east; Folsom Street on the south; and Kearny, Stockton, and Fourth streets on the west. According to the PIM, a recent Historic Resource Evaluation Response (HRER) for nearby 447 Battery Street (located on the subject block) includes the following description of the surrounding neighborhood:

> The subject block is built on landfill that sits beyond the natural shoreline of San Francisco, in the middle of the historical Yerba Buena Cove. Currently considered part of the Financial District, until the mid-twentieth century this area hosted a wide range of stores, warehouses, and other mercantile establishments associated with the nearby produce market and working waterfront. Starting in 1959, much of this historic marketplace neighborhood was razed in connection with the Golden Gateway Redevelopment Project, a massive urban renewal scheme that was completed over the course of the subsequent decades. The results of this project are visible today as the collection of apartment towers, townhouses, office buildings, hotels, parks, plazas, parking garages, and shopping areas that occupy the blocks to the immediate east of the subject property.
>
> The blocks on the west side of Battery Street, including the subject block, have been absorbed into the Financial District, and include many buildings constructed in the late twentieth century, although there is nothing on the massive urban scale of the Golden Gateway Project to the east. The Transamerica Pyramid, San Francisco's tallest building from the time of its construction in 1972 unti1 2017, stands [one block] west of [530 Sansome Street]. The subject block and the block to the south across Merchant Street include several buildings constructed in the aftermath of the 1906 earthquake and fires (447 Battery Street, 1907; 439 Washington Street, 1907; 425 Washington Street, 1907 (altered); 432 Clay Street, 1912), a 1920s office building (500 Sansome Street, 1929), a modernist fire station (530 Sansome Street, [1975]), and a contemporary hotel building (425 Battery, early 2000s). Nearby historic buildings include the 1911 U.S. Customs House (555 Battery Street), the 1944 U.S. Appraisers Building (630 Sansome Street), and 545 Sansome Street, built in 1930. The identified historic district that is closest to the subject building is the Article 10 Jackson Square Historic District, known for its nineteenth century commercial buildings. Other nearby historic districts include the Article 11 Commercial-Leidesdorff and Front-California Conservation Districts, which contain commercial buildings from the early twentieth century [(**Figure 12**)].[13]

[13] Rachel Schuett and Jørgen Cleemann, San Francisco Planning Department. "Historic Resource Evaluation Response: 447 Battery Street (Case No. 2014-1036ENV)." December 18, 2017.



The subject property is identified with the red arrow. The Jackson Square Historic District (green), Commercial-Leidesdorff Conservation District (brown), Front-California Conservation District (blue), and Chinatown Historic District (purple) are shown for reference.

SOURCE: San Francisco Property Information Map

530 Sansome Street

Figure 12
Map of the Financial District

San Francisco Fire Department in the Financial District

The subject building, which has historically functioned as Fire Station No. 13, replaced an earlier fire station that was demolished as part of the Embarcadero Center development (discussed in more detail below). The earlier fire station was located at 115 Drumm Street (at the southwest corner of Drumm and Commercial streets) and was home to Engine Company No. 12 and Truck Company No. 13. The three-story, reinforced-concrete building was formally dedicated on July 28, 1915, and was considered to be the city's "largest and most modern equipped fire station."[14,15] The fire station at 115 Drumm Street was rebuilt several decades later as part of the

14 City and County of San Francisco. "Dedication of New Fire House." *Municipal Record,* Vol. 8, No. 1 (January 7, 1915), p. 251.

15 "New Fire Station in San Francisco." *Fire and Water Engineering,* Vol. 58, No. 22 (December 1, 1915), p. 339.

1952 Firehouse Bond Act (Proposition H, File No. 9395-3; Ordinance No. 7493),[16] and it officially reopened in the same location on April 1, 1957 (**Figure 13**).[17]

SOURCE: *Guardians of The City* 530 Sansome Street

Figure 13
Fire Station at 115 Drumm Street, ca. 1957

In the 1959 *Redevelopment Plan for the Golden Gateway: Embarcadero-Lower Market Approved Redevelopment Project Area E-1*, the recently reconstructed Drumm Street fire station was planned to remain intact and in use.[18] In 1963, the entire block in which the fire station was located (i.e., block no. 232) with the exception of the fire station itself was "scheduled for [commercial and office building development] but [is] not being marketed at the present time,"[19] and in 1966, the purchase price for the entire block (save for the fire station) was $2,066,522.[20] The Embarcadero Center master plan was unanimously approved by the San Francisco Redevelopment Agency and the San Francisco Planning Commission in April 1967.[21, 22]

16 Page & Turnbull. *676 Howard Street Historic Resource Evaluation.* May 2010. Pp. 27, 55.

17 "Former Firehouses: 115 Drumm Street." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/firehouses/former/115_drumm.html.

18 San Francisco Redevelopment Agency. *Redevelopment Plan for the Golden Gateway: Embarcadero-Lower Market Approved Redevelopment Project Area E-1*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1959. Pp. 6, 9, 12.

19 San Francisco Redevelopment Agency. *Commercial Development in the Golden Gateway, San Francisco*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1963. P. 3.

20 San Francisco Redevelopment Agency. *Golden Gateway Commercial Parcels*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1966.

21 "Embarcadero Center Gets a First OK." *San Francisco Chronicle,* April 5, 1967, pp. 1, 9.

22 Mel Wax. "Planners OK Embarcadero Center." *San Francisco Chronicle,* April 14, 1967, pp. 1, 18.

In 1969, the earlier exclusion of the City-owned Drumm Street fire station from the redevelopment area proved to be "very shortsighted planning" and a "profitable blunder" for the City of San Francisco. The fire station had become an obstruction to the Embarcadero Center development (specifically Three Embarcadero Center), and the developer – David Rockefeller & Associates – was forced to purchase the land from the San Francisco Redevelopment Agency for the price of $360,000.[23] Additionally, the developer was required to pay for the construction of a new fire station at 530 Sansome Street, a City-owned property located one block west of the redevelopment area.[24, 25] The Drumm Street fire station was demolished in May 1975.[26]

Engine Company No. 13

San Francisco Engine Company No. 13 was organized in 1883 and assigned to quarters at 1458 Valencia Street (extant). From 1958 to 1973, the company was quartered at 3880 26th Street (extant). After being quartered in the Mission District for 90 years, the company relocated to 115 Drumm Street in the Financial District, where it remained for less than two years before that fire station was demolished, as described above.[27]

Engine Company No. 13 moved into the new fire station at 530 Sansome Street on September 25, 1975. With the exception of a period from October 2001 to September 2002, during which time 530 Sansome Street was seismically retrofitted, the company has remained at this location until the present day.[28]

Truck Company No. 13

San Francisco Truck Company No. 13 was organized in 1915 and assigned to quarters at 115 Drumm Street (demolished). Truck 13 was temporarily quartered at 676 Howard Street (demolished) during construction of the new fire station at 115 Drumm Street (1956-57), after which the company returned to 115 Drumm Street, where it remained until April 1975. (115 Drumm Street was demolished the following month.[29]) Following another temporary (five-month) stay at 676 Howard Street, Truck Company No. 13 relocated to the new Station No. 13 at 530 Sansome Street (project site) on September 25, 1975, where it has remained until the present day except during the above-noted seismic retrofit of 2001-02, when the company was temporarily quartered at 2150 California Street.[30]

---

23 Donald Canter. "Rocky May Buy New Firehouse: 'Blunder' Aids City." *San Francisco Examiner,* April 9, 1969, p. 36.

24 "The City Gets a Windfall -- $1 Million Fire House." *San Francisco Chronicle,* April 10, 1969, p. 6.

25 *San Francisco Fire Department Annual Report 1974-1975*, p. 19.

26 "Art and Debris." *San Francisco Chronicle,* May 12, 1975, p. 38.

27 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

28 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

29 "Art and Debris." *San Francisco Chronicle,* May 12, 1975, p. 38.

30 "Truck Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed August 20, 2020, at https://www.guardiansofthecity.org/sffd/companies/trucks/truck13.html.

Embarcadero Center

Fire Station No. 13 at 530 Sansome Street was designed as part of Embarcadero Center, a commercial complex whose principal components are four office towers (One, Two, Three, and Four Embarcadero Center) and one hotel (Five Embarcadero Center, or the Hyatt Regency Hotel) on a 9.8-acre site located off the Embarcadero in San Francisco's Financial District (**Figure 14**).[31] The site was originally part of the Produce District, which contained a maze of low-scale commercial warehouses and smaller streets. When urban renewal plans took hold in the 1950s, city planner M. Justin Herman spearheaded a plan to redevelop the nearly 10-acre site comprising five city blocks. Called a city-within-a-city, the project was built incrementally over 14 years in tandem with the growth of the Financial District. The project developers were Trammell Crow, Portman Holdings, and David Rockefeller & Associates. The architect was John C. Portman, Jr.

The construction schedule was aggressive, comprising four successive phases of development that overlapped in order to maintain progress.[32] Construction of Phase 1 began in July 1968 with One Embarcadero Center, which was completed in March 1971. That same month, Phase 2 began with the construction of Five Embarcadero Center (i.e., the Hyatt Regency Hotel), which was completed in May 1973. Phase 3 began in March 1972 with the construction of Two Embarcadero Center, which was completed in April 1974. Phase 4 began that same month with the groundbreaking of Three Embarcadero Center, which was completed in September 1976, followed by Four Embarcadero Center, which was constructed between January 1976 and May 1981.[33] The four office towers range from 30 to 45 stories in height, and the hotel is 20 stories in height. At 4.8 million square feet of office, retail, hotel, dining, and entertainment space, Embarcadero Center is one of the largest mixed-use complexes in the western United States.[34]

The construction of the new fire station at 530 Sansome Street (as part of Phase 4) was an afterthought that had to be efficiently incorporated into the overall project schedule. As established above, the Embarcadero Center master plan was approved in April 1967,[35, 36] the first phase of construction began in July 1968, and it was not until April 1969 that the need to replace the existing fire station at 115 Drumm Street was identified to accommodate the construction of Three Embarcadero Center.[37, 38] The selection of location (April 1969), design (ca. 1970-73), construction (1974-75), and operation (Fall 1975)[39] of 530 Sansome Street could very well have

31 Embarcadero Center is one component of the larger Golden Gateway Project.

32 Scott Blakey. "The Embarcadero Center's Start." *San Francisco Chronicle,* May 5, 1969, p. 2.

33 Page & Turnbull. *Embarcadero Center Lobbies Historic Structures Report "Lite."* July 2018, p. 5.

34 "History of the Embarcadero Center." *Embarcadero Center.* Accessed November 28, 2012, at http://embarcaderocenter.com/about/.

35 "Embarcadero Center Gets a First OK." *San Francisco Chronicle,* April 5, 1967, pp. 1, 9.

36 Mel Wax. "Planners OK Embarcadero Center." *San Francisco Chronicle,* April 14, 1967, pp. 1, 18.

37 "The City Gets a Windfall -- $1 Million Fire House." *San Francisco Chronicle,* April 10, 1969, p. 6.

38 Donald Canter. "Rocky May Buy New Firehouse: 'Blunder' Aids City." *San Francisco Examiner,* April 9, 1969, p. 36.

39 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

SOURCE: ESA

530 Sansome Street

Figure 14
Embarcadero Center Office Towers

held up the purchase of the 115 Drumm Street property (May 1974)[40] and its demolition (May 1975)[41] and, consequently, the timely completion of Three Embarcadero Center.

The complex of four office towers plus the Hyatt Regency Hotel are linked by footbridges that integrate retail and restaurant uses on the first three levels of each block-sized podium, with slender office towers above which cover only one-third of the site. The towers, clad in rough-finished, precast concrete panels, are composed of slab-like elements that are staggered to create 10 to 14 corner offices per floor instead of the usual four. Their slender profiles are a departure from the heavier towers on the skyline.[42]

Brutalism (discussed in more detail below) is the predominant architectural style of Embarcadero Center. Brutalist features exhibited at Embarcadero Center include the buildings' rough, unadorned poured concrete construction with visible imprints of wood formwork, deeply shadowed irregular openings, massive cubic forms, rectangular block-like shapes, recessed windows that read as voids, and precast concrete panels with exposed joinery. Bold geometric

40 *San Francisco Fire Department Annual Report 1973-1974*, p. 21.

41 "Art and Debris." *San Francisco Chronicle,* May 12, 1975, p. 38.

42 Sally B. and John M. Woodbridge. *San Francisco Architecture: The Illustrated Guide to Over 1,000 of the Best Buildings, Parks, and Public Artworks in the Bay Area*. San Francisco: Chronicle Books. 1992.

patterns are also found on the circular tile paving design which repeats throughout the complex's pedestrian shopping plazas.

In 1984, Embarcadero Center won the Urban Land Institute's Award of Excellence for Large-Scale Urban Development, a prestigious award recognizing projects that "[exemplify] superior design, relevance to contemporary issues and needs, and resourceful utilization of land while improving the quality of the living environment."[43] In 2019, John Portman & Associates published a firm profile and portfolio of completed projects, and the association of 530 Sansome Street with Embarcadero Center is confirmed by its listing as "San Francisco Fire Station, Embarcadero Center, 1976."[44]

Embarcadero Center continued to grow in size with the 1989 completion of a fifth office tower at 275 Battery Street known as Embarcadero West.

Embarcadero Center was the subject of a 2018 "Historic Structures Report-Lite," and the San Francisco Planning Department determined that the four office towers and the Hyatt Regency Hotel are historical resources based on this report.[45,46]

Brutalist Architecture in San Francisco

San Francisco Fire Station No. 13 at 530 Sansome Street was designed in a Modern architectural style often referred to as Brutalism. Brutalist buildings tend to be geometric in form and are usually constructed of large amounts of poured and textured concrete. British architects Alison and Peter Smithson invented the term in 1953 from the French *béton brut*, meaning "raw concrete." Swiss architect Le Corbusier originally used this phrase to describe the poured board-formed concrete with which he constructed many of his post-World War II buildings.[47] Brutalism gained considerable momentum in continental Europe and the United Kingdom during the mid-twentieth century, as economically depressed (and World War II-ravaged) communities sought inexpensive construction and design methods for low-cost housing, commercial, and government buildings. Brutalism was promoted as a positive option for forward-moving, modern urban housing. This style, which was prevalent in America in the 1960s and 1970s, and in San Francisco between 1960 and 1980, is often found at university campuses and within civic or institutional settings.

Brutalist buildings are usually formed with striking repetitive angular geometries. Concrete is the material most widely associated with Brutalist architecture, although not all Brutalist buildings are constructed of that material. Instead, a building may achieve its Brutalist quality through a rough, blocky appearance, and the expression of its structural materials, forms, and (in some cases) services on its exterior. When concrete is used, the buildings often reveal the texture of

43 Steve Womersley, ed. *John Portman and Associates: Selected and Current Works.* Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002. P. 226.

44 "Portman Recent Works" (firm profile). *John Portman & Associates, Inc.* March 2019, p. 175. Accessed January 22, 2020, at https://portmanarchitects.com/wp-content/uploads/2019/03/Portman_RecentWorks_E_Web-min.pdf.

45 Page & Turnbull. *Embarcadero Center Lobbies Historic Structures Report "Lite."* July 2018.

46 Jørgen Cleemann, San Francisco Planning Department, phone call with Johanna Kahn, ESA. June 11, 2020.

47 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. P. 132.

the wood formwork. Another common theme in Brutalist designs is the exposure of the building's functions—ranging from their structure and services to their human use—in the exterior of the building.

Character-defining features of Brutalist architecture identified in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement* include the following, some of which are reflected in Fire Station No. 13:

- Rough unadorned poured concrete construction
- Massive form and heavy cubic shapes
- Visible imprints of wood grain forms
- Recessed windows that read as voids
- Repeating geometric patterns
- Strong right angles and simple cubic forms
- Deeply shadowed irregular openings
- Rectangular block-like shapes
- Precast concrete panels with exposed joinery[48]

There are relatively few Brutalist buildings in San Francisco, and most were built between 1960 and the early 1980s. Such buildings are generally limited to large-scale commercial, hospital, service, and educational buildings. Extant examples include Embarcadero Center, Transamerica Pyramid (1972), Hilton Hotel on Portsmouth Square (1970), Fox Plaza (1966), Davies Medical Center (1968-71), San Francisco State University (SFSU) César Chávez Student Center (designed in 1975), SFSU Administration Building (1970), and San Francisco General Hospital (1976, recently renamed the Zuckerberg San Francisco General Hospital and Trauma Center).[49] All original Bay Area Rapid Transit (BART) stations were also designed in the Brutalist manner (1972-73), with the Glen Park BART station, in particular, often cited as the embodiment of the style.[50] In the East Bay, extant examples of Brutalist architecture include the Oakland Museum of California (1969), Wurster Hall at UC Berkeley (1964), and the former Berkeley Art Museum and Pacific Film Archive (1970). Elsewhere in the United States, extant examples of Brutalist architecture include the Boston City Hall by architects Kallmann, McKinnell and Knowles (1968), the J. Edgar Hoover Building (FBI Headquarters) in Washington, D.C. by the architecture firm Charles F. Murphy & Associates (1975), and the Salk Institute in La Jolla, California by architect Louis Kahn (1966).

In addition to Embarcadero Center (described above), of which Fire Station No. 13 at 530 Sansome Street is a component, a brief description and photographs of four exemplary

48 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. Pp. 190-191.

49 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. P. 192.

50 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. Pp. 126, 191.

Brutalist buildings/developments in San Francisco are provided below for comparison purposes with the subject building.

Hilton Hotel on Portsmouth Square (1970)

The Hilton Hotel, officially called the "Hilton San Francisco Financial District" is a 30-story, 544-room hotel located at 750 Kearny Street, across from Chinatown's Portsmouth Square (**Figure 15**). Completed in 1970 and designed in the Brutalist style by the architectural firm of John Carl Warnecke & Associates, with the lobby interior designed by Gensler based on the Chinese aesthetic practice of *feng shui*, the building was originally the "Holiday Inn San Francisco." The building underwent a $55 million interior renovation in 2006, but the exterior is still largely intact.[51] Brutalist features include the building's rough unadorned poured concrete construction with visible imprints of wood grain forms and exposed joinery, a massive vertical form with a flared base, and heavy cubic shapes especially at the top floor, where an observation level and ventilation ducts project outward.

SOURCE: ESA

530 Sansome Street

Figure 15
Hilton Hotel on Portsmouth Square

Davies Medical Center (1968-71)

California Pacific Medical Center (CPMC), Davies Campus, is a large hospital complex at 45 Castro Street that occupies and entire city block bounded by Castro, Duboce, Noe, and 14th streets in San Francisco's Castro/Duboce Park neighborhood (**Figure 16**). The hillside site comprises approximately 7.2 acres and contains five buildings: the North Tower, the South Tower (each tower is six stories tall), the Rehabilitation Center, the 45 Castro Medical Office

51 "Hilton San Francisco Financial District." *Wikipedia.* Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Hilton_San_Francisco_Financial_District.

SOURCE: ESA

530 Sansome Street

Figure 16
Davies Medical Center

Building, and a parking garage for approximately 500 cars. The total floor space on the campus is approximately 500,000 gross square feet.[52]

The site was first developed as the 200-bed German Hospital by the General Benevolent Society in 1878. In 1917, German Hospital changed its name to Franklin Hospital in honor of Benjamin Franklin's pioneering work in medicine. By the 1960s, the old hospital had become obsolete and was replaced with the current hospital, which was designed by the architectural firm of Stone, Marraccini, and Patterson. The hospital officially opened in 1968, with the entire campus completed by 1971. At that time, it was renamed the Ralph K. Davies Medical Center in his honor of the philanthropist and long-time Franklin Hospital Trustee. In 1998, Davies Medical Center became part of CPMC, and in 2009 became part of Sutter Pacific Medical Foundation.[53]

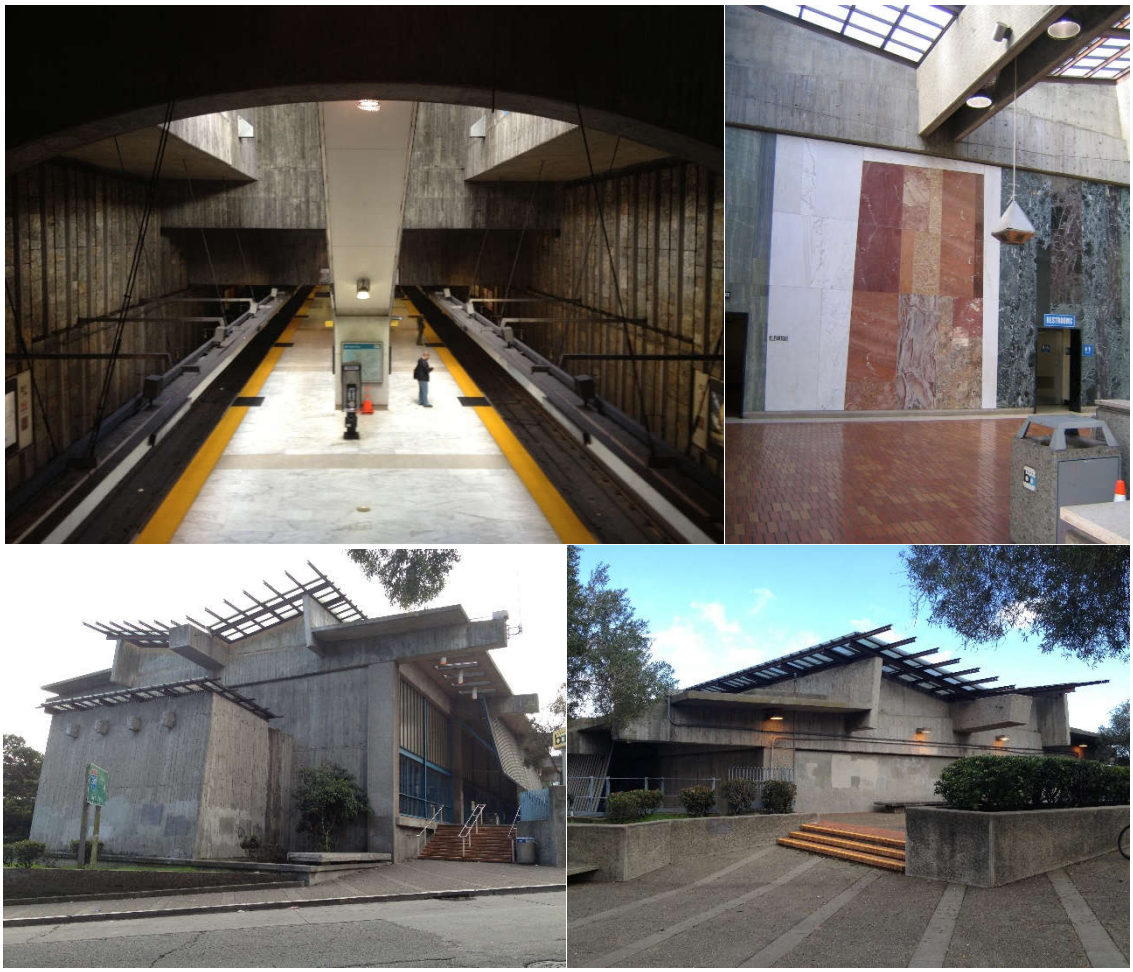
CPMC's Davies Campus was designed in the Brutalist style, with features including the building's rough, unadorned poured concrete construction with visible imprints of wood formwork, massive cubic forms, and recessed windows that read as voids and are separated by precast concrete panels which form repeating geometric patterns across all façades. Massive, flared concrete pillars buttress all four corners of both towers, and the entire development sits upon a massive, concrete slab which steps down the slope to the east.

Glen Park BART Station (1972)

The Glen Park BART Station is located in the Glen Park neighborhood at the intersection of Bosworth and Diamond streets (**Figure 17**). Interstate 280 is located on the south side of the station. The BART system was planned in the 1950s, designed in the 1960s, and opened in the 1970s. The Glen Park Station was completed by 1972 and service began on November 3, 1973. BART's

52 "California Pacific Medical Center (CPMC), Davies Campus." *San Francisco Planning Department.* Accessed November 28, 2012, at www.sf-planning.org/index.aspx?page=2727.

53 "A History of California Pacific Medical Center." *California Pacific Medical Center.* Accessed November 28, 2012, at http://www.cpmc.org/about/history/timeline.html.



SOURCE: ESA

530 Sansome Street

Figure 17
Glen Park BART Station

approach of employing different architects to design stations resulted in a variety of architectural styles for each station. Considered the "jewel of the BART system," the Glen Park Station was designed by the architectural firm of Corlett and Spackman and Ernest Born in the Brutalist style.

Born also designed a marble mural at the west end of the mezzanine, where over 100 pieces, few of which are cut at right angles, are presented in warm brown and red-brown tones.[54]

The November 1974 issue of *Architectural Record* included the following description of the station: "The dramatic volume of the station—one of the deepest in the system—unfolds at the escalator wells, where the full height (60 feet or 18 m) of the structure is visible. During the day, daylight from the skylights, one over the mezzanine, the other over the end escalator, pours in to the lower platform, an extraordinary sight in a subway."[55]

54 "Glen Park Station." Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Glen_Park_Station.
55 "Two BART Stations." *Architectural Record*. November 1974.

At the platform level, one of the deepest platforms in the whole BART system, jagged stone blocks cover the interior retaining walls to reinforce the feeling of being in a man-made underground tunnel. The roughness of the blocks suggests that the tunnel has been carved out of the solid rock within the earth's core. At the concourse level, the treatment of the surrounding walls and the use of a glass roof create the feeling of being in a monumental vestibule, with the west end embellished with polished marble mosaic. The rough-hewn concrete walls continue to this level and characterize the exterior of the superstructure. The use of different finishes enriches the experience of going from the platform to the concourse; from the earth's core along rough walls to the refined room at the top. Capping the concourse with a glass roof highlights the experience of moving from the underground to the light and air. Design and finishes together support the theme of the station rising from the rails and platform up to the concourse and street; its perimeter walls like shards of concrete pushed upward through the earth.[56]

Brutalist features exhibited at the Glen Park BART Station include the building's rough, unadorned poured concrete construction with visible imprints of wood formwork, deeply shadowed openings, massive cubic forms, rectangular block-like shapes, repeating geometric patterns, strong right angles, and precast concrete panels with exposed joinery.

SFSU César Chávez Student Center (1975)

Located at 1650 Holloway Avenue in San Francisco's Sunset neighborhood, the César Chávez Student Center serves as the focal point of student activity at the SFSU campus (**Figure 18**). Completed in September 1975, the building is approximately 115,000 square feet in size, and contains a dining hall, bookstore, lecture halls, a billiards hall and pub, and student offices.[57]

SOURCE: ESA

530 Sansome Street

Figure 18
SFSU César Chávez Student Center

56 "Glen Park BART Station." *Design by the Bay*. Accessed November 28, 2012, at http://designbythebay.com/2009/09/glen-park-bart-station/.

57 "César Chávez Student Center." *San Francisco State University*. Accessed November 28, 2012, at http://www.sfsustudentcenter.com/about/.

Named after famed farm labor leader and civil rights activist César Chávez, the five-story building (three above ground and two below) has an irregular trapezoidal plan constructed entirely of poured concrete with bold geometric forms such as the two angular rooftop towers, one of which forms a bleacher-like exterior seating area overlooking the main campus quad. The building was designed by San Francisco modernist architect Paffard Keatinge-Clay, who designed the building to provide SFSU with a "village" center, incorporating ideas expressed by students. The building's two jutting towers, which represent "sound" and "silence," continue to draw praise and criticism.[58]

The building's structural expression came in the form of a triangulated series of poured-in-place concrete columns, ordered on a version of "triagrid" plan module that refers to Frank Lloyd Wright's Usonian house studies of the late 1940s. The student union was Keatinge-Clay's most ambitious and professionally tumultuous project of his career. Technical and legal difficulties on the project resulted in his eventual departure from the U.S. to Canada, followed by relocation to Spain in the late 1970s.[59]

Brutalist features exhibited at the SFSU César Chávez Student Center include the building's rough, unadorned poured concrete construction with visible imprints of wood formwork, deeply shadowed irregular openings, massive cubic forms, and recessed windows that read as voids. Other features include repeating geometric "triagrid" patterns such as the exposed structure comprised of diagonal concrete piers, beams, and posts.

4 Owner and Occupant History

The subject building has functioned historically as Fire Station No. 13 and has been occupied by Engine Company No. 13 almost continuously since it opened in 1975, except for the period from October 2001 to September 2002, during which time 530 Sansome Street was seismically retrofitted.[60]

The subject property has been owned by the City and County of San Francisco since October 1967.[61] All deeds for the subject property, which document ownership, that are available online through the City and County of San Francisco Assessor-Recorder's Office are summarized in **Table 2**. These date from 1967 to 2016.

58 "SFSU Centennial History." *San Francisco State University.* Accessed November 28, 2012, at http://www.sfsu.edu/~100years/textonlycent/time/longtime.htm.

59 "Paffard Keatinge-Clay." *Wikipedia.* Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Paffard_Keatinge-Clay.

60 "Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

61 Deed. October 4, 1967. Book of records 182, p. 400. Digital Reel from the City and County of San Francisco Office of the Assessor-Recorder, 2020.

TABLE 2
OWNERSHIP HISTORY FOR 530 SANSOME STREET

Year	Grantor(s)	Grantee(s)	Document Type/ID
1967	St. Francis Association	City and County of San Francisco	Deed 018893 (Book of records 182, p. 400)
1990	City property	SFUSD Community Facilities Dist. 90-1	Notice of special tax lien E585344-00
2016	Trinity Towers AS/YS LLC	Angelo Sangiacomo Marital Trust, Anne Marie Kane, James Sangiacomo, Maria Sangiacomo, Mark Sangiacomo, Maryanne Sangiacomo, Sandro Sangiacomo, Susan Sangiacomo, Yvonne Sangiacomo, Yvonne Sangiacomo Irrevocable Trust	Deed K347585-00

SOURCES: *CRiis.com,* 2020; Digital Reel from the City and County of San Francisco Office of the Assessor-Recorder, 2020.

5 Design Professionals

Research identified the design professionals associated with Fire Station No. 13. Brief histories of these individuals are presented below.

John C. Portman, Jr., FAIA

530 Sansome Street was constructed as part of Embarcadero Center, which was designed by Atlanta-based architecture firm John Portman & Associates. The following brief biography of the firm's founder is from the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*. A more detailed biography that includes Portman's numerous accolades and completed projects is presented in the 2002 book *John Portman and Associates: Selected and Current Works*.[62]

> John C. Portman [Jr.]'s [(1924-2017)] futuristic designs, massive atriums and highly successful concomitant role as developer and architect have made him one of the world's leading architect-developer of large-scale projects, particularly in the hotel industry. His mixed-use complexes aim to create a unique environments [*sic*], which is evident in the Embarcadero Center's elevated walkways, reflective pools and expansive interiors. His work can be found in major international cities. Most of his San Francisco work occurred after 1970, primarily a complex of buildings at the Embarcadero Center: One Embarcadero Center (formerly the Security Pacific Tower), 1971; Two Embarcadero Center, 1974; Three Embarcadero Center (formerly the Levi Strauss Building), 1977; Four Embarcadero Center, 1982; and the Hyatt Regency and Atrium (also known as Five Embarcadero Center), 1973. Later San Francisco projects include Le

[62] Steve Womersley, ed. *John Portman and Associates: Selected and Current Works.* Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002.

> Méridien San Francisco (formerly the Park Hyatt San Francisco), 1988[,] and Embarcadero West, 1989.[63]

Portman's other extant designs in San Francisco include the 1955 Ebenezer Lutheran Church at 678 Portola Drive and Fire Station No. 13 at 530 Sansome Street.[64]

Portman's legacy is defined in part by his role in transforming America's downtowns following postwar urban renewal. Of his numerous completed projects in the United States and abroad, Portman is perhaps best known for his large-scale commercial developments often described as "cities within cities," beginning with the 1965 Peachtree Center (the firm's largest mixed-use project) in Atlanta, Embarcadero Center (**Figure 19**), and the 1977 Renaissance Center in Detroit (**Figure 20**), all of which are extant. Portman was also renowned for his design of hotels in urban centers, often as part of larger mixed-use developments. A hallmark of Portman-designed hotels is the cavernous, seemingly gravity-defying atrium, the earliest of which appeared in his design for the Hyatt Regency Hotel that is a component of the Peachtree Center and was later repeated in San Francisco. The atrium space, which was carried through many of his other hotels and commercial towers and even appeared in movies,[65] became widely imitated by other architects. Before his death in 2017, Portman completed numerous projects in Europe, Asia, and the Middle East.[66]

SOURCE: *Atlanta Studies* 530 Sansome Street

Figure 19
Peachtree Center and Hyatt Regency Hotel, Atlanta

63 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. Pp. 258-259.

64 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. P. 259.

65 The atrium in the San Francisco Hyatt Regency Hotel appeared in "The Towering Inferno" (1974), "Freebie and the Bean" (1974), "High Anxiety" (1977), "Telefon" (1977) and "Time After Time" (1979).

66 Robert D. McFadden. "John Portman, Architect Who Made Skylines Soar, Dies at 93." *New York Times,* January 1, 2018, p. B4.

SOURCE: Jeff Kowalsky/AFP/Getty Images

530 Sansome Street

Figure 20
Renaissance Center, Detroit

Portman authored or co-authored several books: *The Architect as Developer* (McGraw-Hill Book Co., 1976), *John Portman* (The American Institute of Architects Press, 1990), *John Portman: An Island on an Island* (l'Arcaedizioni, 1997), and *Form* (Philip Jann Press, 2009; Images Publishing, 2010). Additionally, Portman was the subject of several other books and documentaries.[67]

John C. Portman, Jr., FAIA, qualifies as a master architect.

Henri Marie-Rose, Sculptor

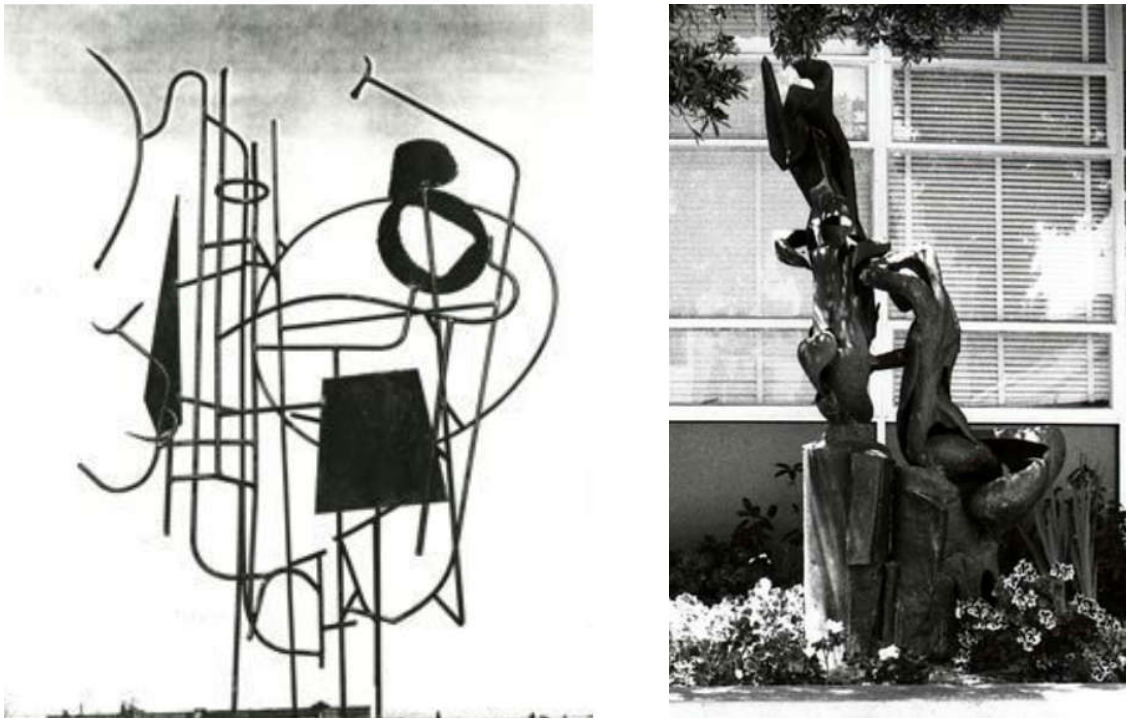
Born in Martinique, sculptor Henri Marie-Rose (1922-2010) designed the sculpture installed on the north façade of 530 Sansome Street (Figure 5). In 1976, the San Francisco Arts Commission's Acquisitions Committee held a competition for public art to be installed on the exterior of the recently completed Fire Station No. 13. Three finalists were selected during the first phase of the competition: Marie-Rose, Raymond Sells, and C. B. Johnson.[68] Marie-Rose's design ultimately won, earning him $6,000 for the copper sculpture *Untitled*, which depicts firefighters with a hose next to the letters "SFFD."[69] The San Francisco Arts Commission website lists three sculptures

67 "Books and Film." *John Portman & Associates, Inc.* Accessed January 22, 2020, at https://www.portmanarchives.com/books-films.

68 "Minutes, May 3, 1976." *Minutes of the Art Commission of the City and County of San Francisco: 1976*. Accessed January 23, 2020, at https://archive.org/details/artcommissionmin1976sanf/page/82.

69 "Sculpture for the Firehouse." *San Francisco Examiner,* January 24, 1977, p. 20.

by Marie-Rose in its collection:[70] *Jouons Ensemble* (1959, purchased by the commission for $650 in 1959),[71] *Sailor and Mermaid* (1969, purchased in 1969 for $4,500),[72] and *Untitled* (1976-77, purchased in 1976 for $6,000).[73] Archival research did not identify the present location of *Jouons Ensemble*, and *Sailor and Mermaid* was stolen in the early 1990s (**Figure 21**).[74,75] *Untitled* is believed to be the only remaining public artwork by Marie-Rose in San Francisco.[76]



Jouons Ensemble (1959) at left, and *Sailor and Mermaid* (1969) at right.

SOURCE: *San Francisco Arts Commission;* Cindy Casey (ArtandArchitecture-SF.com).

530 Sansome Street

Figure 21
Sculptures by Henri Marie-Rose

70 "Henri Marie-Rose." *San Francisco Arts Commission.* Accessed January 23, 2020, at http://kiosk.sfartscommission.org/objects-1/thumbnails?records=60&query=Artist_Maker%3D%22604%22.

71 "Minutes, October 5, 1959." *Minutes of the Art Commission of the City and County of San Francisco: 1959*. Accessed January 23, 2020, at https://archive.org/details/minutesofartcomm1959sanf/page/3842.

72 "Minutes, April 7, 1969." *Minutes of the Art Commission of the City and County of San Francisco: 1969*. Accessed January 23, 2020, at https://archive.org/details/artcommissionmin19sanf_3/page/70.

73 "Sculpture for the Firehouse." *San Francisco Examiner,* January 24, 1977, p. 20.

74 Joe Eskenazi. "Raiders of the Lost Art: Another San Francisco Sculpture Goes Missing." *SF Weekly,* August 5, 2014. Accessed January 23, 2020, at https://www.sfweekly.com/news/raiders-of-the-lost-art-another-san-francisco-sculpture-goes-missing/.

75 *Sailor and Mermaid* was originally located at the main entrance of the North Beach police station. By 1972, it had been relocated to Department of Public Health Building at 1351 24th Avenue. The sculpture was stolen in the early 1990s, and only the base remains.

76 Carol Peterson. "Sailor and Mermaid: A Siren Song Silenced." *The Potrero View,* April 2015. Accessed January 23, 2020, at https://www.potreroview.net/sailor-and-mermaid-a-siren-song-silenced/.

In 1945, Marie-Rose was awarded a scholarship by the French government to attend the École des Beaux-Arts in Paris. During his eight-year residency, he exhibited his paintings and sculptures throughout Europe and won numerous awards and accolades. He and his wife, Marjorie Raitt, relocated to San Francisco in 1953, eventually settling in the Potrero Hill neighborhood to raise their family. Marie-Rose found immediate success in San Francisco. Within his first decade in America, the San Francisco Museum of Art presented him with the Emanuel Walter Purchase Prize, he had a solo exhibition at the de Young Museum, and he hosted the 18-week "Techniques in Sculpture" series that was televised on KQED. He exhibited across the United States and abroad. In 2000 and 2006, he was an artist-in-residence at Recology San Francisco, where he was a longtime teacher and mentor.[77]

Henri Marie-Rose qualifies as a master artist.

6 Evaluation of Historical Significance

This section provides an evaluation of individual historical significance for the subject property at 530 Sansome Street based on the field survey and archival research and follows California Register Criteria 1 through 3.[78]

Previous Evaluation

530 Sansome Street was recorded in 2011 when it was only 36 years old and assigned a California Historical Resource Status Code of "6Z," meaning that it was found ineligible for listing in the National Register, California Register, or as a San Francisco City Landmark. In addition to being less than 50 years of age, the building was found to "not represent a particularly momentous event in the development of fire stations in San Francisco, nor is it an outstanding example of a particular style or architect."[79]

Special Criteria Consideration: Properties That Have Achieved Significance Within the Past 50 Years

For a property less than 50 years old (e.g., 530 Sansome Street) to be eligible for listing in the California Register under Criteria 1, 2, and/or 3, it must be demonstrated that sufficient time has passed to understand its historical importance.[80] Although less than 50 years old, 530 Sansome Street was constructed as part of the Embarcadero Center mixed-use development, a component of the larger Golden Gateway Redevelopment Project that has been extensively documented, publicized, critiqued, and otherwise studied. Embarcadero Center was identified in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context*

77 "Henri Marie-Rose (obituary)." *San Francisco Chronicle,* April 25, 2010, p. C7.

78 The evaluation of the subject property for potential significance under Criterion 4 (Information Potential) is outside the scope of this report.

79 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study.* February 21, 2012.

80 The San Francisco Planning Department automatically evaluates California Register eligibility when projects are proposed for buildings at least 45 years old. An evaluation can also be triggered if sufficient time has passed for a scholarly perspective to develop on the events or individuals associated with a resource. See also California Department of Parks and Recreation, "Technical Assistance Series #6: California Register and National Register: A Comparison (for Purposes of Determining Eligibility for the California Register)," p. 3.

Statement.[81] It was subsequently the subject of a 2018 historic structures report, and the San Francisco Planning Department determined that the four office towers and the Hyatt Regency Hotel are historical resources based on this report.[82,83] Sufficient association and historical perspective therefore exists to determine that 530 Sansome Street is exceptionally important in this context, and it therefore appears to meet the threshold of this special criteria consideration.

Criterion 1 (Events)

As discussed above, 530 Sansome Street is less than 50 years old; however, it has been demonstrated to have achieved significance and therefore appears to meet the threshold of this special criteria consideration.

As one of 45 fire stations currently in operation in San Francisco, Fire Station No. 13 at 530 Sansome Street is part of the infrastructure of the SFFD's citywide service network.[84] It was constructed in 1974-75 and is not associated with the 1952 Firehouse Bond Act.

Rather, it was constructed as part of the Embarcadero Center mixed-use development, identified as one of the City's "Influential Downtown Office Towers and Designed Landscapes" in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*.[85] Although 530 Sansome Street is geographically separated from the four office towers and hotel and does not contain office or commercial space, the archival research presented above establishes the series of events that led to the construction of the fire station as part of the Embarcadero Center development. Embarcadero Center is one component of the larger Golden Gateway Redevelopment Project, identified in the context statement as a significant undertaking within the theme of urban renewal. The following succinct significance statement from a 2002 biography of John Portman & Associates is presented to emphasize the influence of Embarcadero Center as a successful, large-scale, mixed-use urban project: "The importance of Embarcadero Center is not that of any single building, although each stands strong in its own right, but it is how well they work together to enhance the city with a vastly improved human experience. This philosophy goes beyond Embarcadero Center, and extends into the broader context of looking at the city as a whole."[86]

As a small-scale support building with a civic function within the Embarcadero Center mixed-use development, 530 Sansome Street does not appear to be individually eligible for listing under California Register Criterion 1. However, it is historically associated with Embarcadero Center.

---

81 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. Pp. 48-50, 141, 143, 155, 159, 200, 217, 258-259, 281, Appendix D.

82 Page & Turnbull. *Embarcadero Center Lobbies Historic Structures Report "Lite."* July 2018.

83 Jørgen Cleemann, San Francisco Planning Department, phone call with Johanna Kahn, ESA. June 11, 2020.

84 "Fire Station Locations." *City and County of San Francisco.* Accessed May 27, 2020, at https://sf-fire.org/fire-station-locations.

85 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. p. 143.

86 Steve Womersley, ed. *John Portman and Associates: Selected and Current Works.* Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002. p. 9.

As such, it may be eligible for listing under California Register Criterion 1 as a contributor to a potential discontiguous Embarcadero Center Historic District or a larger Golden Gateway Redevelopment Area Historic District. The analysis of a potential historic district is outside the scope of this report.[87]

Criterion 2 (Persons)

Numerous SFFD personnel have been stationed at 530 Sansome Street while it has been home to Engine Company No. 13 (1975-2001, 2002-present) and Truck Company No. 13 (1975-2001, 2002-present). Additionally, other companies have been temporarily quartered at 530 Sansome Street, including Engine Company No. 2 (1992-95), Engine Company No. 28 (1999-2000), Engine Company No. 35 (2006-09), Truck Company No. 1 (1998-99), Truck Company No. 2 (1994-95), Battalion No. 1 (1992-95), and Valve Unit No. 1 (1975-2000).[88] Preliminary research does not indicate that Fire Station No. 13 is significantly associated with the lives of persons important to local, California, or national history. (The significance of the building's architect, John Portman & Associates, and artist Henri Marie-Rose is discussed under Criterion 3, below.) For this reason, 530 Sansome Street does not appear to be individually eligible for listing under California Register Criterion 2.

Criterion 3 (Architecture/Design)

The following analysis under Criterion 3 recommends that the subject building is not individually eligible for listing in the California Register; however, similar to the analysis under Criterion 1, it appears to be eligible as a contributor to a potential historic district. Additionally, the sculpture mounted on the building's north wall, as an object, appears to be individually eligible for listing under Criterion 3.

Contemporary Fire Station Design

At this writing, there are 45 fire stations in operation in San Francisco. Fire stations are not a rare building type, and 1970s-era fire stations are also not uncommon. Preliminary research identified at least six extant fire stations of similar age and/or architectural style (i.e., Brutalist) as 530 Sansome Street:

- Station No. 3 (1067 Post Street): designed by Botaai, Overstreet & Associates (architect) and Charles W. Griffith (City architect) and completed in 1974. Previously recommended as individually ineligible for listing in the California Register under any criteria.[89]
- Station No. 9 (2245 Jerrold Avenue): designed by Charles W. Griffith (City architect) and Thomas R. Aidala (engineer) and completed in 1974. Previously recommended as individually ineligible for listing in the California Register under any criteria.[90]

87 Jørgen Cleemann, San Francisco Planning Department, email to Johanna Kahn, ESA. January 2, 2020.

88 "San Francisco Fire Department Companies." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed May 29, 2020, at https://www.guardiansofthecity.org/sffd/companies/index.html.

89 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study Round 2.* October 2, 2015, pp. 93-94.

90 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study Round 2.* October 2, 2015, pp. 141-142.

- Station No. 14 (551 26th Avenue): designed by DeBrer & Heglund (architect) and completed in 1973. Previously recommended as individually ineligible for listing in the California Register under any criteria.[91]

- Station No. 26 (80 Digby Street): designed by Rockrise & Watson (architect) and Royston, Hanamoto, Mayes & Beck (landscape architect) and completed in 1963. Both George Rockrise and Robert Royston are identified as masters in their respective fields in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*. The building was identified in the 1976 DCP Architectural Survey (assigned a survey rating of 2 out of 5) and the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*. The *Diamond Heights Historic Context Statement*, which recommends the building as individually eligible for listing in the California Register, describes the building as follows: "The fire station is the only Brutalist building in Diamond Heights and is an excellent expression of the architectural type; it has expressive massing and the vertical striations of the wood-forms are visible." [92]

- Station No. 33 (8 Capitol Avenue): designed by Sabin-O'Neal-Mitchel (architect) and Charles W. Griffith (City architect) and completed in 1974. Previously recommended as individually ineligible for listing in the California Register under any criteria.[93]

- Station No. 43 (720 Moscow Street): designed by Robert Hawley & Associates (architect) and Ephraim G. Hirsch and Ralph G. Gray (engineers) and completed in 1970. Previously recommended as individually ineligible for listing in the California Register under any criteria.[94]

Among these (and possibly other) buildings, 530 Sansome Street does not appear to be individually significant. It is among a handful of similarly aged and styled buildings that were previously recommended individually ineligible for listing in the California Register. Of these buildings, only 80 Digby Street was recommended as individually eligible for listing in the California Register.

Brutalist Architecture

530 Sansome Street is one of several Brutalist fire stations in San Francisco, and it does not appear to be "a high-style interpretation of the style," such as the Transamerica Pyramid, Davies Medical Center, or SFSU César Chávez Student Center. Rather, 530 Sansome Street appears to be a "utilitarian version" of the Brutalist style. Under the evaluation criteria established in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement*, "utilitarian versions that incorporated elements (i.e. poured reinforced concrete) of the style in order to expedite and lower the cost of construction are not considered architecturally significant."[95] As established above, the construction of 530 Sansome Street was an afterthought to the Embarcadero Center master plan, and it had to be efficiently incorporated into the overall

91 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study Round 2.* October 2, 2015, pp. 75-76.

92 Hannah Lise Simonson. *Diamond Heights Draft Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2016, pp. 73, Appendix A-10.

93 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study Round 2.* October 2, 2015, pp. 11-12.

94 Page & Turnbull. *San Francisco Fire Stations Historic Resource Study.* February 21, 2012, pp. 55-56.

95 Mary Brown. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010. P. 203.

project schedule. The Portman Archives provided the following explanation of the choice of building materials, which confirms the expedited and utilitarian nature of the fire station:

> Mr. Portman […] needed to build this project quickly to meet the requirements of the land purchase. […] Mr. Portman spent time with the Chief Fireman and discussed their key concerns, which centered around safety and the comfort of the firemen who lived in the space. The materials had to be bulletproof and able to withstand a riot. The firemen also wanted light and an outdoor area as they were tired of being in an enclosed windowless space. […] At the time, firehouses were typically made of brick and mortar, windowless, and set back to give a larger driveway with a gated outdoor training area to provide outdoor space, but considering the requested elements needed, along with the need to perform well with environmental factors, such as earthquakes, Mr. Portman [chose] to build with concrete and to fill the entire lot. This choice seemed practical, provided safety, and was the same material studied and used for Embarcadero Center.[96]

Furthermore, 530 Sansome Street is a small-scale support building with a civic function within the Embarcadero Center mixed-use development. Even though it is the only fire station designed by master architect John C. Portman, Jr.,[97] it does not appear to be comparable to his significant works that include the designs of skyscrapers, hotels with grand interior spaces, and large-scale, master-planned developments. As such, 530 Sansome Street does not appear to be individually eligible for listing under California Register Criterion 3 within this context.

Potential Historic District Contributor

530 Sansome Street was constructed as part of Embarcadero Center, a large-scale, mixed-use development designed by John Portman & Associates. Embarcadero Center is identified as an important modern development and John C. Portman, Jr., is identified as a master architect in the *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Embarcadero Center was the subject of a 2018 "Historic Structures Report-Lite," and the San Francisco Planning Department determined that the four office towers and the Hyatt Regency Hotel are historical resources based on this report.[98,99] Like the office towers and hotel, 530 Sansome Street embodies characteristics of the Brutalist Style in San Francisco (albeit not a "high-style interpretation" of the style like that employed for the towers and hotel), is the work of master architect John C. Portman, Jr., and is a component of a development that possesses high artistic values. To this last point, Embarcadero Center received the Urban Land Institute's Award of Excellence for Large-Scale Urban Development in part as a project that "exemplifies superior design."[100] Therefore, it logically follows that 530 Sansome Street, as a component of Embarcadero Center, may be eligible for listing under Criterion 3 as a contributor to a potential

96 Paige Adair, The Portman Archives. "ECFirehouse.pdf" (notes on an interview with Mickey Steinberg, structural engineer for the Embarcadero Center), August 25, 2020.

97 Paige Adair, The Portman Archives. Email to Johanna Kahn, ESA. June 15, 2020.

98 Page & Turnbull. *Embarcadero Center Lobbies Historic Structures Report "Lite."* July 2018.

99 Jørgen Cleemann, San Francisco Planning Department, phone call with Johanna Kahn, ESA. June 11, 2020.

100 Steve Womersley, ed. *John Portman and Associates: Selected and Current Works.* Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002. P. 226.

discontiguous Embarcadero Center Historic District or a larger Golden Gateway Redevelopment Area Historic District. The analysis of a potential historic district is outside the scope of this report.[101]

Sculpture

The sculpture *Untitled* is an object that appears to be individually eligible for listing under Criterion 3 because it is a significant public artwork designed by master artist Henri Marie-Rose, and it also possesses high artistic value. The sculpture was commissioned in 1976 by the San Francisco Arts Commission as a site-specific artwork to be publicly displayed at 530 Sansome Street. This was Marie-Rose's highest-earning commission of a public artwork in San Francisco and has been exhibited in situ since 1976. *Untitled* is believed to be the only remaining public artwork by Marie-Rose in San Francisco.[102] For these reasons, the sculpture *Untitled* is recommended as individually eligible for listing under California Register Criterion 3. The period of significance is 1976, which corresponds to the year the sculpture was commissioned, created, and installed at 530 Sansome Street.

7 Integrity

In addition to being eligible for listing under at least one of the California Register criteria, a property must also retain sufficient integrity to convey its historical significance in order to be considered a historical resource. The California Register defines integrity as the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance (i.e., character-defining features). As the subject building does not appear to be individually eligible under any criteria and therefore does not have a period of significance, a discussion of the building's integrity is not applicable. The sculpture *Untitled* is recommended as individually eligible for listing under California Register Criterion 3 with a period of significance of 1976. The following integrity analysis is specific to the sculpture.

Untitled remains mounted in situ on the north façade of 530 Sansome Street, a fire station, where it has been installed since 1976. The sculpture therefore retains integrity of location.

The neighborhood in which *Untitled* is located was fully developed before the subject building was constructed in 1974-75 and the sculpture was installed in 1976. 530 Sansome Street continues to function as a fire station, and the neighborhood continues to reflect its historically mixed-use commercial and civic character. For these reasons, the sculpture retains integrity of setting.

Untitled is unchanged from its original appearance in terms of design, materials, and workmanship, and it has undergone no apparent physical alterations or repairs. For this reason, the sculpture retains integrity of design, materials, and workmanship.

[101] Jørgen Cleemann, San Francisco Planning Department, email to Johanna Kahn, ESA. January 2, 2020.

[102] Carol Peterson. "Sailor and Mermaid: A Siren Song Silenced." *The Potrero View,* April 2015. Accessed January 23, 2020, at https://www.potreroview.net/sailor-and-mermaid-a-siren-song-silenced/.

Untitled has been associated with Fire Station No. 13 since it was installed on the building's north façade in 1976. The building has historically operated as part of SFFD's citywide service network, and the sculpture has been an outward symbol of the building's function. More generally, the sculpture is associated with the SFFD and the role of firefighters in San Francisco. For these reasons, the sculpture retains integrity of association.

Lastly, *Untitled* has been continuously displayed on the north façade of Fire Station No. 13 since it was installed in 1976. It embodies the "physical features that, taken together, convey the property's historic character" as an intact and site-specific 1970s-era copper sculpture covered with verdigris (i.e., the green patina that occurs naturally on copper).[103] As such, the sculpture retains integrity of feeling.

Overall, *Untitled* retains a high degree of integrity.

8 Character-Defining Features

Untitled is recommended individually eligible for listing in the California Register under Criterion 3, and it retains a high degree of integrity. The character-defining features of *Untitled* include (but may not be limited to):

- Visually prominent position on a building occupying a corner location;
- Visually prominent position on the exterior of Fire Station No. 13, with which the sculpture is historically associated;
- Copper construction;
- Verdigris (patina); and
- Overall design that includes abstract figures and typographic elements.

9 Conclusion

Based on a site survey, archival research, and analysis, ESA recommends the subject building at 530 Sansome Street as individually ineligible for listing in the California Register under Criteria 1, 2, and 3. However, 530 Sansome Street may be eligible for listing under Criteria 1 and 3 as a contributor to a potential discontiguous Embarcadero Center Historic District or a larger Golden Gateway Redevelopment Area Historic District. Therefore, the subject building would be considered a historical resource for the purposes of CEQA (California Historical Resource Status Code 3CD). The sculpture *Untitled* is recommended as individually eligible for listing under Criterion 3 because it is an important public sculpture designed by master artist Henri Marie-Rose; the period of significance is 1976. Additionally, the sculpture retains a high degree of integrity. Therefore, the sculpture would be considered a historical resource for the purposes of CEQA (California Historical Resource Status Code 3CS).

[103] National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, updated in 2002. P. 45.

10 Sources

"A History of California Pacific Medical Center." *California Pacific Medical Center.* Accessed November 28, 2012, at http://www.cpmc.org/about/history/timeline.html.

Adair, Paige, The Portman Archives. "ECFirehouse.pdf" (notes on an interview with Mickey Steinberg). Email to Johanna Kahn, ESA. August 25, 2020.

Adair, Paige, The Portman Archives. Email to Johanna Kahn, ESA. June 15, 2020.

"Art and Debris." *San Francisco Chronicle,* May 12, 1975, p. 38.

Blakey, Scott. "The Embarcadero Center's Start." *San Francisco Chronicle,* May 5, 1969, p. 2.

"Books and Film." *John Portman & Associates, Inc.* Accessed January 22, 2020, at https://www.portmanarchives.com/books-films.

Brown, Mary. *San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2010.

California Department of Parks and Recreation. "Technical Assistance Series #6: California Register and National Register: A Comparison (for Purposes of Determining Eligibility for the California Register)." N.d. Accessed May 15, 2019, at http://ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.

"California Pacific Medical Center (CPMC), Davies Campus." *San Francisco Planning Department.* Accessed November 28, 2012, at www.sf-planning.org/index.aspx?page=2727.

Canter, Donald. "Rocky May Buy New Firehouse: 'Blunder' Aids City." *San Francisco Examiner,* April 9, 1969, p. 36.

Casey, Cindy. "SFAC Shame on You." *Art and Architecture.* July 21, 2014. Accessed May 27, 2020, at https://www.artandarchitecture-sf.com/sfac-shame-on-you.html.

"César Chávez Student Center." *San Francisco State University*. Accessed November 28, 2012, at http://www.sfsustudentcenter.com/about/.

City and County of San Francisco. "Dedication of New Fire House." *Municipal Record,* Vol. 8, No. 1 (January 7, 1915), p. 251.

Cleemann, Jørgen, San Francisco Planning Department. Email to Johanna Kahn, ESA. January 2, 2020.

Cleemann, Jørgen, San Francisco Planning Department. Phone call with Johanna Kahn, ESA. June 11, 2020.

Corbett, Michael R. et al. *Splendid Survivors: San Francisco's Downtown Architectural Heritage.* San Francisco, CA: California Living Books, 1979.

Digital Reel from the City and County of San Francisco Office of the Assessor-Recorder.

"Embarcadero Center Gets a First OK." *San Francisco Chronicle,* April 5, 1967, pp. 1, 9.

"Engine Company No. 13." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed May 13, 2020, at https://www.guardiansofthecity.org/sffd/companies/engines/engine13.html.

Eskenazi, Joe. "Raiders of the Lost Art: Another San Francisco Sculpture Goes Missing." *SF Weekly,* August 5, 2014. Accessed January 23, 2020, at https://www.sfweekly.com/news/raiders-of-the-lost-art-another-san-francisco-sculpture-goes-missing/.

"Fire Station Locations." *City and County of San Francisco.* Accessed May 27, 2020, at https://sf-fire.org/fire-station-locations.

"Former Firehouses: 115 Drumm Street." *Guardians of the City* (website of the San Francisco Fire Department Museum). Accessed April 7, 2020, at https://www.guardiansofthecity.org/sffd/firehouses/former/115_drumm.html.

"Glen Park BART Station." *Design by the Bay*. Accessed November 28, 2012, at http://designbythebay.com/2009/09/glen-park-bart-station/.

"Glen Park Station." Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Glen_Park_Station.

Greving, Justin, San Francisco Planning Department. "Preservation Team Review Form: 425 and 439-441 Washington Street (Case No. 2015-015553ENV)." March 11, 2018.

"Henri Marie-Rose." *San Francisco Arts Commission.* Accessed January 23, 2020, at http://kiosk.sfartscommission.org/objects-1/thumbnails?records=60&query=Artist_Maker%3D%22604%22.

"Henri Marie-Rose (obituary)." *San Francisco Chronicle,* April 25, 2010, p. C7.

"Hilton San Francisco Financial District." *Wikipedia.* Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Hilton_San_Francisco_Financial_District.

"History of the Embarcadero Center." *Embarcadero Center.* Accessed November 28, 2012, at http://embarcaderocenter.com/about/.

"Jouons Ensemble (Let Us Play Together)." *San Francisco Arts Commission.* Accessed May 27, 2020, at http://kiosk.sfartscommission.org/objects-1/info?query=Artist_Maker%3D%22604%22.

"Minutes, April 7, 1969." *Minutes of the Art Commission of the City and County of San Francisco: 1969*. Accessed January 23, 2020, at https://archive.org/details/artcommissionmin19sanf_3/page/70.

"Minutes, May 3, 1976." *Minutes of the Art Commission of the City and County of San Francisco: 1976*. Accessed January 23, 2020, at https://archive.org/details/artcommissionmin1976sanf/page/82.

"Minutes, October 5, 1959." *Minutes of the Art Commission of the City and County of San Francisco: 1959*. Accessed January 23, 2020, at https://archive.org/details/minutesofartcomm1959sanf/page/3842.

National Park Service. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, updated in 2002.

"New Fire Station in San Francisco." *Fire and Water Engineering,* Vol. 58, No. 22 (December 1, 1915), p. 339.

"Paffard Keatinge-Clay." *Wikipedia.* Accessed November 28, 2012, at http://en.wikipedia.org/wiki/Paffard_Keatinge-Clay.

Page & Turnbull. *676 Howard Street Historic Resource Evaluation.* May 2010.

Page & Turnbull. *Embarcadero Center Lobbies Historic Structures Report "Lite."* July 2018.

Page & Turnbull. *San Francisco Fire Stations Historic Resource Study.* February 21, 2012.

Page & Turnbull. *San Francisco Fire Stations Historic Resource Study Round 2.* October 2, 2015.

Peterson, Carol. "Sailor and Mermaid: A Siren Song Silenced." *The Potrero View,* April 2015. Accessed January 23, 2020, at https://www.potreroview.net/sailor-and-mermaid-a-siren-song-silenced/.

"Portman Recent Works" (firm profile). *John Portman & Associates, Inc.* March 2019. Accessed January 22, 2020, at https://portmanarchitects.com/wp-content/uploads/2019/03/Portman_RecentWorks_E_Web-min.pdf.

"San Francisco County Recorded Documents Search: Years 1990 to Current." *CRiis.com.* Accessed April 21, 2020, at http://www.criis.com/cgi-bin/doc_search.cgi?COUNTY=sanfrancisco&YEARSEGMENT=current&TAB=4.

San Francisco Department of Building Inspection, Records Management Division. Building Permit Records for APN 0206/017.

San Francisco Fire Department Annual Report, 1973-1974.

San Francisco Fire Department Annual Report, 1974-1975.

"San Francisco Property Information Map." *San Francisco Planning.* Accessed April 21, 2020, at https://sfplanninggis.org/PIM/.

San Francisco Redevelopment Agency. *Commercial Development in the Golden Gateway, San Francisco*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1963.

San Francisco Redevelopment Agency. *Golden Gateway Commercial Parcels*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1966.

San Francisco Redevelopment Agency. *Redevelopment Plan for the Golden Gateway: Embarcadero-Lower Market Approved Redevelopment Project Area E-1*. San Francisco, CA: Redevelopment Agency of the City and County of San Francisco, 1959.

Sanborn Fire Insurance Company maps. *ProQuest.* 1887, 1899, 1913, 1948, 1950, and ca. mid-1990s.

"Sansome St. between Clay & Washington Sts., 1907" (Photo ID 291). *Roy D. Graves Pictorial Collection,* BANC PIC 1905.17500--ALB, The Bancroft Library, University of California, Berkeley.

Schuett, Rachel and Jørgen Cleemann, San Francisco Planning Department. "Historic Resource Evaluation Response: 447 Battery Street (Case No. 2014-1036ENV)." December 18, 2017.

"Sculpture for the Firehouse." *San Francisco Examiner,* January 24, 1977, p. 20.

"SFSU Centennial History." *San Francisco State University.* Accessed November 28, 2012, at http://www.sfsu.edu/~100years/textonlycent/time/longtime.htm.

Simonson, Hannah Lise. *Diamond Heights Draft Historic Context Statement.* Prepared for the San Francisco City and County Planning Department, 2016.

"The City Gets a Windfall -- $1 Million Fire House." *San Francisco Chronicle,* April 10, 1969, p. 6.

"Two BART Stations." *Architectural Record*. November 1974.

Vanderslice, Allison, San Francisco Planning Department. "Historic Resource Evaluation Guidance During Shelter in Place." Memo to San Francisco Historic Resource Consultants, April 21, 2020.

Wax, Mel. "Planners OK Embarcadero Center." *San Francisco Chronicle,* April 14, 1967, pp. 1, 18.

Way, Iren Holliman. "'Creating a City Within a City': John Portman's Peachtree Center and Private Urban Renewal in Atlanta." *Atlanta Studies.* January 15, 2019. Accessed April 21, 2020, at https://doi.org/10.18737/atls20190115.

Womersley, Steve, ed. *John Portman and Associates: Selected and Current Works.* Mulgrave, Victoria, Australia: The Images Publishing Group Pty. Ltd., 2002.

Woodbridge, Sally B. and John M. Woodbridge. *San Francisco Architecture: The Illustrated Guide to Over 1,000 of the Best Buildings, Parks, and Public Artworks in the Bay Area*. San Francisco: Chronicle Books. 1992.

This page intentionally left blank

Appendix A

Building Permits for 530 Sansome Street

Approved: per R73.69
Zone C-3-0
CPC Setback —

PROJECT HAS BEEN DETERMINED NOT TO HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT

JAN 21 1974 J Johns
Department of City Planning

Approved:

G Gregory 8/9/74
Bureau of Fire Prevention & Public Safety

Approved: as per Supt. Goldberg's letter to Ch. Condon dated 6-13-74

7-29-74 Alice Cosenenky
Plan Checker, Bureau of Building Inspection

Approved: As noted
SPECIAL INSPECTION AND REPORTS REQUIRED UNDER SECTION 305.A SUBMIT REPORTS TO THE BUREAU OF BLDG. INSPECTION FOR THE FOLLOWING:
See Sheet 1 of plans

Bruce L. Fisher 8/8/74
Civil Engineer, Bureau of Building Inspection

Approved:

Ann Gallagher 8/14/74
Department of Public Health

Approved: 8-12-74 Subj. to all stipulations of DPW Order & Resolution

Separate Permit Required For:
Street Space Use ✓
Driveway Construction ✓ subj. to DPW Order
Sidewalk Construction ✓
Street Excavation ✓ Gas tank permits Req.

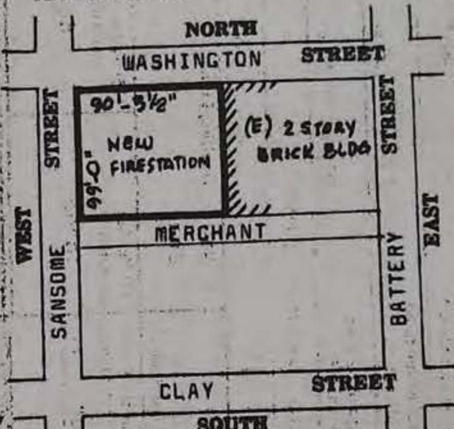
McDaniels
Bureau of Engineering

Approved:

Art Commission

Approved:

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this bureau for approval.



Lot No. 9

Assessor's Block No. 206

NO PORTION OF BUILDING, STRUCTURE OR SCAFFOLDING TO BE CLOSER THAN 6 FT. TO ANY WIRE CONTAINING 750 VOLTS OR MORE OR 8 FT. FOR LESS THAN 750 VOLTS. CALIFORNIA STATE LAW (SEE SEC. 301 OF BUILDING CODE).

I AGREE TO COMPLY WITH ALL CONDITIONS OR STIPULATIONS OF THE VARIOUS BUREAUS OR DEPARTMENTS NOTED ON THIS APPLICATION.

OWNER'S AUTHORIZED AGENT
Bur. of Archs. D.P.W.

BLDG. FORM **1** No. 430564

APPLICATION OF
City & County of S.F. Owner

OFFICE COPY

FOR PERMIT TO ERECT
Type 1 STRUCTURE

Location S.E. CORNER OF SANSOME AND WASHINGTON ~~Northeast corner of Block 206. Front facing west bet. Washington & Merchant St.~~

Total Cost $ 1,500,000.00

Filed 19

REFER TO Dept. of Health
~~Bur. of Engineering~~

AUG 14 1974
APPROVED
Dept. Public W...

Superintendent, Bureau of Building Inspection

Superintendent, Bureau of Building Inspection

WAIVED
Permit No. 391562

Issued AUG 14 1974 19

Certificate of Final Completion:

Issued 19

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
BLDG. FORM

CENTRAL PERMIT BUREAU

1

APPLICATION FOR BUILDING PERMIT
FOR TYPE 1-2-3-4 STRUCTURES

Date January 11, 1974

Application is hereby made to the Department of Public Works of the City and County of San Francisco for permission to build in accordance with the plans and specifications submitted herewith and according to the description and for the purpose hereinafter set forth:

LOT DESCRIPTION

(1) Location: ☐ North ☒ East ☐ South ☐ West side of Sansome Street (Name of Street)

0 feet ☐ North ☐ East ☒ South ☐ West of Washington Street (Nearest Cross Street)

(2) Size of lot:
front 99'-0" ft.
rear 99'-0" ft.
average depth 90.292 ft.

(3) Is any other building on lot? If yes, show on plot plan. ☐ yes ☒ no

(4) Is automobile runway to be installed or altered? ☐ yes ☒ no

(5) Will street space be used during construction? ☒ yes ☐ no

BUILDING DESCRIPTION

(6) Type of Building: ☒ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 1 Hr. ☐ N

(7) Use of building: Fire Station

(8) Occupancy: F-2&F-3 (Bldg. Code Classification) 2/4/74

(9) Number of Dwelling Units: One

(10) Ground Floor Area: 8930 Sq. Ft.

(11) Height at the Center Line of Front of Bldg.: 34'-6" Ft.

(12) Number of Stories: Three

(13) Number of Basements: One

(14) Is building designed for additional stories?
☐ yes; how many? _____
☐ no

(15) Total Cost: $ 1,500,000.00

(16) Will sub-sidewalk space be used? ☐ yes ☒ no

(17) Design Live Load for floors: (To be posted, in commercial and industrial buildings)

(18) Supervision of construction by Bur. of Architecture Address City Hall

(19) General Contractor - California License No. -
Address - Telephone -

(20) Architect or Engr. (for design) John C. Portman, Jr. California Certificate No. C-5438
Address One Embarcadero Center Telephone 989-7275

(21) Engineer or Archt. (for construction) Charles W. Griffith California Certificate No. C-688
Address City Architect - City Hall Telephone 558-4601

I hereby certify and agree that if a permit is issued for the construction described and approved in this application, or in accompanying plans, all the provisions of all the laws and ordinances applicable to the construction will be complied with. I further agree to save San Francisco and its officials and employees harmless from all costs and damages which may accrue from the use or occupancy of the sidewalk, street, or sidewalk space, or from anything else in connection with the work authorized by this permit, or any work performed on or at the premises designated therein. The foregoing covenant shall be binding upon the owners of said property, the applicant, their heirs, successors and assignees.

(22) Owner City and County of San Francisco, D.P.W.

Address Bureau of Architecture-City Hall Phone No. 558-4601 (For contact by Bureau)

By [signature] Address Room 265 - City Hall

Owner's Authorized Agent to be Owner's Authorized Architect, Engineer or General Contractor

THIS PERMIT AND THE APPROVED PLANS MUST BE KEPT ON THE JOB

CONSTRUCTION LENDER _____
(Enter name and branch designation if any. If there is no known construction lender, enter "unknown".)

ADDRESS OF CONSTRUCTION LENDER _____

OFFICIAL COPY

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPROVED
Dept. of Public Works
JAN 04 1993

FIRE

No Viol. JL

BLDG. FORM 3/8
DEC 15 1992
APPLICATION NUMBER 9221057
OSHA APPROVAL REQ'D ☐
APPROVAL NUMBER:

SFRA ☐ PCD ☐ PARAPET ☐ PAD-STR ☐ PAD-FD ☐ PAD-ARCH ☐ HEALTH ☐ HID ☐ CPB ☐ DCP ☐ CNTR ☐ EXPEDITER ☐ BE ☐ YES ☐ NO ☐ BID-FP ☐ TITLE 24-2 ☐ TDF ☐ DIST. 2 — APPROVED FOR ISSUANCE

APPLICATION FOR BUILDING PERMIT
ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☑ OTHER AGENCIES REVIEW REQUIRED
FORM 8 ☐ OVER-THE-COUNTER ISSUANCE

2 NUMBER OF PLAN SETS JL

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
OFFICE COPY

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF PUBLIC WORKS OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
12-4-92	City Job	530 SANSOME STREET S.F.	206-
PERMIT NO.	**ISSUED**	**(2A) ESTIMATED COST OF JOB**	**(2B) REVISED COST:**
712987	1-4-93	64,700.00	BY: DATE:

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY	(6A) NO. OF BASEMENTS AND CELLARS	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
I	2		FIRE STATION #13	B-2	—

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY	(6) NO. OF BASEMENTS AND CELLARS	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
I	2		FIRE STATION (#13)	B-2 (10)	—

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐	YES ☒ NO ☐

(14) GENERAL CONTRACTOR	ADDRESS	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
C & L CONSTRUCTION	1177 HOWARD SF. 94103	861-8781	417193	12/31/92

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	PHONE (FOR CONTACT BY BUREAU)
CITY & COUNTY OF SAN FRANCISCO	DPW/BOA 30 VANNESS AVE #4100 S.F.	557-4772

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

ALTER EXISTING BOOTROOM TO CREATE NEW WOMEN'S TOILET AND SHOWER ROOM, CONSTRUCT NEW 1 ☐ 2 ☐ 3 ☐ BOOT/LOOKER ROOM AND REPAIR SUSPENDED ACOUSTICAL CEILING, ALTER PLUMBING/ELECTRICAL WORK FOR NEW SPACES, MISC. PAINTING WORK AS NEEDED.

ADDITIONAL INFORMATION — FORM 3 APPLICANTS ONLY

(17) DOES THIS ALTERATION CREATE ADDITIONAL STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☐ NO ☒	FT.	YES ☐ NO ☒	SQ. FT.
(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	**(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?**	**(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)**	**(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?**
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐)	ADDRESS	CALIF. CERTIFICATE NO.
BUREAU OF ARCHITECTURE, DPW	30 VAN NESS AVE., SUITE 4100 S.F. CA 94102 NORMAN M. KARASICK	C-2132

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN").

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts. See Sec. 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept on building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this bureau for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10), (11), (12), (13), (23) or (24). THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☒ OWNER ☐ ARCHITECT ☐ ENGINEER
☐ LESSEE ☐ AGENT WITH POWER OF ATTORNEY
☐ CONTRACTOR ☐ ATTORNEY IN FACT

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES GOVERNING SUCH WORK WILL BE COMPLIED WITH.

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE: The Permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands and actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have on file, or file with the Central Permit Bureau either Certificate (I) or (II) or (III) designated below or shall indicate item (IV) or (V) or (VI) below, whichever is applicable. If however, item (V) is checked then item (VI) must be checked as well. Mark the appropriate method of compliance below:

( ) I. Certificate of Consent to Self-Insure issued by the Director of Industrial Relations.

(X) II. Certificate of Workmen's Compensation Insurance issued by an admitted insurer.

( ) III. An exact copy or duplicate of (I) certified by the Director or (II) certified by the insurer.

( ) IV. The cost of the work to be performed is $100 or less.

( ) V. I certify that in the performance of the work for which this Permit is issued, I shall not employ any person in any manner so as to become subject to the workmen's compensation laws of California. I further acknowledge that I understand, in the event that I should become subject to the workmen's compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the Permit hereby applied for shall be deemed revoked.

(X) VI. I certify as the owner (or the agent of the owner) that in the performance of the work for which this Permit is issued, I will employ a contractor who complies with the workmen's compensation laws of California and who has on file, or prior to the commencement of any work will file, with the Central Permit Bureau evidence that workmen's compensation insurance is carried.

12/4/92

OFFICIAL COPY

APPROVED
DEPARTMENT OF BUILDING INSPECTION
DEC 21 2000
FRANK Y. OHIU, DIRECTOR

FIRE

APPROVED FOR ISSUANCE
SFFD FEE

BLDG. FORM 3/8

APPLICATION NUMBER 9921055

OSHA APPROVAL REQ'D ☐
OSHA APPROVAL NUMBER:

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS.

FORM 3 [X] OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☐ OVER-THE-COUNTER ISSUANCE

2+2 CAL NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

(1A) APPLIED	PLANS FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
11/1/99	City Job	530 Sansome Street	206 & 9 — 206 17 1
PERMIT NO.	ISSUED	(2) ESTIMATED COST OF JOB	(2E) REVISED COST:
9921055	12/21/00	$979,123	BY: DATE:

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY	(6A) NO. OF BASEMENTS AND CELLARS	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
I	2 + Mezz	1	Fire Station #13	B	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY	(6) NO. OF BASEMENTS AND CELLARS	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
I	2 + Mezz	1	Fire Station #13	B (23)	0

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐	YES ☒ NO ☐

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
unknown					

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	ZIP	BTHC #	PHONE (FOR CONTACT BY DEPT.)
San Francisco Fire Department,	698 Second Street,	94107-2015		558-3320

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

Provide disabled access at First Floor Entry, Communication room & toilet, upgrade electrical & mechanical systems. Perform hazardous material abatement, upgrade finishes throughout and perform miscellaneous repairs. NO structural work. RE-ROOFING ON ENTIRE BUILDING

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☐ NO ☒	FT.	YES ☐ NO ☒	SQ. FT.

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN) CONSTRUCTION JL	ADDRESS	CALIF. CERTIFICATE NO.
Tara Lamont	30 VanNess Avenue, Suite 4100	C-20716

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN")	ADDRESS
N/A	

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts. See Sec. 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (13) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☐ OWNER ☒ ARCHITECT
☐ LESSEE ☐ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

3003-03 (REV. 1/96)

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE: The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have coverage under (I), or (II) designated below or shall indicate item (III), or (IV), or (V), whichever is applicable. If however item (V) is checked item (IV) must be checked as well. Mark the appropriate method of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) I I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

( ) II I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier

Policy Number

( ) III The cost of the work to be done is $100 or less.

(X) IV I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California. I hereby agree to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands or actions.

(X) V I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the workers' compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Tara Lamont 11.10.99
Signature of Applicant or Agent Date

OFFICIAL COPY

SAN FRANCISCO
DEPARTMENT OF
BUILDING INSPECTION

BUILDING PERMIT
DESCRIPTION
☐ VERTICAL
☐ HORIZONTAL

CELLULAR ANTENNA

APPROVED
Dept. of Building Insp.
AUG 08

FIRE
DEPT. OF BUILDING INSPECTION
DIRECTOR

APPROVED FOR ISSUANCE 11-14-2003

BLDG FORM 3/8

APPLICATION NUMBER

OSHA APPROVAL REQ'D ☐
APPROVAL NUMBER:

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☒ OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☐ OVER-THE COUNTER ISSUANCE

2 NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▽ DO NOT WRITE ABOVE THIS LINE ▽

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
6-25-03	338565	532 Sansome AKA 530 Sansome	0206-017

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST	BY:	DATE:
200224	8-1-2003	$70,000	$70,000		7-24-03

BA-003-01

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
I	2	1	Fire Station	B-1	NA

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
I	2	1	Fire Station	B-1	NA

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☒ NO ☐	YES ☒ NO ☐	YES ☐ NO ☒

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
TBD MCTroblitz Elect.	2400 Third St.		415 621 3000	401047	3/31/05
(LESSEE) (CROSS OUT ONE)	ADDRESS	ZIP	STR.#	PHONE (FOR CONTACT BY DEPT.)	
Cingular Wireless	4420 Rosewood Dr. Bldg 2 3rd Fl	Pleasanton CA 94588		Misako Hill, agent 415 533-2540	

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

Cingular Wireless proposes to establish and operate an unmanned wireless tele-
telecommunications facility consisting of installing 3 panel antennas in an
11ft high radome on the roof and 4 BTS equipment cabinets on the roof of the
building.

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☒ NO ☐	44ft 8in FT	YES ☐ NO ☒	SQ. FT.

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☒) CONSTRUCTION ☐	ADDRESS	CALIF. CERTIFICATE NO.
Diamond Services	3860 Industrial Way Benicia CA 94510	

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN") — ADDRESS

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts See Sec 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to the department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (13) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX
☐ OWNER ☐ ARCHITECT
☐ LESSEE ☒ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

9003-03 (REV. 1/02)

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claim, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City an County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have coverage under (I), or (II) designated below or shall indicate item (III), or (IV), or (V), whichever is applicable. If however item (V) is checked item (IV) must be checked as well. Mark the appropriate method of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided by Section 3700 of the Labor Code, for the performance the work for which this permit is issued.

OR

II. I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier: CNA

Policy Number: WC 399-1421-00

( ) III. The cost of the work to be done is $100 or less.

X IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the workers' compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

X V. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the workers' compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Misako Hill 6/25/03

Signature of Applicant or Agent — Date

OFFICIAL COPY

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPROVED Dept. of Building Insp.

MAY 03 2013

Tom C. Hui

TOM C. HUI, S.E.
ACTING DIRECTOR
DEPT. OF BUILDING INSPECTION

REROOFING

PLEASE CALL THE INSPECTION SERVICES AT 558-6570. FOR A FINAL INSPECTION APPOINTMENT. NEW OR REPLACEMENT SHEATING AND SKYLIGHTS REQUIRES A SEPARATE BUILDING PERMIT.

APPROVED FOR ISSUANCE MAY 03 2013

BLDG. FORM 3

APPLICATION NUMBER 201207205256

OSHA APPROVAL REQ'D ☐

OFFICE COPY

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☐ OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☒ OVER-THE COUNTER ISSUANCE

NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
MAR 03 2013	CITY 300	530 SANSOME ST.	206-17

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST:
1292705	5-3-13	$105,000	BY: $ 105,000 DATE: 7/20/2012

IEA# RA#13000000

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
TYPE V	2	1	SFFD FIRE STATION #13	B-2	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
TYPE V	2	1	SFFD FIRE STATION #13	B-2	0

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐	YES ☐ NO ☒

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
N/A					

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	ZIP	BTR'd#	PHONE (FOR CONTACT BY DEPT.)
SF FIRE DEPARTMENT	698 2ND ST	94107		415-558-3300

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

REMOVE EXISTING ROOFING & REPLACE WITH (N) SYSTEM IN-KIND.

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☐ NO ☒	FT.	YES ☐ NO ☒	SQ. FT.

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐)	ADDRESS	CALIF. CERTIFICATE NO.
BENITO OLAVIN	30 VAN NESS AVE, STE 4100, S.F.	C-27037

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY, IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN") — ADDRESS

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts See Sec 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (18) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☐ OWNER ☒ ARCHITECT
☐ LESSEE ☐ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

9003-03 (REV. 1/02)

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claim, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City an County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have coverage under (I), or (II) designated below or shall indicate Item (III), or (IV), or (V), whichever is applicable. If however Item (V) is checked Item (IV) must be checked as well. Mark the appropriate method of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance the work for which this permit is issued.

( ) II. I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier

Policy Number

( ) III. The cost of the work to be done is $100 or less.

( ) IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the workers' compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

( ) V. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the workers' compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Signature of Applicant or Agent

MAY 03 2013

ORIGINAL

OFFICIAL COPY

SAN FRANCISCO
DEPARTMENT OF BUILDING INSPECTION

APPROVED
Dept. of Building Insp.

NOV 27 2013

Tom C. Hui
TOM C. HUI S.E.
DIRECTOR
DEPT. OF BUILDING INSPECTION

APPROVED FOR ISSUANCE
NOV 27 2013

BLDG. FORM 3/8

APPLICATION NUMBER: 2013-10-10-8964

APPROVAL NUMBER:

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☐ OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☑ OVER-THE COUNTER ISSUANCE

2 NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
	530 SANSOME STREET	206-17

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST:
1311084	11-27-13	$132,000	BY: $132,000 DATE: 10/18/13

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
TYPE #1	2	1	SFFD FIRE STATION #13	B (23)	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
TYPE #1	2	1	SFFD FIRE STATION #13	B	0

(10) IS AUTO SPRINKLER TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐

(14) GENERAL CONTRACTOR: Worthy Job — ADDRESS — ZIP — PHONE — CALIF. LIC. NO. — EXPIRATION DATE

(15) OWNER - LESSEE (CROSS OUT ONE): SF FIRE DEPARTMENT — ADDRESS: 698 2ND STREET — ZIP: 94107 — STN#: — PHONE (FOR CONTACT BY DEPT.): 415-558-3300

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

SHOWER RENOVATION INCLUSIVE OF ENCAPSULATION OF SHOWER STALLS WITH 1/4" SOLID SURFACE SHOWER PAN, WALLS, DIVIDERS, SILLS, & EDGE TRIMMING. REPLACEMENT OF WATER CONTROL VALVES, SHOWER HEADS, FLOOR DRAINS, P-TRAPS, & NEW GLASS DOORS.

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☐ NO ☒	FT.	YES ☐ NO ☒	SQ. FT.

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐) — ADDRESS — CALIF. CERTIFICATE NO.

BENITO DIGUIN — 30 VAN NESS AVE, SUITE 4100 S.F. — C27037

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN") — ADDRESS

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts See Sec. 885, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (13) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all habitable rooms must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX
☐ OWNER ☒ ARCHITECT
☐ LESSEE ☐ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

8303-88 (REV. 1/88)

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claim, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and in assume the defense of the City an County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have coverage under (I), or (II) designated below as shall indicate item (III), or (IV), or (V), whichever is applicable. If horizontal item (V) is checked item (VI) must be checked as well. Mark the appropriate method of compliance below:

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance the work for which this permit is issued.

( ) II. I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier

Policy Number

( ) III. The cost of the work to be done is $100 or less.

( ) IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the workers' compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

( ) V. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the workers' compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Signature of Applicant or Agent — Date

OFFICE COPY BENITO DIGUIN — NOV 27 2013

OFFICIAL COPY

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPROVED Dept. of Building Insp.
Robert Gallagher
MAR 07 2014 MAR 07 2014

PLEASE NOTIFY FIRE INSPECTOR AT THE START OF WORK 558-3300

FIRE ONLY

Tom C. Hui
TOM C. HUI, S.E.
DIRECTOR
DEPT. OF BUILDING INSPECTION

NV

BLDG. FORM 3/8

APPROVED FOR ISSUANCE 3-7-2014

APPLICATION NUMBER 2014.0305.0004

OSHA APPROVAL RECD ☐
APPROVAL NUMBER:

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☐ OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☑ OVER-THE-COUNTER ISSUANCE

2 NUMBER OF PLAN SETS

W 6 Jul 2014

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

BACK FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
3-7-2014		530 SANSOME	0206 / 017
PERMIT NO. 1318722	ISSUED 3-7-2014	(2A) ESTIMATED COST OF JOB $1900	(2B) REVISED COST: $1500 RH 3-7-14 DATE:

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(4B) NO. OF STORIES OF OCCUPANCY:	(4C) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(4A) OCCUP. CLASS	(4B) NO. OF DWELLING UNITS:
I	1	0	FIRE STATION	B	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(6) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(5) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(6) OCCUP. CLASS 23	(6) NO. OF DWELLING UNITS:
I	1	0	FIRE STATION	B	0

(10) IS AUTO SPRINKLER TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(14) GENERAL CONTRACTOR: RB PETROLEUM — ADDRESS — ZIP — PHONE — CALIF. LIC. NO. — EXPIRATION DATE

(15) OWNER - LESSEE (CHOOSE OUT ONE): CITY AND COUNTY OF SAN FRANCISCO — ADDRESS: 530 SANSOME #401 — ZIP: 94111 — PHONE (FOR CONTACT BY DEPT.)

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT):

INSTALL NEW SECONDARY CONTAINMENT PIPE OVER EXISTING FUEL SUPPLY PIPING - NO CONCRETE REMOVAL REQUIRED ALL WORK DONE IN EXISTING PIPE ROUTE(S)

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT: FT.	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA: SQ. FT.
YES ☐ NO ☒		YES ☐ NO ☒	

(21) WILL SIDEWALK OVER SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐): PETER C. BROWN — ADDRESS: 619 24TH ST OAKLAND, CA 94612 — CALIF. CERTIFICATE NO.

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN") — ADDRESS

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction, to be closer than 6'0" to any wire containing more than 750 volts See Sec 3315, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown, revised drawings showing correct grade lines, cuts and fills together with complete details of retaining walls and wall footings required must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (23) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX
☐ OWNER ☐ ARCHITECT
☐ LESSEE ☒ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

3/8/3-03 (REV. 1/05)

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City an County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have coverage under (I), or (II) designated below or shall indicate item (III), or (IV), or (V), whichever is applicable. If however item (V) is checked item (IV) must be checked as well. Mark the appropriate method of compliance below:

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance the work for which this permit is issued.

X II. I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier: State Fund

Policy Number: 9037112

( ) III. The cost of the work to be done is $100 or less.

X IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the workers' compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

X V. I certify to the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the workers' compensation laws of California and who, prior to the commencement of any work, will file a validated copy of this form with the Contract Permit Bureau.

Signature of Applicant or Agent: [signature] — Date: 2-6-2014

OFFICE COPY

MAR 07 2014

OFFICIAL COPY

SAN FRANCISCO
DEPARTMENT OF BUILDING INSPECTION

MAHER ORDINANCE - EXTENDED
Disturbance of at least 50 cu. yd. of soil:
☐ Yes ☒ No
If yes, refer to DPH for compliance with Ordinance No. 155-13.
☐ Exempted - Letter from DPH attached

APPROVED
Dept. of Building Insp.
JUN 22 2015
Tom C. Hui
TOM C. HUI, S.E.
DIRECTOR
DEPT. OF BUILDING INSPECTION
APPROVED FOR ISSUANCE
JUN 22 2015

BLDG. FORM 3/8

APPLICATION NUMBER 201506027758

OSHA APPROVAL REQ'D ☐
APPROVAL NUMBER

N/V

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☐ OTHER AGENCIES REVIEW REQUIRED
FORM 8 ☒ OVER-THE-COUNTER ISSUANCE
2 NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
6.22.15		530 SANSOME ST	0206/017

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST:
1361044	6-22-15	$30,000	$30,000 BY: DATE: 6/22/15

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
1	2	1	FIRE STATION # 13	B	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION (23)

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
1	2	1	FIRE STATION # 13	B	0

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
PUBLIC BID					

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	ZIP	BTRC#	PHONE (FOR CONTACT BY DEPT.)
SFFD	698 2ND ST	94107		415-558-3300

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

SHOWER REPLACEMENT AT 1 STALL INCLUSIVE OF TILE REMOVAL & REPLACEMENT, DRAIN & VALVE REPLACEMENT, WIDENING OF (E) STALL OPENING, & NEW GLASS SHOWER DOOR. INSTALLATION OF NEW WATERPROOFING THROUGHOUT.

EXEMPT FROM DISABLED ACCESS UPGRADES PER CBC 11B-202.4, EXCEPTION 7

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA SQ. FT.
YES ☐ NO ☒		YES ☐ NO ☒	

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐)	ADDRESS	CALIF. CERTIFICATE NO.
VITO VANONI	30 VAN NESS # 4100	C-27134

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN")	ADDRESS
UNKNOWN	

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction is to be closer than 6'0" to any wire containing more than 750 volts. See Sec 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown, revised drawings showing correct grade lines, cuts and fills, and complete details of retaining walls and wall footings must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (13) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings, all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☐ OWNER ☒ ARCHITECT
☐ LESSEE ☐ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have worker's compensation coverage under (I) or (II) designated below, or shall indicate Item (III), (IV), or (V), whichever is applicable. If however Item (V) is checked, Item (IV) must be checked as well. Mark the appropriate method of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

( ) II. I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier _____
Policy Number _____

( ) III. The cost of the work to be done is $100 or less.

( ) IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the worker's compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the worker's compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

( ) V. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the worker's compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Vito Vanoni — May 31, 2015
Signature of Applicant or Agent — Date

REV 06/13

OFFICE COPY

JUN 22 2015

OFFICIAL COPY

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

MAHER ORDINANCE - EXTENDED
Disturbance of at least 50 cu. yd. of soil:
☐ Yes ☐ No
If yes, route to DPH for compliance with Ordinance No. 155-13.
☐ Exempted - Approval from DPH attached

SFFD INSP. FEES REQ.

FIRE

APPROVED Dept. of Building Inspection FEB 12 2016

FEB 12 2016 NSR FEE

BLDG FORM 3/8

APPROVED FOR ISSUANCE 2/4/2016

APPLICATION NUMBER 201511208601

OSHA APPROVAL REQ'D ☐

OSHA APPROVAL NUMBER

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 OTHER AGENCIES REVIEW REQUIRED

~~FORM 8, OVER-THE-COUNTER ISSUANCE~~

2 NUMBER OF PLAN SETS

W 12-24-2015

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

▼ DO NOT WRITE ABOVE THIS LINE ▼

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
12/24/15	N1215872	530 SANSOME ST	0206-007

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST
1383144	FEB 12 2016	$ 105,000	$ 105,000 DATE 2/1/16

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
1	3	1	FIRE STATION # 13	B	N/A

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
1	3	1	~~NO CHANGE~~ FS # 13	~~B~~ B	N/A

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐	YES ☐ NO ☒

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
BECKER ELECTRIC	500 ~~SSE~~ SANSOME ST		415 434 8045	909450	6/30/16

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	ZIP	STRC#	PHONE (FOR CONTACT BY DEPT.)
CITY AND COUNTY OF S.F.	25 VAN NESS AVE SE	94102		415 264-2511

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

INSTALLATION OF CO2 MONITORING SYSTEM

SEE ATTACH

MAHER ORDINANCE - EXTENDED
Disturbance of at least 50 cu. yd. of soil:
☐ Yes ☒ No
If yes, route to DPH for compliance with Ordinance No. 155-13.
☐ Exempted - Approval from DPH attached

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA SQ. FT.
YES ☐ NO ☒		YES ☐ NO ☒	

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REMAINED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☒ CONSTRUCTION ☐)	ADDRESS	CALIF. CERTIFICATE NO.
DPW	30 VAN NESS, SF, CA 94102	

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN")	ADDRESS
N/A	

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction is to be closer than 6'0" to any wire overlooking more than 750 volts. See Sec 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown, revised drawings showing correct grade lines, cuts and fills, and complete details of retaining walls and wall footings must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (16), (17), (18), (19), (23) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings, all breathing apparatus must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☐ OWNER ☐ ARCHITECT
☐ LESSEE ☐ AGENT
☒ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THEREIN WILL BE COMPLIED WITH.

REV 09/13

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have worker's compensation coverage under (1) or (2) designated below, or shall indicate item (3), (4), or (5), whichever is applicable. If however item (5) is checked, item (4) must be checked as well. Mark the appropriate section of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) A. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

(X) B. I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier HARTFORD
Policy Number 72 WEC D07 6A

( ) C. The cost of the work to be done is $100 or less.

( ) D. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the worker's compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the worker's compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be revoked immediately.

( ) E. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the worker's compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Signature of Applicant or Agent: [signature] Date: 10/1/15

OFFICE COPY

OFFICIAL COPY

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPROVED
Dept. of Building Insp.
APR 09 2018
Tom C. Hui
TOM C. HUI, S.E.
DIRECTOR
DEPT. OF BUILDING INSPECTION

MAHER ORDINANCE - EXTENDED
Disturbance of at least 50 cu. yd. of soil:
☐ Yes ☑ No
If yes, route to DPH for compliance with Ordinance No. 186-13.
☐ Exempted - Approval from DPH attached

— APPROVED FOR ISSUANCE

BLDG. FORM 3/8

APPLICATION NUMBER 201803284880

OSHA APPROVAL REQ'D ☐
APPROVAL NUMBER

N.V.

APPLICATION FOR BUILDING PERMIT ADDITIONS, ALTERATIONS OR REPAIRS

FORM 3 ☐ OTHER AGENCIES REVIEW REQUIRED

FORM 8 ☐ OVER-THE-COUNTER ISSUANCE

2 NUMBER OF PLAN SETS

CITY AND COUNTY OF SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION

APPLICATION IS HEREBY MADE TO THE DEPARTMENT OF BUILDING INSPECTION OF SAN FRANCISCO FOR PERMISSION TO BUILD IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS SUBMITTED HEREWITH AND ACCORDING TO THE DESCRIPTION AND FOR THE PURPOSE HEREINAFTER SET FORTH.

2-CC DEE DM

▼ DO NOT WRITE ABOVE THIS LINE ▼

DATE FILED	FILING FEE RECEIPT NO.	(1) STREET ADDRESS OF JOB	BLOCK & LOT
03/28/18		530 Sansome Street, SF, CA 94111	206/017

PERMIT NO.	ISSUED	(2A) ESTIMATED COST OF JOB	(2B) REVISED COST:
1458176	4/9/18	~~$140,000~~	BY: CM 40,000.— DATE: 3/29/18

INFORMATION TO BE FURNISHED BY ALL APPLICANTS

LEGAL DESCRIPTION OF EXISTING BUILDING

(4A) TYPE OF CONSTR.	(5A) NO. OF STORIES OF OCCUPANCY:	(6A) NO. OF BASEMENTS AND CELLARS:	(7A) PRESENT USE:	(8A) OCCUP. CLASS	(9A) NO. OF DWELLING UNITS:
1	2	1	Fire station	B	0

DESCRIPTION OF BUILDING AFTER PROPOSED ALTERATION

(4) TYPE OF CONSTR.	(5) NO. OF STORIES OF OCCUPANCY:	(6) NO. OF BASEMENTS AND CELLARS:	(7) PROPOSED USE (LEGAL USE)	(8) OCCUP. CLASS	(9) NO. OF DWELLING UNITS:
1	2	1	Fire Station	B	0

(10) IS AUTO RUNWAY TO BE CONSTRUCTED OR ALTERED?	(11) WILL STREET SPACE BE USED DURING CONSTRUCTION?	(12) ELECTRICAL WORK TO BE PERFORMED?	(13) PLUMBING WORK TO BE PERFORMED?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☒ NO ☐	YES ☐ NO ☒

(14) GENERAL CONTRACTOR	ADDRESS	ZIP	PHONE	CALIF. LIC. NO.	EXPIRATION DATE
Owner — Builder					

(15) OWNER - LESSEE (CROSS OUT ONE)	ADDRESS	ZIP	BTRC#	PHONE (FOR CONTACT BY DEPT.)
San Francisco Fire Department	30 Van Ness Ave. Suite 4100			(415)557-4774

(16) WRITE IN DESCRIPTION OF ALL WORK TO BE PERFORMED UNDER THIS APPLICATION (REFERENCE TO PLANS IS NOT SUFFICIENT)

Replacement of (E) apparatus bay door (telescoping door) with (N) coiling door, For Fire Station 13.

ADDITIONAL INFORMATION

(17) DOES THIS ALTERATION CREATE ADDITIONAL HEIGHT OR STORY TO BUILDING?	(18) IF (17) IS YES, STATE NEW HEIGHT AT CENTER LINE OF FRONT	(19) DOES THIS ALTERATION CREATE DECK OR HORIZ. EXTENSION TO BUILDING?	(20) IF (19) IS YES, STATE NEW GROUND FLOOR AREA
YES ☐ NO ☒		YES ☐ NO ☒	SQ. FT.

(21) WILL SIDEWALK OVER SUB-SIDEWALK SPACE BE REPAIRED OR ALTERED?	(22) WILL BUILDING EXTEND BEYOND PROPERTY LINE?	(23) ANY OTHER EXISTING BLDG. ON LOT? (IF YES, SHOW ON PLOT PLAN)	(24) DOES THIS ALTERATION CONSTITUTE A CHANGE OF OCCUPANCY?
YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒

(25) ARCHITECT OR ENGINEER (DESIGN ☐ CONSTRUCTION ☐)	ADDRESS	CALIF. CERTIFICATE NO.
Vito Vanoni	30 Van Ness Ave Suite 4100	C-27134

(26) CONSTRUCTION LENDER (ENTER NAME AND BRANCH DESIGNATION IF ANY. IF THERE IS NO KNOWN CONSTRUCTION LENDER, ENTER "UNKNOWN") — ADDRESS

IMPORTANT NOTICES

No change shall be made in the character of the occupancy or use without first obtaining a Building Permit authorizing such change. See San Francisco Building Code and San Francisco Housing Code.

No portion of building or structure or scaffolding used during construction is to be closer than 6'0" to any wire containing more than 750 volts. See Sec 385, California Penal Code.

Pursuant to San Francisco Building Code, the building permit shall be posted on the job. The owner is responsible for approved plans and application being kept at building site.

Grade lines as shown on drawings accompanying this application are assumed to be correct. If actual grade lines are not the same as shown, revised drawings showing correct grade lines, cuts and fills, and complete details of retaining walls and wall footings must be submitted to this department for approval.

ANY STIPULATION REQUIRED HEREIN OR BY CODE MAY BE APPEALED.

BUILDING NOT TO BE OCCUPIED UNTIL CERTIFICATE OF FINAL COMPLETION IS POSTED ON THE BUILDING OR PERMIT OF OCCUPANCY GRANTED, WHEN REQUIRED.

APPROVAL OF THIS APPLICATION DOES NOT CONSTITUTE AN APPROVAL FOR THE ELECTRICAL WIRING OR PLUMBING INSTALLATIONS. A SEPARATE PERMIT FOR THE WIRING AND PLUMBING MUST BE OBTAINED. SEPARATE PERMITS ARE REQUIRED IF ANSWER IS "YES" TO ANY OF ABOVE QUESTIONS (10) (11) (12) (13) (22) OR (24).

THIS IS NOT A BUILDING PERMIT. NO WORK SHALL BE STARTED UNTIL A BUILDING PERMIT IS ISSUED.

In dwellings, all insulating materials must have a clearance of not less than two inches from all electrical wires or equipment.

CHECK APPROPRIATE BOX

☐ OWNER ☐ ARCHITECT
☐ LESSEE ☐ AGENT
☐ CONTRACTOR ☐ ENGINEER

APPLICANT'S CERTIFICATION

I HEREBY CERTIFY AND AGREE THAT IF A PERMIT IS ISSUED FOR THE CONSTRUCTION DESCRIBED IN THIS APPLICATION, ALL THE PROVISIONS OF THE PERMIT AND ALL LAWS AND ORDINANCES THERETO WILL BE COMPLIED WITH.

NOTICE TO APPLICANT

HOLD HARMLESS CLAUSE. The permittee(s) by acceptance of the permit, agree(s) to indemnify and hold harmless the City and County of San Francisco from and against any and all claims, demands and actions for damages resulting from operations under this permit, regardless of negligence of the City and County of San Francisco, and to assume the defense of the City and County of San Francisco against all such claims, demands or actions.

In conformity with the provisions of Section 3800 of the Labor Code of the State of California, the applicant shall have worker's compensation coverage under (I) or (II) designated below, or shall indicate item (III), (IV), or (V), whichever is applicable. If however item (V) is checked, item (IV) must be checked as well. Mark the appropriate method of compliance below.

I hereby affirm under penalty of perjury one of the following declarations:

( ) I. I have and will maintain a certificate of consent to self-insure for worker's compensation, as provided by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

( ) II. I have and will maintain worker's compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My worker's compensation insurance carrier and policy number are:

Carrier _____
Policy Number _____

( ) III. The cost of the work to be done is $100 or less.

( ) IV. I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the worker's compensation laws of California. I further acknowledge that I understand that in the event that I should become subject to the worker's compensation provisions of the Labor Code of California and fail to comply forthwith with the provisions of Section 3800 of the Labor Code, that the permit herein applied for shall be deemed revoked.

( ) V. I certify as the owner (or the agent for the owner) that in the performance of the work for which this permit is issued, I will employ a contractor who complies with the worker's compensation laws of California and who, prior to the commencement of any work, will file a completed copy of this form with the Central Permit Bureau.

Signature of Applicant or Agent: [signature] Date: 03/28/18

REV 06/13

OFFICE COPY

A4 530 Sansome Street Historic Resource Evaluation Response Part I

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

Historic Resource Evaluation Response

Record No.:	**2019-017481ENV**
Project Address:	**530 Sansome Street**
Zoning:	C-3-O Downtown-Office Zoning District 200-S Height and Bulk District
Block/Lot:	0206/017
Staff Contact:	Jonathan Vimr - 628-653-7319 jonathan.vimr@sfgov.org

PART I: HISTORIC RESOURCE EVALUATION

PROJECT SPONSOR SUBMITTAL:

To assist in the evaluation of the proposed project, the Project Sponsor has submitted a:

☐ Supplemental Information for Historic Resource Determination Form (HRD)

☒ Consultant-prepared Historic Resource Evaluation (HRE)

Prepared by: ESA Consulting (September, 2020)

BUILDINGS AND PROPERTY DESCRIPTION:

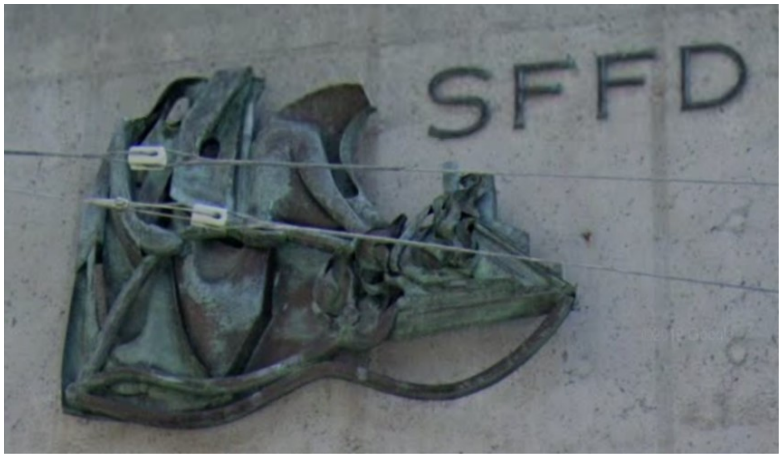
- **Neighborhood:** Financial District
- **Date of Construction**: 1975
- **Construction Type**: Reinforced concrete
- **Architect**: Jonathan C. Portman Jr. (Embarcadero Center), Charles W. Griffith (City Architect)
- **Builder**: San Francisco Bureau of Architecture (Department of Public Works)
- **Stories**: Two with mezzanine
- **Roof Form**: Flat
- **Cladding**: Metal panels, exposed concrete
- **Primary Façade**: Washington Street (North), Sansome Street (West)
- **Visible Facades:** North, south, & west
- **Garage:** N/A
- **Current Use:** Municipal fire station

SCULPTURE DESCRIPTION:

- **Artist:** Henri Marie-Rose
- **Date of Completion**: 1976
- **Material**: Copper

EXISTING PROPERTY PHOTOGRAPH / CURRENT CONDITION:

Source: ESA Consulting, September 2020.



Source: Google Streetview, May 2019.

PRE-EXISTING HISTORIC RATING / SURVEY

☐ Category A – Known Historic Resource, per: _____

☒ Category B – Age Eligible/Historic Status Unknown

☐ Category C – Not Age Eligible / No Historic Resource Present, per: _____

Survey(s): N/A

Adjacent or Nearby Historic Resources: ☐ No ☒ Yes: Jackson Square Historic District; 447 Battery Street (Jones Theirbach Coffee Company Building)

CEQA HISTORICAL RESOURCE(S) EVALUATION:
Step A: Significance

Individual Significance (Building)	Historic District/Context Significance
Property is individually eligible for inclusion in a California Register under one or more of the following Criteria:	Property is eligible for inclusion in a California Register Historic District/Context under one or more of the following Criteria:
Criterion 1 - Event: ☐ Yes ☒ No **Criterion 2** - Persons: ☐ Yes ☒ No **Criterion 3** - Architecture: ☐ Yes ☒ No **Criterion 4** - Info. Potential: ☐ Yes ☒ No	**Criterion 1** - Event: ☐ Yes ☒ No **Criterion 2** - Persons: ☐ Yes ☒ No **Criterion 3** - Architecture: ☒ Yes ☐ No **Criterion 4** - Info. Potential: ☐ Yes ☒ No
Period of Significance: N/A	**Overall Period of Significance: 1971-1982 (Embarcadero Center HD)** ☒ Contributor ☐ Non-Contributor ☐ N/A

Individual Significance (Sculpture)	Historic District/Context Significance
Property is individually eligible for inclusion in a California Register under one or more of the following Criteria:	Property is eligible for inclusion in a California Register Historic District/Context under one or more of the following Criteria:
Criterion 1 - Event: ☐ Yes ☒ No **Criterion 2** - Persons: ☐ Yes ☒ No **Criterion 3** - Architecture: ☒ Yes ☐ No **Criterion 4** - Info. Potential: ☐ Yes ☒ No	**Criterion 1** - Event: ☐ Yes ☒ No **Criterion 2** - Persons: ☐ Yes ☒ No **Criterion 3** - Architecture: ☒ Yes ☐ No **Criterion 4** - Info. Potential: ☐ Yes ☒ No
Period of Significance: 1976	**Overall Period of Significance: 1971-1982 (Embarcadero Center HD)** ☒ Contributor ☐ Non-Contributor ☐ N/A

Analysis:
The following evaluation is primarily based on the Historic Resource Evaluation prepared by ESA Consulting (dated September 2020); the Modern Architecture and Landscape Design 1935-1970 Historic Context Statement by the San Francisco Planning Department (dated January 2011); additional information found in the Planning Department's files; and other public records such as newspapers, city directories, and federal censuses. This evaluation will first assess the subject building for individual eligibility, the sculpture mounted on the building's north façade for individual eligibility, and then consider eligibility for each as part of a historic district(s).

The subject property at 530 Sansome Street is developed with a three-story (or two-story-with-mezzanine) municipal fire station. Located in the Financial District immediately southeast of Jackson Square, it was designed by master architect John C. Portman Jr. alongside City Architect Charles W. Griffith and constructed by the San Francisco Bureau of Architecture (Department of Public Works). Permitted exterior alterations to the building are limited to re-roofing (1999, 2012), providing accessibility upgrades at a first-floor entry (1999), and replacing the apparatus bay doors with new, rolling doors (2019).

No known historic events occurred at the subject property and by itself it does not represent a significant development in its neighborhood (Criterion 1). To be eligible under the event criterion, the building cannot merely be associated with historic events or trends but must have a specific association to be considered significant. Prior to the construction of 530 Sansome Street in 1975, the Fire Department already had a presence in this part of downtown with a station located at 115 Drumm Street. As part of the broader urban renewal movement that occurred during the second half of the 1900s, the San Francisco Redevelopment Agency released its *Redevelopment Plan for the Golden Gateway* in 1959. One phase of this plan involved the Embarcadero Center, which would occupy five city blocks and replace a collection of stores, warehouses, and mercantile establishments with a complex of five mixed-use, interconnected structures. Though 115 Drumm Street was sited on the parcel planned for Embarcadero Center 3 (one of the five Embarcadero Center structures), it was intended to be retained in both the initial redevelopment plan and through much of the 1960s. In 1969, however, the station was found to be too great of an impediment to Embarcadero Center and the developer (David Rockefeller and Associates) both purchased 115 Drumm Street from the Redevelopment Agency and paid for the construction of a new fire station on the nearby city-owned lot at 530 Sansome Street. This site was one block west of the overall redevelopment area. John C. Portman, Jr., the architect behind the Embarcadero Center complex, was commissioned alongside Charles W. Griffith, then City Architect, to design the fire station. While linked to the development history of the Embarcadero Center, in isolation the construction of 530 Sansome represents the replacement of a single civic structure essential to the normal operation, infrastructure, and safety of the city. It is one of 45 fire stations operating in the city and does not appear to be individually significant or important in the overall organization or history of the San Francisco Fire Department. It is one of numerous fire stations built over the years (including several that remain extant in the downtown area) and was built out of unanticipated necessity rather than part of any Fire Department comprehensive plan. Therefore, 530 Sansome does not rise to the level of a significant individual contribution to the broad patterns of local or regional history.

There are no specific occupants associated with the property that have been identified as having made lasting contributions to local, state, or national history or cultural heritage in direct association with the subject property (Criterion 2).

The subject property was designed by master architect John C. Portman, Jr. in collaboration with the then City Architect, Charles W. Griffith. It is a purpose-built structure designed in the Brutalist style, the name of which was derived from the French béton brut ("raw concrete"). With its origins in 1950s Europe, Brutalism became prevalent in the United States the following decade and lasted into the 1980s. Commonly seen on university campuses or for civic structures, Brutalism espoused architecturally honest buildings that expressed their structure at the exterior. Designs typically had a simple cubic form with rigid, repeated geometries and an absence of any applied ornamentation. Brutalist buildings were physically and visually heavy, with concrete being the material they are most generally associated with (though other masonry materials are also seen). When utilized the concrete would be left exposed, with its formwork and expansion joints granting texture and a sort of natural detailing to the exterior of the building. Other materials like wood, metal, stone, and brick were implemented in some designs to provide targeted contrast and visual interest. The San Francisco Modern Architecture and Landscape Design 1935-1970 Historic Context Statement (hereafter "HCS") includes a host of character-defining features for the style, some of which are reflected in the design of 530 Sansome Street. Given that the HCS was completed in 2011 and has not yet been updated, 530 Sansome (constructed 1974-75) was not specifically analyzed within it, though the HCS does establish

that Brutalist structures in city were constructed within a condensed time frame (1960s-70s) and that they are relatively rare in San Francisco.

As discussed in the HRE, 530 Sansome does possess a number of character-defining features common to Brutalist designs, but is overall not an exceptional or distinguished example of the style or Portman's work. Portman is best known for his grand, large-scale structures that are often components of a broader complex. Examples include the AmericasMart and Peachtree Center in Atlanta, the Westin Bonaventure in Los Angeles, the Renaissance Center in Detroit, international sites like the Shanghai and Beijing Yentai Centers, and of course the Embarcadero Center. While the other buildings that comprise the Embarcadero Center exhibit this monumental character, 530 Sansome in contrast is a relatively small building befitting its role as a civic support structure. Although initially unanticipated in the overall development of the Embarcadero Center, the building possesses a similar aesthetic as that used for the broader complex but is more restrained and limited in its architectural expression. It lacks the deeply shadowed fenestration common to more evocative examples of Brutalism, which can also serve to establish repeated geometric patterns as opposed to the lone, cubic form of 530 Sansome. These characteristics are shared by the exemplary examples of Brutalism discussed in the HRE, as well as other notable works like SF General Hospital Building Five and the SF Art Institute Chestnut Street Campus (800 Chestnut Street). The sheer, hulking mass seen in these various buildings and also embodied by the PG&E Embarcadero Substation (405 Folsom Street) is another attribute missing in the design of 530 Sansome. Given this and the additional analysis contained in the HRE, 530 Sansome appears to be more of a utilitarian version of Brutalism as opposed to a high-style interpretation; per the HCS these utilitarian versions should not be considered as individually architecturally significant. Finally, although 530 Sansome appears to be the only fire station Portman designed this alone does not rise to the level of individual significance and the building remains undistinguished in relation to Portman's body of work and exceptional examples of Brutalism. The subject property therefore does not appear to be individually eligible under Criterion 3.

Based upon a review of information in the Planning Department's records, the subject property is not significant under Criterion 4 since this criterion typically applies to rare construction types when involving the built environment. The subject reinforced concrete building is not an example of a rare construction type. Assessment of archeological sensitivity is undertaken through the Planning Department's Preliminary Archeological Review process and is outside the scope of this review.

The sculpture mounted on the building's north façade, *Untitled*, does not appear to be eligible under Criterion 1 as it is not identified as emblematic a specific artistic movement or broader pattern of history. It also does not appear to be eligible under Criterion 2 as its association with Henri Marie-Rose is best addressed under a Criterion 3 evaluation.

The sculpture mounted to the fire station appears to be individually eligible under Criterion 3 as an object given that it is a distinctive example of a master artist's work, has high artistic merit, and was designed specifically for a fire station. Created by Henri Marie-Rose, the sculpture was commissioned by the San Francisco Arts Commission as a site-specific artwork in 1967 (the same year it would be completed and installed). It has been in place continuously since its installation, with the copper sculpture naturally becoming covered in verdigris over the decades. Depicting three abstract figures spraying a blaze adjacent to the letters "SFFD," its content is directly tied to the use of the building to which it is attached. Marie-Rose was born in 1922 in Martinique, obtaining a scholarship to attend the École des Beaux-Arts in Paris in 1945. During his proceeding 8-year residency there he would exhibit

his work throughout Europe, obtaining numerous awards. Moving to San Francisco in 1953, he would within his first decade there have a solo exhibition at the de Young Museum, host a multi-month art series televised on KQED, and be presented with the Emanuel Walter Purchase Prize by the San Francisco Museum of Art. He would continue to exhibit both within the US and Brazil throughout the later 1900s, and would act as a teacher, mentor, and artist-in-residence at Recology San Francisco. *Untitled* is believed to be his last surviving public artwork in San Francisco and was also his highest-earned public commission in the city.

As discussed above, the construction of 530 Sansome is inextricably linked to that of the Embarcadero Center complex. Though not part of the Embarcadero Center's initial plan, it would become necessary due to complications with the site of Embarcadero Center 3. Given that the Embarcadero Center developer would be covering costs and its direct association with the Center, John Portman designed 530 Sansome in collaboration with the City Architect. Though distinct from the Embarcadero Center office towers and the Hyatt Regency Hotel (EC 5) in its scale, fenestration, and horizontality, 530 Sansome is nonetheless of a similar architectural language. While the various structures that compose the Embarcadero Center have their differences, they were all designed in the Brutalist style and are typified by rough, exposed concrete, massive cubic forms, and windows reading as voids. The hulking, concrete level that tops 530 Sansome is strikingly reminiscent of the largely solid bands that transition from the architectural base to the upper levels of Embarcadero Centers 1-5. As detailed in the HRE, John Portman & Associates published a firm profile and portfolio of completed projects in 2019. In it the firm lists 530 Sansome as "San Francisco Fire Station, Embarcadero Center, 1976," thereby demonstrating the firm's belief in the fire station as part of the overall complex (note that other records confirm 1975 as the fire station's completion date). The Planning Department previously found that Embarcadero Center 1-5 was eligible for listing as a complex, based largely on the HCS and a history/context document prepared by Page & Turnbull. Though the Department did not assess the fire station at that time, given its inseparable link to the development of the overall Embarcadero Center, shared architect, and common embodiment of Brutalism, 530 Sansome appears to be contributory to a discontiguous Embarcadero Center Historic District eligible under Criteria 3. Such a district would be composed of EC 1-5 and 530 Sansome, all of which would be contributory, with a period of significance ranging from 1971-1982 (representing the completion of the first structure through the last). The boundaries of this discontiguous district would include the 530 Sansome parcel, as well those for EC 1-5.

Given that 530 Sansome is contributory to the Embarcadero Center Historic District and that the site-specific sculpture attached to the structure is inextricably tied to the development and function of the fire station, the sculpture similarly appears to be contributory to the historic district.

In addition to noting that the fire station could be considered contributory to an Embarcadero Center historic district, the HRE mentions that 530 Sansome may also be considered as contributory to a broader Golden Gateway Redevelopment historic district but researching and establishing such a district is outside the parameters of the HRE. The Department concurs that a broader, potentially eligible Golden Gateway historic district may well exist; the Golden Gateway Redevelopment Plan embodied the aims of the redevelopment era in the United States (which has been understandably and extensively critiqued), and reshaped a substantial portion of San Francisco's downtown along the Embarcadero. The Golden Gateway typifies the idea of creating a city within a city, and the structures and parks that compose its various phases were designed by a multitude of master architects, landscape architects, and artists including, among others: Portman Architects; Skidmore, Ownings and

Merrill (SOM); Wurster, Bernardi and Emmons (WBE); Sasaki, Walker Associates (SWA); De Mars and Reay, Architects; and Lawrence Halprin. Outside of the aforementioned Embarcadero Center, examples of properties that would appear to contribute are, among others, the Alcoa Building (1 Maritime Plaza), Justin Herman Plaza and Sydney G. Walton Square, and the collection of residential towers and townhouses designed by WBE and bounded by Jackson, Drumm, Washington, and Battery streets. With that said, further investigation and research appears necessary in order to fully establish such a district's boundaries, period/themes of significance, and character-defining features. This may come through future project reviews or as part of the Department's citywide survey efforts. Although the fire station was closely tied to the construction of the Embarcadero Center, it was never part of the Redevelopment Agency's plan for the Golden Gateway Redevelopment Area and is not within the borders the Redevelopment Agency established for the Golden Gateway. Further, it is a civic support structure distinct from the commercial and residential buildings that make up the redevelopment area. As such, the Department finds that 530 Sansome would not be included in any potentially eligible Golden Gateway historic district.

530 Sansome does not appear to contribute to any eligible fire station historic district as it is one of a smattering of stations constructed between 1960-1980 and was designed/built as part of a single project, rather than a broader program like those stations constructed via the 1952 Firehouse Bond Act.

Therefore, Planning Department Preservation staff have determined the subject building at 530 Sansome Street is eligible for listing in the California Register as a district contributor to an eligible Embarcadero Center historic district, with the *Untitled* sculpture attached to the building being individually eligible and contributory to said district. The sculpture is individually eligible under Criterion 3, while the Embarcadero Center historic district also appears eligible under Criterion 3.

Step B: Integrity

The subject property has retained or lacks integrity from the period of significance noted in Step A:

Location:	☒ Retains	☐ Lacks	**Setting:**	☒ Retains	☐ Lacks
Association:	☒ Retains	☐ Lacks	**Feeling:**	☒ Retains	☐ Lacks
Design:	☒ Retains	☐ Lacks	**Materials:**	☒ Retains	☐ Lacks
Workmanship:	☒ Retains	☐ Lacks			

Analysis:

In order to be determined eligible for the CRHR, the subject building as a contributing building and artwork as both an individual and contributing object must be found to retain sufficient integrity to each convey their historic significance under Criterion 3. The only notable alteration to the exterior of the building appears to be the replacement of the original bay doors with new, metal rolling doors in the same openings. Given that the new doors are comparable to those that were historically present, and the remainder of the structure remains in its original condition, it reads virtually unchanged from its completion date in 1975. The *Untitled* artwork has been similarly untouched since its placement on 530 Sansome in 1976. Given that the subject building and artwork retain integrity, the sculpture is eligible for the CRHR as an individual resource under Criterion 3, and both the fire station and sculpture are eligible as contributors to an eligible historic district under Criterion 3.

Step C: Character Defining Features

The character-defining features of the subject property include the following:
While the Embarcadero Center historic district has not been fully analyzed, this document assumes that its period of significance (POS) is 1971-1982. The subject building's character-defining features that retain enough integrity to convey its significance and relation to the Embarcadero Center are: • Massive cubic form • Vertically oriented metal panels • Darkened windows • Blank, exposed concrete band at the upper level • Apparatus bays • Circular, metal SFFD sign • Flat roof The Department concurs with the HRE regarding the sculpture's individual period of significance (1976) and its character-defining features: • Visually prominent position on a building occupying a corner location • Visually prominent position on the exterior of Fire Station No. 13, with which the sculpture is historically associated • Copper construction • Verdigris (patina) • Overall design that includes abstract figures and typographic elements

CEQA HISTORIC RESOURCE DETERMINATION:

☒ Individually-eligible Historical Resource Present (sculpture)
☒ Contributor to an eligible Historical District / Contextual Resource Present (building and sculpture)
☐ Non-contributor to an eligible Historic District / Context / Cultural District
☐ No Historical Resource Present

NEXT STEPS:

☒ HRER Part II Review Required
☐ Categorically Exempt, consult:
  ☐ Historic Design Review
  ☐ Design Advisory Team
  ☐ Current Planner

PART I: PRINCIPAL PRESERVATION PLANNER REVIEW

Signature: Allison Vanderslice Date: 12/3/2020

Allison Vanderslice, *Principal Preservation Planner*
CEQA Cultural Resources Team Manager, Environmental Planning Division

CC: Alana Callagy, *Senior Planner*
Environmental Planning Division
Claudine Asbagh, *Principal Planner*
Northeast Team, Current Planning Division

A5 530 Sansome Street Historic Resource Evaluation Response Part II

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

PART II HISTORIC RESOURCE EVALUATION RESPONSE

Record No.:	**2019-017481ENV**
Project Address:	**530 Sansome St**
Zoning:	C-3-O DOWNTOWN- OFFICE Zoning District 200-S Height and Bulk District
Block/Lot:	0206/017
Staff Contact:	Jonathan Vimr – 628-652-7319 jonathan.vimr@sfgov.org

PART I: Historic Resource Summary

In a Historic Resource Evaluation Response ("HRER") Part 1 issued December 3, 2020, the Planning Department determined that two contributors to the California Register of Historical Resources-eligible Embarcadero Center Historic District ("ECHD") are located on the subject property. The ECHD is significant under Criterion 3. The first of these is the existing fire station, which was built as part of the overall construction of the Embarcadero Center and was designed by master architect John Portman. Given its intrinsic ties to the development of the Embarcadero Center, and its related architectural character, the fire station was found to be a contributor to the ECHD. *Untitled*, the sculpture designed by Henri Marie-Rose and attached to the fire station (to which its content is closely related) is similarly contributory to the ECHD. *Untitled* was also identified as being individually eligible to the California Register of Historical Resources as an object under Criterion 3. The HRER Part 1 identified the following character-defining features:

Fire Station

- Massive cubic form
- Vertically oriented metal panels
- Darkened windows
- Blank, exposed concrete band at the upper level
- Apparatus bays
- Circular, metal SFFD sign
- Flat roof

Sculpture

- Visually prominent position on a building occupying a corner location
- Visually prominent position on the exterior of Fire Station No. 13, with which the sculpture is historically associated
- Copper construction
- Verdigris (patina)
- Overall design that includes abstract figures and typographic elements

PART II: Project Determination:

Based on the Historic Resource Evaluation in Part I and the assessment below, the project's scope of work:

☒ Will cause a significant impact to the individual historic resource as proposed.
☐ Will cause a significant impact to a historic district / context as proposed.

☐ Will not cause a significant impact to the individual historic resource as proposed.
☒ Will not cause a significant impact to a historic district / context as proposed.

PART II: Project Evaluation

Proposed Project:		Per Drawings Dated:
☒ **Demolition / New Construction**	☒ **Alteration**	September 22, 2020

PROJECT DESCRIPTION

- Removal and reinstallation of the existing sculpture on the exterior of the new, proposed fire station
- Complete demolition of the existing fire station
- Construction of a 17-story mixed-use hotel and office tower that will also include retail space and a new, approximately 28,000 square-foot fire station for the City and County of San Francisco Fire Department

PROJECT EVALUATION

As noted on the site plan seen in project plans (Sheet 12) and the Project Description, the sculpture found to be individually eligible as an object is proposed to be removed from its location on the existing fire station and reinstalled partway down (easterly) the block along Washington Street at the exterior of the new fire station, or along the Merchant Street elevation of the new mixed-use building. This would follow demolition of the existing 530 Sansome building and new construction of the overall project. Pursuant to guidance from the California Office of Historic Preservation and its State Historical Resources Commission, the relocation of historic resources from their existing site and setting is discouraged but is recognized as occasionally necessary in order to prevent the destruction of a resource. As such, a resource eligible as an object would remain a historic resource if it is moved to prevent its demolition at its former site and reinstalled at a new location compatible with the original character and use of the historic resource. The resource "should retain its historic features and compatibility in orientation, setting, and general environment."[1]

Proposed for potential reinstallation further east along the subject block of Washington Street, the sculpture would likely be relocated to a primary façade of a fire station; one that will have a cubic form and largely opaque exterior akin to that of 530 Sansome. Moved only partway down the block and continuing to be located at the exterior of a fire station, the sculpture would retain its integrity of setting, association, materials, workmanship,

[1] "Technical Assistance Series #7," California Office of Historic Preservation, accessed December 15, 2020, https://ohp.parks.ca.gov/pages/1056/files/07_TAB%207%20How%20To%20Nominate%20A%20Property%20to%20California%20Register.pdf

and feeling with its placement at the façade of a structure with a compatible character and use in compliance with Secretary of the Interior Standard No. 9. However, while the project's intent is for secure removal and reinstallation of the sculpture, current plans and supporting documentation fail to confirm the definite location of the sculpture and fail to identify the methods by which the sculpture can be safely removed, stored, and reinstalled in a manner and location that would not result in irreparable damage to its distinctive materials, features, and setting. Given this and the potential for irreversible damage to the sculpture, the proposal does not meet Secretary of the Interior Standard Nos. 1, 2, 5, and 10 and has the potential to result in a significant impact to the individually eligible sculpture.

In the event it is discovered that locating the sculpture at the exterior of the proposed fire station is infeasible, the Project Sponsor shall coordinate with the Planning Department to determine an equally appropriate, prominent and publicly-accessible location that is compatible with the existing orientation, setting, and general environment of the sculpture as outlined in the Mitigation Measures below.

Mitigation Measures

Although the proposed removal and relocation of the sculpture has the potential to cause a significant impact to the sculpture, it appears this impact could be mitigated. Mitigation measures related to impacts to historic architectural resources for this project will include the following:

1. Interpretation: The project sponsor shall facilitate the development of an interpretive program focused on the history and design of the *Untitled* sculpture. The interpretive program should be developed and implemented by a qualified professional with demonstrated experience in displaying information and graphics to the public, such as a museum or exhibit curator. The primary goal of the program is to educate the public about the sculpture, the work of artist Henri Marie-Rose, and the historical association of the sculpture with the Embarcadero Center and Fire Station 13.

   This program shall be initially outlined in a proposal for an Historic Resources Public Interpretive Plan (HRPIP) subject to review and approval by Planning Department Preservation staff. The HRPIP will lay out the various components of the interpretive program that shall be developed in consultation with an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards, and approved by Planning Department staff prior to issuance of a site permit or demolition permit.

   The interpretative program shall include the installation of permanent on-site interpretive displays. All interpretative material shall be publicly available. For physical interpretation the plan shall include the proposed format and accessible location of the interpretive content, as well as high-quality graphics and written narratives. The interpretative plan may also explore contributing to digital platforms that are publicly accessible, such as the History Pin website or phone applications. Interpretive material could include elements such as virtual museums and content, such as oral history, brochures, and websites. The interpretative program should also coordinate with other interpretative programs currently proposed or installed in the vicinity or for similar resources in the city, such as the San Francisco Fire Department Museum.

   The HRPIP shall be approved by Planning Department Preservation staff prior to issuance of the architectural addendum to the site permit. The detailed content, media and other characteristics of such interpretive program shall be approved by Planning Department Preservation staff prior to issuance of a Temporary Certificate of Occupancy.

2. Relocation Plan. Prior to issuance of the architectural addendum to the site permit the project sponsor shall provide a relocation plan to be reviewed and approved by the Planning Department to ensure that the sculpture will be removed from the building, transported, and stored during construction in a manner that will protect the historic resource. The relocation plan will identify the storage location for the sculpture and report on its condition during construction. The relocation plan will also include a prominent publicly accessible location on the project site for reinstallation of the sculpture which will be finalized in consultation with Planning Department preservation staff, preferably on the exterior of the proposed fire station. The relocation plan will also include an initial reinstallation plan and maintenance plan for the sculpture and schedule for reviewing and finalizing those plans in consultation with Planning Department preservation staff prior to issuance of Temporary Certificate of Occupancy.

The final mitigation measures will be included in the Mitigated Negative Declaration. Planning staff believes that implementation of these mitigation measures would reduce the project's impact to historic resources to a less than significant level.

DISTRICT COMPATIBILTY AND IMPACTS ANALYSIS

As detailed in the HRER Part 1, the fire station is tied to the overall development of the Embarcadero Center and was designed by Portman to incorporate design elements from the Center. However, while both the subject building and the sculpture contribute to and are part of the Embarcadero Center, they are not elements of its design as initially conceived, which consisted of four interconnected mixed-use towers and a hotel. While demolition of 530 Sansome and relocation of the sculpture will remove this example of Portman's work and this complication in the implementation of the Embarcadero Center, the removal of the fire station will not significantly impact the remaining five contributing buildings. The remaining contributors will continue to express Portman's vision of the Center. Additionally, the sculpture will be relocated within the proposed development, likely on the exterior of the proposed fire station.

As noted above, the proposed new construction is not directly adjacent to the remaining contributing buildings of the ECHD. The new building would be compatible with the district in massing and scale, featuring a base architecturally distinct from its upper levels (as with the EC towers) and a strict, mostly uniform exterior parti, another nod to Portman's design of the ECHD. While more heavily fenestrated and visually lighter than the concrete/tinted glass EC buildings, as noted, the new construction will not be immediately adjacent to the remaining EC buildings and these design elements will not impact the district.

The Planning Department has therefore determined that demolition of the subject building and relocation of the sculpture will not cause an adverse impact resulting in material impairment to the eligible Embarcadero Center Historic District.

CUMULATIVE IMPACTS ANALYSIS

The most recent work to publicly accessible character defining features completed at the Embarcadero Center entailed the remodel of all four office tower lobbies; these alterations were found to be consistent with the Secretary of the Interior's Standards for Rehabilitation. Other than the proposed project, there are no past, current, or future foreseeable projects that could significantly impact the character of the district. Given this and the analysis above, the project would not result in any cumulative impacts to the eligible Embarcadero Center Historic District.

PART II: Approval

Signature: Allison Vanderslice Date: 12/18/2020

Allison Vanderslice, *Principal Preservation Planner*
CEQA Cultural Resources Team Manager, Environmental Planning Division

CC: Claudine Asbagh, Principal Planner
Northeast Team, Current Planning Division

Alana Callagy, Senior Planner
Environmental Planning Division

APPENDIX B

Transportation Study

530 Sansome Street Transportation Study

San Francisco Planning Department Case No. 2019-017481ENV

Prepared for:
San Francisco Planning Department

April 2, 2021

SF20-1114

FEHR & PEERS

Table of Contents

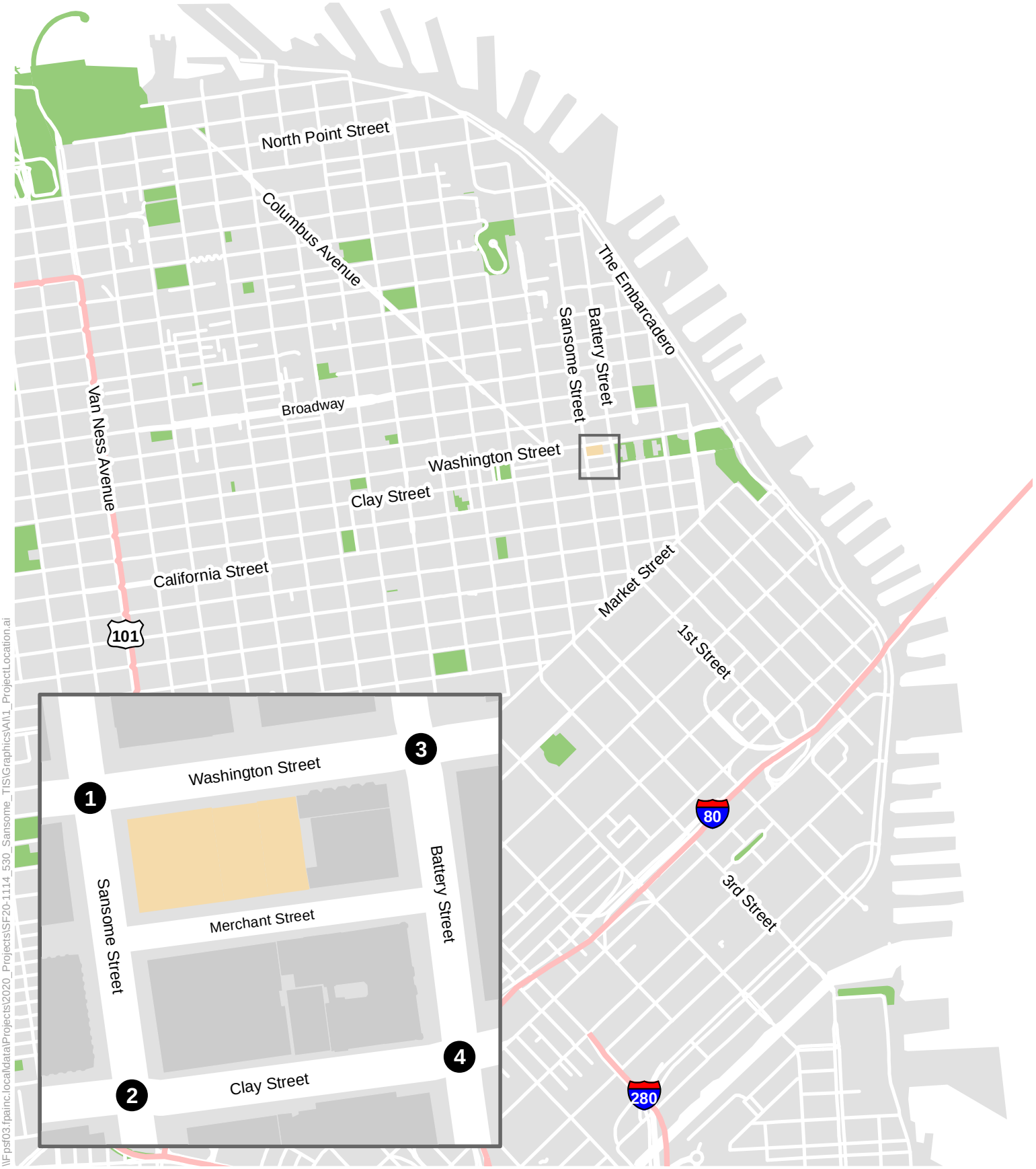
List of Figures

List of Tables

Introduction

Fehr & Peers prepared this transportation study for the proposed mixed-use retail, hotel, office, gym and fire station replacement project at 530 Sansome Street, Case No. 2019-017481ENV herein referred to as the "proposed project." This study also includes the analysis of a residential variant that would replace the hotel, office, and gym components of the proposed project with 256 dwelling units. Located in the Financial District and the Downtown Plan Area, the approximately 0.41-acre project site is bordered by Sansome Street to the west, Battery Street and private property to the east, Washington Street to the north, and Merchant Street to the south. **Figure 1** shows the project location and surrounding street network.

This transportation study documents the existing transportation setting, regulatory framework, and project travel demand; and then assesses transportation-related impacts under existing plus project and residential variant conditions and cumulative conditions. The final section summarizes the project-related and residential variant-related impacts, and improvement and mitigation measures. The following sections describe the existing project site and the key attributes of the proposed project and residential variant related to transportation conditions.



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\AI\1_ProjectLocation.ai

Project Site

Study Intersection

Figure 1

Project Location and Study Area

Existing Site

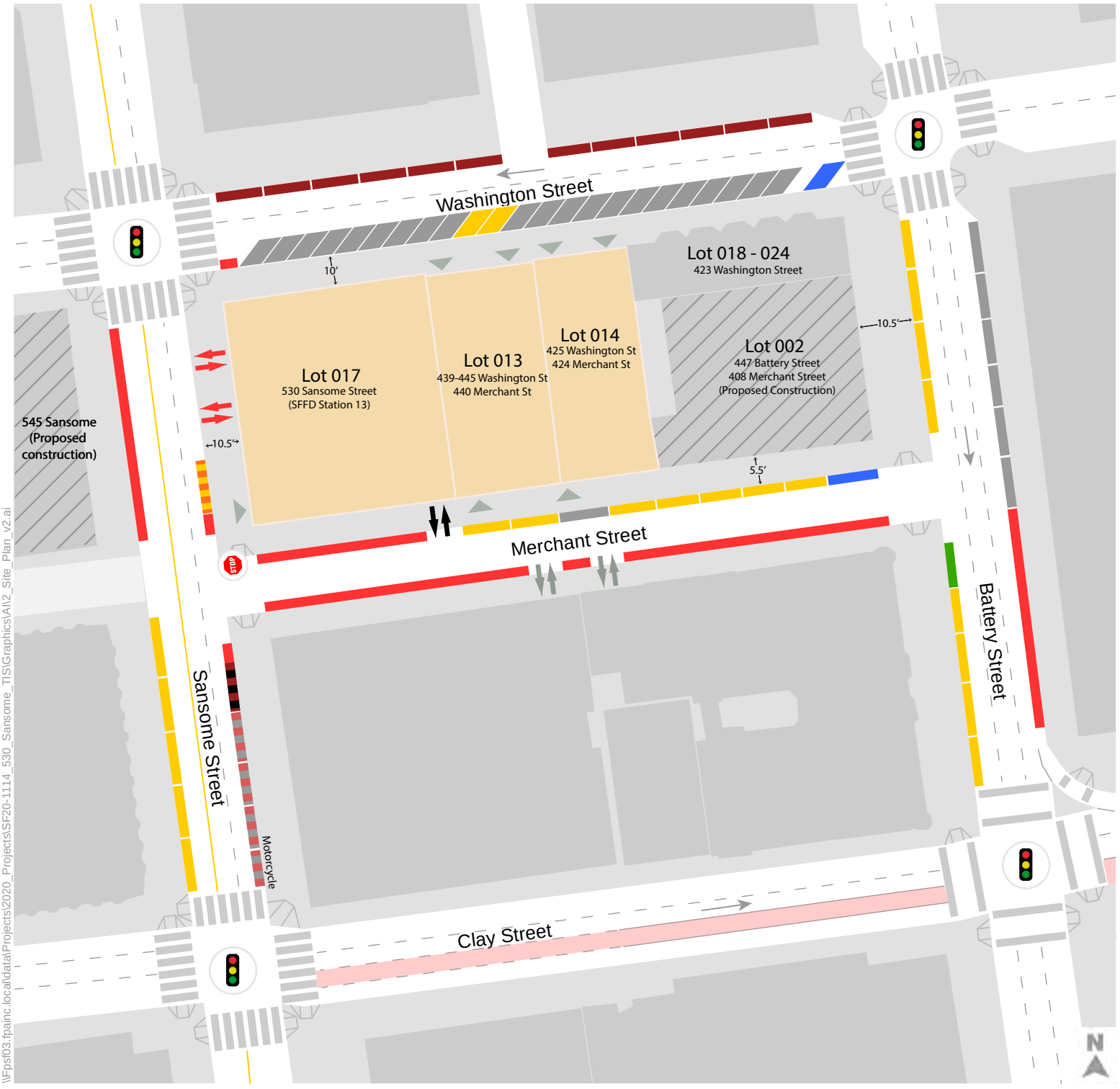
The existing project site is currently occupied by San Francisco Fire Department (SFFD) Fire Station 13, and two three- and two-story commercial buildings with office uses. Fire Station 13 consists of emergency vehicle bays, equipment storage, administrative office, and SFFD personnel areas, including 21 stalls for automobile parking located in a ground-level garage accessed from Merchant Street. The existing land uses are listed in **Table 1** and described below.

Table 1: Existing Project Site Characteristics

	Total
Land Use and Gross Floor Area (sf)	
Office	20,718 sf
Public Facility (Fire Station 13)	18,626 sf
Off-Street Loading and Parking Facilities	
Freight/Service Loading	-
Passenger Loading	-
Automobile Parking	**21 stalls**

Source: SOM Architects, 2020; Fehr & Peers 2020.

Figure 2 shows the existing site plan. Fire Station 13 occupies the site's westernmost parcel with frontages along Washington Street, Sansome Street, and Merchant Street. Fire station facilities include four fire apparatus bays, equipment storage areas, crew quarters, and a 21-stall off-street parking facility. Fire apparatus and parking garage access are from Sansome Street and Merchant Street, respectively. East of Fire Station 13, the two commercial buildings are each situated on approximately 4,000-square-foot parcels. The first building adjoins Fire Station 13's eastern property line and consists of a two-story commercial building. The building's north and south edges abut Washington and Merchant streets, respectively. The second building is a three-story commercial building that anchors the project site's eastern edge, adjoins the two-story commercial building to the west, and fronts Washington and Merchant streets to the north and south, respectively. Both commercial buildings have no off-street parking, loading, or vehicle access. Primary pedestrian access for each building is from Washington Street, and service entrances are provided from Merchant Street.



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\AI\2_Site_Plan_v2.ai

Metered Parking

Short-Term Parking / Accessible Parking

Passenger Loading / Commercial Loading

Law Enforcement Parking Only / No Parking

Tow-Away, 3 PM - 7 PM

Driveway

Loading Dock

Fire Station Access

Pedestrian Entry

Curb Cut

Project Site

Proposed Construction

Transit/Taxi Only Lane

Figure 2

Existing Site Plan

Project Description

This transportation impact study evaluates two mixed-use project concepts: the "proposed project" and the "residential variant." Land uses and parking facilities are summarized in **Table 2** while access and circulation characteristics for all modes are described in detail below. Common to both proposals is the demolition of all existing uses and relocation of Fire Station 13 from the Sansome Street frontage to the Washington Street frontage with new facilities, apparatus bays, and crew quarters. The Planning Department has preliminarily determined that the proposed project and residential variant would be subject to conditions of approval relating to driveway loading and operations and, for the proposed project, the project's Privately Owned Public Open Spaces (POPOS) programing and activation plan on Merchant Street. These conditions would describe the guidelines for managing loading activity and, for the proposed project, balancing the needs of the POPOS users with vehicle access to the project's parking garage and loading spaces.

Table 2: Project and Residential Variant Land Uses

Land Use Type	Proposed Project[1]	Residential Variant[1]
Hotel	149,965 sf 200 rooms	-
Residential	-	257,400 sf 191 Studio/1-Bedroom/Jr 1-Bedroom 38 2-Bedroom 27 3-Bedroom
Gym	35,230 sf	-
Restaurant	8,770 sf	-
Office	40,490 sf	-
Public Facility (Fire Station 13)[2]	20,350 sf	20,300 sf
Car Parking	48 parking spaces 1 car share parking spaces	82 parking spaces 2 car share parking spaces
Bicycle Parking[3]	22 Class 1 bicycle parking spaces 26 Class 2 bicycle parking spaces	143 Class 1 bicycle parking spaces 19 Class 2 bicycle parking spaces
Off-Street Freight Loading	1 loading 2 service vehicles	1 loading 2 service vehicles
Passenger Loading	5 spaces on Sansome Street (all times except weekdays 3:00 to 7:00 p.m.) 2 spaces on Merchant Street (weekdays 3:00 to 7:00 p.m.)	5 spaces on Sansome Street (all times except weekdays 3:00 to 7:00 p.m.) 2 spaces on Merchant Street (weekdays 3:00 to 7:00 p.m.)

Notes:

1. Based on the project summary table provided by the project sponsor dated September 22, 2020. The hotel and restaurant space include 3,250 and 2,300 square feet on level B2, respectively, for the purpose of the transportation analysis.
2. The small increase in the fire departments size would not increase the intensity of this land use as the number of staff or engines at this site would not change with the proposed project or residential variant.
3. Bike parking is calculated per San Francisco Planning Code Sec.155.2. Project provides 26 of the 30 Class 2 required bike parking spaces. Remainder of parking spaces (4) are proposed to be provided through a Zoning Administrator variance and in-lieu fee payment, pursuant to Sections 305 and 307(k)(2)(D)-(E). The residential variant's 19 Class 2 bicycle parking spaces would meet the required 19 spaces.

Source: SOM, 2020; Fehr & Peers, 2020.

Proposed Project Features

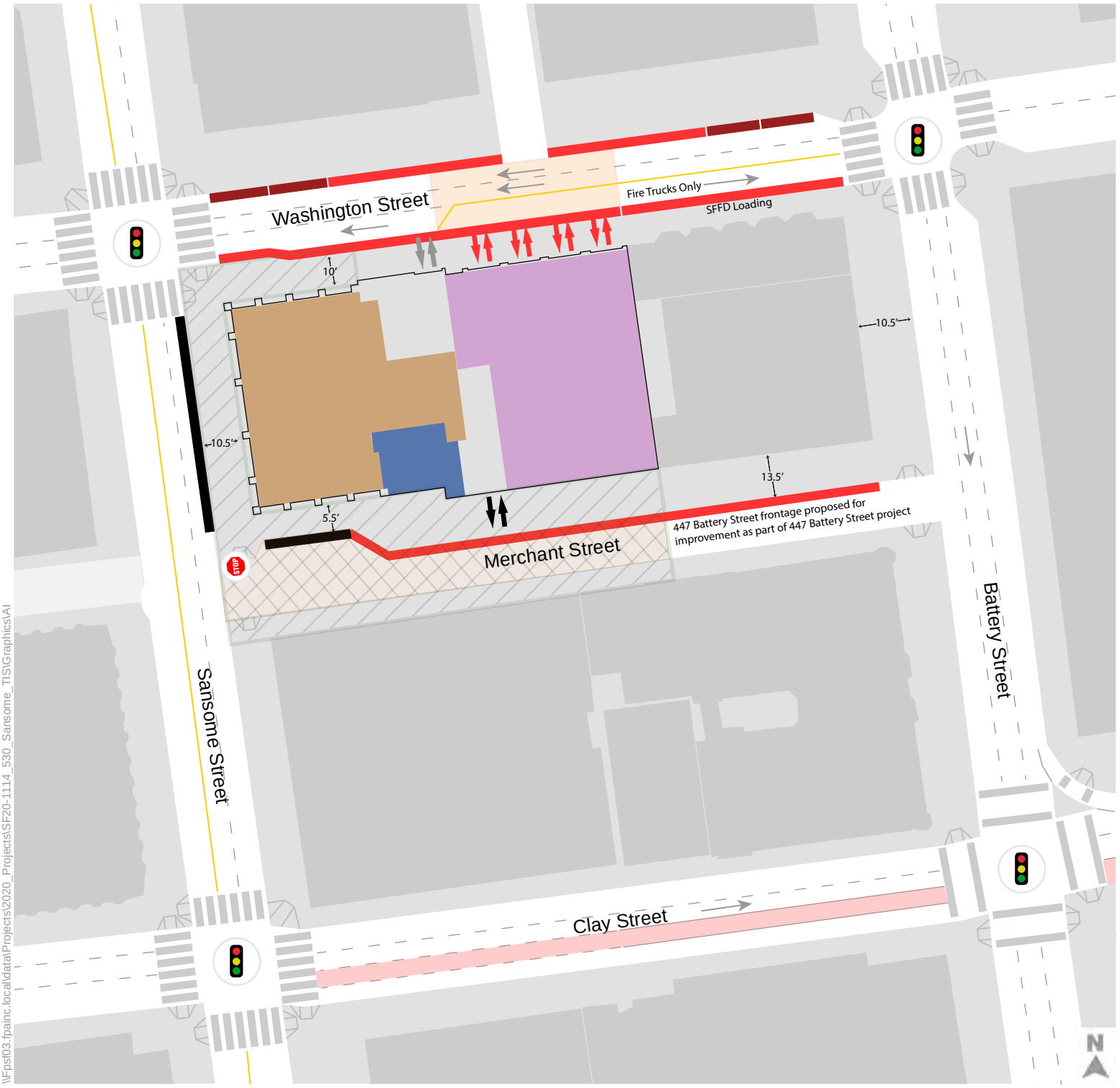
In addition to the fire station use, the proposed project consists of a 149,965 sf 200 room hotel (including 3,250 sf on level B2), 35,230 sf gym, 8,770 sf restaurant (including 2,300 square feet on level B2), and 40,490 sf of office space. The lobby and primary pedestrian entrance for the restaurant would be on Sansome Street while the lobby and primary pedestrian entrance for the gym and office use would be on Merchant Street. The hotel lobby would be located on the corner of Sansome and Merchant streets and accessible from both streets. Public improvements include enhanced streetscape elements along all project frontages with major alterations to the Merchant Street cross section that will transform the alleyway to a shared street.[1] The proposed shared street features include a flush curb[2] between sidewalk and travel way on the street's north (Project) side, street trees, seating, and decorative paving.[3,4] The proposed project site plan and transportation features are shown in **Figure 3**, **Figure 4**, and are presented in more detail below. **Appendix A** presents the complete set of site design drawings, including designs for each level of the parking garage.

[1] "Shared street" is a right-of-way that is designed at a single surface with no grade differentiation between street and sidewalk areas, and where roadway space is shared between people walking and slow-moving vehicles. It is also referred to as "shared public way."

[2] A "flush curb" is a feature of a shared street, and refers to the absence of grade differentiation between the sidewalk and the travel way.

[3] To meet the city's POPOS requirements, the project sponsor proposes improving portions of the Merchant Street frontage and right of way as open space (i.e., shared street, curbless on the north side and with other open space amenities) and proposes a programming and maintenance plan including a temporary and partial street closure. The project sponsor is responsible for maintaining and activating the POPOS to City standard in perpetuity. If, due to various City requirements, Merchant Street cannot be a shared street meeting the POPOS requirement, the project sponsor will need to provide POPOS on the project site, which will likely require building design change and coordination with UDAT and potentially additional environmental review. There is no POPOS requirement for the residential variant. The residential variant would include the shared street improvements to Merchant Street, but the space would not be regulated as POPOS.

[4] In coordination with the 447 Battery Street project and adjacent property owners, the Merchant Street shared street would extend for the entire block between Sansome and Battery streets; however, the segment along the 447 Battery Street project frontage may not be constructed before the completion of the 530 Sansome Street project, in which case the project sponsor would coordinate with SFMTA and SF Public Works to design a transition zone between the existing street and proposed shared street.



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\AI

Ground Floor Land Use Program

- Hotel / Restaurant
- Office / Gym
- Fire Station 13

Vehicle Access Locations

- Driveway
- Loading Dock
- Fire Station Access

Color Curb Changes

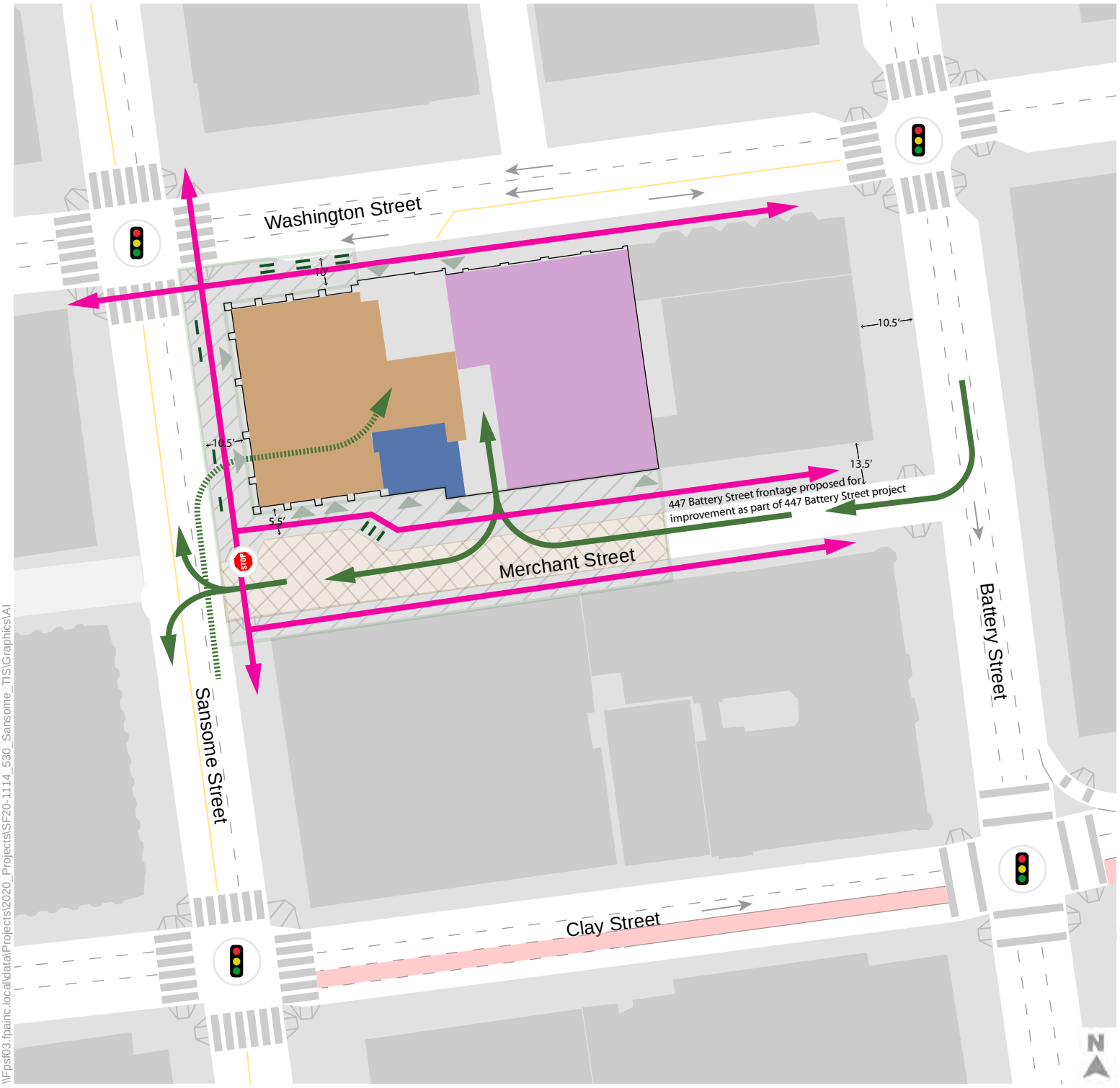
- New Passenger Loading
- New No Parking
- Preserved Law Enforcement Parking

Streetscape Improvements

- Shared Street
- Improvement Area[2]
- Fire Station Keep Clear Zone

Figure 3

Motor Vehicle Access



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\AI

Ground Floor Land Use Program

- Hotel / Restaurant
- Office / Gym
- Fire Station 13

Circulation Routes

- Pedestrian Circulation Routes
- Bicycle Circulation - *access via garage ramp*
- Bicycle Circulation - *access via elevator*
- Pedestrian Entry

Streetscape Improvements

- Shared Street
- Improvement Area[2]
- Bicycle Parking

Figure 4

Pedestrian and Bicycle Access

Construction Features

The proposed project would be constructed over an approximately 29-month-long construction schedule that would start in December 2021 and conclude in April 2024. Typical construction hours would be from 7:00 a.m. to 6:00 p.m., seven days a week. Construction activities would include, but not be limited to site demolition, preparation, grading and excavation, pile installation, foundation construction, building construction, architectural coating, the installation of utilities, paving, interior finishing and exterior streetscape, hardscaping, and landscaping. Aspects of the construction schedule that could affect transportation facilities adjacent to the project site includes a continuous 20-hour concrete pour for the mat slab foundation. The project sponsor also notes that night noise permits for the concrete pour phase will be requested from the San Francisco Department of Building.

All staging is expected to occur on-site; however, due to the limited area available on site, all phases may require intermittent sidewalk and/or lane closures along project frontages for public safety and to permit equipment access. Given that specific details about sidewalk and lane closures are not available at this time, under a worst-case scenario (i.e., a most impactful scenario), the fronting sidewalks could be closed on Sansome, Washington, and Merchant streets simultaneously. The sidewalk closure on Washington Street would require removal of the parking lane on the south side of Washington Street to create a temporary sidewalk. The closure of the northern sidewalk on Merchant Street would require that people walk on the sidewalk on the south side of the alleyway. The closure of the eastern sidewalk on Sansome Street would require the temporary removal of the existing commercial loading spaces and closure of the northbound peak period (3:00 to 7:00 p.m.) tow-away lane.

Over the course of project construction, the entirety of Washington Street would be closed for a two-day weekend period for tower crane erection and then again for tower crane dismantling. The easternmost northbound lane of Sansome Street and the southernmost westbound lane of Washington Street would be closed for a one-day period during the mat foundation placement. During project construction, closures of those same travel lanes on Sansome and Washington streets could be necessary for two single-day periods for utility work. Nighttime closure of Merchant Street could be necessary on two separate days for utility work.

The proposed project would generate up to 60 trucks per day during the excavation periods of the construction. Trucks would use Third and Kearny streets to reach Clay Street then Sansome Street to reach the project site and Clay, Drumm, and Washington streets to reach The Embarcadero or Washington Street to Montgomery Street to leave the site. Trucks would enter the site from Sansome or Washington street, depending on where the construction is occurring.

The approximate average number of construction workers onsite at a time would be 120, with a maximum of 270 workers between December 2022 and April 2024 during the building construction and architectural coating phases. The assumptions and methodology for project construction trips are documented in **Appendix B**.

During the entire construction period, Fire Station 13 operations will be relocated to nearby fire stations and SFFD resources adjusted as needed to serve the station's operating area. The existing conditions section identifies four fire stations near the project site where SFFD could temporarily reassign Fire Station 13 personnel and equipment. See **Appendix B** for the locations of these four fire stations. Furthermore, the relocation of Station 13's operations would not require construction of any new facilities.

Motor Vehicle Parking Features

The proposed project's parking facilities include 48 off-street parking stalls and one designated car-share space located within a three-floor underground parking facility. The proposed project would provide access to the garage through one 10-foot-wide driveway curb-cut on the Merchant Street frontage approximately 110 feet east of the Sansome Street curb face. Eighteen of the 48 off-street parking stalls are dedicated to SFFD staff use while the remaining 30 stalls are available for hotel, restaurant, gym, or office parking. The garage is configured in a threaded-helix arrangement with drive aisles that widen adjacent to parking stalls and narrow on ramps. Between floors, including street level and the first parking level, the ramp is approximately 12 feet wide, which would not permit simultaneous two-way vehicle travel. This design would not conflict with planning code requirements.[5] Parking stalls are oriented at 90 degrees to the drive aisle and include 16 tandem stalls, which would likely be used by the hotel valet. The detailed drawings of the proposed garages are presented in **Appendix A**.

The building's elevator and stairwell core provide person access between the parking levels and the building's hotel uses but the gym and office elevators do not serve the garage levels. A separate elevator and stairwell core provide person access between the 18 Fire Station-designated parking stalls in garage basement level B3 and the fire station.

Parking for fire trucks would be provided within four fire apparatus bays that face Washington Street. All are accessed from an approximately 74-foot-wide driveway curb-cut located approximately 115 feet east of the Sansome Street curb face. In order to accommodate the turning movements for fire trucks vehicles in and out of the driveway, the proposed project would replace the eight law-enforcement parking spaces on the north side of Washington Street and all the parking spaces on the south side of Washington Street with red curb. The red curb on the south side of Washington Street would also be available to SFFD for informal loading and short-term parking activity that occurs as a part of routine operations.

While vehicle through access on Merchant Street would be discouraged during certain hours if POPOS programming includes temporary Merchant Street closures, access to the project's parking and service vehicle loading facilities would be available at all hours via Merchant Street. The specific design of this vehicle access may include a lane for authorized vehicles (e.g., service vehicles, SFFD staff vehicles, valet attendants) connecting to Sansome Street.

[5] San Francisco Planning Code Section 155(c), 155(l), and 155(s).

Fire Station Access Features

The proposed project in coordination with SFMTA would include the following features to facilitate access of fire apparatus into and out of the rebuilt fire station:

- "Keep clear" zone across all travel lanes on Washington Street beginning approximately 110 feet east of the Sansome Street curb face and extending approximately 80 feet to the east as shown on **Figure 3**.
- An eastbound contraflow fire lane between the western edge of the Fire Station driveway and the Battery Street intersection as shown on **Figure 3**.
- Traffic signal equipment updates to provide SFFD with signal pre-emption on Washington Street at the Sansome and Battery street intersections. Signal operations will be configured to clear westbound vehicles on Washington Street and hold traffic for eastbound SFFD departure events that would otherwise oppose the normal flow of traffic.
- A SFFD-approved traffic control feature at the Project's off-street loading dock that would restrict commercial vehicle egress from the loading dock during an emergency vehicle departure event.
- "No Stopping" red curb along the length of the south side of Washington Street between Sansome and Battery streets. On the north side of Washington Street, two red curb zones flank the curb returns of Custom House Place: first, an approximately 70-foot-long zone extends from the westerly Custom House Place curb face; second, an approximately 65-foot-long zone extends from the easterly Custom House Place curb face. The red curb on the south side of Washington Street would also be available to SFFD for informal loading and short-term parking activity that occurs as a part of routine operations.

Loading Features

A total of three off-street freight loading spaces are proposed: two service vehicle loading spaces and one standard loading space. The project proposes one 12-foot-wide by 30-foot-deep off-street freight loading dock at ground level on the Washington Street frontage, designed to accommodate a 30-foot-long freight trucks without blocking the sidewalk on Washington Street. This loading dock is accessed from a 12-foot-wide curb cut and driveway located approximately 98 feet east of the Sansome Street curb face and just west of the fire apparatus bays. The loading bay requires a back-in maneuver against the traffic flow and across the sidewalk on Washington Street. The two service vehicle loading spaces are 20 feet long by eight feet wide and situated within garage level B2. Per the San Francisco Planning Department's Transportation Impact Analysis Guidelines for Environmental Review (2019 SF Guidelines), the freight loading demand peak period is from 11:00 a.m. to 2:00 p.m. Full freight loading demand estimates for the project are presented in the project travel demand section.

The project proposes to create two time-restricted, curbside valet-attended, passenger loading zones. The primary loading zone spans 99 feet (approximately five spaces) along Sansome Street between Washington and Merchant streets—the entire block face excluding curb returns. The secondary, p.m. peak period from 3:00 to 7:00 p.m., loading zone extends 40 feet (approximately two spaces) east along the Merchant Street frontage beginning at the Sansome Street property line. The Sansome Street zone would

operate at all times except for the weekday p.m. peak period (3:00 to 7:00 p.m.) due to the peak period tow-away lane on Sansome Street. During this time, the valet station would shift to the Merchant Street passenger loading zone, which provides space for two passenger vehicles to load.[6] All non-SFFD off-street parking would be served by the valet drivers, who would drive around the block from the Sansome Street loading zone via Jackson, Battery, and Merchant streets before entering the off-street parking facility. When serving the secondary loading zone on Merchant Street, valet drivers would also follow the same route to access the off-street garage. As noted in the project travel demand section, the peak period for passenger loading is 5:00 to 8:00 p.m. per the 2019 SF Guidelines. Consequently, both the primary (Sansome Street) and secondary (Merchant Street) loading zones would need to serve peak demand.

The proposed project would be subject to conditions of approval relating to driveway loading and operations and the project's POPOS programing and activation plan on Merchant Street. The driveway loading and operations conditions of approval would create guidelines for the project sponsor to manage loading activity, such as through coordinating with for-hire vehicle companies, providing off-street facilities attendants, coordinating commercial loading activities, and creating protocols for large vehicle deliveries. The conditions of approval governing the POPOS programing and activation plan on Merchant Street would ensure that access to the project's service loading spaces would be available at all hours via Merchant Street, including times when through or unauthorized access on Merchant Street would be discouraged. The specific design for this vehicle access will be approved by SFMTA and the Planning Department through the POPOS programing and activation plan conditions of approval and may include a lane for authorized vehicles (e.g., service vehicles, SFFD staff vehicles, valet attendants) connecting to Sansome Street.

Pedestrian Access Features

Primary pedestrian access between the building and public sidewalks are provided via street-level doors facing Sansome Street and Merchant Street. As shown in **Figure 4**, the hotel and restaurant uses are accessed from the Sansome Street and Merchant Street frontages while the office and gym use access faces Merchant Street. The hotel lobby would be located on the corner of Sansome and Merchant Streets and accessible from both streets. Both access points provide direct, conspicuous, barrier-free access between the building and the adjacent public sidewalks. Fire station pedestrian access is from both Washington Street and Merchant Street via standard doorways and informally by the apparatus bay roll-up doors.

Proposed streetscape changes are summarized below and shown in project site plans, presented in **Appendix A**. Sidewalk widths are listed in **Table 3**.

- **Merchant Street:** Merchant Street from Sansome Street to the eastern edge of the proposed project will be transformed from a standard commercial alleyway to a shared street with a flush

[6] The Merchant Street loading spaces would be utilized for loading during the PM peak period (3:00 pm to 7:00 pm) and programmed with movable furniture during typical business hours (i.e., for use as POPOS).

curb along the north side of the street and vertical curb along the south side. The Merchant Street segment east of the project site to Battery Street would rely on the adjacent property at 447 Battery Street to extend this street design for the remaining portion of the block and therefore is not part of the proposed project. The shared street will be programmed with movable furniture during typical business hours for use as POPOS, during which time physical features including, but not limited to, signage will be used to discourage through traffic on Merchant Street while allowing vehicle access to and from the project's parking garage. The proposed project would be subject to conditions of approval that would provide guidelines for these features as a part of the project's POPOS programing and activation plan on Merchant Street. Other features include street trees, seating, decorative paving, and two raised crosswalks—one at either end of the street. New street lighting is not shown on project plans. Existing street lighting is concentrated at the street ends with mid-block illumination reliant on adjacent buildings.

- **Sansome Street:** Along the project frontage, the sidewalk would be rebuilt to accommodate the 12-foot-wide legislated sidewalk and new street trees planted within the sidewalk furnishing zone. A map of City Sidewalk and Grade that presents the legislated sidewalk width is presented in **Appendix C.** As described above, a raised crosswalk would be installed at the intersection with Merchant Street.
- **Washington Street:** Street trees are not proposed, and the existing 10-foot sidewalk width would remain except for a five-foot-wide bulb-out at the southeast corner of Sansome and Washington streets where new directional curb ramps would be installed.

Table 3: Existing and Proposed Sidewalk Widths

Street	Existing	Proposed
Washington Street	10 feet	10 feet
Sansome Street	10.5 feet	12 feet
Merchant Street	5.5 feet	9.5-12.5 feet[2]
Battery Street[3]	10.5 feet	10.5 feet

Notes:
1. Measurements are from face of curb to property line.
2. Exclusive of shared pedestrian-vehicle travel way.
3. Shown for information only. Project will not have frontage along Battery Street.

Source: SOM, 2020; Fehr & Peers, 2020

Bicycle Parking Features

The proposed project would provide 22 Class 1 bicycle parking spaces within the underground parking garage level B1 and 26 Class 2 bicycle parking spaces within the project's public street frontages. The Class 1 bicycle parking facility is accessed from the street-level pedestrian access points via the building's stairwell system, service elevators, or parking garage driveway. The location of the 26 Class 2 bicycle parking spaces are shown on **Figure 4**. Due to Fire Department requirements for frontage, it is not feasible to provide additional on-street bicycle parking spaces. As noted in **Table 2**, the remainder of the

required Class 2 bicycle parking spaces would be provided through a Zoning Administrator variance and in-lieu fee payment, pursuant to Sections 305 and 307(k)(2)(E).

Transportation Demand Management Plan

San Francisco Planning Code section 169 identifies the applicability of the transportation demand management (TDM) Program and establishes the TDM Program Standards for new development. Based on these requirements, the project is subject to the TDM Program and must submit a TDM Plan. The proposed project would include a TDM plan that would implement some or all of the following measures to reduce vehicle trips and encourage sustainable modes of transportation.

- Improve conditions for people walking through corner bulb-outs and streetscape improvements on Washington and Merchant streets;
- Provide secure bike parking to meet planning code requirements;
- Provide showers and lockers to support active transportation modes;
- Off-street parking for the office use would be priced and unbundled from an office lease; and
- Transportation marketing services, wayfinding signage, and/or real-time transportation displays.

Consistent with requirements outlined in San Francisco Planning Code section 169, the project sponsor commits to monitoring, reporting, and compliance throughout the life of the project to ensure the TDM Plan is being implemented correctly, on an ongoing basis.

Residential Variant Features

Compared to the proposed project, the residential variant would maintain Fire Station 13's proposed location on Washington Street while substituting the project's hotel, gym, office, and restaurant uses with 256 residential units totaling approximately 257,400 sf of gross floor area. The unit mix consists of 191 Studio/1-Befroom/Jr 1-Bedroom, 38 2-Bedroom, and 27 3-Bedroom units. The uses, size, and parking facilities are summarized and compared to the proposed project in **Table 2**. The residential variant would include similar features and be subject to the same conditions of approval as the proposed project related to driveway loading and operations, with the exception of the amount and design of the motor vehicle and bicycle parking, as described below. The residential variant would not be subject to the conditions of approval related to POPOS programming and activation plan on Merchant Street.

Motor Vehicle Parking Features

The residential variant would provide 82 off-street parking stalls and 2 car share parking stalls within the three-level subterranean garage. Of the 82 stalls, 61 would be designated for residential parking with the remaining 21 designated for the fire station. Level B3 would include a gate or other barriers that separate fire station and residential parking areas. Except for the bottom floor, each parking level provides continuous one-way circulation. Both the residential and fire station elevators and stairwell cores connect to all floors. Non-SFFD parking in the residential variant would be for residents, which would be provided by valet service similar to the proposed project.

Bicycle Parking Features

The residential variant would provide 143 Class 1 bicycle parking spaces within a separate bicycle storage room in the underground garage on level B1. The residential variant would provide 19 Class 2 bicycle parking spaces within the public sidewalk along the project frontages as shown on **Figure 4**.

Transportation Demand Management Plan

The residential variant's TDM plan is tailored to the residential uses and include the following strategies which differ from the proposed project:

- Provision of residential off-street parking at a rate lower than the neighborhood parking rate;
- Off-street parking for residential uses would be priced and unbundled from the price of the dwelling units;
- A bicycle repair station for the use of project occupants; and
- Delivery-supportive amenities to lessen the need for personal travel.

Existing Conditions

This section provides a description of the existing transportation and circulation setting near the project site. It includes descriptions of the existing roadway network, transit service, conditions for people walking and bicycling, intersection operating conditions, on-street loading, and emergency access. Intersection operations account for the existing land uses on the project site. The study area, shown in **Figure 1**, includes the block and adjacent intersections bordered by Washington Street to the north, Clay Street to the south, Sansome Street to the west, and Battery Street to the east.

The proposed project would be operational in 2024. The long-term effects of the ongoing COVID-19 pandemic on the transportation system are unknown at this time. Thus, it would be unreasonable to speculate how the transportation system and travel behavior could change in the future, at the time the project is operational. For these reasons, the analysis in this study relies on transportation data and conditions prior to COVID-19 to establish existing conditions near the project site and estimate the project's travel demand.

The following conditions were considered for this analysis:

- **Motor Vehicle/Traffic Conditions:** Vehicle operations near the project site;
- **Walking/Accessibility and Bicycling Conditions:** Facilities adjacent to the project site, as well as routes to and from nearby transit lines;
- **Public Transit Conditions:** Muni operations within ¼ mile of the project site and connections to regional transit providers;
- **Emergency Vehicle Access:** Services conditions at and adjacent to the project site;
- **Vehicle Miles Traveled:** Existing vehicle miles traveled for the transportation analysis zone (TAZ)[7] and region where the project site is located; and
- **Loading Conditions:** On-street commercial and passenger loading facilities near the site.

A site visit conducted in November 2020 confirmed existing transportation facilities within the study area such as roadway geometry, curb designations, transit stops, and bicycle and pedestrian facilities. Recent changes in the study area include corner bulb outs at Washington and Battery streets.

[7] Planners use these zones as part of transportation planning models for transportation analyses and other planning purposes. The zones vary in size from single city blocks in the downtown core, multiple blocks in outer neighborhoods, to even larger zones in historically industrial areas.

Local Roadways

Local access to the project site is provided by the surrounding street grid network. This section describes the key local roadways that provide access to and from the project site. Existing vehicle turning movement counts at project study intersections are shown in **Figure 5**.

Table 4 lists local roadways in the study area by street name, cardinal direction, typical number of lanes, General Plan and Vision Zero High Injury Network (HIN)[8] designation, Better Streets Plan designation, transit routes that use the street, and bicycle facilities provided. A narrative description following **Table 4** provides additional details not covered in the table.

Table 4: Local Roadways

Street Name	Direction	Number of Lanes	General Plan Designation	High Injury Network	Better Streets Plan Designation	Muni Routes	GGT Routes	Bicycle Facilities
Sansome Street	North-South	2/3[1]	Secondary Arterial	No	Downtown Commercial	10, 12, 41, 30X, 82X	27, 54, 72	Class III, south of Washington
Battery Street	North-South	3	Secondary Arterial	No	Downtown Commercial	None	27, 54, 72	Class III, south of Clay
Washington Street	East-West	2	Major Arterial	Yes	Downtown Commercial	41	None	Class III, west of Sansome
Clay Street	East-West	3	Major Arterial	No	Downtown Commercial	1, 41	None	Class III, west of Battery
Merchant Street	East-West	1	None	No	Alley	None	None	None

Notes:
1. A northbound peak hour tow away lane is provided during the weekday p.m. peak period from 3:00 to 7:00 p.m.
Source: Fehr & Peers, 2020

Sansome Street is a downtown commercial street that runs north-south from the Embarcadero in the north to Market Street in the south. Between Washington Street and Clay Street, Sansome Street is a two-way roadway with time restrictions on the number of lanes and types of vehicles that may use the street. Sansome Street has two northbound lanes during the weekday p.m. peak period (3:00 to 7:00 p.m.) and one northbound lane at all other times. Sansome Street has one southbound lane, which is restricted to buses, taxis, commercial vehicles, and bicycles between 7:00 a.m. and 8:00 p.m. every day. Sansome Street has parallel parking and motorcycle parking on the east side and commercial loading on the west side

[8] The City and County of San Francisco adopted Vision Zero as a policy in 2014, with the goal of zero traffic deaths for all ways people travel, including people in vehicles, walking, and bicycling. The network identifies streets in San Francisco where most severe and fatal injuries are concentrated. The network helps the City target traffic safety investments to reduce severe and fatal injuries to people walking, bicycling, and driving in those locations.

south of Merchant Street. No parking or loading is permitted between Merchant and Washington streets due to the access requirements for the existing Fire Station 13 building. Sansome Street and Battery Street serve as a couplet pair of roadways in and out of the Financial District to and from the north.

Sansome Street is designated as a Class III bike route[9] south of Washington Street and serves several Muni and Golden Gate Transit (GGT) routes. Several Muni routes, including the 10 Townsend, 12 Folsom-Pacific, and two peak period routes – 30X Marina Express and 41 Union (outbound only), run along Sansome Street and make stops at Sansome and Washington streets and Sansome and Clay streets. Additionally, the 82X Levi Plaza Express (outbound only) runs along Sansome Street during peak hours and makes a stop at Sansome and Washington streets. Lastly, Golden Gate Transit routes – 27, 54, and 72 to Marin and Sonoma County run along Sansome Street during peak periods and stop on Sansome Street between Clay and Merchant streets.

Battery Street is a downtown commercial street that runs north-south from the Embarcadero in the north to Market Street in the south. Between Washington and Clay streets, Battery Street is a one-way southbound roadway with three lanes. Battery Street has parallel parking on both sides of the street, except on the east side, south of Merchant Street. The 82X Levi Plaza Express (inbound only) runs along Battery Street during peak periods and makes a stop at Battery and Jackson streets, a block north of the study area. Golden Gate Transit routes – 27, 54, and 72 from Marin and Sonoma County run along Battery Street during peak periods and stop at Battery and Jackson streets. In addition to serving as the southbound couplet to Sansome Street to and from the north, Battery Street connects on its southern end (via First Street) with Interstate 80.

Washington Street is a downtown commercial street that runs east-west from the Embarcadero in the east to Arguello Boulevard in the west, with a gap at Alta Plaza Park. Between Battery Street and Sansome Street, Washington Street is a one-way westbound roadway with two lanes. Washington Street has angled parking on the south side of the street and no parking on the north side of the street except for law enforcement vehicles. East of Battery Street, the angled parking switches to the north side of the street, with standard parallel parking on the south side. West of Sansome Street, both sides of the street are configured for parallel parking, allowing for a third travel lane. No transit routes run along the block of Washington Street adjacent to the project site; however, the block immediately to the west of Sansome Street carries the outbound 41 Union during peak periods, including a stop on Washington Street at Sansome Street. Washington Street west of Sansome Street is designated a Class III bike route. Washington Street is included in the 2017 Vision Zero High Injury Network from mid-block between Sansome and Battery streets, extending to the west.

[9] Class III facilities provide for shared use with motor vehicle traffic. Class III facilities consist of designated and signed bicycle routes where bicyclists share the roadway with vehicles. They may or may not be marked with "sharrows," and they are usually signed.

Clay Street is a downtown commercial street that runs east-west from Drumm Street in the east to Arguello Boulevard in the west, with a gap at Lafayette Park and at the California Pacific Medical Center's Pacific Campus. Between Battery Street and Sansome Street, Clay Street is a one-way eastbound, three lane roadway designated as a Class III bike route. The southernmost travel lane is a bus and taxi only lane. The southern curb lane accommodates a bus stop, a single commercial loading space, and a right turn pocket onto Battery Street. Clay Street has parallel parking and a passenger loading zone on the north side of the street. Clay Street includes the inbound 1 California and 41 Union (during a.m. and p.m. peak periods), with stops for both routes at Clay and Sansome streets.

Merchant Street is an alley that runs east-west between Battery Street and Redwood Park, a privately-owned public space just west of Sansome Street. Merchant Street is a one-way westbound, one lane alleyway with commercial loading on the north side and sidewalks on both sides of the street. The north side of Merchant Street at Sansome Street is used informally for parking by the SFFD. The Club Quarters hotel (424 Clay Street at Battery Street) hotel has service doors and curb cuts on the south side of Merchant Street. However, these areas are used for the storage of trash and laundry bins for collection and the reception of large or bulky deliveries, and the Club Quarters hotel's primary entrance and passenger loading zone is on Clay Street. Merchant Street does not carry any transit or designated bike routes.

Motor Vehicle / Traffic Conditions

Intersection counts and observations of traffic conditions were collected on August 23, 2017 during the p.m. peak period (4:00 – 6:00 p.m.) at the project study intersections as part of the adjacent 447 Battery Street Project.[10] These turning movement counts are shown in **Figure 5**.

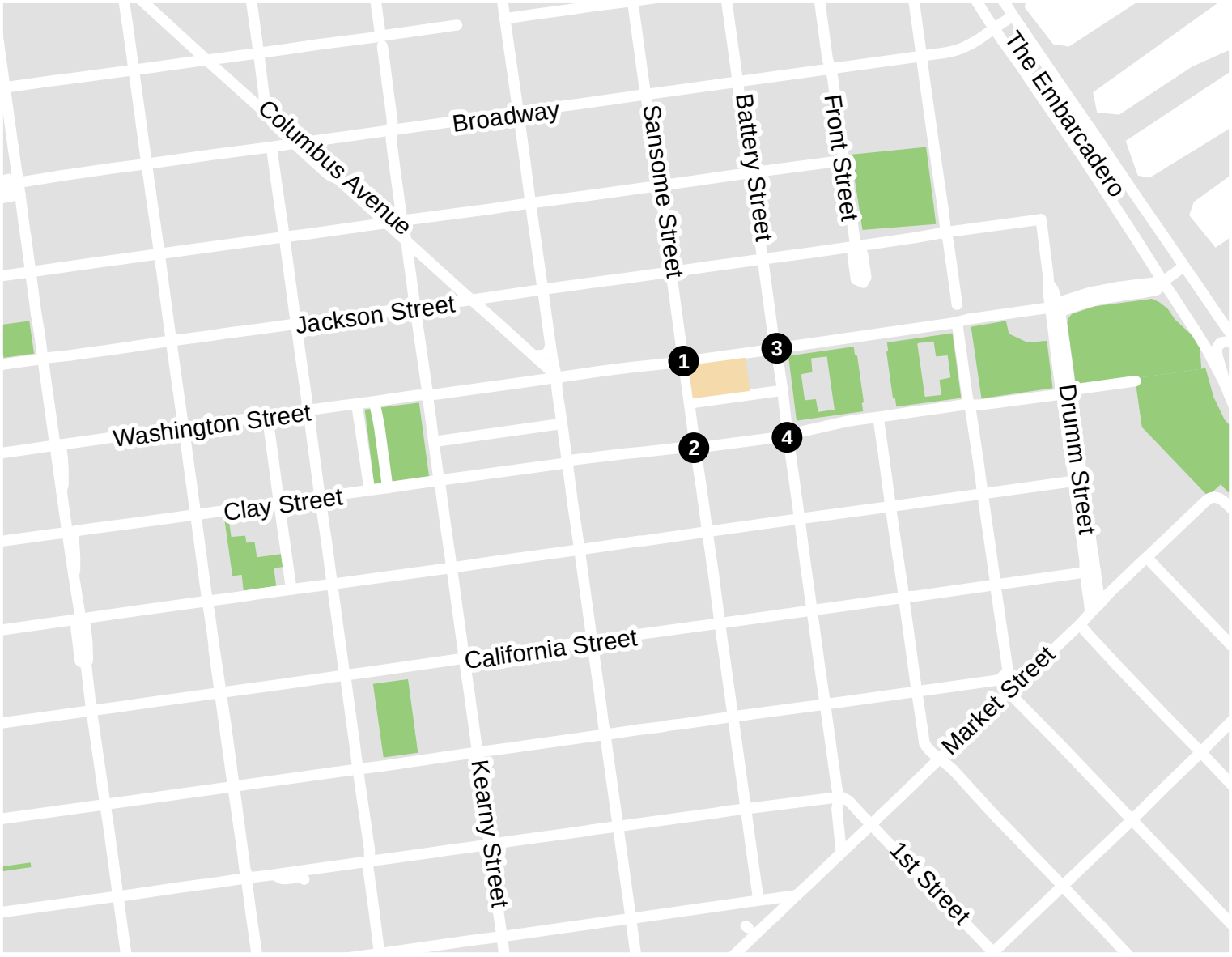
During the p.m. peak hour, vehicle volumes are similar along all four streets adjacent to the project site: Washington Street, Clay Street, Battery Street, and Sansome Street. Among those, the lowest volume street was Washington Street, with 450-550 vehicles during the p.m. peak hour. The highest volume street was Battery Street, with 850-950 vehicles during the p.m. peak hour. Clay Street experienced volumes of 600-800 vehicles during the p.m. peak hour and Sansome Street experienced volumes of 600-750 during the p.m. peak hour, with roughly 90 percent of the volume in the northbound direction. A keep clear zone on Sansome Street ensures vehicles do not block SFFD access to Fire Station 13 during periods with more traffic. Vehicle queues do not extend between intersections within the study area. Vehicle queues on Battery Street that often extend back from several blocks from First and Market streets do not typically reach the study area.

[10] The intersection counts and observations used in this study were collected for the 447 Battery Street project. These counts and observations have been used to represent normal conditions prior to the start of the ongoing COVID-19 pandemic, which has temporarily altered transportation and circulation operations and patterns. AECOM, *447 Battery Street Transportation Impact Study Final Report* (Planning Department Case No. 2014-1036ENV), November 7, 2019.

The observed number of heavy vehicles (i.e., trucks), as a percentage of overall traffic volume at study intersections in the p.m. peak varies by location. Battery Street and Washington Street both see a low number of trucks (under five percent). The number of trucks along Clay Street are slightly higher, around seven percent. The highest heavy vehicle volumes are found along Sansome Street (10 percent in the northbound direction and 25 percent in the southbound direction). The number of trucks traveling southbound, though, is largely the result of the restriction of this segment to transit, taxis, and commercial vehicles for much of the day, including during the p.m. peak. As previously mentioned, overall southbound vehicle volumes on Sansome Street are low (less than 80 vehicles near the Project site).

Public Transit Conditions

Primary public transit access to the project site is provided by San Francisco Muni bus service. Additional service is provided by Golden Gate Transit buses during peak periods with direct service to the North Bay. The East Bay, Peninsula, and South Bay are accessible via Muni connections, walking, or bicycling to stops on Market Street and to the south serving AC Transit (East Bay), WestCAT (East Bay), BART (East Bay and Peninsula), Caltrain (Peninsula and South Bay) and SamTrans (Peninsula). Transit routes and stops near the project site are shown in **Figure 6**.



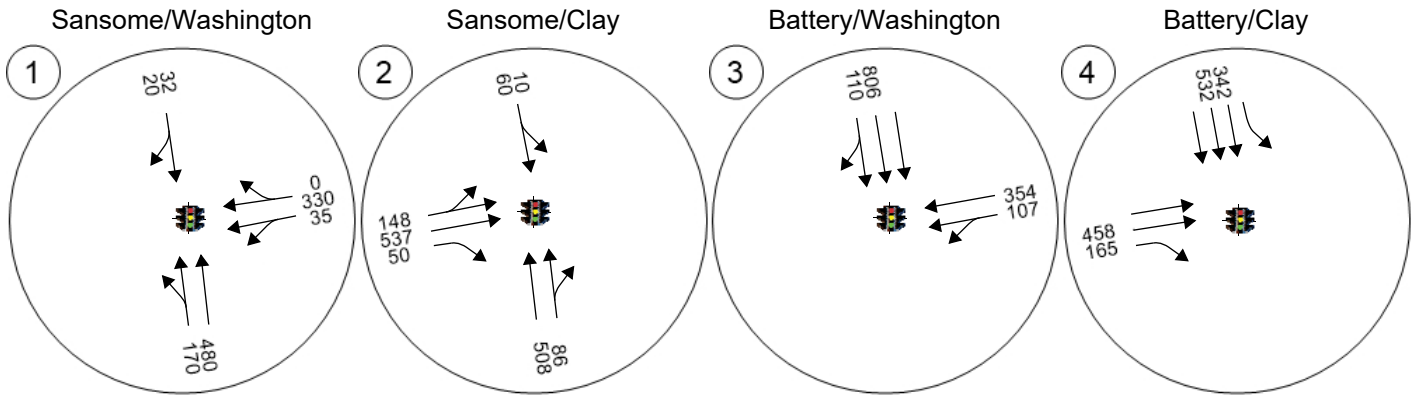
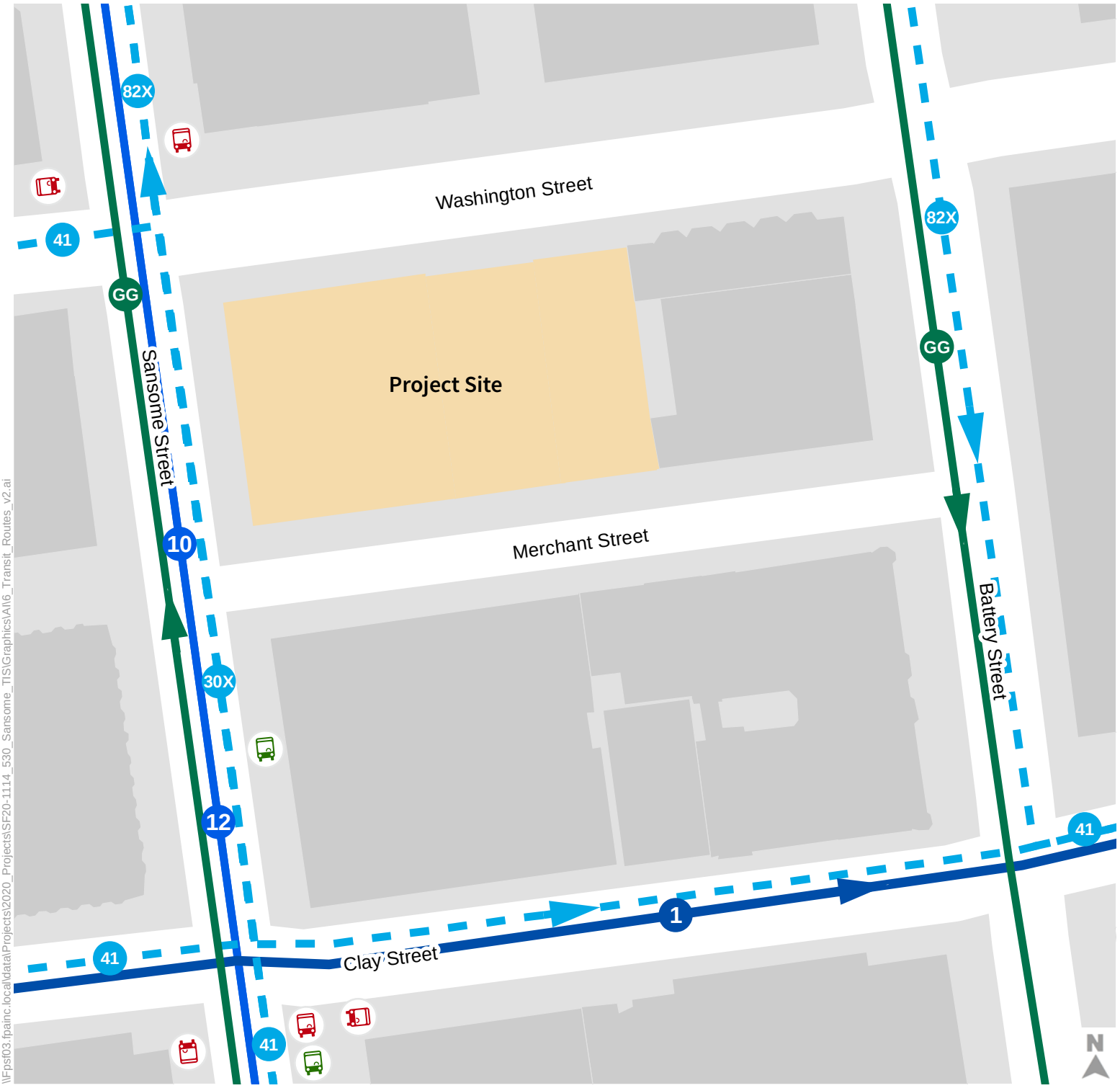


Figure 5

Intersection Traffic Volumes
Existing



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\AI\6_Transit_Routes_v2.ai

Every 10 minutes or less

Every 10 - 20 minutes

Peak hour only

Golden Gate Transit (peak hour only)

Muni Stop

Golden Gate Transit Stop

Project Site

As of December 2020, the following routes are temporarily suspended due to the COVID-19 pandemic:
Muni: 10, 30X, 41, 82X - https://www.sfmta.com/travel-updates/covid-19-muni-core-service-plan
Golden Gate: 2, 4, 8, 18, 24, 24X, 38, 38A, 56X, 58, 72X, 74, 76 - https://www.goldengate.org/golden-gate-bus--ferry-services-adjusted-during-coronavirus-pandemic/

Figure 6

Existing Transit Network

San Francisco Muni

Muni operates six bus routes in the vicinity of the project site: three all-day routes and three peak-only routes. These routes and their service are summarized in **Table 5**. In addition, Muni operates Muni Metro and Muni Rapid bus services from Market Street, roughly six blocks away, which connect to the western and southern portions of the city.

Table 5: Muni Operations

Route[1]	A.M. Peak Headway[2]	P.M. Peak Headway[3]	Hours of Operation	Closest Stop(s) to Project Site	Areas Served by Route
1 California	4	3	All Day	Clay & Sansome (Inbound); Sacramento & Sansome (Outbound)	Western Addition; Lower Pacific Heights; Presidio Heights; Richmond
10 Townsend	15	15	All Day	Sansome & Washington (Inbound); Sansome & Clay (Outbound)	Pacific Heights; Nob Hill; SoMa; Potrero Hill
12 Folsom-Pacific	15	15	All Day	Sansome & Washington (Inbound); Sansome & Clay (Outbound)	Nob Hill; SoMa; Mission
41 Union	5	8	Weekday only; a.m. and p.m. Peak	Clay & Sansome (Inbound); Washington & Sansome (Outbound)	Pacific Heights; Russian Hill; SoMa
30X Marina Express	6	10	Weekday only; a.m. and p.m. Peak	Sansome & Clay (Inbound); Sansome & Washington (Outbound)	Marina; SoMa
82X Levi Plaza Express	15	15	Weekday only; a.m. and p.m. Peak	Sansome & Washington (Inbound); Battery & Jackson (Outbound)	Telegraph Hill; SoMa

Notes:
1. As a result of the COVID-19 pandemic, as of January 2021, Muni Metro routes have been converted to bus service and many Rapid routes have been temporarily eliminated. As of January 2021, Route 1 is active, Routes 10, 41, 30X and 82X are suspended, and Route 12 is shortened.
2. Weekday at 8 a.m.; Frequencies in minutes; information collected prior to the start of ongoing COVID-19 pandemic.
3. Weekday at 5 p.m.; Frequencies in minutes; information collected prior to the start of ongoing COVID-19 pandemic.

Source: SFMTA website, including COVID-19 Core service plan at https://www.sfmta.com/travel-updates/covid-19-muni-core-service-plan.

Golden Gate Transit

Golden Gate Transit operates 16 peak period-only routes along Sansome Street and Battery Street, with service to Marin and Sonoma Counties. These routes and their service characteristics are summarized in **Table 6**.

Table 6: Golden Gate Transit Operations

Route[1]	A.M. Peak Headway[2]	P.M. Peak Headway[3]	Route Destination
2	30	30	Marin City
4	12	12	Strawberry
8	60	60	Tiburon/Belvedere
18	20	20	Kentfield/College of Marin
24/24X	20	20	Fairfax
27	30	30	San Rafael/San Anselmo
38/38A	30	30	Terra Linda/Marinwood
54	20	20	Novato
56X	30	30	Novato
58	30	30	Hamilton/Novato
72	60	60	Petaluma/Cotati/Santa Rosa
72X	20	20	Santa Rosa
74	30	30	Petaluma/Cotati/Santa Rosa
76	30	30	Petaluma

Notes:
1. As a result of the COVID-19 pandemic, as of January 2021, Golden Gate Transit is operating reduced service. Routes have been temporarily eliminated. Routes are suspended except for Routes 27, 54, and 72, with Route 27 adjusted to terminate in San Rafael.
2. Weekday at 8 a.m.; Frequencies in minutes; information collected prior to the start of ongoing COVID-19 pandemic.
3. Weekday at 5 p.m.; Frequencies in minutes; information collected prior to the start of ongoing COVID-19 pandemic.

Source: Golden Gate Transit website, including COVID-19 Core service plan at https://www.goldengate.org/golden-gate-bus--ferry-services-adjusted-during-coronavirus-pandemic/

Regional Transit Service

Bay Area Rapid Transit (BART)

BART provides regional rail service between the East Bay (from Antioch, Richmond, and Dublin/Pleasanton), South Bay (from Berryessa/North San Jose), San Mateo County (from SFO Airport and Millbrae), and San Francisco. Operating hours are from 4:00 a.m. and midnight.[11] Within downtown San Francisco, BART operates underground below Market Street. The BART stations most accessible to the site are Embarcadero and Montgomery Stations, which are six to seven blocks south of the project site, an eight-to-ten-minute walk or three-to-seven-minute bus ride.

[11] However, as a result of the pandemic, operating hours as of November 2020 are 5:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends. Prior to the COVID-19 pandemic, weekday p.m. peak headways were 5 to 15 minutes for each line. As of November 2020, all lines are operating at 30-minute headways.

Caltrain

Caltrain provides passenger rail service on the Peninsula between San Francisco and San Jose with stops in San Mateo County and Santa Clara County. Limited Service is available south of San Jose. Caltrain operates 46 roundtrip services on weekdays (including 11 Baby Bullet services) and 12-14 roundtrip services on weekends (including 2 Baby Bullet services).[12] Within San Francisco, Caltrain terminates at the Fourth & King Station in SoMa, which is located approximately 1.7 miles south of the Project site. From the Project site, the Caltrain station is 35 to 40 minutes walking, 15 minutes cycling, or 10 to 15 minutes by the 82X Levi Plaza Express or 10 Townsend buses.

AC Transit

The Alameda-Contra Costa Transit District, operating as AC Transit, operates bus service in western Alameda and Contra Costa, as well as the majority of Transbay bus routes. Prior to the COVID-19 pandemic, AC Transit operated 27 Transbay routes from the East Bay to the San Francisco, as well an additional all-night Transbay route. All of the 27 routes except for three operated at peak hours only, with headways of 15-20 minutes.[13] Most Transbay routes operate out of the Salesforce Transit Center in SoMa, between Mission and Howard streets and Second and Beale streets. The Transit Center is approximately 0.7 miles southeast of the Project site, a 15-minute walk, seven-minute bicycle ride, or five-minute ride on the 10 Townsend bus. The 800 all-night route operates along Market Street, roughly 0.4 miles southeast of the Project site.

SamTrans

The San Mateo County Transit District, operating as SamTrans, operates bus service in San Mateo County, with select routes in San Francisco. SamTrans Routes 292, 397, 398, and FCX connect downtown San Francisco with various destinations in San Mateo County.[14] SamTrans services operate from Drumm Street & Clay Street in the Financial District, approximately 0.3 miles east of the Project site, a six-minute walk. With the exception of select FCX stops, SamTrans does not allow trips within San Francisco.

Ferry Operators

The Water Emergency Transportation Authority (WETA), operating as the San Francisco Bay Ferry, provides ferry service between San Francisco and Alameda, Oakland, Richmond, and Vallejo from the San Francisco Ferry Building. WETA operates ferries on 30- to 60-minute headways, depending on time and day of week.[15] In addition to its bus service, Golden Gate Transit also operates ferry service between San Francisco and Larkspur, Sausalito, and Tiburon from the San Francisco Ferry Building. The Larkspur route

[12] As of November 2020, weekday Baby Bullet services have been eliminated and service has been reduced to 35 roundtrip services on weekdays; weekend service remains the same.
[13] As of November 2020, AC Transit has reduced operations to its three all-day Transbay routes, serving Berkeley, Emeryville, Oakland, and Alameda, as well as the 800 all-night service.
[14] As of November 2020, service on these routes remains, with headways reduced to every 30 to 60 minutes.
[15] As of November 2020, services to South San Francisco and Harbor Bay in Alameda remain suspended.

operated all-day, every-day service roughly every 30 minutes, the Sausalito route operated all-day, every day (except holidays) service roughly every one to two hours, and the Tiburon route operated weekday peak-only service.[16] The San Francisco Ferry Building is approximately 0.5 miles east of the Project site, an 11-minute walk or five-minute bicycle ride.

Private Operators

Privately operated commuter shuttles are managed by SFMTA under the Commuter Shuttle Program. As of February 2020, all streets in the project vicinity were designated as unrestricted arterials under this program. There are no designated commuter shuttle stops in the vicinity of the project site. However, commuter shuttles, both large motor coaches and smaller vans, were observed traveling on Battery Street and other nearby streets as part of data collection for the adjacent 447 Battery Street project.

Walking/Accessibility Conditions

In addition to the observations conducted on August 23, 2017, a qualitative evaluation of existing conditions was conducted during a site visit on November 24, 2020. While pedestrian counts are not available for sidewalks on Sansome and Washington streets adjacent to the project site, approximately 500 people were counted using the southeast corner of Sansome and Washington streets during the p.m. peak hour, while 800 to 900 pedestrians were counted at the southwest corner of Battery and Washington streets and northeast corner of Sansome and Clay streets. The highest pedestrian activity during the p.m. peak hour within the study area was counted at the corner of southeast corner of Sansome and Clay streets, with approximately 1,400. During the site visits, Sansome and Washington Streets adjacent to the project site have lower pedestrian volumes compared to streets south of the project site where peak period pedestrian volumes noticeably increase as streets approach to the local and regional transit services on Market Street.

All streets in the project vicinity have complete sidewalks on both sides of the street, including the four street segments adjacent to the project site. Typical sidewalk width is approximately ten feet, six inches along Battery, Sansome, and Washington streets, and five feet, six inches along Merchant Street. Although the existing sidewalk widths on Sansome and Washington streets along the project frontage do not meet Better Streets Plan standards, which require a minimum 12 feet and recommended 15 feet width on typical commercial streets, sidewalk widths appeared sufficiently wide for safe pedestrian activity during site visits and do not interfere with accessibility nor create potentially hazardous conditions for people walking. The effective width of the sidewalk is frequently reduced by several feet due to parking meters, signage, streetlights, utility poles, trash receptacles, street trees and planters, and other obstructions; however, there is a four-foot minimum pathway provided on the portions of Battery, Sansome, and Washington streets near the project site, as required by Americans with Disabilities Act (ADA).

[16] As of November 2020, the Sausalito and Tiburon routes are operating a reduced weekday, peak-only service, while the Larkspur route is operating a reduced weekday, all-day service.

Intersections in the project vicinity generally have adequate pedestrian facilities. The intersection of Sansome Street and Washington Street has continental crosswalks, curb ramps with tactile domes, and pedestrian countdown timers at all four crossings. The intersection of Battery Street and Washington Street has recently completed corner bulb outs into Washington and Battery Streets on the southeast and northwest corners, continental crosswalks, curb ramps with tactile domes, and pedestrian countdown timers at all four crossings. The intersection of Sansome Street and Clay Street has continental crosswalks and pedestrian countdown timers at all four crossings. Three of the four corners have curb ramps with tactile domes; the northeast corner has one shared curb ramp oriented to the southbound crossing that lacks any tactile treatment. The intersection of Battery Street and Clay Street has low-visibility parallel crosswalks and pedestrian countdown timers at all four crossings. The southeast corner has curb ramps with tactile domes in both directions, the southwest corner has a single curb ramp with tactile domes oriented toward the eastbound crossing, and the northwest corner has a single curb ramp with tactile domes oriented toward the southbound crossing. The northeast corner has a single curb ramp with tactile domes that serves a short crosswalk across a slip lane, which then branches to serve both crosswalks; the presence of the signal pole partially blocks access to the southbound crossing.

The intersections of Sansome Street and Merchant Street and Battery Street and Merchant Street have no crosswalks and no permitted mid-block crossing of the respective major streets. Both intersections have curb ramps for crossing Merchant Street, but only the southwest corner at Battery Street and Merchant Street has any tactile treatment.

Existing driveways and curb cuts are shown in **Figure 2**. The project site/SFFD Station 13 is currently served by two driveways. One is a small driveway on the north side of Merchant Street which is used to access the fire station's accessory automobile parking, where firefighters park their personal vehicles. This curb cut is used primarily during shift changes. Due to the limited number of parking spaces in the garage, drivers sometimes park along the red curb on the north side of Merchant Street adjacent to the fire station. The other driveway is an approximately 55-foot curb cut on Sansome Street that provides access to the twin bays of the fire station, which occupies the majority of the curb length between Washington Street and Merchant Street.

Intersection pedestrian counts were collected on August 23, 2017 during the p.m. peak period (4:00 – 6:00 p.m.) at project study intersections as part of the adjacent 447 Battery Street Project. The counts are presented in **Appendix D**.

Pedestrian volumes in the study area were substantial at all study intersections. The highest pedestrian numbers were associated with the north-south routes of Sansome Street (600-1,000 along the west side and 300-500 along the east side) and Battery Street (550-700 along the west side and 500-600 along the east side). These volumes can largely be attributed to substantial numbers of people walking to transit connections along Market Street to the south. Pedestrian volumes along the east-west routes ranged from 200-250 along both sides of Washington Street to 300-500 along both sides of Clay Street.

The closest transit stops for Muni and Golden Gate Transit near the Project site are clustered around the intersections of Sansome Street and Washington Street and Sansome Street and Clay Street. Additional

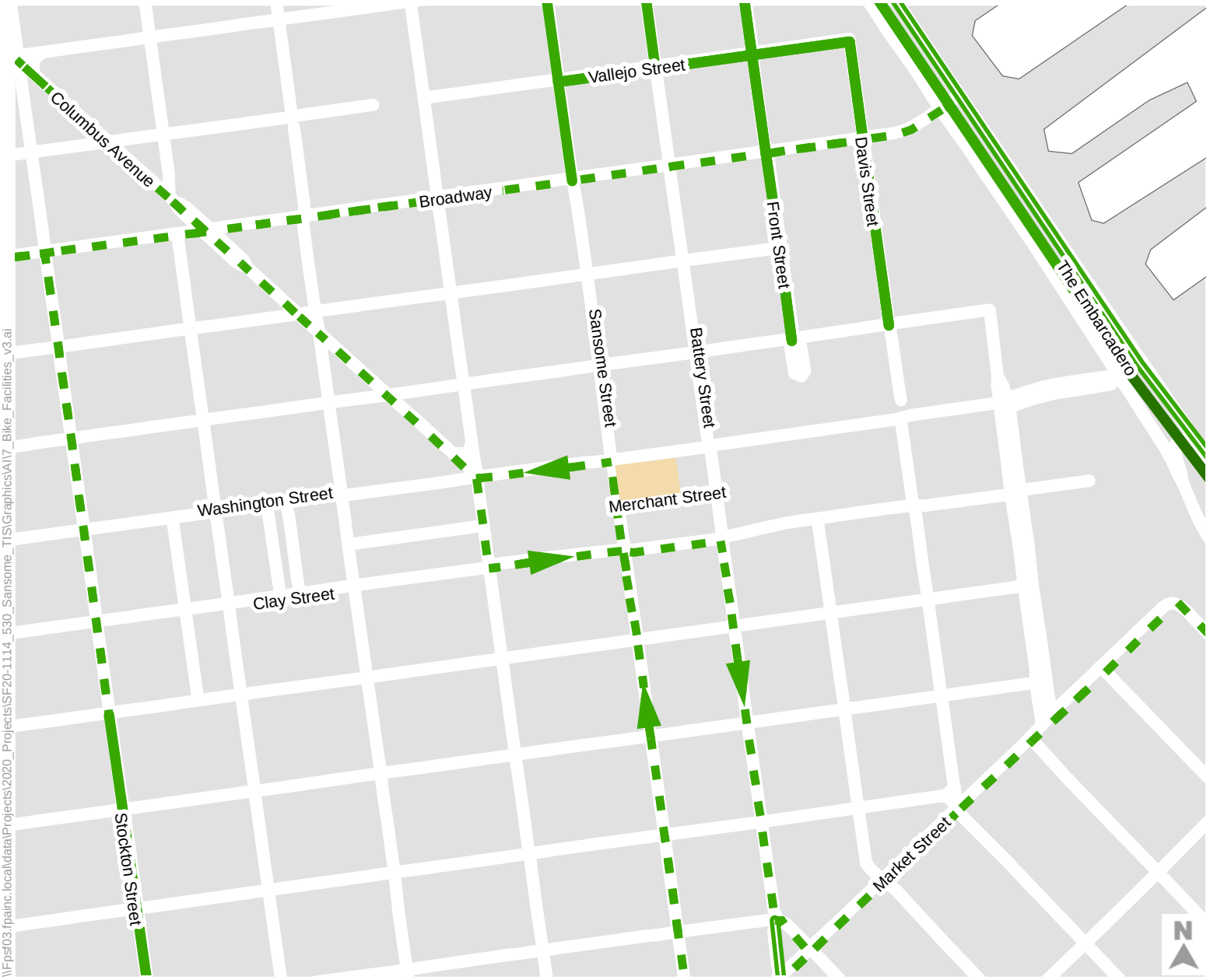
transit stops are located a block away at Battery Street and Jackson Street. People walking to transit have access to sidewalks, curb ramps, and crosswalks connecting between the project site and the transit stop. However, as shown by the p.m. peak pedestrian volumes, a substantial number of people may walk all the way to Market Street and the Salesforce Transit Center to catch regional transit services like Muni Metro, BART, and AC Transit.

There are no schools or other destinations that would draw vulnerable populations (e.g., children, seniors, people with disabilities) within the study area. The nearest school is the San Francisco Unified School District's Chinese Education Center Elementary School (kindergarten through fifth grade) at 657 Merchant Street (between Montgomery Street and Kearny Street) located approximately one quarter mile to the west of the project site.

Bicycling Conditions

Bicycle facilities consist of bicycle roadway markings, bicycle lanes, and multi-use trails or paths. They are grouped into the following four categories. Existing bicycle facilities in the proposed project study area, as designated in the latest San Francisco Bike Network Map, are shown in **Figure 7**.

- **Class I** facilities provide a completely separated right-of-way for the exclusive use for people walking and bicycling with cross-flow minimized. Class I facilities consist of off-street bicycle paths that are generally shared with people walking. Class I facilities may be adjacent to an existing roadway or may be entirely independent of existing vehicular facilities.
- **Class II** facilities provide a striped lane for one-way travel on a street or highway. Class II facilities consist of striped bicycle lanes on roadways. These facilities reserve a minimum of four to five feet of space for bicycle traffic.
- **Class III** facilities provide for shared use with motor vehicle traffic. Class III facilities consist of designated and signed bicycle routes where bicyclists share the roadway with vehicles. They may or may not be marked with "sharrows," and they are usually signed.
- **Class IV** facilities provide a separated bikeway for the exclusive use of bicycles and include a separation between the bikeway and through vehicular traffic. This separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.



Class I Separated Bikeway

Class II Bike Lane

Class III Bike Route

Class IV Separated Bike Lane

Project Site

Figure 7

Existing Bicycle Network

The project area is crossed by a Class III bicycle route couplet. The northbound route of this couplet travels north on Sansome Street and turns to the west at Washington Street adjacent to the project site. The southbound route of this couplet travels east on Clay Street before turning to the south at Battery Street. This bicycle route serves an important function in the city's bicycle network as the primary north-south route through the financial district, connecting bicycle facilities on Market Street to the south with facilities on Columbus Street to the north. Additionally, southbound Sansome Street is marked with "sharrows" and is part of the San Francisco Bike Network map[17] and may provide a desirable route for cyclists, as only buses, taxis, and commercial vehicles are permitted between 7:00 a.m. and 8:00 p.m. every day.

In general, the terrain around the project site is relatively flat, though significant hills exist to the north and west of the project area. However, numerous challenges for bicyclists exist in the area. One-way streets encourage cars to speed and make turns and lane changes that makes travel more complicated and dangerous for cyclists. Additionally, the frequently changing road geometry, including changes to number of travel lanes, curbside parking, and transit-only lanes, can make cycling more difficult. Further sources of conflict could include "dooring" by parked vehicles,[18] and the presence of transit vehicles. The Class III bicycle route on Sansome Street includes "sharrow" markings which are aligned in a manner to aid bicyclists with proper lane position to avoid these dooring hazards and parking restrictions reduce conflicts between bicyclists and parked vehicles during the p.m. peak period. Washington Street, starting mid-block between Sansome Street and Battery Street and extending west, is included in the 2017 Vision Zero High Injury Network as a stretch of roadway where injurious collisions are more likely to occur.

Intersection bicycle counts were collected on August 23, 2017 during the p.m. peak period (4:00 – 6:00 p.m.) at project study intersections as part of the adjacent 447 Battery Street Project.[19] The counts are presented in **Appendix D**.

The highest single-direction bicycle volumes observed were on the one-way Battery Street, with a southbound volume of roughly 40 bicycles. The highest overall bicycle volumes observed were on Sansome Street, with a total volume of 45-60 bicyclists, split roughly between the northbound and southbound directions. Up to 10 bicyclists were observed on Washington Street and Clay Street approaching Sansome Street, with roughly 5 bicyclists turning north on Sansome Street, and 10 bicyclists turning south during the peak hour.

Bikeshare in San Francisco is provided by Bay Wheels, which is operated by Motivate, a subsidiary of Lyft. Bay Wheels offers both docked and dockless bicycles, with a service area covering most of San Francisco.

---

[17] San Francisco Bike Network map can be found here: https://www.sfmta.com/maps/san-francisco-bike-network-map; accessed by Fehr & Peers on April 2, 2021.

[18] Dooring occurs when a driver fails to check for oncoming cyclists before exiting a parked vehicle causing the cyclist to collide with their door.

[19] These counts have been used to represent normal conditions prior to the start of the ongoing COVID-19 pandemic, which has significantly altered bicycle flows in the area.

The nearest bikeshare station to the project site is on Clay Street, just east of Battery Street, about 400 feet southeast of the project site; this station features 31 docks. Other nearby stations are on Commercial Street at Montgomery Street, Washington Street at Kearny Street, and Front Street at California Street.

Dockless electric bikes may be operated and parked anywhere within the study area where they do not block the right-of-way for people walking.

Emergency Vehicle Access

As described in the Project Description, San Francisco Fire Department (SFFD) Station 13 is included in the Project site, on the east side of Sansome Street between Washington Street and Merchant Street. Primary vehicle access for the main fire station garage space is located along Sansome Street and includes a roughly 55-foot curb cut; a "KEEP CLEAR" zone is striped in front of the curb cut. Fire trucks pull out from the garage onto station street and must back into the garage upon return.

As shown in **Appendix B,** additional SFFD fire stations located in the vicinity include:

- Station 2 (Powell Street at Broadway) – Approximately 0.5 miles away
- Station 28 (Stockton Street at Greenwich Street) – Approximately 0.7 miles away
- Station 35 (The Embarcadero at Harrison Street) – Approximately 0.8 miles away
- Station 41 (Leavenworth Street at Jackson Street) – Approximately 0.9 miles away

The Project site is located within the Central District of the San Francisco Police Department (SFPD) and the nearest police station is located on Vallejo Street, between Stockton Street and Powell Street, approximately 0.6 miles from the Project site. This is the only police station within one mile of the Project site.

The nearest hospitals offering basic emergency services are the Chinese Hospital on Jackson Street between Stockton Street and Powell Street, approximately 0.5 miles from the Project site, and Saint Francis Memorial Hospital on Hyde Street between Bush Street and Pine Street, approximately one mile from the Project site. The nearest Level 1 Trauma Center is at Zuckerberg San Francisco General Hospital on Potrero Avenue, approximately 3 miles south of the Project site.

All four streets bounding the Project site's block accommodate emergency vehicle access and the couplet of Sansome Street and Battery Street provides an important north-south route through the Financial District for emergency vehicles. While Merchant Street meets the minimum requirements specified by the SFFD's Division of Planning and Research, larger vehicles may have difficulty accessing it and deploying necessary apparatus.

Vehicle Miles Traveled

Table 7 presents the existing average daily vehicle miles traveled (VMT) for residents in the nine-county San Francisco Bay Area and for transportation analysis zone (TAZ) 804,[20] the zone in which the proposed project and residential variant are located. TAZ 804 is bounded by Sansome Street to the west, Clay Street to the south, Battery Street to the east, and Washington Street to the north.

Table 7: Existing Vehicle Miles Traveled

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Significance Threshold)	TAZ 804
Residential	17.2	14.6	2.5
Office[1]	19.1	16.2	7.9
Retail[2]	14.8	12.6	8.7

Notes:

1. The proposed project would not change the travel characteristics nor number of employees at the fire station and therefore would not result in a change to VMT associated with the fire station. The VMT associated with office is used as a proxy for the amount of VMT generated by the Fire Station 13 employees.
2. Retail is presented as a proxy for the proposed Gym and restaurant land uses as they would provide an amenity to residents, employees, and visitors in Downtown San Francisco in a similar manner to retail services. Due to the density of complementary land uses and high transit accessibility to the project site, they would generate substantially less VMT compared to the rest of the region. For similar reasons, the visitors and employees of the hotel would reflect the travel characteristics of retail and office space, with substantially lower VMT than the significance threshold.

Source: San Francisco Transportation Information Map, 2019, SF Planning; Fehr & Peers, 2020.

Loading

As shown in **Figure 2**, there are several on-street commercial loading (yellow) zones on the block faces surrounding the project site, which were confirmed during a site visit in November 2020. These loading zones include two spaces on Washington Street, one space on Sansome Street, seven spaces along the north side of Merchant Street, and four spaces along Battery Street. Additional on-street commercial loading is available on the west side of Sansome Street north and south of the Project site, on the west side of Battery Street south of the Project site, and on Washington Street to the west of Sansome Street. All of these spaces are metered and marked with yellow curb paint and either yellow-topped meters, for standard commercial vehicles, or red-topped meters, for vehicles with six wheels or more. These spaces are restricted to commercial loading between 7:00 a.m. and 6:00 p.m. Mondays through Saturdays.

[20] TAZs are subdivisions of census tracts. There are 981 TAZs within San Francisco that vary in size from single city blocks in the downtown core, to multiple blocks in outer neighborhoods, to even larger geographic areas in historically industrial areas like the Hunters Point Shipyard. TAZs are used by planners as part of transportation planning models for transportation analysis and other planning purposes.

There are currently no on-street passenger loading zones, identified with white curb paint, adjacent to the Project site. The nearest on-street passenger loading zones are on the north side of Washington Street at Hotaling Place and the north side of Clay Street west of Battery Street. Neither of these loading zones are close enough to serve the needs of the Project.

There are three curb cuts along Merchant Street. The first of these, on the north side of the street, serves the employee parking area for SFFD Station 13. The other two serve small receiving areas for buildings on the south side of Merchant Street. These areas are for the storage of trash and laundry bins for collection and the reception of large or bulky deliveries. These areas do not provide sufficient depth or clearance to serve off-street freight loading.

Field observations were conducted as part of the adjacent 447 Battery Street project during May 2017 (p.m. peak only) and December 2017 (all-day). These counts have been used to represent normal traffic conditions prior to the start of the ongoing COVID-19 pandemic, which has significantly altered traffic flows in the area. The latter study, conducted over three weekdays and one Saturday between 7:00 a.m. and 6:00 p.m., determined that average utilization of commercial loading spaces along the Merchant, Sansome, Washington, and Battery street block faces was only 50 percent, but that commercial loading activity only accounts for an average utilization of six percent of these spaces. The remaining use of these spaces was by non-permitted uses, including general parking (40 percent of activity) and passenger loading pick-up and drop-off (four percent of activity).[21]

[21] Loading utilization rates presented in Appendix I of *447 Battery Street Transportation Impact Study Final Report* (AECOM, Case No. 2014-1036ENV, November 7, 2019).

Project Travel Demand

Project travel demand refers to the new vehicles, transit, pedestrian, and bicycle trips generated by the proposed project or residential variant. In addition, this section documents the project-generated passenger and freight loading demand. The travel demand and freight/service vehicle loading demand are estimated based on observed data and information contained in the 2019 SF Guidelines. The travel patterns associated with the SFFD Fire Station 13 are not presented because neither the proposed project nor the residential variant would alter the number of trips or travel patterns associated with this existing land use. **Appendix E** contains the travel demand calculations and assumptions.

The land use mix for the proposed project and residential variant analyzed in this study is summarized in **Table 2**.

Trip Generation

Table 8 and **Table 9** present the number of new person trips[22] generated by travel demand for the proposed project and residential variant, respectively, on a daily basis and during the p.m. peak period (3:00 to 7:00 p.m.). Trip generation rates for hotel, residential, restaurant, and office are based on the 2019 SF Guidelines. The on-site restaurant uses at most hotels in the surrounding area are typically low-turnover establishments.[23] The proposed restaurant use at the proposed project site is likely to be a similar type of establishment. Therefore, the trip generation rate for the proposed restaurant use is based on a "quality sit-down" restaurant[24] Trip generation for the proposed gym is based on the athletic club rates provided in the 2002 SF Guidelines.[25] Travel demand estimates were not calculated for the existing office space and small-scale retail uses for the purposes of establishing trip credits due to the difficulty in establishing the existing travel demand during the COVID-19 pandemic.

---

[22] The number estimated trips people would take to and from the proposed project or residential variant by all ways of travel, including walking, bicycling, transit, or automobile trips.

[23] Examples include the restaurant at the nearby Le Meridien San Francisco (333 Battery Street at Clay Street), Club Quarters San Francisco (424 Clay Street at Battery Street), Hilton San Francisco Financial District (750 Kearny Street at Washington Street), Omni San Francisco (500 California Street at Sansome Street), Loews Regency San Francisco (222 Sansome Street at California Street), and Hyatt Regency San Francisco (5 Embarcadero Center at Drumm Street/California Street) hotels. Source: 447 Battery Street Transportation Impact Study, AECOM, 2019.

[24] A "quality sit-down" restaurant is characterized by sit-down meals with table service and a lower turnover rate, which results in a lower trip generation rate compared to the composite restaurant rate, which primarily includes to-go service or meals without table service.

[25] Gym was not included as a land use in the *2019 SF Guidelines*. Therefore, the analysis used the *2002 SF Guidelines* for trip generation as this is the most recent information for this type of land use. To account for recent changes to travel patterns such as TNCs, the ways people travel for retail uses from the *2019 SF Guidelines* were applied to the proposed Gym.

Table 8: Trip Generation for Proposed Project

Land Use[1]	Amount[2]	Daily Trip Rate[3]	P.M. Peak Hour Trip Rate	Daily Person Trips	P.M. Peak Hour Person Trips
Hotel	200 rooms	8.4	0.6	1,680	120
Gym	35,230 sf	57.1	6	2,075	218
Restaurant[4]	8,770 sf	200	27	2,010	271
Office	40,490 sf	15.7	1.4	625	56
Total	-	-	-	**6,390**	**665**

Notes:
1. Travel demand associated with the SFFD Fire Station 13 is not included here or subsequent tables because the proposed project would replace the existing fire station in the same location with no change to the number of staff or operations, and thus would not alter the number of trips or travel patterns associated with this existing land use.
2. Travel demand estimates were not calculated for the existing office space use and no credit was taken due to the difficulty in establishing the existing travel demand with COVID-19. The trip generation and transportation analysis are based on a previous project description that included 36,350 sf gym, 10,050 sf restaurant, and 39,800 sf of office space. The final project description shown above would slightly decrease the total trip generation as the decreases in the trip generation associated with the land uses with higher trip generation (gym and restaurant) are greater than the small increase in the trip generation associated with office space, which generates fewer trips per square footage than a gym or restaurant.
3. Daily and p.m. peak hour trip generation rates based on *2019 SF Guidelines* for residential, office, and retail, and on *2002 SF Guidelines* for Gym. Trip rates are expressed per bedroom for the hotel and per ksf for all other uses.
4. Trip generation rate for the proposed restaurant use is based on a "quality sit-down" restaurant as defined in the SF Guidelines, given the project description and typical amenities provided at other hotels in Downtown San Francisco. The amount of restaurant space includes 2,300 sf on level B2.

Source: SOM, 2020; *SF Guidelines*, 2019, SF Planning Department; Fehr & Peers, 2020.

Table 9: Trip Generation for Residential Variant

Land Use[1]	Amount	Daily Trip Rate[2]	P.M. Peak Hour Trip Rate	Daily Person Trips	P.M. Peak Hour Person Trips
Residential	348 bedrooms[3]	4.5	0.4	1,566	139
Total	-	-	-	**1,566**	**139**

Notes:
1. Travel demand associated with the SFFD Fire Station 13 is not included here or subsequent tables because the proposed project would replace the existing fire station in the same location with no change to the number of staff or operations, and thus would not alter the number of trips or travel patterns associated with this existing land use.
2. Daily and p.m. peak hour trip generation rates based on 2019 SF Guidelines for residential. Trip rate is expressed per bedroom for residential.
3. 191 studios/1-bedrooms/Jr 1-bedrooms, 38 2-bedrooms, 27 3-bedrooms.

Source: SOM, 2020; SF Guidelines, 2019, SF Planning Department; Fehr & Peers, 2020.

Trip Distribution & Mode Split

The estimated ways people travel to and from the project site are presented in **Table 10** and **Table 11**. The estimated ways people travel for work and non-work trips were based on the methods contained in the 2019 SF Guidelines for hotel, residential, restaurant, and office. The 2019 SF Guidelines trip distribution and mode split for retail uses were applied to the proposed gym because the 2002 Guidelines do not account for recent changes to mode share, such as the introduction of TNCs.

Table 10: Daily and P.M. Peak Hour Trip Generation by Mode for Proposed Project

Trip Mode[1]	Daily Person Trips[2]	P.M. Person Trips
Auto	856	87
Taxi / TNC	571	50
Public Transit	1,302	148
Walk	3,435	358
Bike	226	22
Total Person Trips	**6,390**	**665**
Vehicle Mode	**Daily Vehicle Trips[2]**	**P.M. Vehicle Trips**
Auto	564	55
Taxi / TNC	352	31
Total Vehicle Trips	**916**	**86**

Notes:
1. The *2019 Guidelines* was used to determine the mode split for all land uses. The retail mode split was applied to the gym land use as this land use would operate as an amenity to other uses in Downtown San Francisco similar to retail. The mode split from the *2019 Guidelines* accounts for recent changes to travel patterns such as TNCs since the *2002 Guidelines*.
2. "Person trips" refers to the number of trips people would take to and from the project. "Vehicle trips" refers to the number of trips made by people traveling by private auto, carpool, and for-hire vehicle (e.g., taxi/TNCs).

Source: *SF Guidelines*, 2019, SF Planning Department; Fehr & Peers, 2020.

Table 11: Daily and P.M. Peak Hour Trip Generation by Mode for Residential Variant

Trip Mode	Daily Person Trips[1]	P.M. Person Trips
Auto	392	35
Taxi / TNC	94	8
Public Transit	438	39
Walk	595	53
Bike	47	4
Total Person Trips	**1,566**	**139**
Vehicle Mode	**Daily Vehicle Trips[1]**	**P.M. Vehicle Trips**
Auto	259	23
Taxi / TNC	63	5
Total Vehicle Trips	**322**	**28**

Notes:
1. "Person trips" refers to the number of trips people would take to and from the project. "Vehicle trips" refers to the number of trips made by people traveling by private auto, carpool, and for-hire vehicle (e.g., taxi/TNCs).

Source: *SF Guidelines*, 2019, SF Planning Department; Fehr & Peers, 2020.

Table 12 and **Table 13** present the daily and p.m. peak hour vehicle trips generated by the proposed project and residential variant, broken down by private auto and by taxi/TNC. The distribution of person trips is presented in **Appendix E**. The p.m. peak hour vehicle volumes were assigned to the roadway network as described below and used to inform the effect of the proposed project on hazards, accessibility, and public transit delay.

Table 12: Daily and P.M. Peak Hour Vehicle Trip Generation for Proposed Project

	Daily			P.M. Peak Hour		
Mode	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Auto[1]	564	273	291	55	18	37
Taxi / TNC[1,2]	352	170	182	31	11	20
Total	**916**	**443**	**473**	**86**	**29**	**57**

Notes:
1. The number of in trips does not match the number of out trips based on the 2019 SF Guidelines travel demand approach, which relies on the combination of the average observations of multiple similar sites and census travel data.
2. Taxi/TNC vehicle trips have not been doubled to account for separate vehicle trips both to and from the project site, although each trip end is accounted for in the vehicle trip assignment per SF Guidelines requirements.

Source: *SF Guidelines*, 2019, SF Planning Department; Fehr & Peers, 2020.

Table 13: Daily and P.M. Peak Hour Vehicle Trip Generation for Residential Variant

	Daily			P.M. Peak Hour		
Mode	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Auto[1]	259	145	114	23	18	5
Taxi / TNC[1,2]	63	35	28	5	4	1
Total	**332**	**180**	**142**	**28**	**22**	**6**

Notes:
1. The number of in trips does not match the number of out trips based on the 2019 SF Guidelines travel demand approach, which relies on the combination of the average observations of multiple similar sites and census travel data.
2. Taxi/TNC vehicle trips have not been doubled to account for separate vehicle trips both to and from the project site, although each trip end is accounted for in the vehicle trip assignment per SF Guidelines requirements.

Source: *SF Guidelines*, 2019, SF Planning Department; Fehr & Peers, 2020.

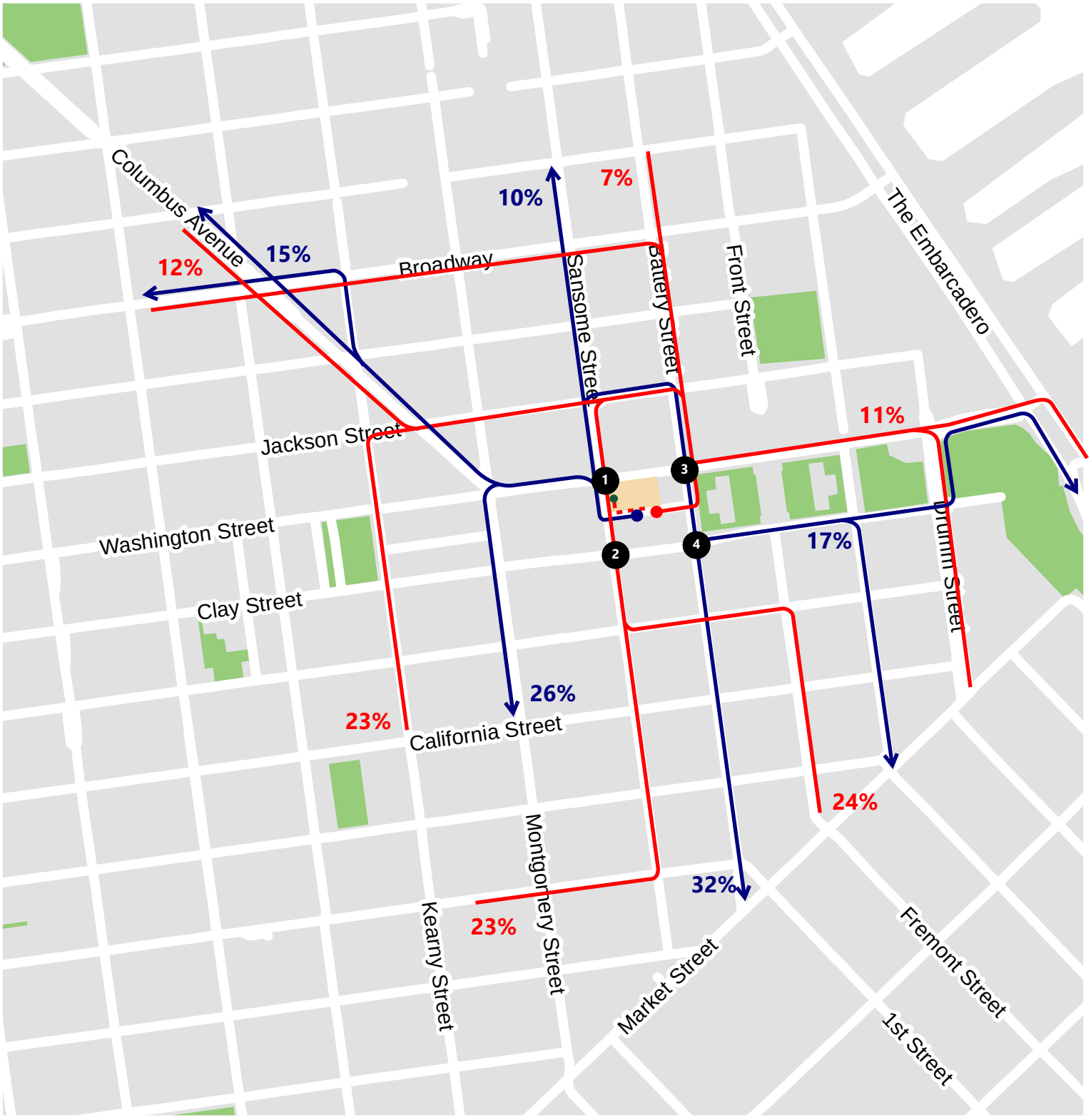
Vehicle Trip Distribution and Assignment

The proposed project's and residential variant's p.m. peak hour vehicle trips were assigned to study intersections based on the trip distribution patterns shown in **Figure 8** and **Figure 9**, and access/egress points for the project's parking garage entrance and loading spaces. Based on the estimated tip distribution, vehicle-trips were assigned to six primary routes:

- To/from the northwest via Columbus Avenue and/or Broadway;
- To / from north via Battery Street (inbound) / Sansome Street (outbound);
- To/from east and southeast via Washington Street (inbound from Drumm Street or The Embarcadero) and Clay Street (outbound to Davis Street or The Embarcadero);
- To/from south and southeast via Front Street (inbound) / Battery Street (outbound);
- To/from south and southwest via Bush Street (inbound) / Montgomery Street (outbound); and,
- To/from west and southwest via Kearny Street (inbound) / Montgomery Street (outbound).

All automobile trips were assumed to use the valet service on Merchant Street or enter and exit the garage driveway on Merchant Street, and all Taxi / TNC trips would pick-up and drop-off at the Merchant Street during the p.m. peak period. During other periods of the day (outside of 3:00 p.m. to 7:00 p.m. on weekdays), the valet service and Taxi / TNC trips would pick-up and drop-off at the Sansome Street passenger loading zone. These assumptions would result in a conservatively high number of vehicle trips passing through the study intersections adjacent to the proposed project during the peak hour, representing a condition where cars may need to circle for parking as the 48 proposed parking spaces would not accommodate the 55 p.m. peak hour non-TNC/Taxi vehicles the project would generate. A more likely and less conservative analysis scenario would include many of the automobile trips parking in on-street parking on the surrounding blocks or parking garages outside of the study area, and thus travel through fewer study intersections.

The p.m. peak hour vehicle trips at the study intersections resulting from the proposed project and residential variant are presented in **Figure 10** and **Figure 11**, respectively. Traffic volumes at the four study intersections during the weekday P.M. peak hour under Existing plus Project Conditions are shown in **Figure 12** (proposed project) and **Figure 13** (residential variant).



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\

Project Site

Study Intersection

Inbound (Auto)

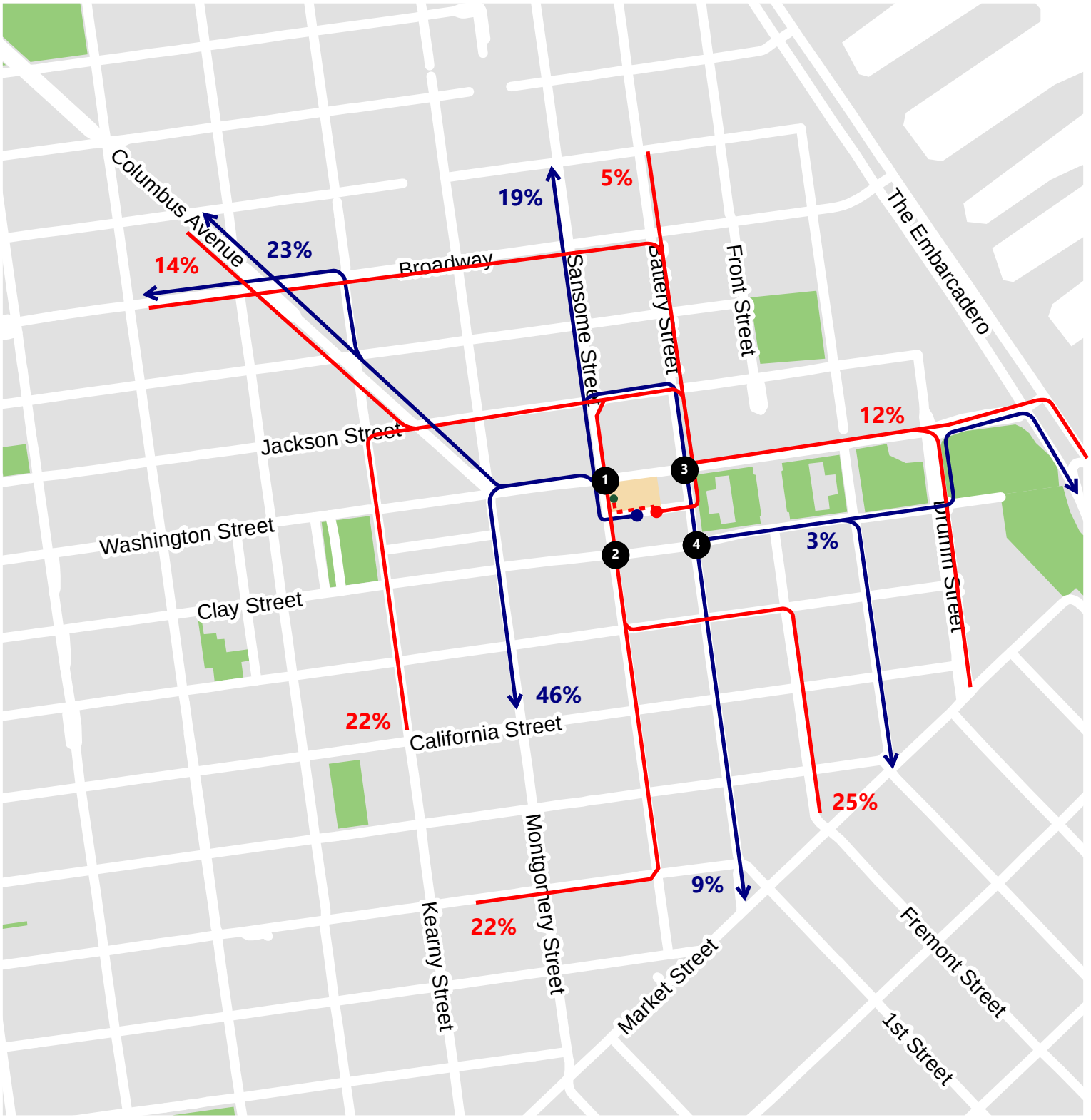
Outbound (Auto)

Pick-up/Drop-off Location

Figure 8

Trip Assignment/Distribution Proposed Project

Note: The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.



\\Fpsf03.fpainc.local\data\Projects\2020_Projects\SF20-1114_530_Sansome_TIS\Graphics\

Project Site

Study Intersection

Inbound (Auto)

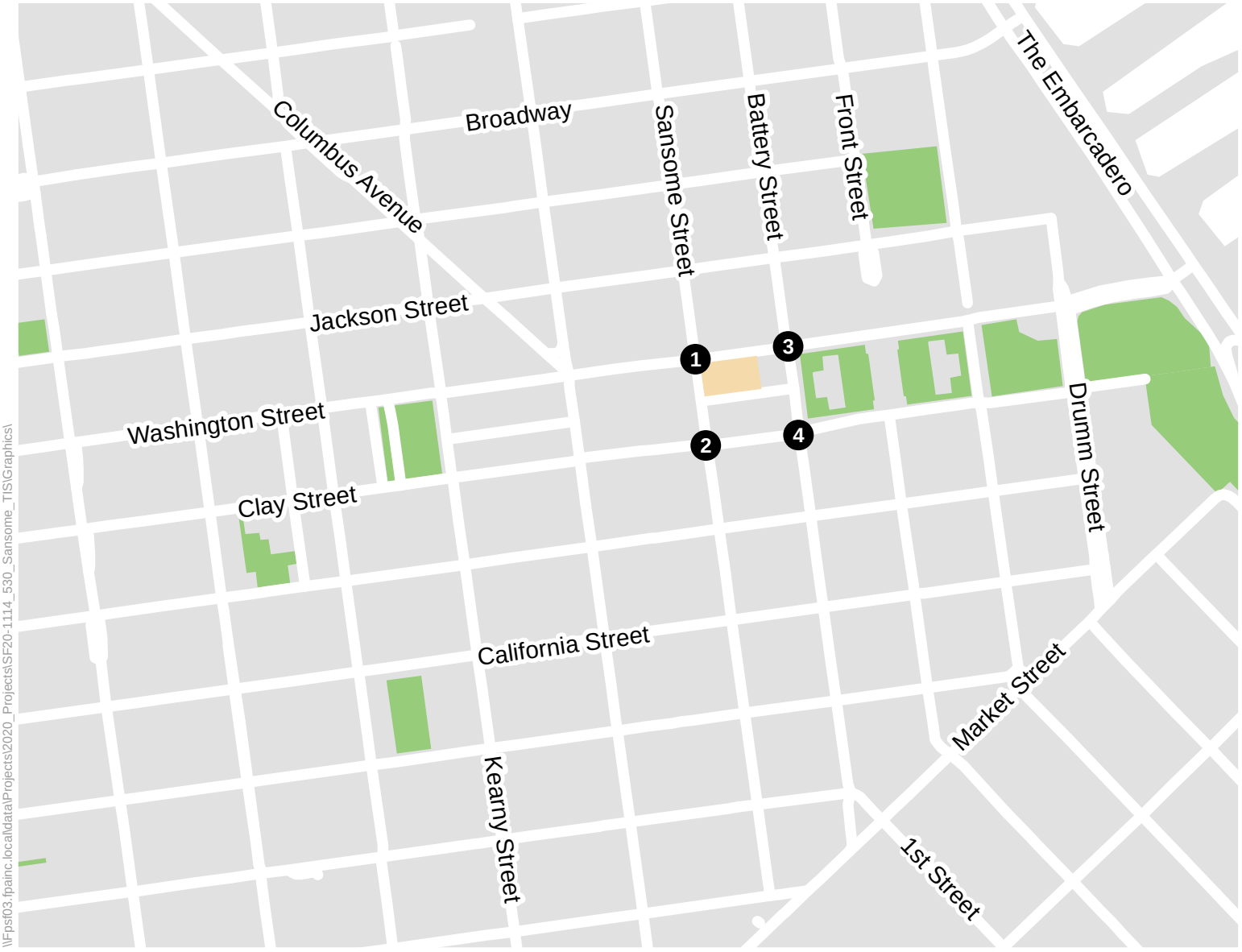
Outbound (Auto)

Pick-up/Drop-off Location

Figure 9

Trip Assignment/Distribution Residential Variant

Note: The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.



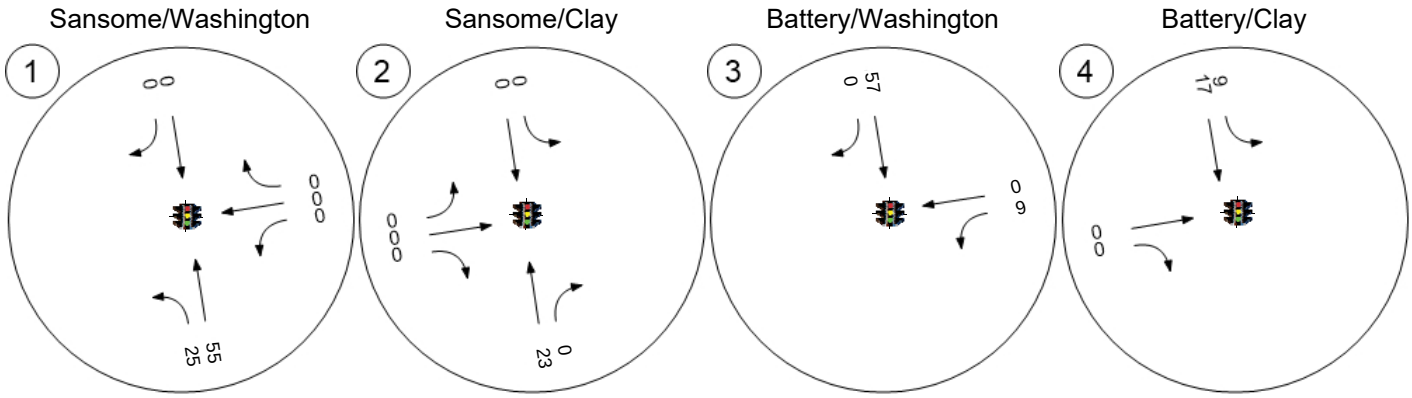
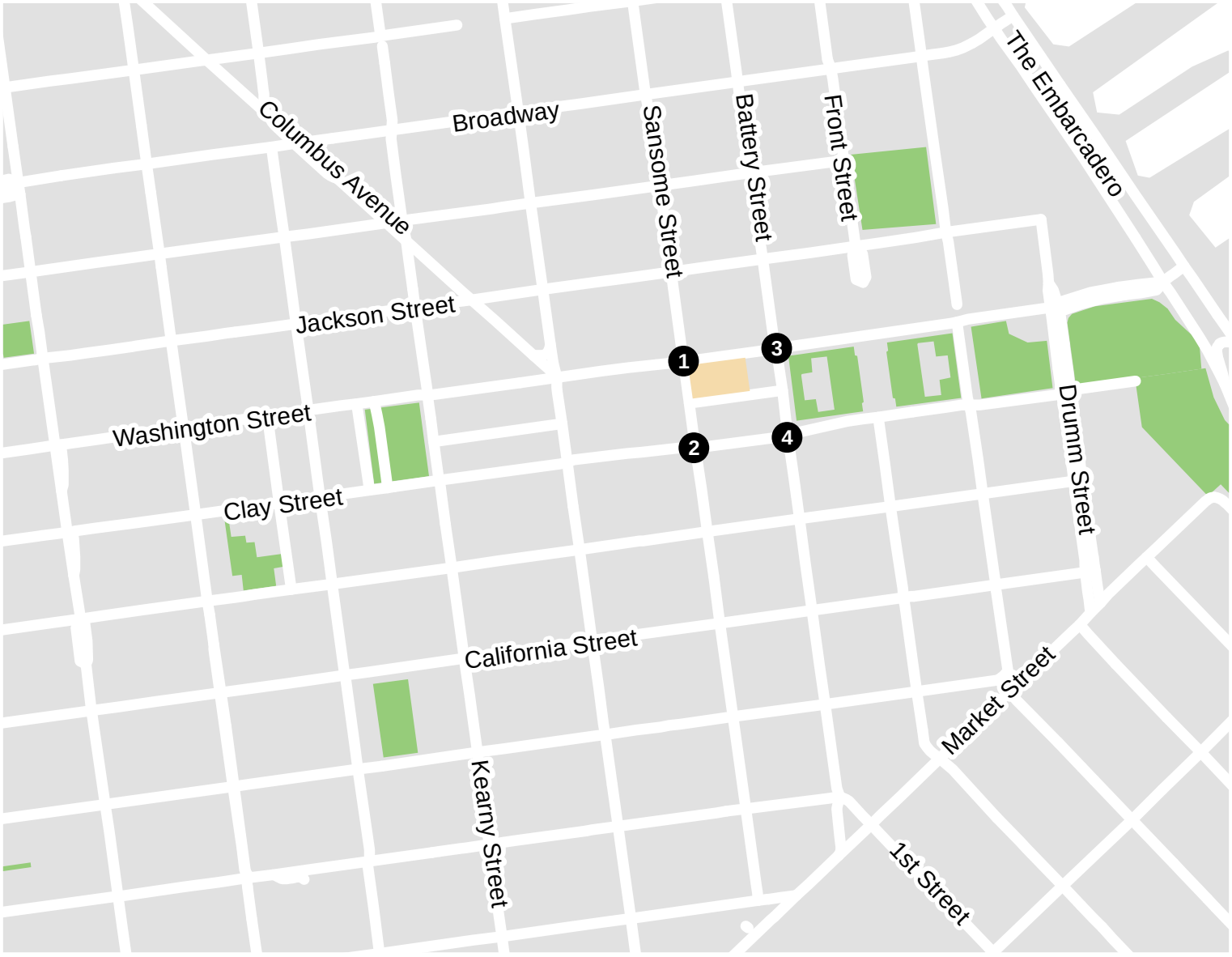


Figure 10

Intersection Traffic Volumes
Proposed Project

Note: The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.



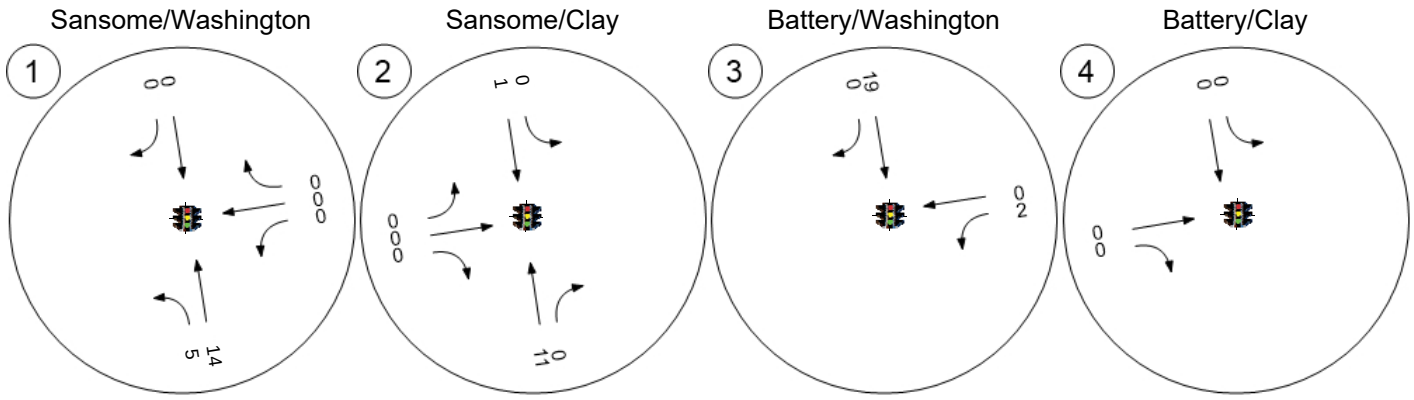
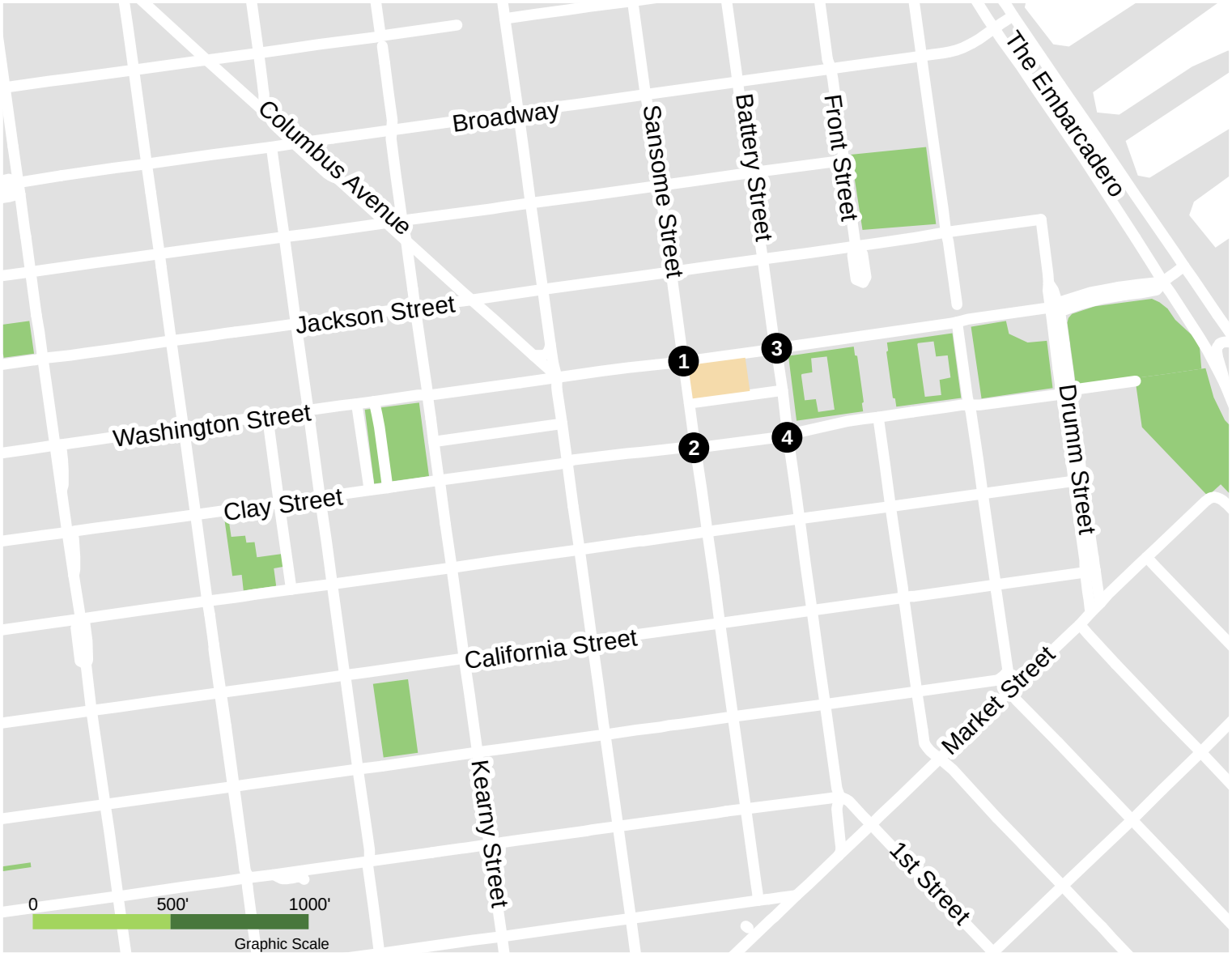
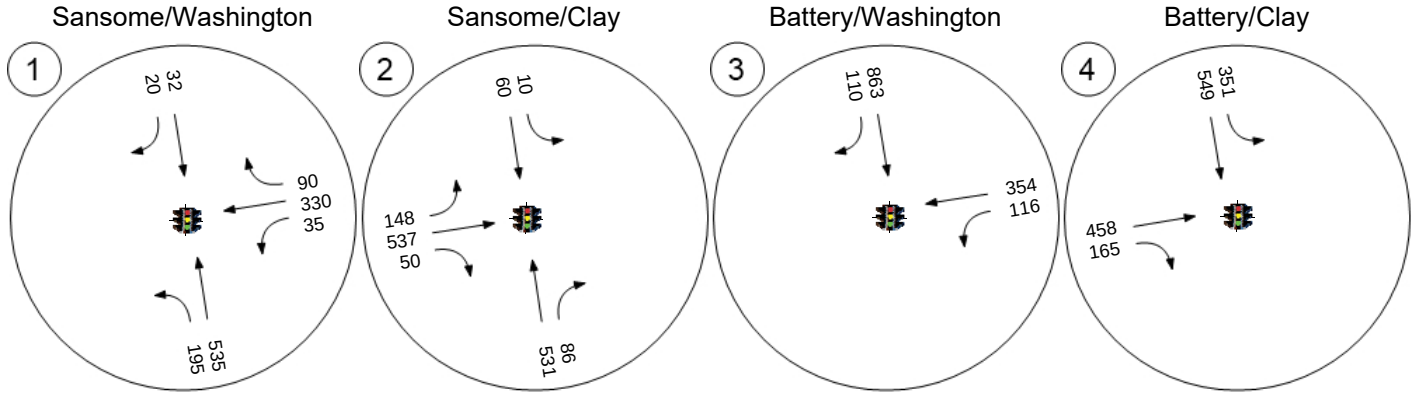


Figure 11

Intersection Traffic Volumes
Residential Variant

Note: The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.

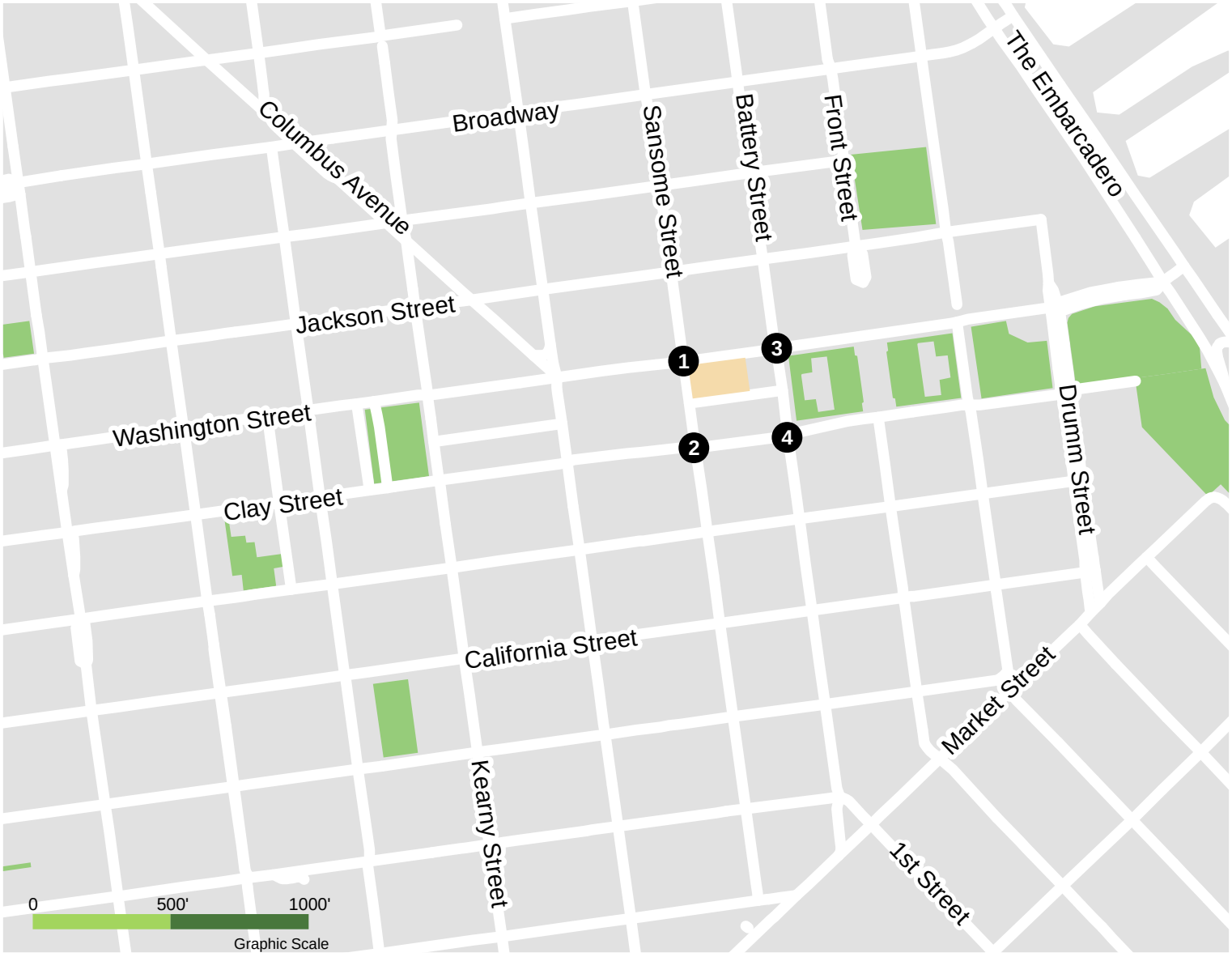


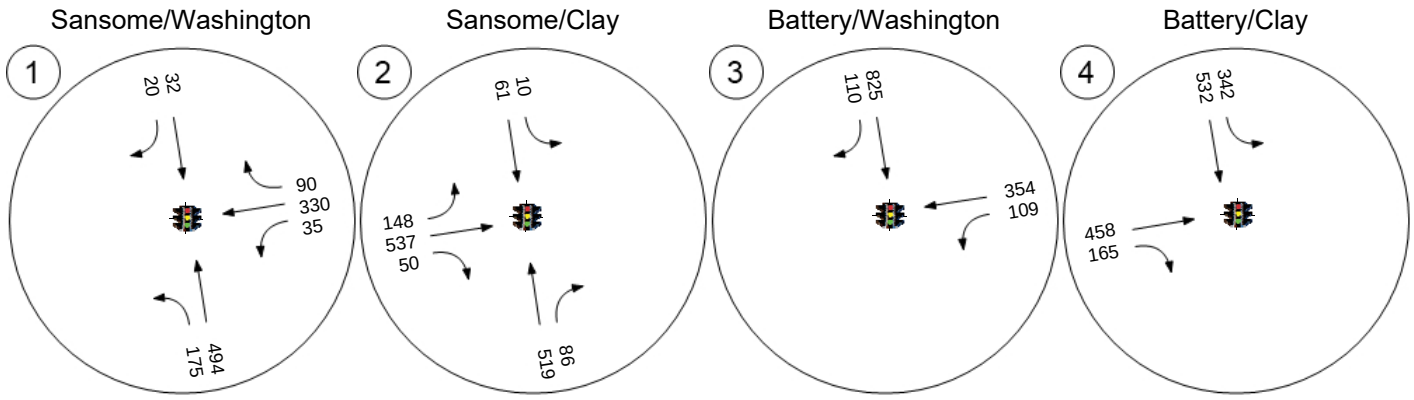


NOTE
1. Private vehicles turning onto Sansome Street from Washington Street are prohibited between 7 a.m. and 8 a.m. while the restriction does not apply to commercial vehicles, buses, taxis, and bicycles.
2. The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.

Figure 12

P.M. Peak Hour Traffic Volumes
Proposed Project
Existing Plus Project





NOTE
1. Private vehicles turning onto Sansome Street from Washington Street are prohibited between 7 a.m. and 8 a.m. while the restriction does not apply to commercial vehicles, buses, taxis, and bicycles.
2. The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.

Figure 13

P.M. Peak Hour Traffic Volumes
Residential Variant
Existing Plus Project

Loading Demand

Freight Loading Demand

The estimated freight loading demand (by land use) generated by the proposed project or residential variant during the p.m. peak hour is shown in **Table 14** and **Table 15**. Similar to the travel demand, the loading patterns associated with the SFFD Fire Station 13 are not presented because neither the proposed project nor the residential variant would alter the loading patterns of this existing land use. The proposed project or residential variant is expected to generate up to 31 daily truck trips and require two peak hour freight loading spaces. The 2002 SF Guidelines present hotel-specific loading data that indicate that 67 percent of freight loading occurrences would be from service vehicles; 28 percent from 30-foot-long single-unit trucks; and five percent from delivery vehicles larger than 30-foot-long single-unit trucks.

Table 14: Freight Loading Demand for Proposed Project

Land Use	Amount (sf)[1]	Daily Freight Loading Rate (per ksf)	Daily Truck Trips	Peak Hour Freight Loading Demand[2] (spaces)
Hotel	149,965	0.09	13	0.75
Gym	35,230 sf	0.22	8	0.46
Restaurant	8,770 sf	0.22	2	0.12
Office	40,490 sf	0.21	8	0.46
Total	**234,050**	**-**	**31**	**1.79[3]**

Notes:
1. The hotel and restaurant space include 3,250 and 2,300 square feet on level B2, respectively, for the purpose of the transportation analysis.
2. The peak hour of truck trip generation generally occurs between 11:00 a.m. and 2:00 p.m. and is unrelated to the p.m. peak hour used in other transportation analyses per Appendix K of the 2019 TIA Guidelines. Peak hour truck trips are calculated as [1.25 * (total daily truck trips) / 9hr delivery window]. Peak hour freight loading demand is calculated using an average stop duration of 25 minutes. Freight loading would occur at the loading dock off Washington Street for all of the land uses; therefore, the peak hour freight loading demand by land use is not rounded to the nearest whole number as would be required for a project where freight loading occurs in separate locations for different land uses.
3. Rounded up to two freight loading spaces for the purposes of the impact analysis.

Source: *SF Guidelines*, 2019, SF Planning; Fehr & Peers, 2020.

Table 15: Freight Loading Demand for Residential Variant

Land Use	Amount (sf)	Daily Freight Loading Rate (per ksf)	Daily Truck Trips	Peak Hour Freight Loading Demand[1] (spaces)
Residential	257,400	0.03	8	0.46
Total	**257,400**	**-**	**8**	**0.46[2]**

Notes:
1. The peak hour of truck trip generation generally occurs between 11:00 a.m. and 2:00 p.m. and is unrelated to the p.m. peak hour used in other transportation analyses. Peak hour truck trips are calculated as [1.25 * (total daily truck trips) / 9hr delivery window]. Peak hour freight loading demand is calculated using an average stop duration of 25 minutes.
2. Rounded up to one freight loading spaces for the purposes of the impact analysis.

Source: *SF Guidelines*, 2019, SF Planning; Fehr & Peers, 2020.

Passenger Loading Demand

Passenger loading demand for proposed project or residential variant during peak hour is two passenger car equivalents. Passenger loading demand was calculated according to the 2019 SF Guidelines and is summarized in **Table 16** and **Table 17**. Because Gym land uses are not included in the 2019 SF Guidelines, Gym passenger loading calculations use the passenger loading rate for retail in Place Type 1 for consistency with the mode split estimates presented above.[26]

Table 16: Passenger Loading Demand for Proposed Project

Land Use	Passenger Loading %[1]	P.M. Peak Hour Loading Instances	Peak 15 Minute Spaces of Loading Demand[2]
Hotel	21.8%	26	0.87
Gym[3]	5.5%	12	0.40
Restaurant	5.5%	15	0.50
Office	7.3%	4	0.13
Total	**-**	**57**	**1.90[4]**

Notes:
1. Passenger loading percentage is the share of all person trips that involve a passenger loading event.
2. Peak loading demand is calculated using equations included in the *SF Guidelines* with an average stop duration of one minute and that half of peak hour loading demand occurs during the peak 15 minutes. Due to the PM peak period tow-way lane on Sansome Street, passenger loading for all land uses would occur in the proposed loading zone on Merchant Street during this period. Therefore, the peak hour passenger loading demand for each individual land use is not rounded to the nearest whole number as would be required for a project where passenger loading occurs in separate locations for different land uses.
3. Passenger loading rates were not calculated in the *2002 SF Guidelines* or provided in the *2019 SF* Guidelines for Athletic Club use. Given that the trip distribution and mode split information for retail uses is applied to the proposed Gym, Gym passenger loading calculations use the passenger loading rate for retail in Place Type 1 to provide a conservative estimate.
4. Rounded up to two passenger loading spaces for the purposes of the impact analysis.

Source: *SF Guidelines*, 2019; Fehr & Peers, 2020.

Table 17: Passenger Loading Demand for Residential Variant

Land Use	Passenger Loading %[1]	P.M. Peak Hour Loading Instances	Peak 15 Minute Spaces of Loading Demand[2]
Residential	8.8%	12	0.4
Total	**-**	**12**	**0.4[3]**

Notes:
1. Passenger loading percentage is the share of all person trips that involve a passenger loading event.
2. Peak loading demand is calculated using equations included in the *SF Guidelines* with an average stop duration of one minute and that half of peak hour loading demand occurs during the peak 15 minutes.
3. Rounded up to two passenger loading spaces for the purposes of the impact analysis.

Source: *SF Guidelines*, 2019; Fehr & Peers, 2020.

[26] Geographic area that shares a similar mode share for vehicle use. The department identified three place types: "urban high density" (place type 1), "urban medium density" (place type 2), and "urban low density" (place type 3). Retail is presented as a proxy for the proposed Gym as they provide an amenity to residents, employees, and visitors in Downtown San Francisco in a similar manner to retail services.

Approach to Analysis

The following section describes the methodology for analyzing transportation impacts of the proposed project or residential variant and summarizes the quantitative threshold of significance for determining transportation impacts under existing plus project and cumulative plus project conditions. This analysis methodology uses data and guidance provided by the 2019 SF Guidelines. If the methodology differs from that in the guidelines, the following section summarizes such differences.

Significance Criteria

San Francisco Administrative Code chapter 31 directs the planning department to identify environmental effects of a project using as its base the environmental checklist form set forth in CEQA Guidelines Appendix G. As it relates to transportation and circulation, Appendix G asks whether the project would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to VMT;
- Substantially increase potentially hazardous conditions due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and
- Result in inadequate emergency access.

The planning department uses significance criteria to facilitate the transportation analysis and address the Appendix G checklist. The planning department separates the significance criteria into construction and operation.

Construction

Construction of the project would have a significant effect on the environment if it would require a substantially extended duration or intense activity; and the effects would create potentially hazardous conditions for people walking, bicycling, or driving, or public transit operations; or interfere with emergency access or accessibility for people walking or bicycling or substantially delay public transit.

Operations

The operational impact analysis addresses the following six significance criteria. A project would have a significant effect if it would:

- Create potentially hazardous conditions for people walking, bicycling, or driving or public transit operations
- Interfere with accessibility of people walking or bicycling to and from the project site, and adjoining areas, or result in inadequate emergency access

- Substantially delay public transit
- Cause substantial additional VMT or substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network
- Result in a loading deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving; or substantially delay public transit
- Result in a substantial vehicular parking deficit and the secondary effects would create potentially hazardous conditions for people walking, bicycling, or driving; or interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles; or substantially delay public transit.

Analysis Periods and Scope

The geographic scope of potential transportation impacts encompasses the transportation study area and study intersections. The study area, shown in Figure 1, includes the block and adjacent intersections bordered by Washington Street to the north, Clay Street to the south, Sansome Street to the west, and Battery Street to the east.

The impact analysis was conducted for existing plus project and 2040 cumulative conditions. The existing plus project analysis assesses near-term project impacts, while the cumulative conditions analysis assesses near-term and long-term impacts of the proposed project in combination with cumulative development. The reasonably foreseeable projects relevant to the transportation analysis are presented in the cumulative plus project conditions section.

In San Francisco, the weekday extended p.m. peak period (Tuesday, Wednesday, or Thursday, 3:00 p.m. to 7:00 p.m.) is typically the period when the most overall travel happens. Although a substantial amount of travel occurs throughout the day, impacts from projects would typically be less during other periods; therefore, for most topics, the methodology focuses on the p.m. peak period (defined as 4:00 p.m. to 6:00 p.m.) as changes in travel demand or public right-of-way would be acute compared to other times of the day and days of the week.[27] The travel demand also presents daily person trip and vehicle trip generation. In addition, the methodology uses the 11:00 a.m. to 2:00 p.m. period to assess freight and commercial loading demand and 5:00 p.m. to 8:00 p.m. to assess passenger vehicle loading demand.

[27] While the 3:00 p.m. to 7:00 p.m. period is outlined in the *2019 Guidelines* as the p.m. peak period, this study was limited to the availability of counts and observations representing pre-COVID conditions from the *447 Battery Street Transportation Impact Study Final Report* (AECOM, Case No. 2014-1036ENV, November 7, 2019), as explained under the existing conditions section. As indicated in Appendix F of the *447 Battery Street Transportation Impact Study Final Report*, the peak traffic volumes occurs between 5:15 and 5:30 at the study intersections and are generally consistent for the entire hour between 5:00 to 6:00 p.m., indicating that this hour is when the roadways are most saturated with vehicles on the surrounding Financial District streets.

Construction Impacts

The analysis for addressing project construction impacts uses preliminary project construction information. The evaluation addresses the staging and duration of construction activities, estimated daily worker and truck trips, truck routes, roadway and/or sidewalk closures, and evaluates the effects of construction activities on people walking, bicycling, or driving, and riding public transit and emergency vehicle operators. The analysis for addressing cumulative plus project construction impacts uses preliminary project construction information from reasonably foreseeable projects and applies the same impact methodology as existing plus project conditions.

Operational Impacts

The following describes the methodology for analysis of operational impacts, by significance criterion.

Vehicle Miles Traveled

Land Use Components

The department uses the following quantitative thresholds of significance to determine whether the project would generate substantial additional VMT:

- For residential projects, if it exceeds the regional household VMT per capita minus 15 percent.
- For office projects, if it exceeds the regional VMT per employee minus 15 percent.
- For retail projects, if it exceeds the regional VMT per retail employee minus 15 percent.[28]
- For mixed-use projects, evaluate each land use independently, per the thresholds of significance described above.

The department uses VMT efficiency metrics (per capita or per employee) for thresholds of significance. VMT per capita reductions mean that individuals will, on average, travel less by automobile than previously but, because the population will continue to grow, it may not mean an overall reduction in the number of miles driven.

The department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed these quantitative thresholds of significance. The San Francisco County Transportation Authority uses a model to present VMT for residential, office, and retail in San Francisco and the region, as described and shown under existing conditions. The department uses that data and

[28] Retail travel is not explicitly captured in San Francisco chained activity modeling process, rather, there is a generic "Other" purpose which includes retail shopping, medical appointments, visiting friends or family, and all other nonwork, non-school tours. The retail efficiency metric captures all of the "Other" purpose travel generated by Bay Area households. The denominator of employment (including retail; cultural, institutional, and educational; and medical employment; school enrollment, and number of households) represents the size, or attraction, of the zone for this type of "Other" purpose travel.

associated maps to determine whether a project site's location is below the aforementioned VMT quantitative threshold of significance.

Further, the department presumes residential, retail, and office projects, and projects that are a mix of these uses, proposed within one-half mile of an existing major transit stop (as defined by CEQA section 21064.3) or an existing stop along a high quality transit corridor (as defined by CEQA section 21155) would not exceed these quantitative thresholds of significance. However, this presumption would not apply if the project would: (1) have a floor area ratio of less than 0.75; (2) include more parking for use by residents, customers, or employees of the project than required or allowed, without a conditional use; or (3) is inconsistent with the applicable Sustainable Communities Strategy.[29]

Transportation Components

The proposed project includes driveways for parking garages and loading docks, changes to color curbs, and pedestrian safety features such as curb bulb outs and raised crosswalks.

The department uses the following quantitative threshold of significance and screening criteria to determine whether transportation projects may substantially induce additional automobile travel: 2,075,220 VMT per year. This threshold is based on the fair share VMT allocated to transportation projects required to achieve California's long-term greenhouse gas emissions reduction goal of 40 percent below 1990 levels by 2030.

The department uses a list of transportation components that would not exceed this quantitative threshold of significance. If a project fits within the general types of projects (including combinations of types) listed below, then the department presumes that VMT impacts would be less than significant:

- Active Transportation, Rightsizing, and Transit Projects:
    - Infrastructure projects, including safety and accessibility improvements for people walking or bicycling
    - Installation or reconfiguration of traffic calming devices
    - Creation of new or addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for people walking, bicycling, and, if applicable, riding transit
- Other Minor Transportation Projects:
    - Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not used as through lanes

[29] The SF Planning Department considers a project to be inconsistent with the Sustainable Communities Strategy if the project is located outside of areas contemplated for development in the Sustainable Communities Strategy.

- Timing of signals to optimize vehicle, bicycle, or pedestrian flow on local or collector streets
- Addition of transportation wayfinding signage
- Removal of off-street parking spaces

Cumulative Conditions

VMT by its nature is largely a cumulative impact. The number and distance of vehicular trips associated with past, present, and future projects might cause contribute to the secondary physical environmental impacts associated with VMT. It is likely that no single project by itself would be sufficient in size to prevent the region or state in meeting its VMT reduction goals. Instead, a project's individual VMT contributes to cumulative VMT impacts. The department uses near-term baseline plus project-level thresholds of significance based on levels at which the department does not anticipate new projects to conflict with state and regional long-term greenhouse gas emission reduction targets and statewide VMT per capita reduction targets.

Therefore, the department uses a map-based screening criterion to identify types and locations of land use projects that would not exceed the same quantitative thresholds of significance described under existing plus project conditions. The analysis uses the 2040 modeling of VMT estimates to present VMT for residential, office, and retail in San Francisco and the region. The department uses that data and associated maps to determine whether a project site's location is below the aforementioned VMT quantitative threshold of significance, including for the other land use types described above.

Loading

The methodology assesses the potential for convenient off- and on-street freight and passenger loading facilities to meet the project's loading demand during the average peak period. For the purposes of this section, convenient refers to facilities within 250 linear feet of a building entrance, either along the project frontage or across the street.

If convenient loading facilities meet the estimated demand, the analysis is complete. If convenient loading facilities do not meet the demand, then the methodology qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving or substantially delay public transit.

The analysis for addressing cumulative plus project loading impacts uses preliminary project loading information from reasonably foreseeable projects and applies the same impact methodology as existing plus project conditions.

Emergency Vehicle Access

The methodology qualitatively addresses the potential for the project to result in inadequate emergency access. The methodology accounts for the amount, movement type, sightlines, and speed of project vehicle trips and project changes to the public right-of-way in relation to emergency service operator

facilities. The analysis for addressing cumulative plus project emergency vehicle impacts uses preliminary project vehicle traffic information from reasonably foreseeable projects and applies the same impact methodology as existing plus project conditions.

Transportation Topics not Analyzed

In accordance with the proposed project's Circulation Study Final Scope of Work, dated October 2020, the following topic areas are not analyzed within this transportation study:

- Potentially hazardous conditions
- Accessibility
- Public transit delay
- Parking

The proposed project or residential variant, under existing plus project or cumulative plus project conditions, would not result in significant impacts related to these topics, as described below.

Potentially Hazardous Conditions

A "potentially hazardous condition" refers to a project generated vehicle potentially colliding with a person walking, bicycling, or driving or public transit vehicle that could cause serious or fatal physical injury, accounting for the aspects described below. Human error or non-compliance with laws, weather conditions, time-of-day, and other factors can affect whether a collision could occur. However, for purposes of CEQA, potentially hazardous conditions refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project.

The proposed project or residential variant would include design features that are consistent with the urban form of the surrounding blocks of the Financial District, which includes a mix of commercial, hotel, and residential towers with pedestrian oriented frontages on major streets and parking garage entrances on minor streets or alleyways. The proposed project or residential variant would provide streetscape features intended to reduce potentially hazardous conditions for people walking, such as the Merchant Street raised crosswalk at Sansome Street (raised crosswalk at Battery Street pending coordination with 447 Battery Street project) and the bulb-out at the corner of Sansome and Washington streets. The proposed project's POPOS programming on Merchant Street, including discouraging access for through vehicles, would not result in potentially hazardous conditions due to the low roadway volumes during the mid-day period (when POPOS programming would occur) and the design of the street that would require slow vehicle travel while entering and exiting the project's parking garage. The project sponsor would be required to include design features that ensure that the proposed project's POPOS operations would not create potentially hazardous conditions as a part of the POPOS condition of approval, subject to SFMTA and Planning Department approval. As there is no POPOS requirement for the residential variant, it would not include POPOS programming on Merchant Street. If the segment of the Merchant Street shared street fronting adjacent properties at 447 Battery Street is infeasible, the project sponsor and SFMTA would

incorporate standard design elements per the Better Streets Plan that provide for a transition between the existing alleyway east of the project site and the proposed shared street.

The proposed project and residential variant would generate 86 and 28 p.m. peak hour vehicle trips, respectively. As noted in the existing conditions section, the only roadway designated as a part of the Vision Zero network is Washington Street, from mid-block between Sansome and Battery streets extending to the west and is not located adjacent to any substantial concentrations of vulnerable populations. The proposed project and residential variant would add 25 and five vehicles to Washington Street during the p.m. peak hour, respectively. This represents up to a five percent increase in vehicles on the segment of Washington Street west of Sansome Street under the proposed project. Under cumulative plus project conditions, the 447 Battery Street project would add 10 vehicles to this roadway segment, other projects such as 545 Sansome Street project would add less than this.[30] The proposed project and residential variant would also generate 22 and 4 bicyclists, respectively, during the p.m. peak period onto the surrounding roadway network. This level of automobile traffic (five to 10 percent changes) and bicyclists would not represent a substantial increase in traffic nor result in potentially hazardous conditions along Washington Street or other surrounding streets.

Further, the SFFD emergency vehicle access on Washington Street includes audible warnings to alert people walking and bicycling and would not substantially change the existing fire station activities, and therefore would not substantially worsen existing conditions along Washington Street or other surrounding streets. Therefore, the proposed project or residential variant would not substantially exacerbate existing conditions or create a new potentially hazardous condition for people walking, bicycling, or driving, or public transit operations, nor would they combine with cumulative projects to result in a significant cumulative impact related to potentially hazardous conditions. The proposed TDM plan would further reduce the less than significant impacts associated with potentially hazardous conditions by reducing single occupant vehicle travel to the proposed project and residential variant. Potentially hazardous conditions are not discussed further in this study.

Accessibility

The department's methodology qualitatively addresses the potential for the project to interfere with the accessibility of people walking or bicycling. The proposed project or residential variant would include design features that are consistent with the urban form of the surrounding blocks of the Financial District, which includes a mix of commercial, hotel, and residential towers with pedestrian oriented frontages on major streets and parking garage entrances on minor streets or alleyways. As noted in the existing

[30] No transportation study is available for the 545 Sansome Street project (Planning Department Case No. 2020-001410ENV). Extrapolating the 14 p.m. peak hour office vehicle trip generation for the proposed 545 Sansome Street project's approximately 50,000 sf would result in fewer than 20 vehicle trips total on the roadway network. Based on the Memo to the Planning Commission (SF Planning, October 2020), the project would add 49,999 square feet of office space to the existing 55,759 square of office by replacing the adjacent one story retail building. Accessed by Fehr & Peers on March 25, 2021: https://commissions.sfplanning.org/cpcpackets/2020-008009OTH.pdf

conditions section, the surrounding blocks include adequate ADA facilities, and the proposed project or residential variant would reallocate the existing obstructions that reduce the effective sidewalk width to increase the effective width for people walking along Sansome and Washington streets to a minimum 7.5-foot-wide pathway for people walking (see **Appendix A** for sidewalk widths). The proposed project or residential variant would provide streetscape features that would improve accessibility for people walking and bicycling, such as the Merchant Street shared street (for the segment along the project site frontage) and the bulb-out at the corner of Sansome and Washington streets. Neither the proposed project nor the residential variant would create features that would interfere with accessibility for people walking or bicycling.

The proposed project or residential variant would not change the existing 10-foot-wide sidewalk along the project frontage on the south side Washington Street. While the proposed sidewalk width on Washington Street along the project frontage does not meet Better Streets Plan standards, which require a minimum 12 feet and recommended 15 feet width on typical commercial streets, the sidewalk width is sufficiently wide to accommodate the existing levels of pedestrian activity (500 people walking at the corner of Sansome and Washington streets). The project would add approximately 500 additional people walking (including transit riders) to the surrounding sidewalks during the p.m. peak period, or up to 665 people walking when accounting for passenger loading activity and people who may be walking from nearby parking garages. Most of these people would use Sansome Street or Merchant Street to access the primary entrances to the proposed building. The proposed project or residential variant would increase the width of Sansome Street to 12 feet and provide a shared street on Merchant Street to accommodate the increased activity associated to people accessing the proposed building. People walking on the southern sidewalk on Washington Street would be limited to a portion of those people walking to and from destinations to the east of the project site. In general, the increased level of pedestrian activity on Sansome or Washington streets would be less than pedestrian activity levels at places such as the southwest corner of Sansome and Clay streets (1,400 pedestrians) and would be similar to nearby locations on Washington, Battery, and Clay streets, which currently have adequate capacity for people walking. Therefore, even with an increased level of pedestrian activity, the proposed project or residential variant would not interfere with accessibility on surrounding streets. Along the Washington, Sansome, and Merchant Street frontages, the proposed hotel building would be partially set back from the property line to provide additional clear width, but this area is located on private property and architectural features and doorways protrude beyond the typal ground floor building edge, which prevent a continuous, uniform sidewalk width free of vertical obstructions. The Fire Station 13 building edge would be built to the property line on all public street frontages.

The proposed project's POPOS programming on Merchant Street, including discouraging access for through vehicles, would not interfere with accessibility as it would expand space for people walking while allowing vehicles to access the proposed project's parking garage. The project sponsor would be required to include design features in the proposed project that ensure that POPOS operations would not interfere with accessibility as a part of the POPOS condition of approval, subject to SFMTA and Planning Department approval, which would further reduce the proposed project's less-than-significant impact to accessibility of people walking or bicycling.

Other projects proposed for the area, such as 447 Battery Street and 545 Sansome Street projects, would improve accessibility for people walking or bicycling surrounding the project site through streetscape improvements described under the cumulative plus project conditions. While the sidewalk on Washington Street proposed by 530 Sansome would not meet the Better Streets Plan standards, the highest number of pedestrians generated by the 447 Battery Street or 545 Sansome Street project would occur along their project frontages. The sidewalks along the 530 Sansome Street project site frontage provide direct routes for a limited number of routes for people walking to and from the 447 Battery Street or 545 Sansome Street projects. Therefore, the 447 Battery Street or 545 Sansome Street project would not generate a substantial amount of people walking on the sidewalks fronting the 530 Sansome project. Similar to existing plus project conditions, the proposed sidewalks along the 530 Sansome frontage, in addition to other sidewalks in the project vicinity, would be sufficient for anticipated cumulative pedestrian volumes and activity. Therefore, the proposed project or residential variant would not interfere with accessibility for people walking or bicycling to or from the project site or adjoining areas, nor would they combine with cumulative projects to result in a significant cumulative accessibility impact. Accessibility for people walking or bicycling is not discussed further in this study. However, given that the proposed project and residential variant would include an emergency service facility (Fire Station 13), the accessibility for emergency vehicles is discussed further under existing plus project and cumulative plus project conditions.

Public Transit Delay

The planning department uses a quantitative threshold of significance and qualitative criteria to determine whether the project would substantially delay public transit. For individual transit lines, if the project would result in transit delay greater than or equal to four minutes or one-half headway, whichever is less, then it might result in a significant impact.[31] The department considers the following qualitative criteria for determining whether that delay would result in significant impacts due to a substantial number of people riding transit switching to riding in private or for-hire vehicles: transit service headways and ridership, origins and destinations of trips, availability of other transit and modes, and competitiveness with private vehicles.

The proposed project or residential variant would not directly change facilities for public transit routes surrounding the project site, including Muni and Golden Gate Transit routes, nor would they add driveways to streets with transit. The proposed project and residential variant would generate 86 and 28 p.m. peak hour vehicle trips, respectively. This amount of traffic is substantially below the amount of traffic that could substantially delay public transit vehicles adjacent to a project site based on the screening criteria presented in Appendix I of the 2019 SF Guidelines (approximately 300 vehicles during the peak hour). Furthermore, the combination of the 530 Sansome Street project with the adjacent 447

[31] The threshold uses the adopted Transit First Policy, City Charter section 8A.103 85, percent on-time performance service standard for Muni, with the charter considering vehicles arriving more than four minutes beyond a published schedule time late.

Battery Street project (which would add an additional 48 p.m. peak hour trips during typical, non-special event conditions) would be substantially below this threshold under cumulative conditions. The only other project within a block of the project site, the 545 Sansome Street project, would expand an existing office space by approximately 50,000 sf and would add less than 20 vehicle trips to the roadway network during the p.m. peak hour. Therefore, the proposed project or residential variant would not substantially delay public transit service, nor would they combine with cumulative projects to result in a significant cumulative transit delay impact. Public transit delay is not discussed further in this study. The proposed TDM plan would further reduce the less than significant impacts to public transit by reducing single occupant vehicle travel to the proposed project and residential variant.

Parking

California Senate Bill 743 amended CEQA by adding California Public Resources Code (PRC) section 21099 regarding the analysis of parking impacts for certain urban infill projects in transit priority areas. PRC section 21099(d), effective January 1, 2014, provides that "… parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." Accordingly, parking is no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three criteria established in the statute. The proposed project or residential variant meet all of the criteria,[32] and thus the transportation impact analysis does not consider the adequacy of parking in determining the significance of project impacts under CEQA. Parking is not discussed further in this study.

[32] Senate Bill 743 Checklist, 530 Sansome Street, March 19, 2021.

Existing Plus Project Conditions

Construction Impacts

Proposed Project

The discussion of construction impacts is based on currently available information from the project sponsor, local and state regulations regarding use of the public right-of-way, and experience with typical construction practices in San Francisco. Changes to the transportation circulation network in the project area related to construction activities would be temporary and of limited duration.

Construction activities in San Francisco that have the potential to affect the transportation network are subject to SFMTA's San Francisco Regulations for Working in San Francisco Streets, also known as the Blue Book, as well as public works code and orders.[33] The authority for establishing the Blue Book is derived from the San Francisco Transportation Code. The Blue Book, which concerns primarily construction activities that affect the public right-of-way, is a manual for City agencies (public works, SFMTA, public utilities commission, the port, etc.), utility crews, private contractors, and others who work in San Francisco's public rights-of-way. It establishes rules for working safely and in a manner that results in the least possible interference with people walking, bicycling, taking transit, or driving and/or transit operations.

Should project construction activities not comply with regulations in the Blue Book or the traffic routing specifications in the City Contract,[34] or when two or more contractors work at a time on any one block,[35] the contractor would need to apply for a special traffic permit from SFMTA, which would specify conditions to ensure the safety and accessibility of all travel modes in and around the project site. A special traffic permit is issued for no more than 30 calendar days, after which the contractor is required to renew. The SFMTA may refuse to issue, extend, or revoke a special traffic permit depending on transportation network conditions at or near the project site.

With respect to public works, it is the policy of public works that a safe and accessible path of travel be provided for all people walking, including those with disabilities, around and/or through construction sites. To that end, the public works code includes requirements related to excavation in the public right-of-way (if this occurs) and development and implementation of a contractor's parking plan. Specifically,

---

[33] San Francisco Municipal Transportation Agency, *City and County of San Francisco Regulations for Working in San Francisco Streets*, eighth edition, January 20212, https://www.sfmta.com/sites/default/files/reports-and-documents/2020/06/blue_book_8th_edition_6-23-20.pdf. Accessed November 24, 2020.

[34] The SFMTA Traffic Routing Group is responsible for developing traffic routing specifications and traffic control plans for all street construction projects in the City. The specifications and plans are included in the final contract package. https://bsm.sfdpw.org/intern/announcements_xx/mta_20121107.aspx, accessed February 2021.

[35] Blue Book section 3.5.

the public works code section 724, which addresses temporary occupation of the public right-of-way, requires, among other things, a minimum clearance of four feet to accommodate pedestrian path of travel requirements. Section 724 also requires that lights, barriers, barricades, signs, cones, and other devices be provided to ensure pedestrian and traffic safety. Further, the public works code section 2.4.20, which addresses permits to excavate, requires that the applicant for an excavation for permit for major work, or excavation that will affect the public right-of-way,[36] that is 30 consecutive calendar days or longer to submit a contractor parking plan, including a proposal to reduce parking demand in the project site vicinity, to public works for its review.

In addition to Blue Book and public works regulations, contractors are responsible for complying with the City, state, and federal codes, rules, and regulations, including the California Manual of Uniform Traffic Control Devices,[37] as presented in **Appendix F**.

As stated above, project construction activities that do not comply with regulations in the Blue Book would require a special traffic permit from SFMTA, which would specify conditions to ensure the safety and accessibility of all travel modes in and around the project site. Examples of the types of work addressed through special traffic permits include sidewalk and walkway closures, alley and street closures, a temporary relocation of a transit stop and/or route, and bicycle route closures or detours.

Construction of the proposed project or residential variant are expected to begin in December 2021 and last approximately 29 months, with a completion date in April 2024. Construction activities would include, but not be limited to site demolition, preparation, grading and excavation, pile installation, foundation construction, building construction, architectural coating, the installation of utilities, paving, interior finishing and exterior streetscape, hardscaping, and landscaping.

The proposed project would generate up to 60 trucks per day during the excavation periods of the construction and 20 trucks per day during the remaining phases of construction. Trucks would use Third and Kearny streets to reach Clay Street then Sansome Street to reach the project site and Clay, Drumm, and Washington streets to reach The Embarcadero or Washington Street to Montgomery Street to leave the site. Trucks would enter and exit the site from Sansome or Washington streets, depending on where the construction is occurring. The proposed truck routes will be reviewed and approved by MTA to minimize conflicts and potentially hazardous conditions with other roadway users. The slower movement and larger turning radii of construction truck traffic may result in a temporary lessening of roadway capacities in the project area. Transit service may occasionally be temporarily delayed due to truck traffic in and out of the project site from Sansome Street; however, this level of truck traffic would not substantively delay public transit or result in hazardous conditions for people taking transit since trucks would be infrequent (average of five to six per hour between 7:00 a.m. and 6 p.m.) and would use streets

[36] The Public Works Code section 2.4.4 defines "major work" as any reasonably foreseeable excavation that will affect the public right-of-way for more than 15 consecutive calendar days.

[37] California Department of Transportation, *2014 California Manual of Uniform Traffic Control Devices*, revision 3, March 2018, http://www.dot.ca.gov/trafficops/camutcd/, accessed November 24, 2020.

designed to provide access to the existing fire station. Construction vehicles are not substantially larger than the fire department vehicles and are thus wide enough for large vehicles to maneuver into and out of the project site.

The approximate average number of construction workers onsite by shift would be 120, with a maximum of 270 workers per day between December 2022 and April 2024 during the building construction and architectural coating phases. Typical construction hours would be from 7:00 a.m. to 6:00 p.m., seven days a week. As required by Public Works Code section 2.4.20, the project would be required to prepare a contractor parking plan that addresses changes in parking supply. However, because parking shortfalls would be temporary in nature, variable depending on the construction activity, would occur prior to peak hours, and would be minimized by the contractor parking plan, the parking shortfall would not substantially affect conditions for people walking, bicycling, or public transit. The addition of worker-related transit trips is similarly temporary, variable, and off-peak, and would not substantially affect transportation conditions.

The project would stage all construction equipment on site, although at times Washington, Merchant, and Sansome streets would be required to stage equipment for unknown periods. Under the worst-case scenario (i.e., a most impactful scenario), the fronting sidewalks could be closed on Sansome, Washington, and Merchant streets simultaneously for the entire construction period (29 months). When a temporary closure of the sidewalk and parking lane on Washington Street is needed to stage equipment, a temporary sidewalk would be provided in the parking lane on Washington Street to maintain access for people walking as required by the Blue Book and to comply public works code section 724. The existing width of Washington Street (approximately 54 feet) with diagonal parking on the south side of the street means that approximately 20 feet of the roadway (in addition to the 10-foot sidewalk) is available on this frontage for staging and a walkway without requiring removal of travel lanes or parking on the north side of Washington Street. The temporary closure of the northern sidewalk on Merchant Street would require that people walk on the sidewalk on the south side of the alleyway. This would not substantially inhibit accessibility for people walking due to the short length of Merchant Street and the limited destinations people could be walking to. When closures of sidewalk on Sansome Street are required, such as during utility connections, repaving the sidewalk, or in the case of staging equipment on Sansome Street, the project sponsor will be required by the Blue Book and public works code section 724 to develop a traffic control plan with the SFMTA and Public Works to demonstrate how pedestrian pathways would be maintained without creating substantial delay to transit vehicles along Sansome Street. If additional closures to travel lanes are required, such as for tower crane erection, mat foundation placement, or utility work, the project sponsor would coordinate with the SFMTA to develop a traffic control plan required by the Blue Book and public works code section 724 to ensure the closures would not impede access at and around the project site. Notification and public meetings would be provided for any temporary traffic and transportation changes and reimbursement would be required to SFMTA for any signage and striping changes as required by the Blue Book.

Additionally, fire truck operations would be relocated during construction of the proposed project from Station 13 to nearby stations, including Stations 2, 28, 35, or 41, and continue to serve the Financial

District. These station locations are presented in **Appendix B**. Per San Francisco Fire Department,[38] the relocation would not cause a substantial disruption to emergency response coverage as those stations would be able to accommodate Station 13's operations and services at maintained at existing levels. Furthermore, the relocation of Station 13's operations would not require construction of any new facilities. The temporary relocation of fire vehicles and personnel to nearby stations is a part of routine operations for SFFD and would not represent a change to operations for the Station 13 service area. For these reasons, construction of the proposed project or residential variant would not interfere with emergency access or accessibility for people walking or bicycling.

Overall, construction activities would not be substantial enough to cause potentially hazardous conditions, delay public transit, or interfere with accessibility, and are required to be conducted in accordance with City requirements. Thus, the construction-related impacts of the proposed project would be less than significant.

Mitigation: None required.

Residential Variant

Construction of the residential variant would be the same as the proposed project as the building size and streetscape changes would not change. Construction activities associated with the residential variant would be required to comply with the relevant City requirements similar to the proposed project. Therefore, the construction details presented above for the proposed project, including the sequencing of project construction, the type and intensity of construction activities required, and the number of workers and trucks anticipated to be on site, would apply to the residential variant.

As the construction would not substantially differ between the proposed project and the residential variant, construction-related impacts associated with construction of the residential variant would similarly be less than significant.

Mitigation: None required.

Operational Impacts

Vehicle Miles Traveled (VMT)

Table 18 presents the existing average daily vehicle miles traveled (VMT) for residents in the nine-county San Francisco Bay Area and for TAZ 804, the zone in which the proposed project or residential variant site is located. TAZ 804 is bounded by Sansome Street to the west, Clay Street to the south, Battery Street to the east, and Washington Street to the north.

[38] Per email from Assistant Deputy Chief of Support Services Dawn DeWitt on Tuesday January 26, 2021.

Table 18: Existing Vehicle Miles Traveled

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Significance Threshold)	TAZ 804
Residential	17.2	14.6	2.5
Office[1]	19.1	16.2	7.9
Retail[2]	14.8	12.6	8.7

Notes:
1. The proposed project would not change the travel characteristics nor number of employees at the fire station and therefore would not result in a change to VMT associated with the fire station. The VMT associated with office is used as a proxy for the amount of VMT generated by the Fire Station 13 employees.
2. Retail is presented as a proxy for the proposed Gym and restaurant land uses as they would provide an amenity to residents, employees, and visitors in Downtown San Francisco in a similar manner to retail services. Due to the density of complementary land uses and high transit accessibility to the project site, they would generate substantially less VMT compared to the rest of the region. For similar reasons, the visitors and employees of the hotel would reflect the travel characteristics of retail and office space, with substantially lower VMT than the significance threshold.

Source: San Francisco Transportation Information Map, 2019, SF Planning; Fehr & Peers, 2020.

The project site is located in a low VMT generating area. Adjacent office uses generate 7.9 VMT per employee, which is lower than 15 percent below the regional average for office uses (16.2 VMT). Adjacent retail uses generate 8.7 VMT per employee, which is lower than 15 percent below the regional average for retail uses (12.6 VMT). As noted in **Table 18**, the office and retail uses are used as proxy for the VMT generated by the fire station, hotel, gym, and restaurant uses due to the similar characteristics for the employees and visitors for each of these unique land uses. Furthermore, the proposed project would not change the travel characteristics nor number of employees at the fire station and therefore would not result in a change to VMT associated with Fire Station 13. Consistent with Planning Code section 169, proposed project includes a transportation demand management plan with measures and strategies to reduce single occupant vehicle travel to the project. The proposed transportation network changes include pedestrian amenities, driveways, a fire access lane, and color curb changes, which are not features that would induce automobile travel. Therefore, the VMT-related impacts to the proposed project would be less than significant. The proposed TDM plan would further reduce these less than significant impacts by reducing single occupant vehicle travel to the project.

Mitigation: None required.

Residential Variant

Similar to the proposed project, the residential variant would generate far less VMT per capita than the significance threshold as presented in **Table 18**. Adjacent residential uses generate 2.5 VMT per capita, which is lower than 15 percent below the regional average for residential uses (14.6 VMT). Consistent with Planning Code section 169, proposed project includes a transportation demand management plan with measures and strategies to reduce single occupant vehicle travel to the project. The proposed transportation network changes include pedestrian amenities, driveways, and color curb changes, which are not features that would induce automobile travel. Therefore, the VMT-related impacts due to the

residential variant would be less than significant. The proposed TDM plan would further reduce these less than significant impacts by reducing single occupant vehicle travel to the project.

Mitigation: None required.

Loading

Proposed Project

Freight Loading/Service Vehicles

As presented in **Table 2**, the proposed project would provide one off-street freight loading space and two service vehicle spaces. As presented in **Table 14**, the total freight loading demand generated by the proposed land uses would be an estimated 31 average daily freight loading occurrences and two peak hour freight loading occurrences. Therefore, the off-street freight loading space supply alone would not be sufficient to accommodate the peak hour freight loading demand. However, the majority of daily service vehicle activity associated with hotel consists of smaller vehicle types such as light trucks and panel vans that could be accommodated within the proposed off-street freight and service vehicle loading spaces.[39] Furthermore, the 2002 SF Guidelines include data that further corroborate the relationship between hotel uses and reliance on small service vehicles for most commercial vehicle activity. Specifically, the data indicate that 67 percent of freight loading occurrences would be from service vehicles; 28 percent from 30-foot-long single-unit trucks; and five percent from delivery vehicles larger than 30-foot-long single-unit trucks. Service vehicles would be able to access the service vehicle spaces in the parking garage at all times, including when vehicle through traffic is discouraged on Merchant Street during POPOS programming hours.

The off-street freight loading space would be located on the Washington Street frontage approximately 100 feet east of the Sansome Street curb face. The freight loading dock is proposed to be 30 feet long, which would adequately accommodate freight trucks without blocking the sidewalk on Washington Street. Freight trucks would pull past the loading dock on Washington Street and reverse into the loading dock. As shown in truck turning templates presented in **Appendix G**, these truck movements could be accommodated within Washington Street and would not interfere with SFFD vehicles exiting the fire station on Washington Street. Furthermore, a gate arm or other traffic control feature at this loading dock would restrict commercial vehicle egress from the loading dock during a SFFD departure event. There is no transit service on Washington Street east of Sansome Street that could be delayed by a freight loading turning movement. Approximately once or twice a day, a vehicle longer than 30 feet is expected to serve the project site[40] and would need to load at convenient loading zones (e.g., within 250 linear feet of the

[39] Figure 60, page 111 of the *San Francisco Travel Demand Update: Data Collection and Analysis* (Fehr & Peers, 2018). This document is also Appendix F of the February 2019 SF Guidelines.
[40] Five percent of 31 daily loading vehicles results in one to two large freight trucks per day.

project site) on adjacent streets, such as at the yellow loading zones on the west side of Sansome Street south of Mark Twain Street.

The proposed project would remove up to seven of the existing 14 freight loading spaces on the block surrounding the project site, including one space on Sansome Street, up to four spaces on Merchant Street adjacent to the project site, and two freight loading spaces on Washington Street. As noted in the existing loading section, only six percent of the existing freight loading spaces on the block surrounded by Washington, Battery, Merchant, and Sansome streets was used by freight vehicles on average, representing less than one freight vehicle serving the existing land uses on the project site. The remaining use of these spaces was for non-permitted uses, such as parking (40 percent average utilization) and for passenger loading (four percent average utilization) for adjacent commercial land uses. Therefore, the removal of the existing freight loading spaces as part of the 530 Sansome Street project would not substantially affect the ability for freight vehicles to serve adjacent properties.

For the above reasons, even though the freight loading activity generated by the proposed project would not be accommodated by the proposed off-street freight loading space accessible from Washington Street and the project would remove some of the existing freight loading spaces in the project site vicinity, the project would not create hazardous conditions people walking, bicycling, or driving, or create substantial delays to transit. Therefore, the proposed project would have a less than significant freight loading impact. Further, the driveway loading and operations conditions of approval would further reduce the proposed project's less-than-significant impact to other roadway users by creating protocols for managing infrequent large vehicle deliveries.

Passenger Loading

The project proposes an approximately 100-foot-long passenger loading zone (approximately five spaces) on Sansome Street and an approximately 40-foot-long p.m. peak period passenger loading zone[41] (approximately two spaces) on Merchant Street. Both loading zones would be served by curbside valet stations where valet drivers would shuttle cars to and from the loading zones and the off-street parking facility accessible from Merchant Street. The valet service would increase the efficiency of the passenger loading zone and help ensure demand does not exceed supply and reduce potentially hazardous conditions for other roadway users through the active management by an attendant. The Sansome Street passenger loading zone is located in a peak hour tow-away lane, and therefore would be unavailable during the p.m. peak period (3:00 to 7:00 p.m.). During this time, the Merchant Street passenger loading zone would remain available for passenger loading activity. As presented in **Table 16**, the proposed project would generate demand for 57 p.m. peak-hour passenger loading occurrences and two passenger loading spaces per minute during the peak 15-minute periods. Peak loading demand is calculated using equations included in the SF Guidelines, which note that half of peak hour loading demand occurs during

[41] The Merchant Street loading spaces would be utilized for loading during the PM peak period (3:00 pm to 7:00 pm) and programmed with movable furniture during typical business hours (i.e., for use as POPOS).

the peak 15 minutes and the average stop duration is one minute. The peak period for passenger loading demand occurs from 5:00 p.m. to 8:00 p.m. and therefore this demand could occur while the loading zone on Merchant Street is available from 5:00 p.m. to 7:00 p.m. or while the loading zone on Sansome Street is available from 7:00 p.m. to 8:00 p.m. Both passenger loading zones would accommodate the proposed project's estimated peak-hour demand.

Informal parking and loading activities associated with the SFFD that currently occur on Merchant Street would shift to the south side of Washington Street within the red curb zone shown on **Figure 3**. This activity is a part of regular SFFD operations, and the fire access lane would be wide enough to accommodate this activity without disrupting emergency access to the new fire station.

Therefore, the proposed project would accommodate peak hour passenger loading demand within convenient on-street loading zones and would not result in a passenger loading demand that would create potentially hazardous conditions or significant delays for people driving, riding transit, bicycling, or walking. The proposed project would have a less than significant impact on passenger loading conditions.

Mitigation: None.

Residential Variant

Freight Loading/Service Vehicles

Similar to the proposed project, the residential variant would provide one off-street freight loading space and two service vehicle spaces. As presented in **Table 15**, the residential variant would generate demand for fewer truck loading spaces than the proposed project, with an estimated eight average daily freight loading occurrences and one peak hour freight loading occurrence. Occasionally, residential buildings are served by trucks larger than 30 feet, such as for move-in/move-out activities. These vehicles would need to load at convenient loading zones (e.g., within 250 linear feet of the project site) on adjacent streets, such as at the yellow loading zones on the west side of Sansome Street south of Mark Twain Street. Individuals or building management would be required to reserve spaces through SFMTA's temporary signage program. Therefore, the off-street freight supply alone would be sufficient to accommodate the peak hour freight loading demand for the residential variant.

Similar to the proposed project, the residential variant's off-street freight loading space would be located on the Washington Street frontage approximately 100 feet east of the Sansome Street curb face and is designed to accommodate a 30-foot-long freight trucks without blocking the sidewalk on Washington Street. The loading dock would include features similar to those in the proposed project and would not conflict with operations of the proposed SFFD Fire Station 13. Further, the residential variant would include similar streetscape features that would remove a similar number of existing freight loading spaces and existing freight loading demand could be accommodated in nearby freight loading spaces. Therefore, freight loading activity generated by the residential variant and the removal of existing freight loading spaces would not result in an unmet freight loading demand that would create hazardous conditions people walking, bicycling, or driving, or create substantial delays to transit. The driveway loading and operations conditions of approval would create protocols for large vehicle deliveries (such as residential

move-in) to manage these infrequent activities. Thus, the residential variant would have a less than significant freight loading impact. Further, the driveway loading and operations conditions of approval would further reduce the residential variant's less-than-significant impact to other roadway users by creating protocols for managing infrequent large vehicle deliveries.

Passenger Loading

Similar to the proposed project, the residential variant would provide an approximately 100-foot-long passenger loading zone (approximately five spaces) on Sansome Street and an approximately 40-foot-long p.m. peak period passenger loading zone[42] (approximately two spaces) on Merchant Street with valet service for residents at both locations. As presented in **Table 17**, the proposed project would generate demand for 12 p.m. peak-hour passenger loading occurrences and one passenger loading space per minute during the peak 15-minute periods. Peak passenger loading demand is calculated using equations included in the 2019 SF Guidelines, which note that half of peak hour passenger loading demand occurs during the peak 15 minutes and the average stop duration is one minute. Similar to the proposed project, the passenger loading demand generated by the residential variant would be accommodated within the passenger loading zones on Sansome or Merchant streets during the p.m. peak period. Therefore, similar to the proposed project, the residential variant would not result in an unmet passenger loading demand that would create potentially hazardous conditions or significant delays for people driving, riding transit, bicycling, or walking. The residential variant would have a less than significant impact on passenger loading conditions.

Mitigation: None required.

Because no significant impacts were identified, no mitigation is required.

Emergency Vehicle Access

Emergency vehicle access to the project site is currently provided along Washington, Sansome, and Merchant streets. Along Merchant Street and other alleys, larger emergency vehicles may have some difficulty negotiating turns or securing sufficient space to deploy outriggers or other apparatus due to narrower curb-to-curb widths. However, the proposed project would not include features that would inhibit emergency vehicle access serving the site and pedestrian features such as corner bulb outs, the Merchant Street shared street, and street trees would be designed to allow emergency vehicle access. The proposed project provides measures to support the relocated fire station access from Washington Street. These measures would include the emergency vehicle preemption system installed at the traffic signals on Washington Street at the Sansome Street and Battery Street intersections and a fire only lane and 'KEEP CLEAR' markings on Washington Street. As shown in truck turning templates presented in **Appendix G**, non-fire/freight truck movements into and out of the freight loading dock could be accommodated within Washington Street and would not interfere with SFFD vehicles exiting the fire station. Furthermore, a gate

[42] The Merchant Street loading spaces would be utilized for loading during the PM peak period (3:00 pm to 7:00 pm).

arm or other traffic control feature at this loading dock would restrict commercial vehicle egress from the loading dock during a SFFD departure event. California Vehicle Code section 21806 requires that all non-emergency vehicles yield right-of-way to emergency vehicles so general traffic congestion in the vicinity of the Project site would not result in substantial delay to emergency vehicle response. Therefore, emergency vehicles would continue to be able to serve the project site and the proposed project would not interfere with accessibility for emergency services and impacts due to the proposed project would be less than significant.

Mitigation: None required.

Residential Variant

The residential variant would provide similar design features as the proposed project, including the location of the fire station's truck access, fire lane, and Keep Clear Zone on Washington Street and the shared street on Merchant Street. Similar to the proposed project, these design features would not interfere with accessibility for emergency services. Therefore, emergency access impacts due to the residential variant would be less than significant.

Mitigation: None required.

Cumulative (2040) Plus Project Conditions

Land Use and Transportation Changes

The analysis of Cumulative Conditions considers foreseeable changes to both land use development and the transportation network, as described in further details in the following subsections. There are several currently active development projects in the vicinity of the project site that are "small-site" development that generally comply with existing zoning and height/bulk restrictions. Given the size of the proposed project and the focus of the study area on transportation impacts related to construction, vehicle miles traveled, loading, and emergency vehicle access, the focus of this cumulative conditions analysis is on the cumulative effects of the nearby 447 Battery Street and 545 Sansome Street projects. Other development projects within one-quarter mile, as shown in **Appendix H**, obtained from the Preliminary Mitigated Negative Declaration for 530 Sansome Street project,[43] would not generate a substantial number of vehicle or other trips through the study area and would not otherwise contribute to transportation conditions adjacent to the project site. Therefore, these projects are not discussed further.

While citywide growth or growth envisioned through large developments or community plans such as the Central SoMa Plan or the Eastern Neighborhoods plans may result in traffic volume changes in the study area, the cumulative effect of this on construction impacts, vehicle miles traveled, loading activity, or emergency vehicle access would be negligible. The traffic volumes at the four study intersections during the weekday P.M. peak hour under Cumulative plus Project Conditions are shown in **Figure 14** and **Figure 15** for the proposed project and residential variant, respectively.

The nearby development and transportation projects considered in this cumulative analysis are summarized below.

447 Battery Street

A new mixed-use hotel building with approximately 198 guest rooms, 6,800 sf of ancillary event space, and 7,500 sf of restaurant use. The 447 Battery Street project includes streetscape and color curb changes to Merchant and Battery streets. The 447 Battery Street project includes driveway access from Merchant Street to a parking garage with 24 off-street automobile parking spaces on the western edge of that site, adjacent to the proposed project site. The 447 Battery Street project would include a freight loading dock within the parking garage and would establish a new 74-foot passenger loading zone (approximately three spaces) along the entire Battery Street frontage of that project site. The 447 Battery Street project

[43] Administrative Draft 1 Preliminary Mitigated Negative Declaration for 530 Sansome Street, Case No.: 2019-017481ENV, January 6, 2021.

proposed a similar shared street design as is currently being proposed by the proposed project and residential variant, and thus would extending the shared street for the entire block of Merchant Street. If the 447 Battery Street project is approved, it would be responsible for implementing the streetscape changes fronting the 447 Battery Street property on Merchant Street.

545 Sansome Street

An approximately 50,000 sf office and 2,400 sf retail addition to an existing mixed-use retail and office building for a total of 100,000 sf of office and 5,400 sf of retail uses. No off-street parking, driveways, or streetscape changes are proposed by this project.

Muni Forward

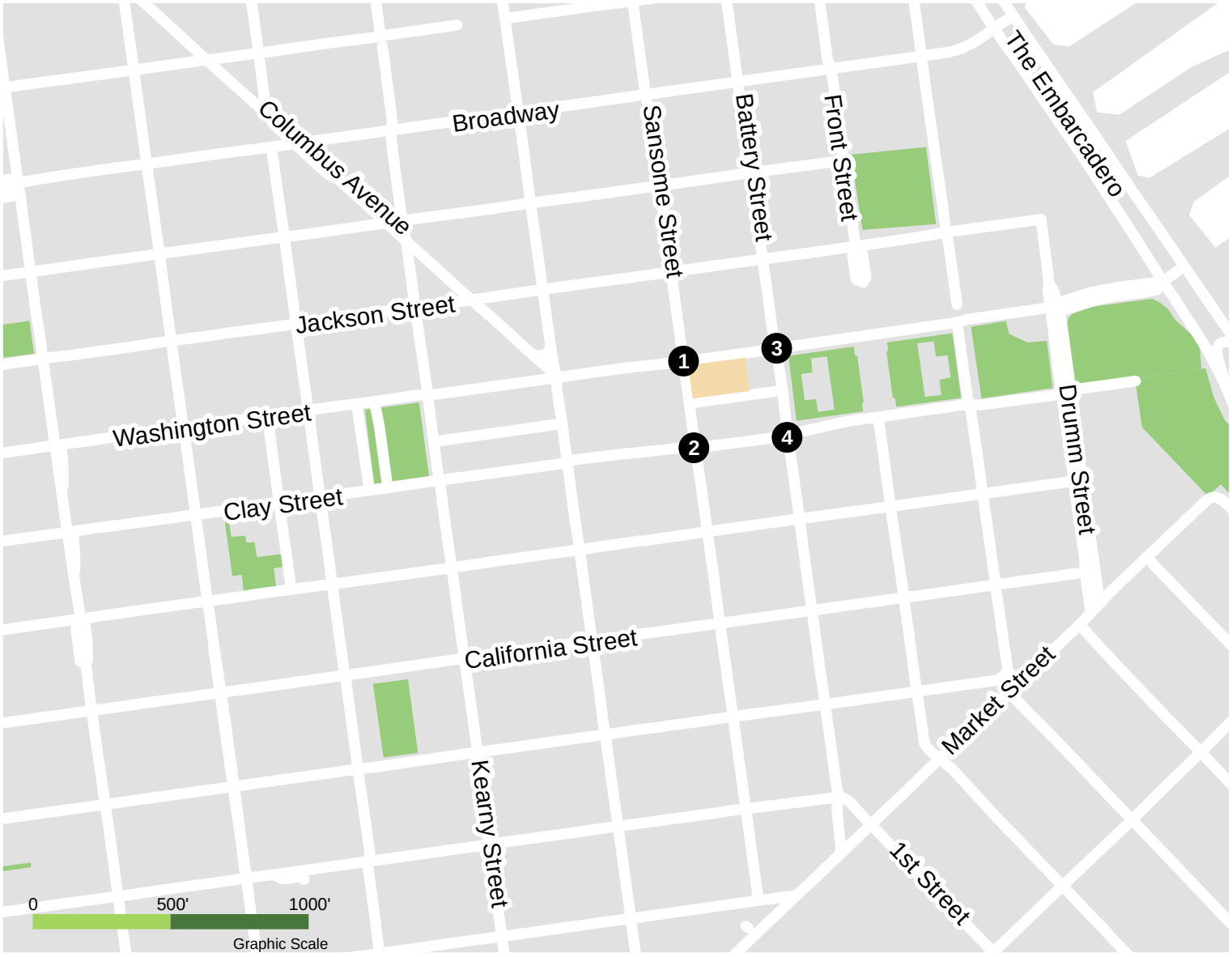
SFMTA is planning to implement the following Muni Forward service changes through the study area.

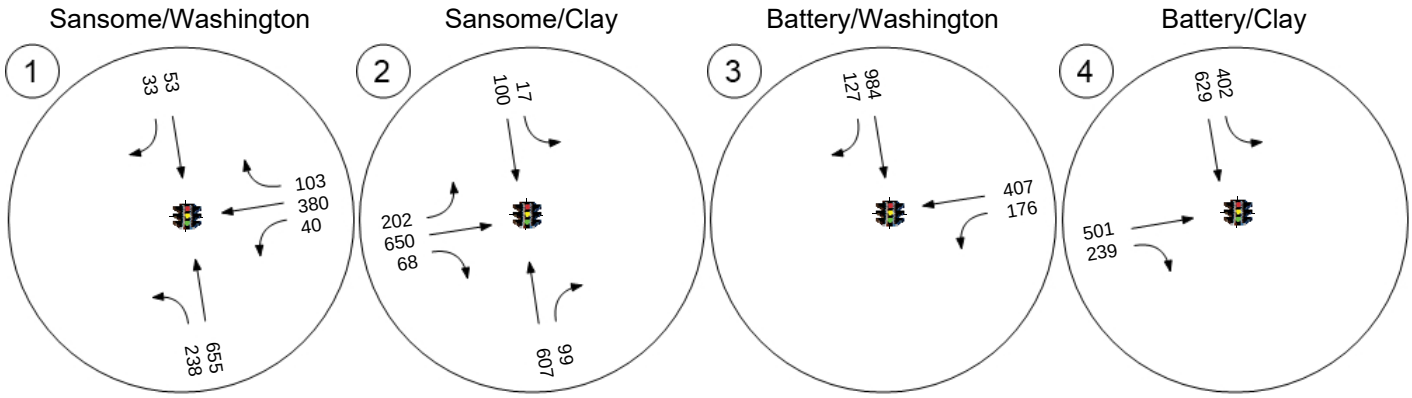
10 Townsend

Muni Forward proposes to improve headways during the weekday a.m. and p.m. peak periods (from 20 minutes to 6 minutes) and during the weekday midday period (from 20 minutes to 10 minutes). South of the study area Muni Forward proposes to change the route west of Fourth Street through Showplace Square and the northern portions of Potrero Hill (replacing the existing route via Townsend Street with a new route through Mission Bay) and at the southern terminal near San Francisco General Hospital.

12 Folsom / Pacific

Muni Forward proposes replace the 12 Folsom / Pacific south of Washington Street / Clay Street through the Financial District, Transbay, Central SoMa, West SoMa, and the Mission with a new 11 Downtown Connector, and to the north with a more frequent 10 Townsend. The new 11 Downtown Connector route will follow Columbus Avenue, Powell Street, and North Point Street through North Beach and Fisherman's Wharf to a terminus at Aquatic Park (Van Ness Avenue / North Point Street).

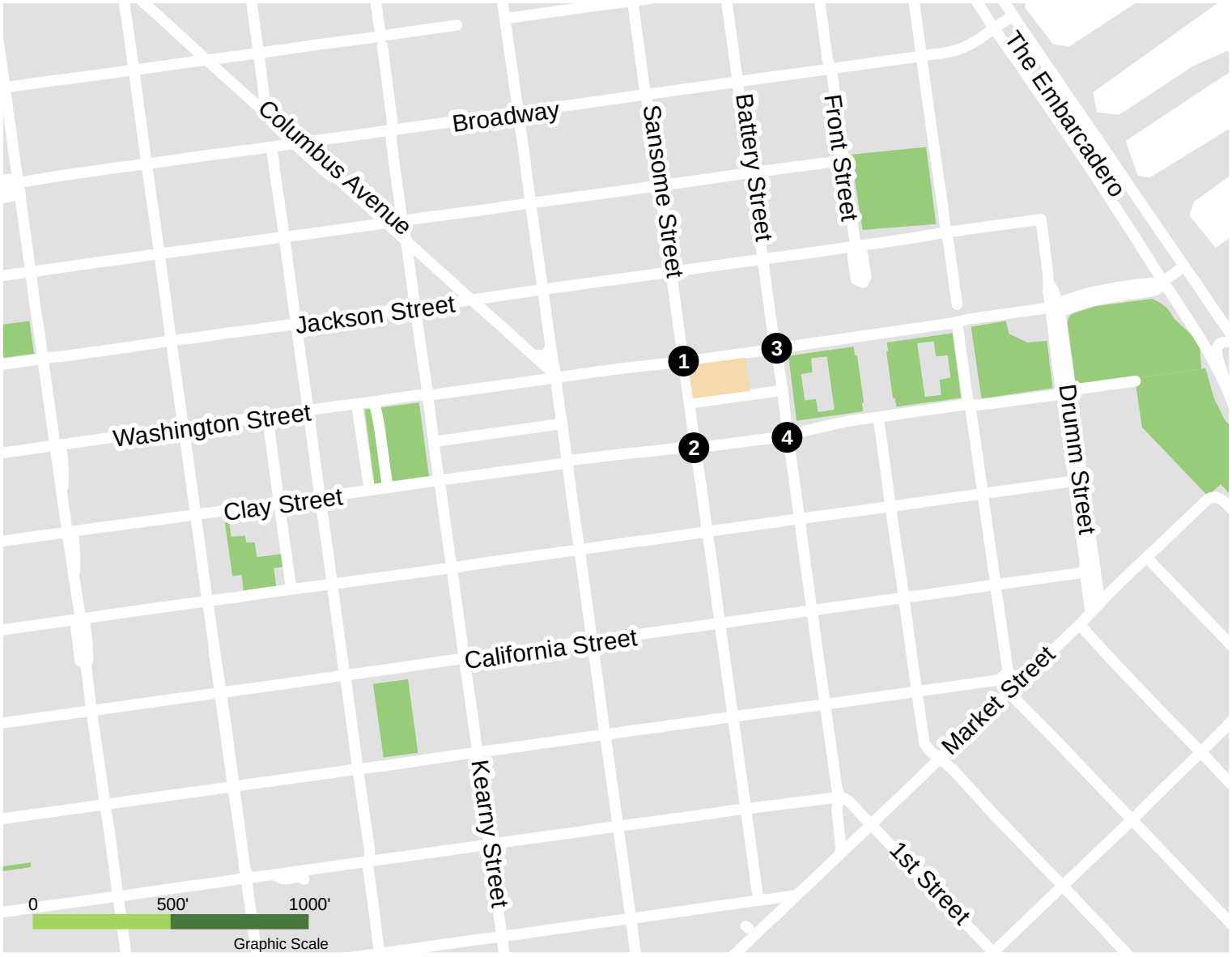


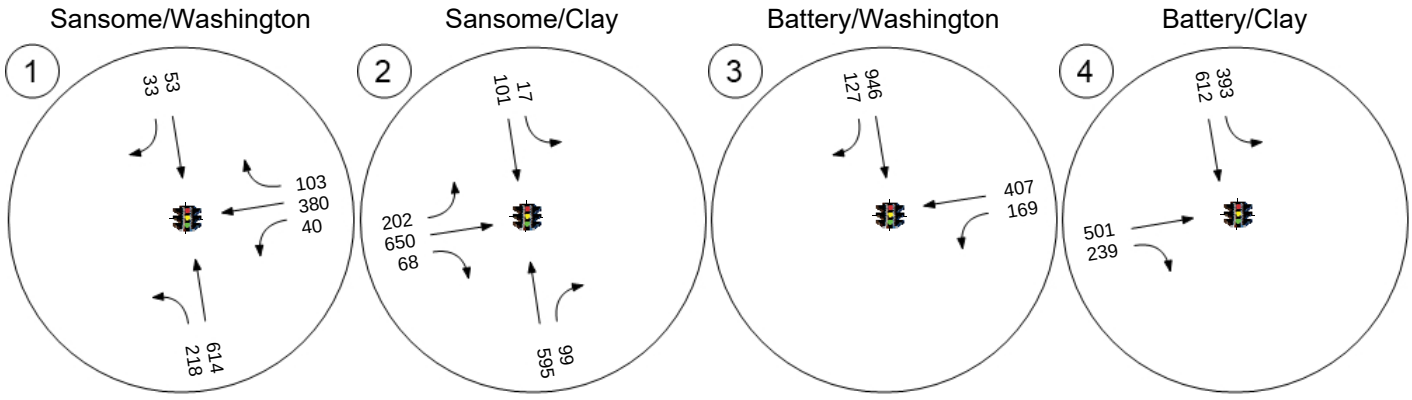


NOTE
1. Private vehicles turning onto Sansome Street from Washington Street are prohibited between 7 a.m. and 8 a.m. while the restriction does not apply to commercial vehicles, buses, taxis, and bicycles.
2. The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.

Figure 14

P.M. Peak Hour Traffic Volumes
Proposed Project
Cumulative Plus Project





NOTE
1. Private vehicles turning onto Sansome Street from Washington Street are prohibited between 7 a.m. and 8 a.m. while the restriction does not apply to commercial vehicles, buses, taxis, and bicycles.
2. The vehicle trips include the inbound and outbound legs for all TNC trips consistent with SF Guidelines requirements.

Figure 15

P.M. Peak Hour Traffic Volumes
Residential Variant
Cumulative Plus Project

Construction Impacts

Proposed Project

Construction of the proposed project may overlap with the construction of the nearby projects at 447 Battery Street and 545 Sansome Street, which are directly adjacent to the proposed project site and across the street from the project site, respectively. The Muni Forward program does not include any physical construction through the study area.

While the construction timing of 447 Battery Street project is currently unknown, under a worst-case scenario (i.e., a most impactful scenario), it would start in December 2021 and overlap with construction of the proposed project. If construction were to start before or after this time, the impacts associated with the combined construction would be less than those assumed below as peak construction activities would not overlap. Demolition and construction of 447 Battery Street project are estimated to take approximately 31 months over six phases, including demolition (one month), site preparation (three months), grading/excavation (seven months), building construction (17 months), paving (two months), and architectural coating work (one month). In general, the two projects are expected to have similar truck routes, although the 447 Battery Street project would provide primary access to the project site from Washington and Battery streets rather than Sansome Street. The construction schedule for the 545 Sansome Street project is also unknown; however, it would be much less intensive than that for the 530 Sansome Street or 447 Battery Street project as it includes the expansion of an existing building rather than construction of a new building. For the purposes of a conservative analysis, the construction period for the 545 Sansome Street project is assumed to occur at the same time as the proposed project and the 447 Battery Street project.

As presented in **Appendix B**, the combination of the proposed project and 447 Battery Street project would increase the average number of truck trips accessing the site by 29 truck trips and 155 worker trips over the length of the proposed project's construction schedule for 29 months. The maximum daily number of trucks required at either site would increase from 60 trucks to 120 trucks during the site preparation and grading/excavation phases. While construction of the two projects according to this schedule could temporarily increase traffic to the proposed site, impacts associated with the construction of the proposed project under cumulative plus project condition would not substantially differ from the impacts under existing plus project condition. The construction schedules and truck and worker routes required for the 545 Sansome Street project is unknown. However, the construction activities for the 545 Sansome Street project would be relatively minor compared to the proposed project or 447 Battery Street project and would require fewer workers and vehicles on-site as it includes the expansion of an existing building rather than construction of a new building. Although the 545 Sansome Street project is across the street from the 530 Sansome Street project site, a different route would be required for construction trucks to access that site as trucks would not be allowed to turn left into the 545 Sansome Street project site from Sansome Street. Therefore, they would approach from Washington Street, which would generally not overlap with the primary access to the proposed project.

Given the uncertainty of the construction timing for the above projects, if construction periods do overlap for the proposed project and these projects, the proposed project would be required to obtain a special traffic permit from SFMTA prior to the commencement of any construction work and comply with all applicable requirements in the Blue Book and public work code. As conditions for the special traffic permit, the sponsor for the 530 Sansome Street project would be required to work with various City departments to develop measures to minimize potential construction impacts related to construction vehicle routing, traffic control, transit vehicle operations, and accessibility and safety for people walking and biking adjacent to the construction area.

Overall, because the proposed project's and the adjacent cumulative projects' construction activities would be temporary and limited in duration and conducted in accordance with existing City regulatory requirements intended to reduce construction impacts, the proposed project, in combination with reasonably foreseeable developments in the project site vicinity, would result in less-than-significant cumulative construction-related transportation impacts.

Mitigation: None required.

Residential Variant

Similar to existing plus project conditions, construction of the residential variant would be substantially similar to the proposed project as the building size and streetscape changes would not change. Construction activities associated with the residential variant would be required to comply with the relevant City regulatory requirements similar to the proposed project. As the construction would not substantially differ between the proposed project and the residential variant, the residential variant, in combination with reasonably foreseeable developments in the study area, would result in less-than-significant cumulative construction-related transportation impacts.

Mitigation: None required.

Operational Impacts

Vehicle Miles Traveled

Proposed Project

There are no roadway capacity-enhancing projects adjacent to the project site that would encourage higher levels of VMT under cumulative conditions. The proposed Muni Forward improvements would enhance transit service through the study area and would not induce VMT. Per SF Planning Department, the proposed project and residential variant fit within the active transportation project including safety and accessibility improvements for people walking and bicycling, not inducing higher level of VMT. As shown in **Table 19** below, projected 2040 average daily VMT per capita for the transportation analysis zone the project site is located in, TAZ 804, is below the project 2040 regional average daily VMT. Therefore, the cumulative VMT impacts of the proposed project would be less than significant.

Table 19: 2040 Vehicle Miles Traveled

Land Use	Bay Area Regional Average	Bay Area Regional Average Minus 15% (Threshold)	TAZ 804
Residential	16.1	13.7	2.2
Office[1]	17.1	14.5	6.3
Retail[2]	14.6	12.4	7.9

Notes:
1. The proposed project would not change the travel characteristics nor number of employees at the fire station and therefore would not result in a change to VMT associated with the fire station. The VMT associated with office is used as a proxy for the amount of VMT generated by the Fire Station employees.
2. Retail is presented as a proxy for the proposed Gym and restaurant land uses as they would provide an amenity to residents, employees, and visitors in Downtown San Francisco in a similar manner to retail services. Due to the density of complementary land uses and high transit accessibility to the project site, they would generate substantially less VMT compared to the rest of the region. For similar reasons, the visitors and employees of the hotel would reflect the travel characteristics of retail and office space, with substantially lower VMT than the significance threshold.

Source: San Francisco Transportation Information Map, 2019, SF Planning; Fehr & Peers, 2020

Mitigation: None required.

Residential Variant

Similar to the proposed project, the residential variant would generate far less VMT per capita than the significance threshold under 2040 conditions. Therefore, similar to the proposed project, the cumulative VMT impacts of the residential variant would be less than significant.

Mitigation: None required.

Loading

Proposed Project

The combination of the proposed project and 447 Battery Street project would remove all of the existing freight loading along the faces of the project site block on Merchant, Battery, and Washington streets while also removing the existing land uses that generate demand for freight loading. The proposed Muni Forward improvements would not affect loading conditions in the study area. Under the condition where the Merchant Street shared street is extended the length of Merchant Street (in coordination with the proposed project or 447 Battery Street project), the four remaining freight loading spaces on the east side of Battery Street would serve the freight demand for existing land uses to the east of the project site. The 447 Battery Street project would accommodate its expected freight loading demand through an off-street loading dock and therefore would not create an unmet freight loading demand. As noted on page 62 of the 447 Battery Street project's TIS,[44] Improvement Measure I-Loading-1: Management of Freight Loading

[44] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036ENV), November 7, 2019.

/ Service Vehicle Activities includes the provision for attendants to help manage the freight loading dock in the case that special events or other loading activities generate more freight loading demand than can be accommodate off-street. The plans for freight loading for the 545 Sansome Street project are not available. Freight loading activity associated with the 545 Sansome Street project would occur off-street, if loading dock access is provided, or within the existing on-street loading zone on Washington Street along the 545 Sansome Street frontage and would therefore not generate freight loading that would overlap with the proposed project. Therefore, freight loading activity generated by the proposed project and nearby projects would not create hazardous conditions people walking, bicycling, or driving, or create substantial delays to transit due to unmet loading demand. The cumulative freight loading impacts of the proposed project, in combination with the cumulative projects, would be less than significant.

Similar to the proposed project, the 447 Battery Street project would accommodate the anticipated passenger loading demand for that project (two simultaneous passenger loading events) within the proposed on-street passenger loading zone along the entire Battery Street frontage of that project site. As noted on page 64 of the 447 Battery Street project's transportation study,[45] Improvement Measure I-Loading-2: Management of Passenger Loading Activities includes the provision to monitor passenger loading activity to ensure that loading demand does not exceed supply and provide attendants to actively manage loading during special events that could occur at the hotel proposed as part of the 447 Battey Street project. Passenger loading activity on Battery Street associated with the 447 Battery Street project would not overlap with the passenger loading for the proposed project due to the adjacency of new loading zones to each project's main building entrances. The additional office space proposed by the 545 Sansome Street project would generate less passenger loading activity compared to the 447 Battery Street project due to the smaller size of the project. This activity would occur along the 545 Sansome Street project's frontage on Washington Street and would not interfere with passenger loading activities of the proposed project on Sansome and Merchant streets, as people arriving at or leaving a building or other destination typically do so as close to the entrance as possible.

Therefore, passenger loading activity generated by the proposed project and nearby cumulative projects would not combine to create hazardous conditions people walking bicycling, or driving, or create substantial delays to transit due to unmet passenger loading demand. The cumulative passenger loading impacts of the proposed project, in combination with the cumulative projects, would be less than significant.

Mitigation: None required.

Residential Variant

The residential variant would generate less freight and passenger demand than the proposed project while providing the same amount of space for that loading to occur. Therefore, similar to the proposed

[45] AECOM, *447 Battery Street Transportation Impact Study Final Report* (Case No. 2014-1036ENV), November 7, 2019.

project, the cumulative passenger and freight loading impacts of the residential variant, in combination with the cumulative projects, would be less than significant.

Mitigation: None required.

Emergency Vehicle Access

Proposed Project

Similar to the existing plus project conditions, the combination of the proposed project with other reasonably foreseeable projects would not create design features that would result in inadequate emergency access. As noted in the 447 Battery Street project's transportation study, that project's proposed streetscape changes on Merchant Street were reviewed to ensure that they provide adequate access for larger emergency vehicle trucks and were approved by the City's Street Design Advisory Team. The proposed project includes consistent streetscape elements with those proposed by the 447 Battery Street project, and they have undergone similar review and approval process to ensure that emergency vehicle access is not inhibited by the combination of streetscape changes for the two projects. The adjacent 447 Battery Street and 545 Sansome Street projects do not propose driveways or other physical features that would inhibit emergency vehicle access into or out of the rebuilt Fire Station 13. The proposed driveway for 447 Battery Street project would be located on Merchant Street, same as the proposed project, and the 545 Sansome Street does not propose any driveways for off-street facilities. The proposed project's measures to prioritize SFFD emergency access would ensure that traffic growth under cumulative conditions, including traffic generated by the nearby 447 Battery Street and 545 Sansome Street projects, would not interfere with emergency vehicle access. These measures include the preemption traffic signal system on Washington Street at the Sansome Street and Battery Street intersections and a fire only lane and 'KEEP CLEAR' markings on Washington Street. For these reasons, the proposed project in combination with cumulative projects would not interfere with emergency access. Therefore, cumulative impacts to emergency access would be less-than-significant.

Mitigation: None required.

Residential Variant

The residential variant would provide similar design features as the proposed project and would not interfere with accessibility for emergency services. Therefore, similar to the proposed project, cumulative impacts to emergency vehicle access under the residential variant, in combination with the cumulative projects, would be less-than-significant.

Mitigation: None required.

Mitigation and Improvement Measures

This section summaries the mitigation measures required to reduce any significant transportation-related impacts generated by the proposed project or residential variant to less-than-significant levels.

Existing Plus Project Conditions

Construction Impacts

As discussed in Existing Plus Project Conditions section, impacts generated by the Project construction activities would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Vehicle Miles Traveled Impacts

As discussed in Existing Plus Project Conditions section, impacts related to vehicle miles traveled would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Loading Impacts

As discussed in Existing Plus Project Conditions section, impacts to loading would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Emergency Vehicle Access Impacts

As discussed in Existing Plus Project Conditions section, impacts to emergency vehicle access would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Cumulative Plus Project Conditions

Construction Impacts

As discussed in Cumulative Plus Project Conditions section, impacts generated by the cumulative construction activities would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Vehicle Miles Traveled Impacts

As discussed in Cumulative Plus Project Conditions section, cumulative impacts related to vehicle miles traveled would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

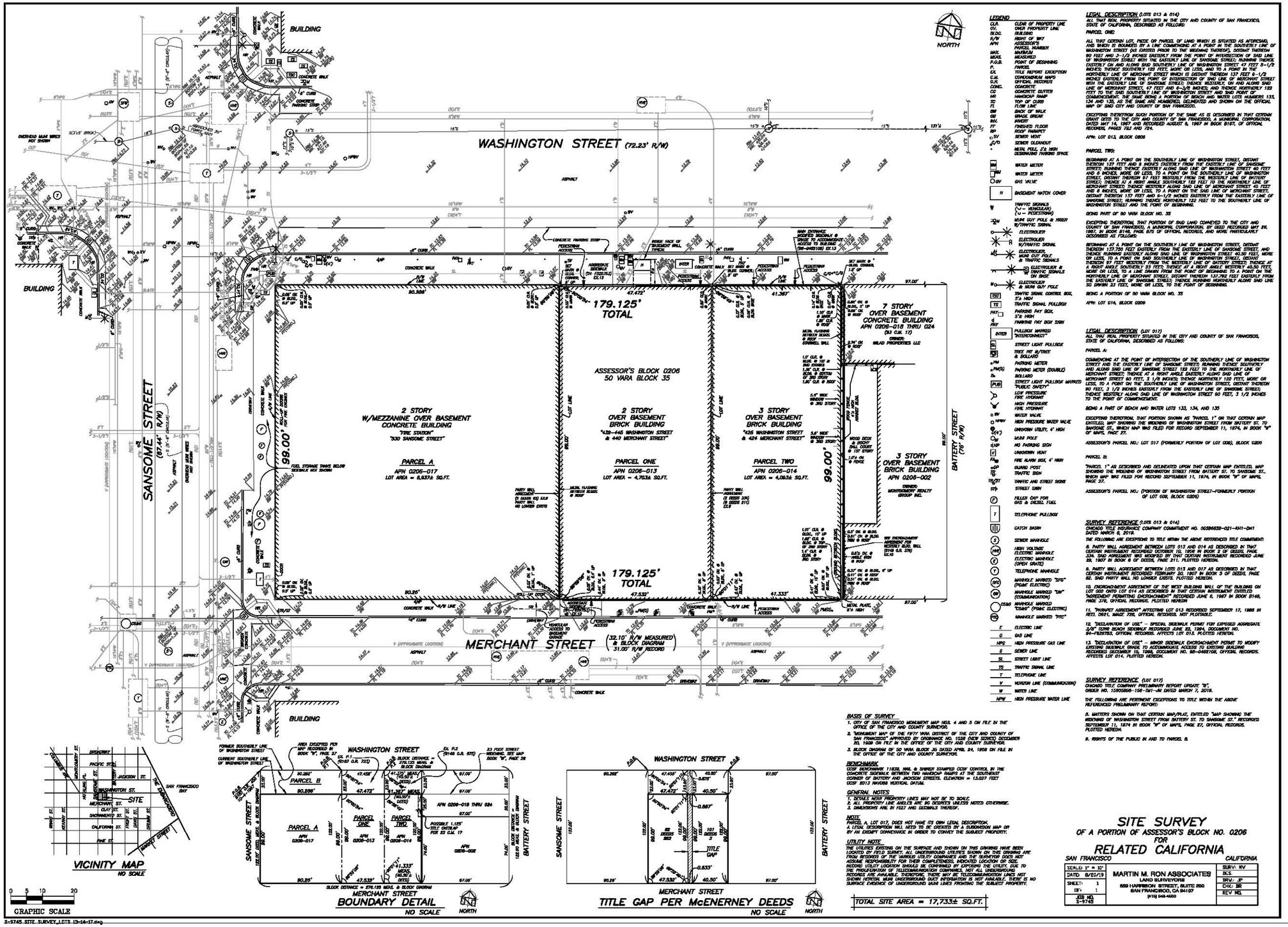
Loading Impacts

As discussed in Cumulative Plus Project Conditions section, cumulative impacts related to loading would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Emergency Vehicle Access Impacts

As discussed in Cumulative Plus Project Conditions section, cumulative impacts related to emergency vehicle access would be less-than-significant for proposed project and residential variant. Therefore, no mitigation is required.

Appendix A:
Project Site Plans



LEGEND

CLR. CLEAR OF PROPERTY LINE
O/L ONLY PROPERTY LINE
BLDG. BUILDING
R/W RIGHT OF WAY
APN ASSESSOR'S PARCEL NUMBER
MAX. MAXIMUM
MEAS. MEASURED
P.O.B. POINT OF BEGINNING
P. PARCEL
E/E TITLE REPORT EXCEPTION
C.M. CONDOMINIUM MAPS
O.R. OFFICIAL RECORDS
CONC. CONCRETE
CG CONCRETE GUTTER
HR HANDICAP RAMP
TC TOP OF CURB
FL FLOW LINE
BW BACK OF WALK
GB GRADE BREAK
INV. INVERT
FF FINISHED FLOOR
RP ROOF PARAMETER
SV SEWER VENT
CO SEWER CLEANOUT
MEDIL POLL 3'± HIGH DESIGNATING PARKING SPACE
WM WATER METER
GV GAS VALVE
H BASEMENT HATCH COVER
TRAFFIC SIGNALS (V – VEHICULAR) (P – PEDESTRIAN)
MUNI SUP. POLE & MIRROR W/TRAFFIC SIGNAL
ELECTROLIER
ELECTROLIER W/TRAFFIC SIGNAL
ELECTROLIER, MUNI CUT POLE & TRAFFIC SIGNALS
ELECTROLIER & TRAFFIC SIGNALS ON BASE
ELECTROLIER & MUNI GUY POLE
TSC TRAFFIC SIGNAL CONTROL BOX, 5'± HIGH
TC TRAFFIC SIGNAL PULLBOX
PAY PARKING PAY BOX, 5'± HIGH
PAY PARKING PAY BOX SIGN
INTER PULLBOX MARKED "INTERCONNECT"
STREET LIGHT PULLBOX
TYP. PIT W/POST & BOLLARD
PM PARKING METER
PM(D) PARKING METER (DOUBLE)
BOLLARD
PLB STREET LIGHT PULLBOX MARKED "PUBLIC SAFETY"
LOW PRESSURE FIRE HYDRANT
HIGH PRESSURE FIRE HYDRANT
WATER VALVE
HPWV HIGH PRESSURE WATER VALVE
UNKNOWN UTILITY, 4" HIGH
MUNI POLE
NO PARKING SIGN
UNKNOWN VENT
FIRE ALARM BOX, 4' HIGH
GUARD POST
TRAFFIC SIGN
TS/ST TRAFFIC AND STREET SIGNS
STS STREET SIGN
FILLER CAP FOR GAS & DIESEL FUEL
T TELEPHONE PULLBOX
CATCH BASIN
S SEWER MANHOLE
HV HIGH VOLTAGE ELECTRIC MANHOLE
E ELECTRIC MANHOLE (OPEN GRATE)
T TELEPHONE MANHOLE
SPE MANHOLE MARKED "SPE" (PG&E ELECTRIC)
SW MANHOLE MARKED "SW" (COMMUNICATION)
CG&G MANHOLE MARKED "CG&G" (PG&E ELECTRIC)
STC MANHOLE MARKED "STC"
E ELECTRIC LINE
G GAS LINE
HPG HIGH PRESSURE GAS LINE
S SEWER LINE
SL STREET LIGHT LINE
TS TRAFFIC SIGNAL LINE
T TELEPHONE LINE
V VERIZON LINE (COMMUNICATION)
W WATER LINE
HPW HIGH PRESSURE WATER LINE

LEGAL DESCRIPTION (LOTS 013 & 014)
ALL THAT REAL PROPERTY SITUATED IN THE CITY AND COUNTY OF SAN FRANCISCO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:

ALL THAT CERTAIN LOT, PIECE OR PARCEL OF LAND WHICH IS SITUATED AS AFORESAID, AND WHICH IS BOUNDED BY A LINE COMMENCING AT A POINT IN THE SOUTHERLY LINE OF WASHINGTON STREET (AS EXISTED PRIOR TO THE WIDENING THEREOF), DISTANT THEREON 80 FEET AND 3-1/2 INCHES EASTERLY FROM THE POINT OF INTERSECTION OF SAID LINE OF WASHINGTON STREET WITH THE EASTERLY LINE OF SANSOME STREET; RUNNING THENCE EASTERLY ON AND ALONG SAID SOUTHERLY LINE OF WASHINGTON STREET 49 FEET 9-1/2 INCHES; THENCE SOUTHERLY 129 FEET, MORE OR LESS, AND TO A POINT IN THE NORTHERLY LINE OF MERCHANT STREET WHICH IS DISTANT THEREON 137 FEET 6-1/2 INCHES EASTERLY FROM THE POINT OF INTERSECTION OF SAID LINE OF MERCHANT STREET WITH THE EASTERLY LINE OF SANSOME STREET; THENCE WESTERLY, ON AND ALONG SAID LINE OF MERCHANT STREET, 47 FEET AND 6-1/2 INCHES; AND THENCE NORTHERLY 122 FEET TO THE SAID SOUTHERLY LINE OF WASHINGTON STREET AND SAID POINT OF COMMENCEMENT. THE SAME BEING A PORTION OF BEACH AND WATER LOTS NUMBERS 133, 134 AND 135, AS THE SAME ARE NUMBERED, DELINEATED AND SHOWN ON THE OFFICIAL MAP OF SAID CITY AND COUNTY OF SAN FRANCISCO.

EXCEPTING THEREFROM SUCH PORTION OF THE SAME AS IS DESCRIBED IN THAT CERTAIN GRANT DEED TO THE CITY AND COUNTY OF SAN FRANCISCO, A MUNICIPAL CORPORATION, DATED MAY 14, 1987 AND RECORDED AUGUST 6, 1987 IN BOOK B157, OF OFFICIAL RECORDS, PAGES 783 AND 784.

APN: LOT 013, BLOCK 0206

PARCEL TWO:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF WASHINGTON STREET, DISTANT THEREON 137 FEET AND 6 INCHES EASTERLY FROM THE EASTERLY LINE OF SANSOME STREET; RUNNING THENCE EASTERLY ALONG SAID LINE OF WASHINGTON STREET 40 FEET AND 6 INCHES, MORE OR LESS, TO A POINT ON THE SOUTHERLY LINE OF WASHINGTON STREET, DISTANT THEREON 97 FEET WESTERLY FROM THE WESTERLY LINE OF BATTERY STREET; THENCE AT A RIGHT ANGLE SOUTHERLY 122 FEET TO THE NORTHERLY LINE OF MERCHANT STREET; THENCE WESTERLY ALONG SAID LINE OF MERCHANT STREET 40 FEET AND 6 INCHES, MORE OR LESS, TO A POINT ON THE SAID LINE OF MERCHANT STREET, DISTANT THEREON 137 FEET AND 6-1/2 INCHES EASTERLY FROM THE EASTERLY LINE OF SANSOME STREET; RUNNING THENCE NORTHERLY 122 FEET TO THE SOUTHERLY LINE OF WASHINGTON STREET AND THE POINT OF BEGINNING.

BEING PART OF 50 VARA BLOCK NO. 35

EXCEPTING THEREFROM, THAT PORTION OF SAID LAND CONVEYED TO THE CITY AND COUNTY OF SAN FRANCISCO, A MUNICIPAL CORPORATION, BY DEED RECORDED MAY 29, 1987, IN BOOK B148, PAGE 573 OF OFFICIAL RECORDS, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHERLY LINE OF WASHINGTON STREET, DISTANT THEREON 137.729 FEET EASTERLY FROM THE EASTERLY LINE OF SANSOME STREET, AND THENCE RUNNING EASTERLY ALONG SAID LINE OF WASHINGTON STREET 40.90 FEET, MORE OR LESS, TO A POINT ON SAID SOUTHERLY LINE OF WASHINGTON STREET, DISTANT THEREON 97 FEET WESTERLY FROM THE WESTERLY LINE OF BATTERY STREET; THENCE AT A RIGHT ANGLE SOUTHERLY 33 FEET; THENCE AT A RIGHT ANGLE WESTERLY 40.90 FEET, MORE OR LESS, TO A LINE DRAWN FROM THE POINT OF BEGINNING TO A POINT ON THE NORTHERLY LINE OF MERCHANT STREET, DISTANT THEREON 137.729 FEET EASTERLY FROM THE EASTERLY LINE OF SANSOME STREET; THENCE RUNNING NORTHERLY ALONG SAID LINE 33 DRAWN 33 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

BEING A PORTION OF 50 VARA BLOCK NO. 35

APN: LOT 014, BLOCK 0206

LEGAL DESCRIPTION (LOT 017)
ALL THAT REAL PROPERTY SITUATED IN THE CITY AND COUNTY OF SAN FRANCISCO, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL A:

COMMENCING AT THE POINT OF INTERSECTION OF THE SOUTHERLY LINE OF WASHINGTON STREET AND THE EASTERLY LINE OF SANSOME STREET; RUNNING THENCE SOUTHERLY AND ALONG SAID LINE OF SANSOME STREET 122 FEET TO THE NORTHERLY LINE OF MERCHANT STREET; THENCE AT A RIGHT ANGLE EASTERLY ALONG SAID LINE OF MERCHANT STREET 80 FEET, 3 1/8 INCHES; THENCE NORTHERLY 122 FEET, MORE OR LESS, TO A POINT ON THE SOUTHERLY LINE OF WASHINGTON STREET, DISTANT THEREON 80 FEET, 3 1/2 INCHES EASTERLY FROM THE EASTERLY LINE OF SANSOME STREET; THENCE WESTERLY ALONG SAID LINE OF WASHINGTON STREET 80 FEET, 3 1/2 INCHES TO THE POINT OF COMMENCEMENT.

BEING A PART OF BEACH AND WATER LOTS 133, 134, AND 135

EXCEPTING THEREFROM, THAT PORTION SHOWN AS "PARCEL 1" ON THAT CERTAIN MAP ENTITLED, MAP SHOWING THE WIDENING OF WASHINGTON STREET FROM BATTERY ST. TO SANSOME ST., WHICH MAP WAS FILED FOR RECORD SEPTEMBER 11, 1974, IN BOOK "R" OF MAPS, PAGE 27.

ASSESSOR'S PARCEL NO.: LOT 017 (FORMERLY PORTION OF LOT 008), BLOCK 0206

PARCEL B:

"PARCEL 1" AS DESCRIBED AND DELINEATED UPON THAT CERTAIN MAP ENTITLED, MAP SHOWING THE WIDENING OF WASHINGTON STREET FROM BATTERY ST. TO SANSOME ST., WHICH MAP WAS FILED FOR RECORD SEPTEMBER 11, 1974, IN BOOK "R" OF MAPS, PAGE 27.

ASSESSOR'S PARCEL NO.: (PORTION OF WASHINGTON STREET–FORMERLY PORTION OF LOT 008, BLOCK 0206)

SURVEY REFERENCE (LOTS 013 & 014)
CHICAGO TITLE INSURANCE COMPANY COMMITMENT NO. 00396659-021-KH1-DH1 DATED MARCH 8, 2018.

THE FOLLOWING ARE EXCEPTIONS TO TITLE WITHIN THE ABOVE REFERENCED TITLE COMMITMENT:

8. PARTY WALL AGREEMENT BETWEEN LOTS 013 AND 014 AS DESCRIBED IN THAT CERTAIN INSTRUMENT RECORDED OCTOBER 10, 1906 IN BOOK Z OF DEEDS, PAGE 334. SAID AGREEMENT WAS MODIFIED BY THAT CERTAIN INSTRUMENT RECORDED JUNE 26, 1907 IN BOOK 8 OF DEEDS, PAGE 311. PLOTTED HEREON.

9. PARTY WALL AGREEMENT BETWEEN LOTS 013 AND 017 AS DESCRIBED IN THAT CERTAIN INSTRUMENT RECORDED FEBRUARY 20, 1907 IN BOOK 5 OF DEEDS, PAGE 82. SAID PARTY WALL NO LONGER EXISTS. PLOTTED HEREON.

10. ENCROACHMENT AGREEMENT OF THE WEST BUILDING WALL OF THE BUILDING ON LOT 002 ONTO LOT 014 AS DESCRIBED IN THAT CERTAIN INSTRUMENT ENTITLED "AGREEMENT PERMITTING ENCROACHMENT" RECORDED JUNE 6, 1967 IN BOOK B148, PAGE 378, OFFICIAL RECORDS. PLOTTED HEREON

11. "PRAMPET AGREEMENT AFFECTING LOT 013 RECORDED SEPTEMBER 17, 1986 IN REEL 1821, IMAGE 736, OFFICIAL RECORDS. NOT PLOTTABLE.

12. "DECLARATION OF USE" – SPECIAL SIDEWALK PERMIT FOR EXPOSED AGGREGATE 3/8" TOPPA BEACH SIDEWALK RECORDED JUNE 22, 1994, DOCUMENT NO. 94-H529753, OFFICIAL RECORDS. AFFECTS LOT 013. PLOTTED HEREON.

13. "DECLARATION OF USE" – MINOR SIDEWALK ENCROACHMENT PERMIT TO MODIFY EXISTING SIDEWALK GRADE TO ACCOMMODATE ACCESS TO EXISTING BUILDING RECORDED DECEMBER 10, 1998, DOCUMENT NO. 98-G482108, OFFICIAL RECORDS. AFFECTS LOT 014. PLOTTED HEREON.

SURVEY REFERENCE (LOT 017)
CHICAGO TITLE COMPANY PRELIMINARY REPORT UPDATE "B", ORDER NO. 15905866-156-TM1-JM DATED MARCH 7, 2019.

THE FOLLOWING ARE PERTINENT EXCEPTIONS TO TITLE WITHIN THE ABOVE REFERENCED PRELIMINARY REPORT:

8. MATTERS SHOWN ON THAT CERTAIN MAP/PLAT, ENTITLED "MAP SHOWING THE WIDENING OF WASHINGTON STREET FROM BATTERY ST. TO SANSOME ST." RECORDED SEPTEMBER 11, 1974 IN BOOK "R" OF MAPS, PAGE 27, OFFICIAL RECORDS. PLOTTED HEREON.

9. RIGHTS OF THE PUBLIC IN AND TO PARCEL B.

BASIS OF SURVEY
1. CITY OF SAN FRANCISCO MONUMENT MAP NOS. 4 AND 5 ON FILE IN THE OFFICE OF THE CITY AND COUNTY SURVEYOR.
2. "MONUMENT MAP" OF THE FIFTY VARA DISTRICT OF THE CITY AND COUNTY OF SAN FRANCISCO" APPROVED BY ORDINANCE NO. 1026 (NEW SERIES) DECEMBER 30, 1909 ON FILE IN THE OFFICE OF THE CITY AND COUNTY SURVEYOR.
3. BLOCK DIAGRAM OF 50 VARA BLOCK 35 DATED APRIL 24, 1908 ON FILE IN THE OFFICE OF THE CITY AND COUNTY SURVEYOR.

BENCHMARK
CCSF BENCHMARK 116(B, RIM, A SUNKEN STAMPED CCSF CONTROL IN THE CONCRETE SIDEWALK BETWEEN TWO MAHOGANY DUMPS AT THE SOUTHEAST CORNER OF BATTERY AND JACKSON STREETS. ELEVATION = 13.037 FEET CCSF 2013 NAVD88 VERTICAL DATUM.

GENERAL NOTES
1. DETAILS NEAR PROPERTY LINES MAY NOT BE TO SCALE.
2. ALL PROPERTY LINE ANGLES ARE 90 DEGREES UNLESS NOTED OTHERWISE.
3. DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.

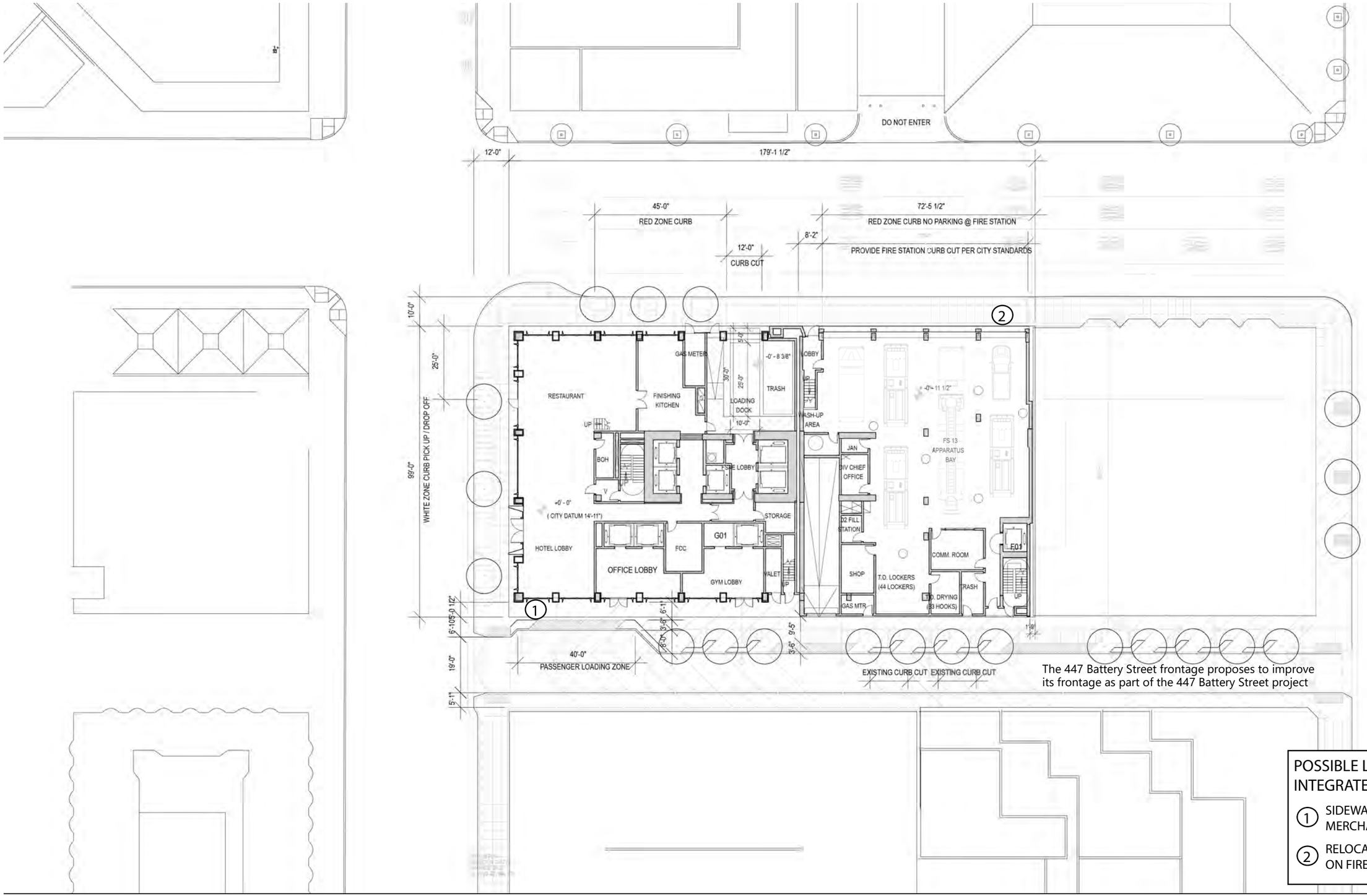
NOTE
PARCEL A, LOT 017, DOES NOT HAVE ITS OWN LEGAL DESCRIPTION. A LEGAL DESCRIPTION WILL NEED TO BE CREATED BY A SUBDIVISION MAP OR BY AN EXEMPT CONVEYANCE IN ORDER TO CONVEY THE SUBJECT PROPERTY.

UTILITY NOTE
THE UTILITIES EXISTING ON THE SURFACE AND SHOWN ON THIS DRAWING HAVE BEEN LOCATED BY FIELD SURVEY. ALL UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE SURVEYOR DOES NOT ASSUME RESPONSIBILITY FOR THEIR COMPLETENESS, INDICATED LOCATION OR SIZE. BEFORE ANY EXCAVATION IS BEGUN, THE CONTRACTOR BY CONTACTING THE VARIOUS PUBLIC AND PRIVATE UTILITY LOCATION SERVICES (E.G. USA, DIGALERT, ETC.) SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL UNDERGROUND UTILITIES NOT SHOWN HEREON. WHEN UNDERGROUND DUCT INFORMATION IS NOT AVAILABLE, THERE IS NO SURFACE EVIDENCE OF UNDERGROUND MAIN LINES FRONTING THE SUBJECT PROPERTY.

SITE SURVEY
OF A PORTION OF ASSESSOR'S BLOCK NO. 0206
FOR
RELATED CALIFORNIA
SAN FRANCISCO, CALIFORNIA

SCALE: 1" = 10'	MARTIN M. RON ASSOCIATES LAND SURVEYORS 859 HARRISON STREET, SUITE 200 SAN FRANCISCO, CA 94107 (415) 543-4500	SURVEY: KV
DATED: 8/20/19		D.S.:
SHEET: 1		DRW.: JP
OF: 1		CHK.: BR
JOB NO.: S-9745		REV: NO.

S-9745_SITE_SURVEY_LOTS_13-14-17.dwg



The 447 Battery Street frontage proposes to improve its frontage as part of the 447 Battery Street project

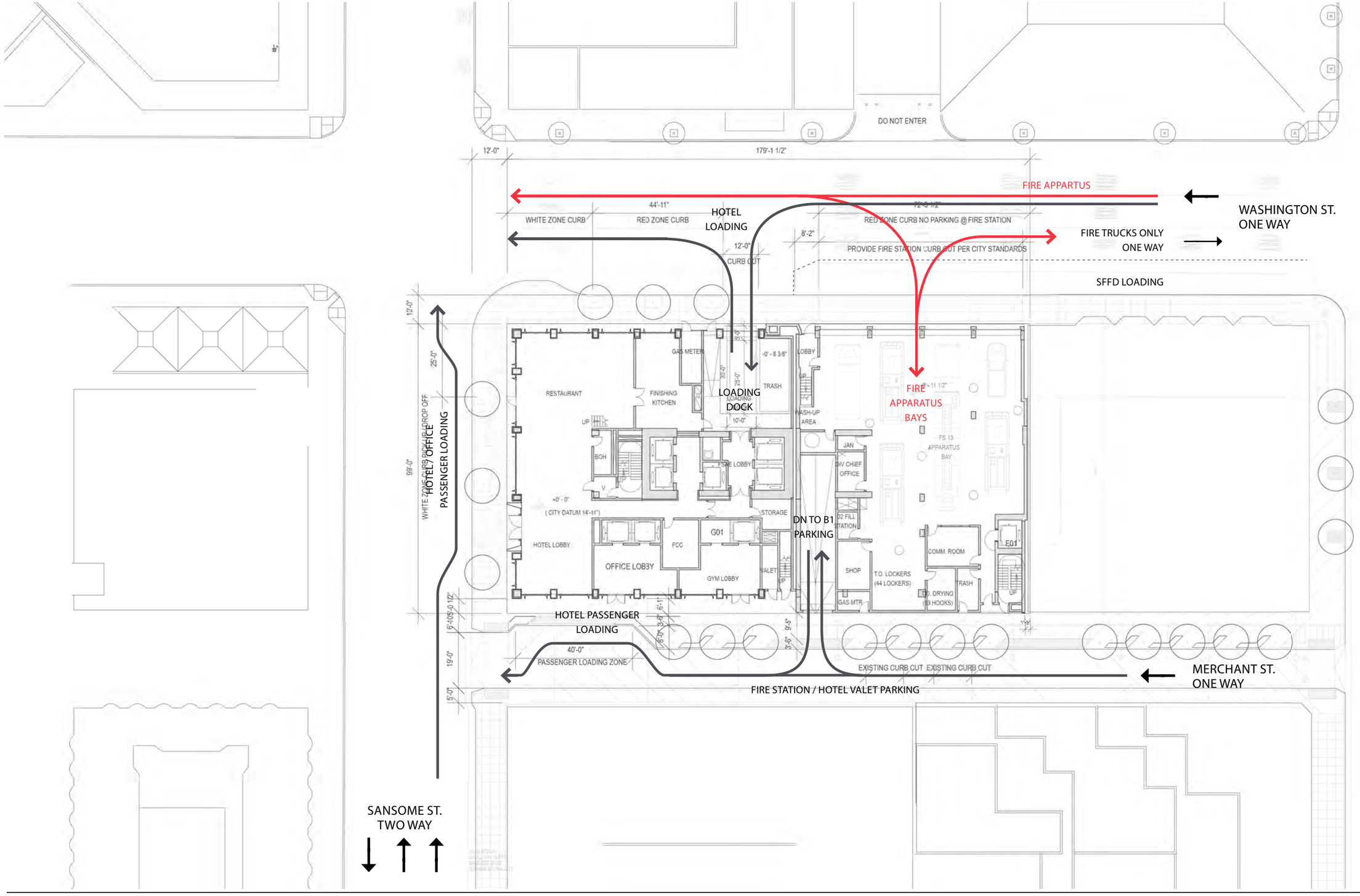
POSSIBLE LOCATIONS TO INTEGRATE PUBLIC ART

1. SIDEWALK EXTENSION ON MERCHANT STREET
2. RELOCATED SFFD SCULPTURE ON FIRE STATION FACADE

Proposed Site Plan

SCALE: 1/32"= 1'-0

Note: The bike parking locations are not shown for the Proposed Project but would be the same as the Residential Variant.



PROJECT APPLICATION (PRJ)

FEBRUARY 2021

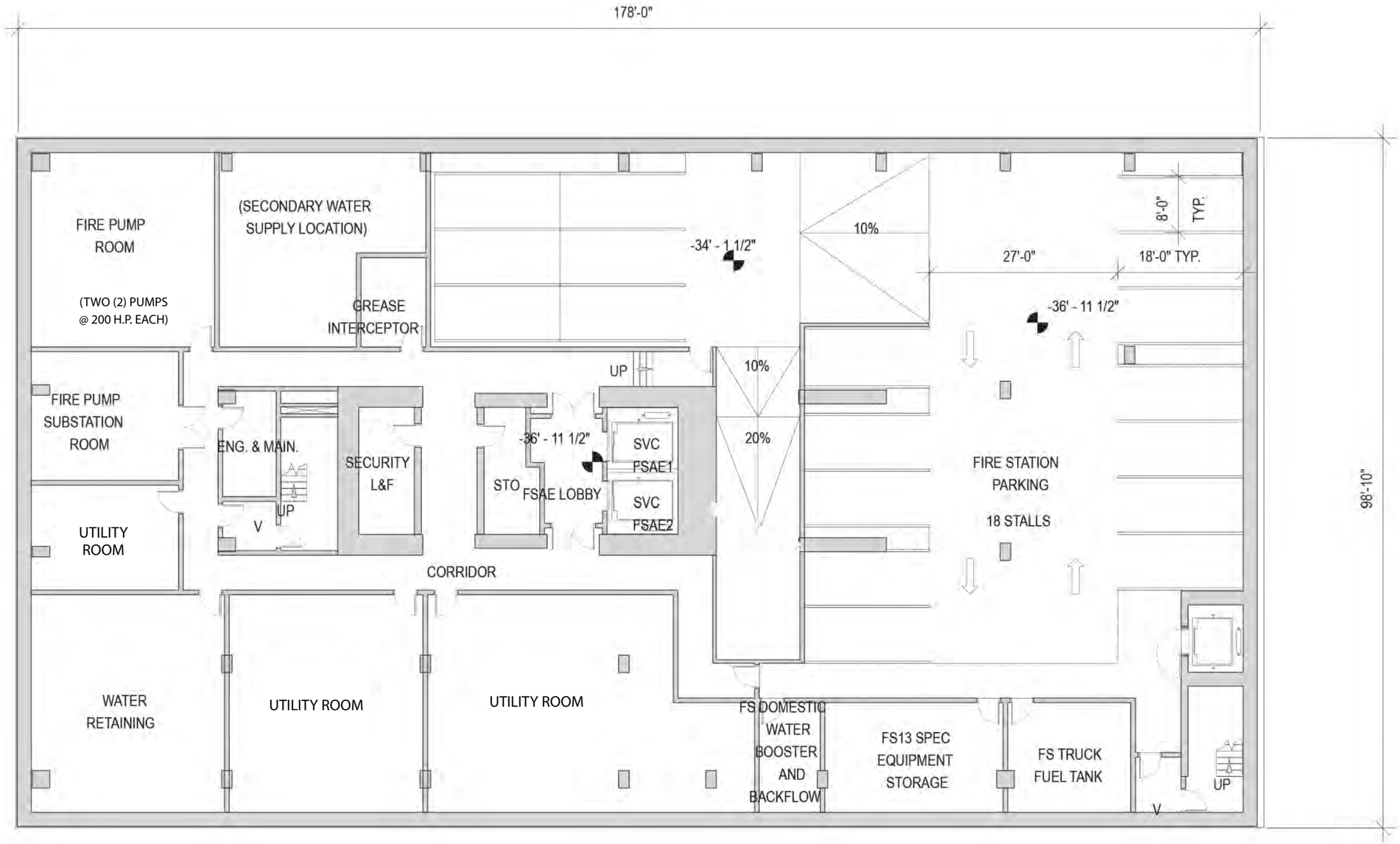
Vehicle Circulation Diagram

SCALE: 1/32"= 1'-0

Note: The bike parking locations are not shown for the Proposed Project but would be the same as the Residential Variant.

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



PROJECT APPLICATION (PRJ)

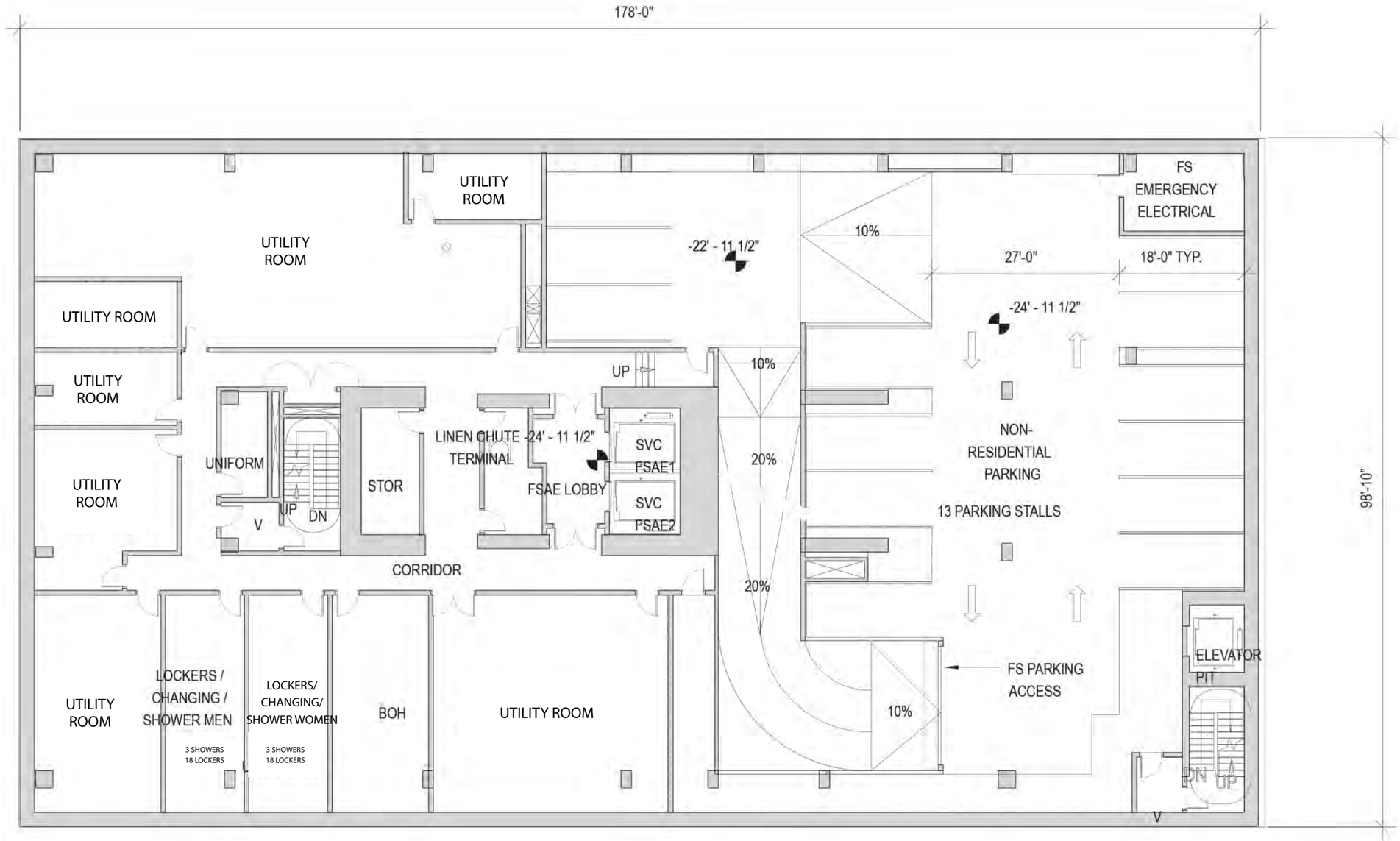
FEBRUARY 2021

B3 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



PROJECT APPLICATION (PRJ)

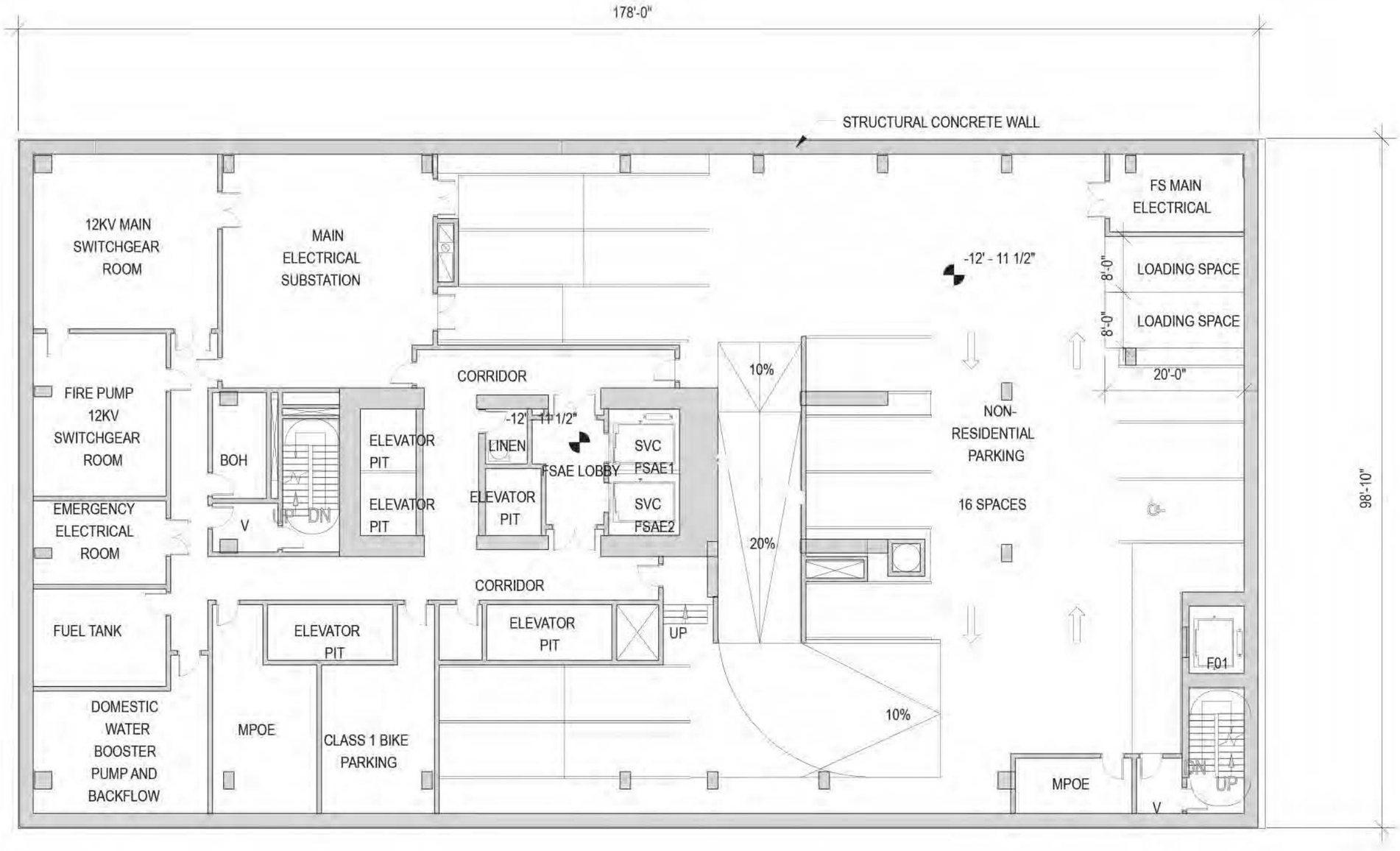
FEBRUARY 2021

B2 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



PROJECT APPLICATION (PRJ)

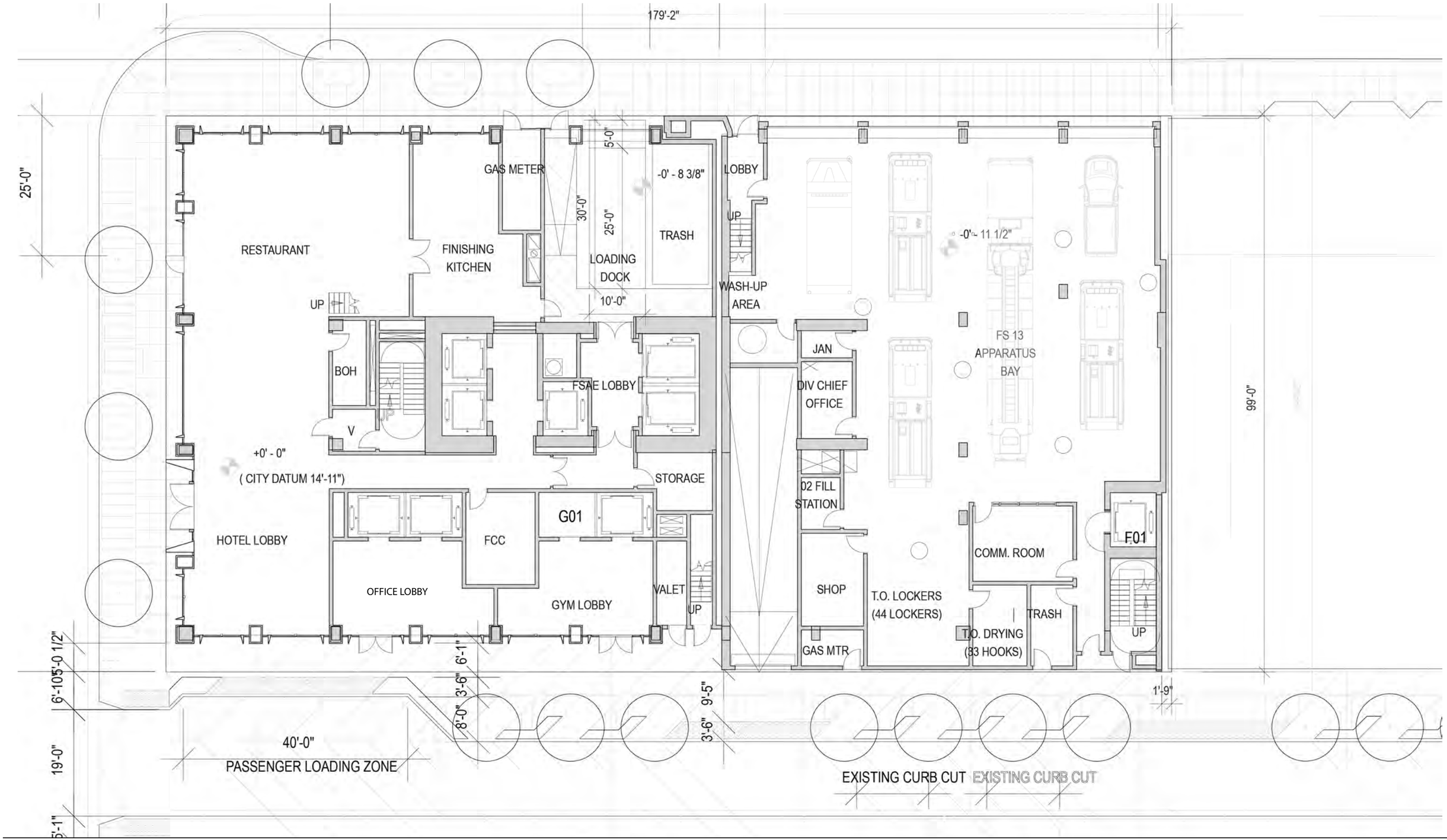
FEBRUARY 2021

B1 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



PROJECT APPLICATION (PRJ)

FEBRUARY 2021

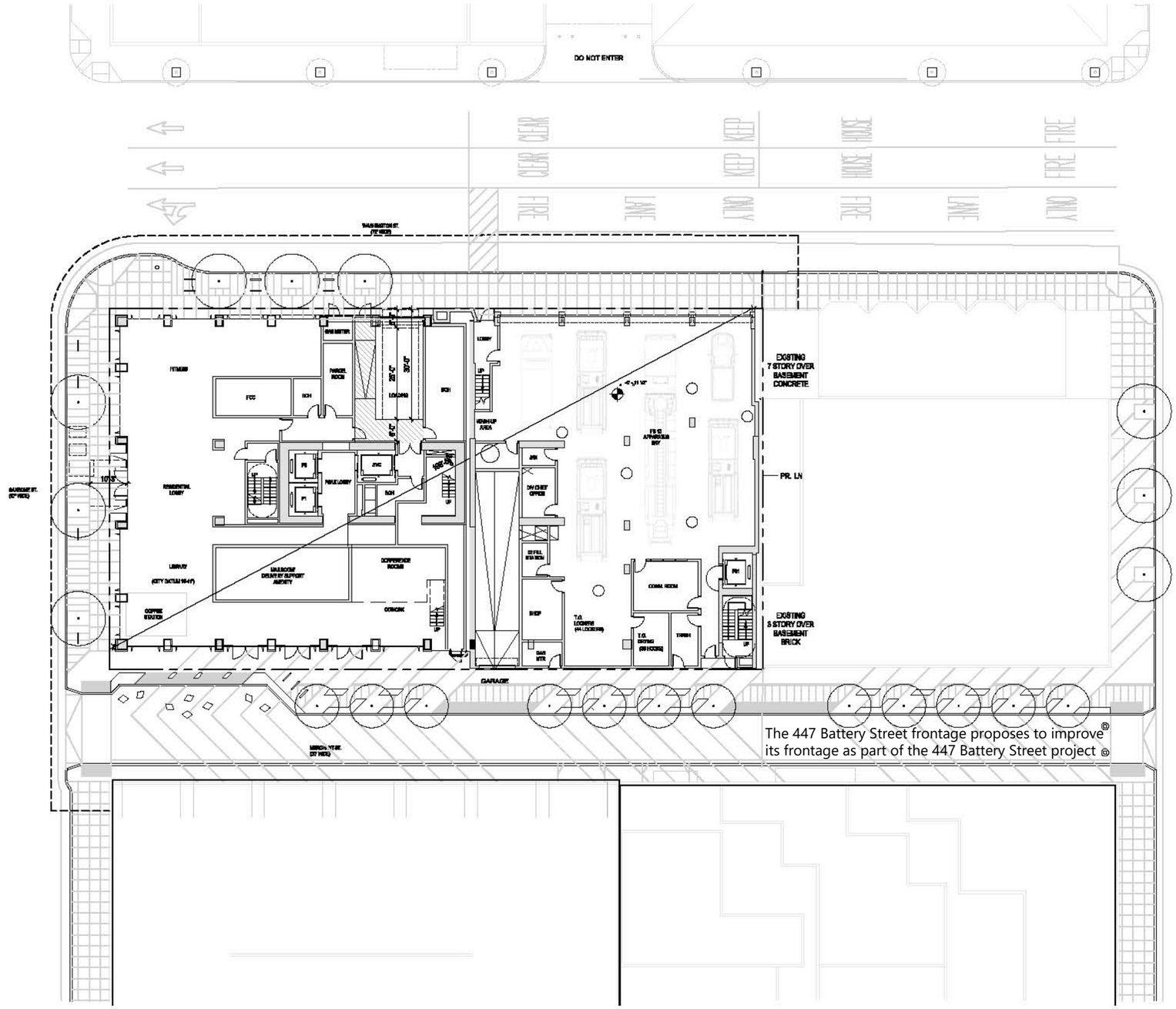
L1 Floor Plan

SCALE: 1/16"= 1'-0

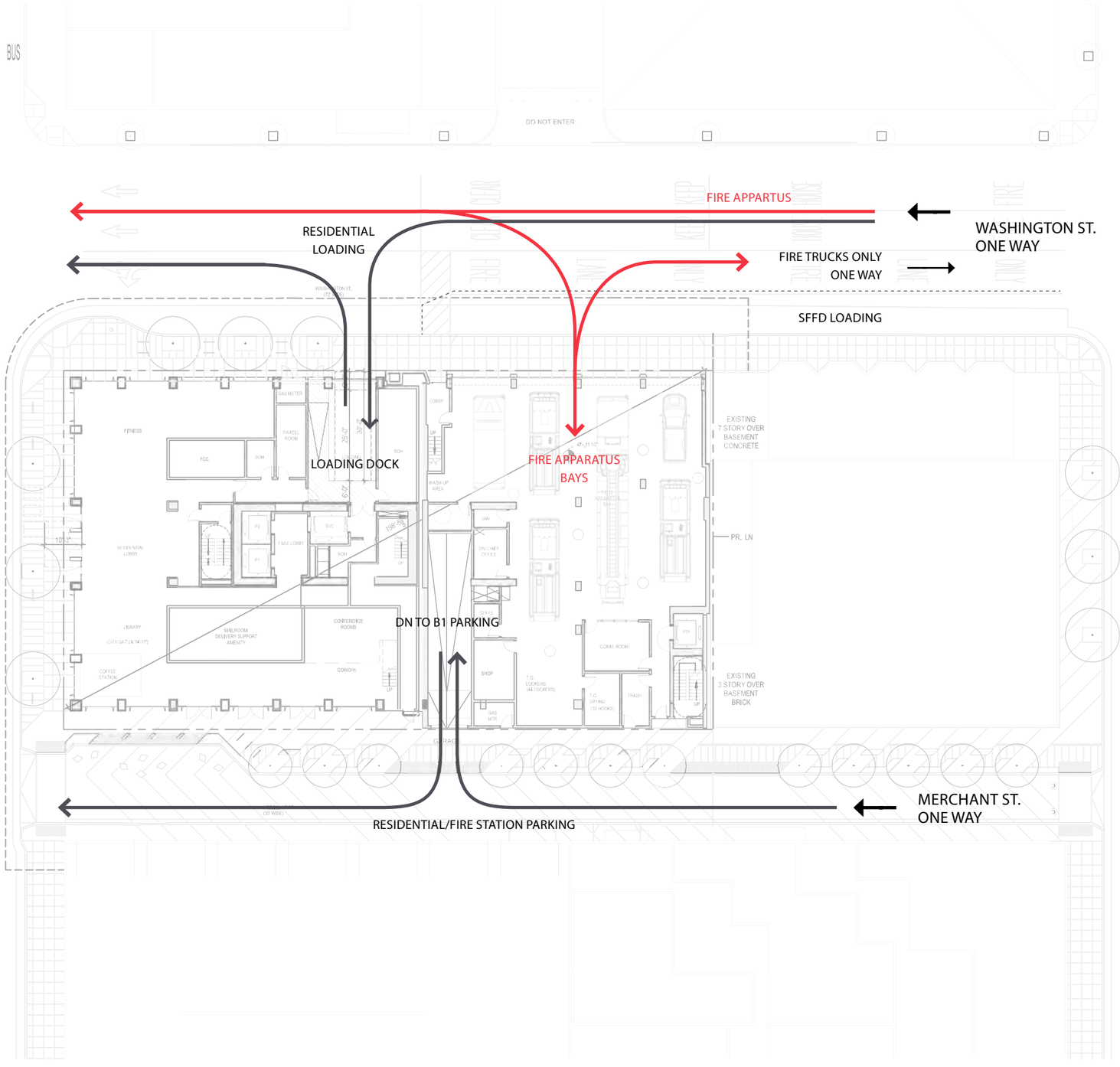
530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP

Plans show extension of extension of Sansome Street sidewalk from 10.5' to 12' which has been approved by SFMTA.



Site Plan
SCALE: 1/32"= 1'-0

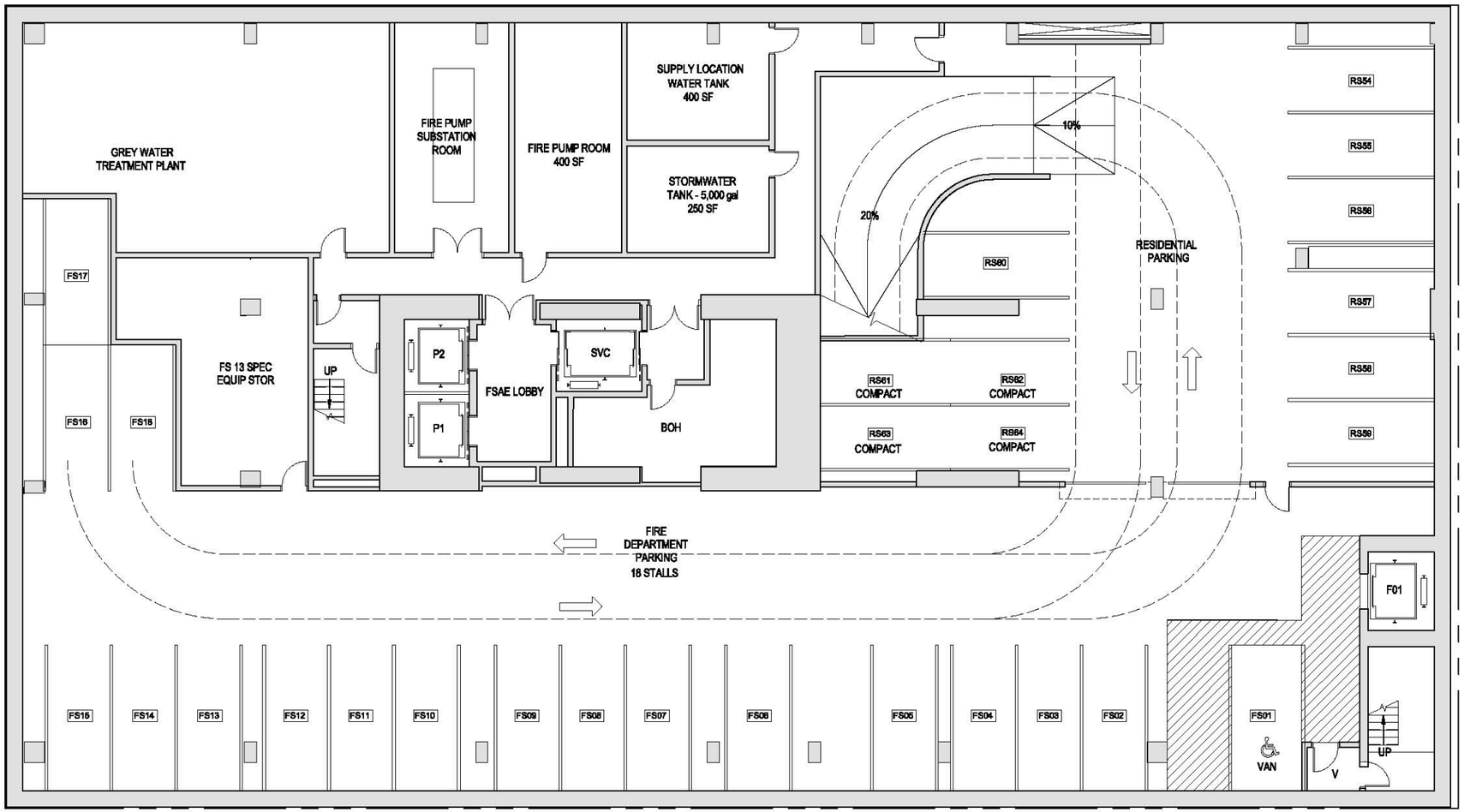


RESIDENTIAL PROJECT VARIANT

FEBRUARY 2021

Vehicle Circulation Diagram

SCALE: 1/32"= 1'-0



RESIDENTIAL PROJECT VARIANT

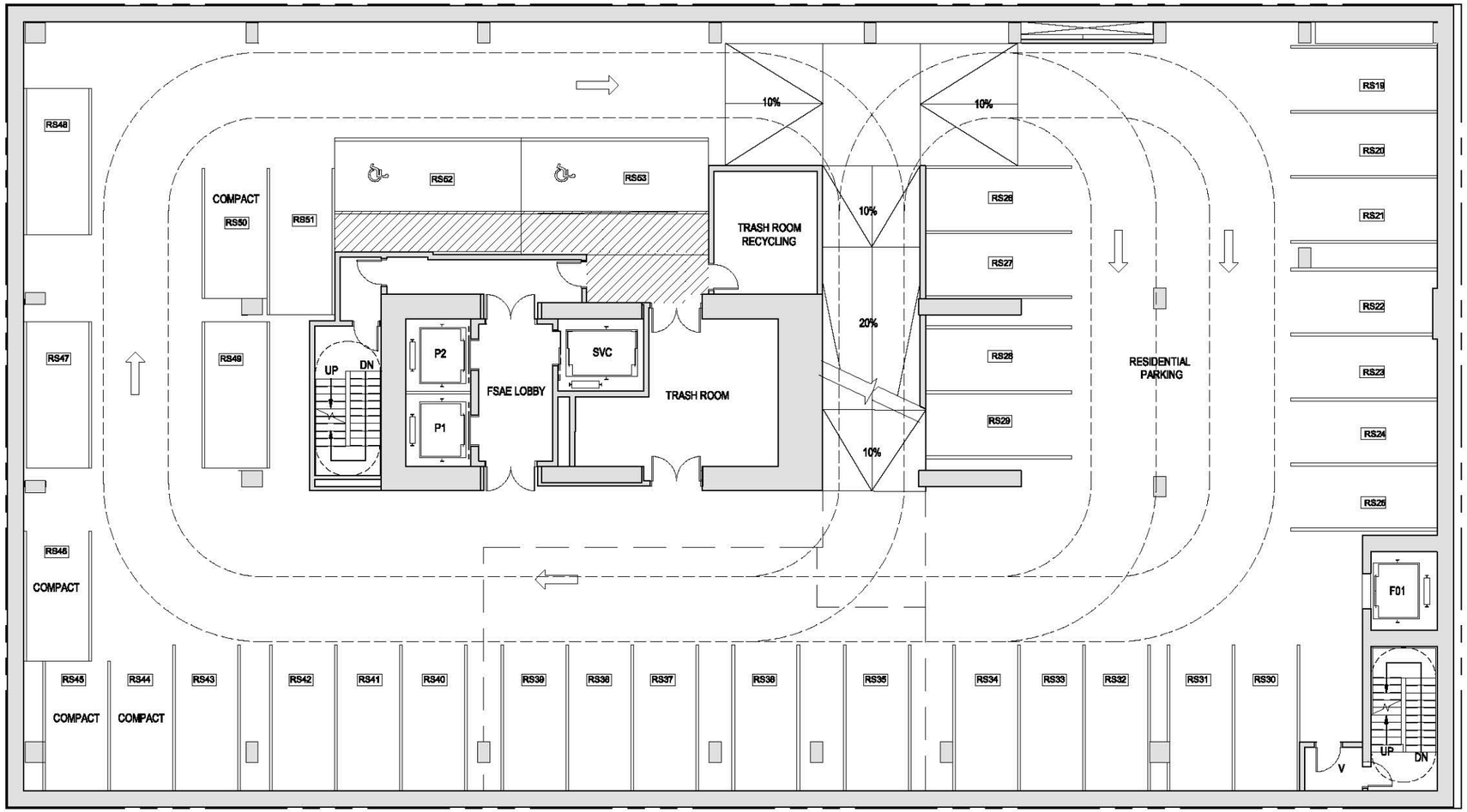
FEBRUARY 2021

B3 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



RESIDENTIAL PROJECT VARIANT

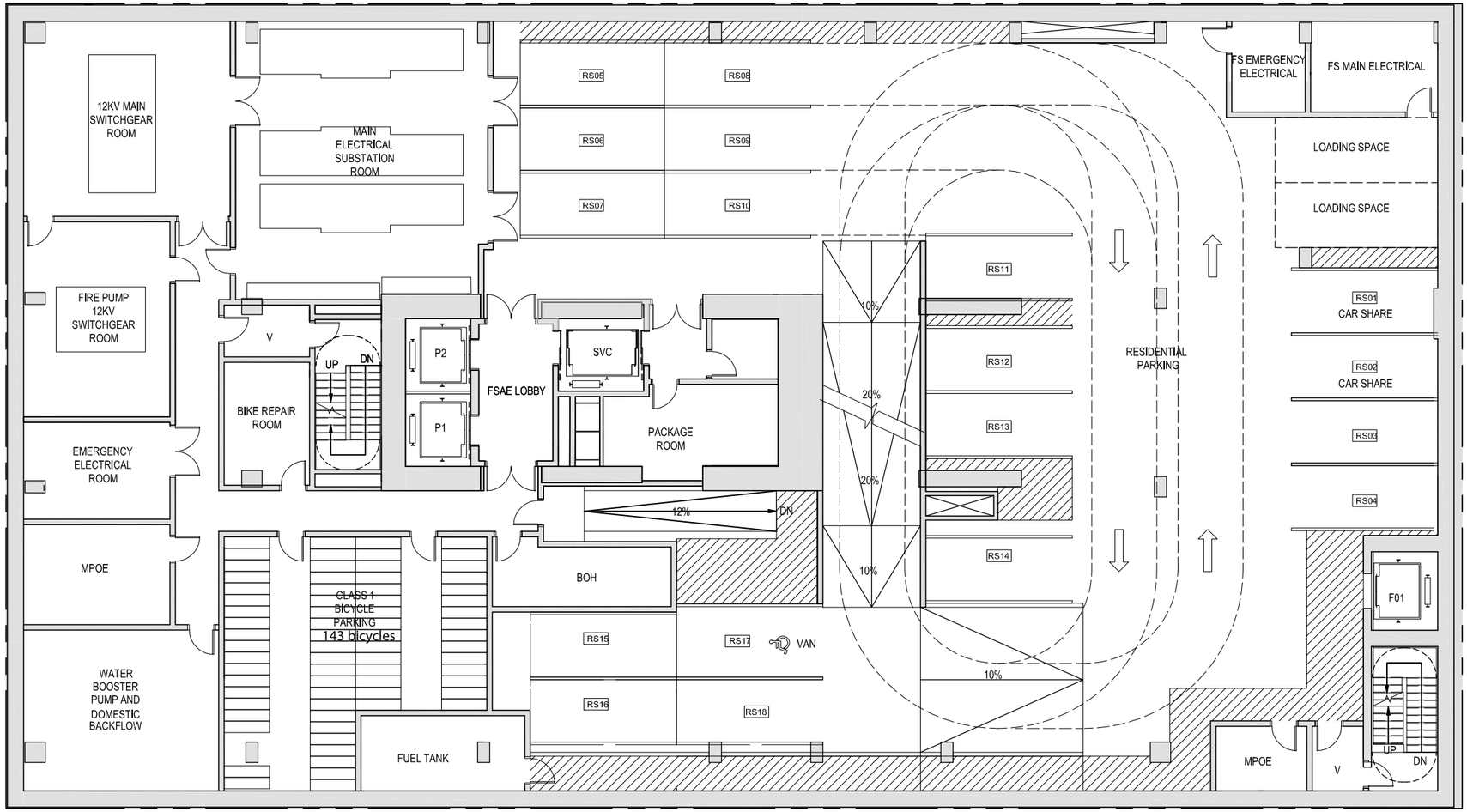
FEBRUARY 2021

B2 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

SKIDMORE, OWINGS & MERRILL LLP



RESIDENTIAL PROJECT VARIANT

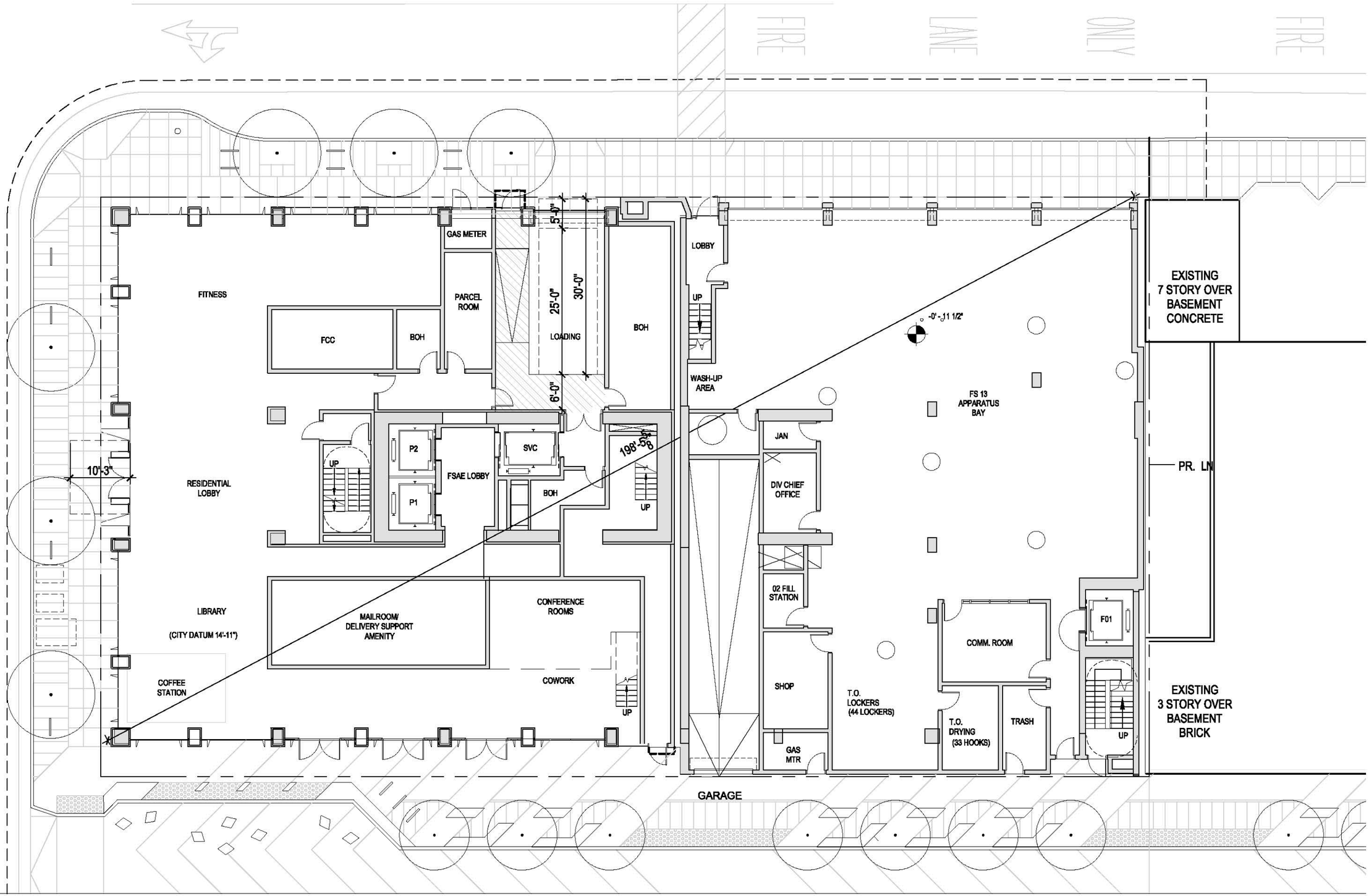
FEBRUARY 2021

B1 Floor Plan

SCALE: 1/16"= 1'-0

530 SANSOME STREET

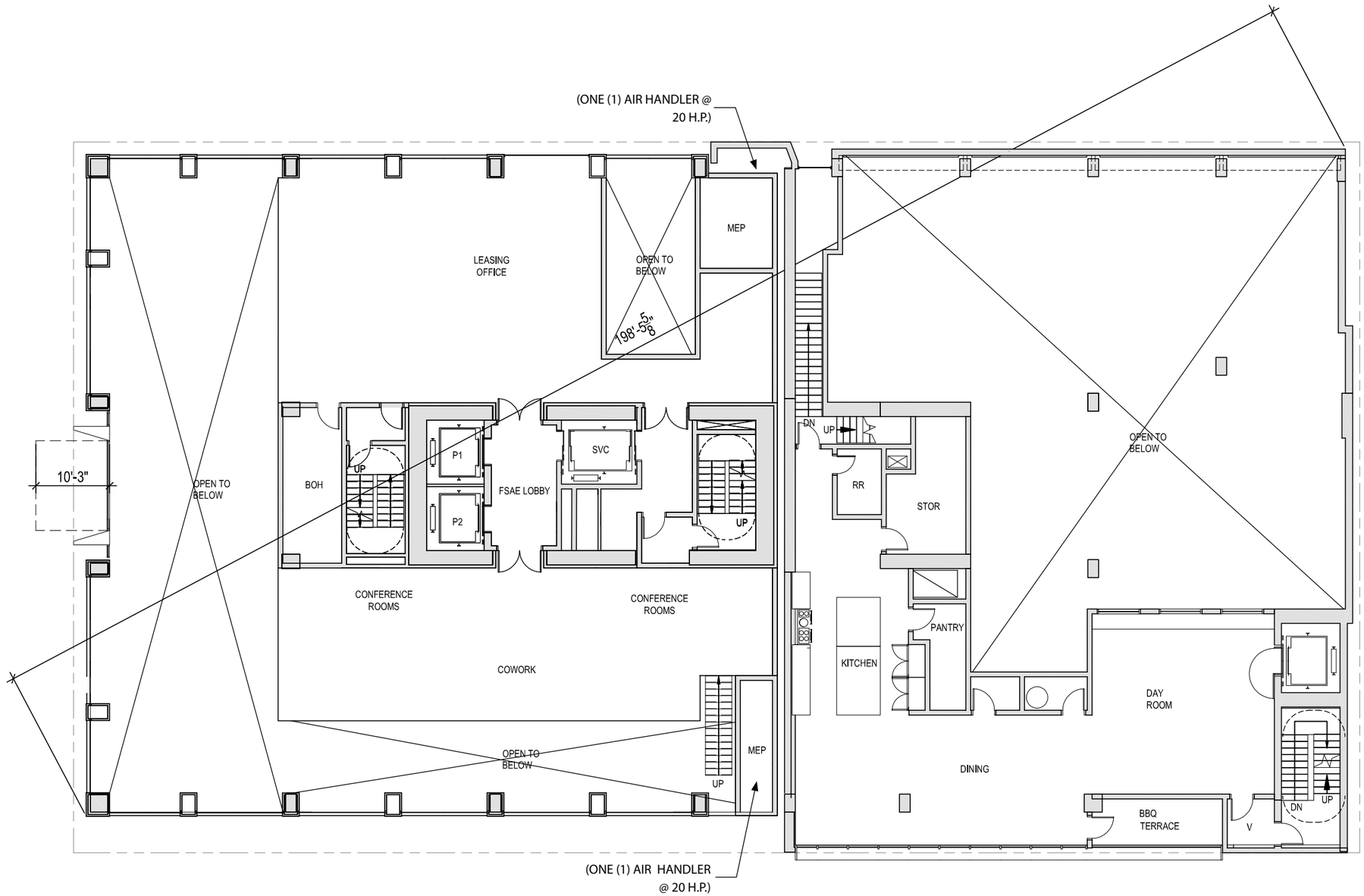
SKIDMORE, OWINGS & MERRILL LLP



Notes: Final Class 2 bicycle parking for residential project variant is 19 spaces, not the 26 spaces shown on this figure.

L1 Floor Plan

SCALE: 1/16"= 1'-0



RESIDENTIAL PROJECT VARIANT

FEBRUARY 2021

L1 Mezzanine Floor Plan

SCALE: 1/16"= 1'-0

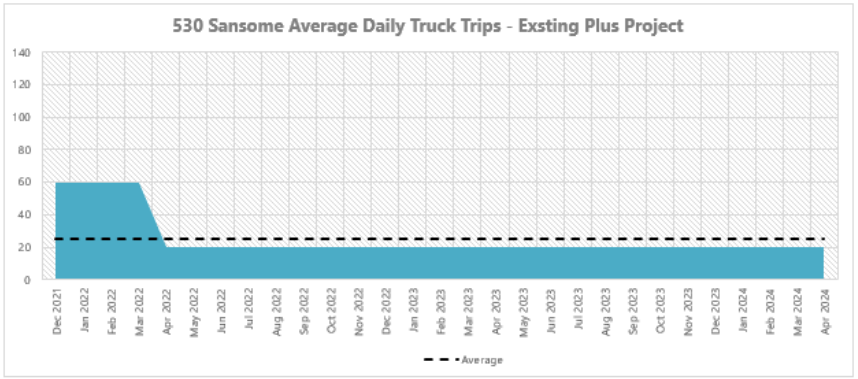
530 SANSOME STREET

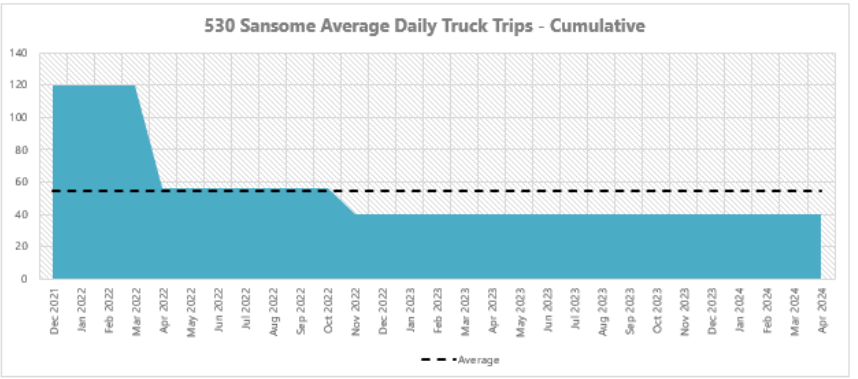
SKIDMORE, OWINGS & MERRILL LLP

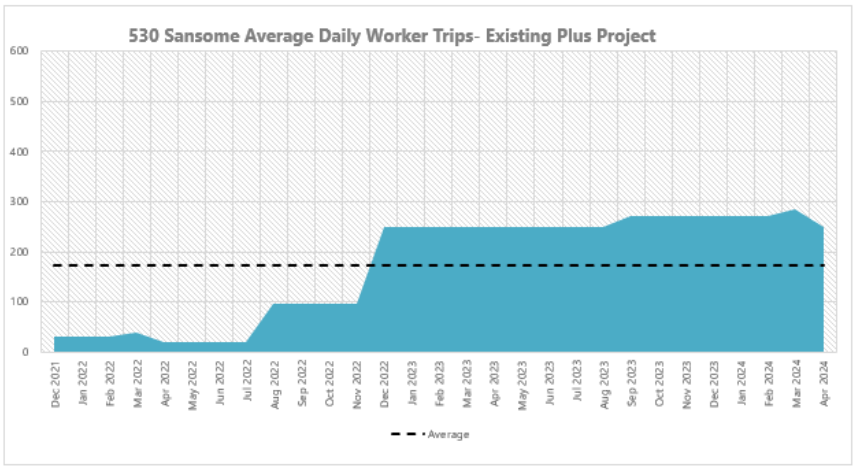
Appendix B:
Construction Information

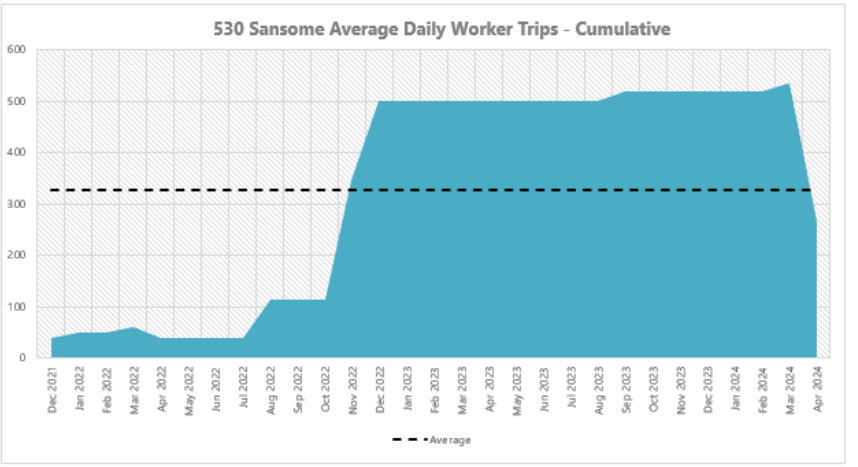
Table: Construction Phases and Schedule

Construction	Construction Subphase	Construction Schedule		Number of Days	2021				2022				2023				2024			
		Start	End		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Proposed Project and Residential Variant	Demolition	12/01/21	02/28/22	89																
	Site Preparation	12/01/21	03/31/22	120																
	Grading/Excavation	03/01/22	07/30/22	151																
	Drainage/Utilities/Sub-Grade	08/01/22	11/30/22	121																
	Foundations/Concrete Pour	08/01/22	11/30/22	121																
	Building Construction	12/01/22	04/30/24	516																
	Architectural Coating	09/01/23	03/31/24	212																
	Paving	03/01/24	03/31/24	30																
447 Battery	Demolition	12/01/21	12/31/21	30																
	Site Preparation	01/01/22	03/31/22	89																
	Grading/Excavation	04/01/22	10/31/22	213																
	Building Construction	11/01/22	03/31/24	516																
	Paving	04/01/24	05/31/24	60																
	Architectural Coating	06/01/24	06/30/24	29																

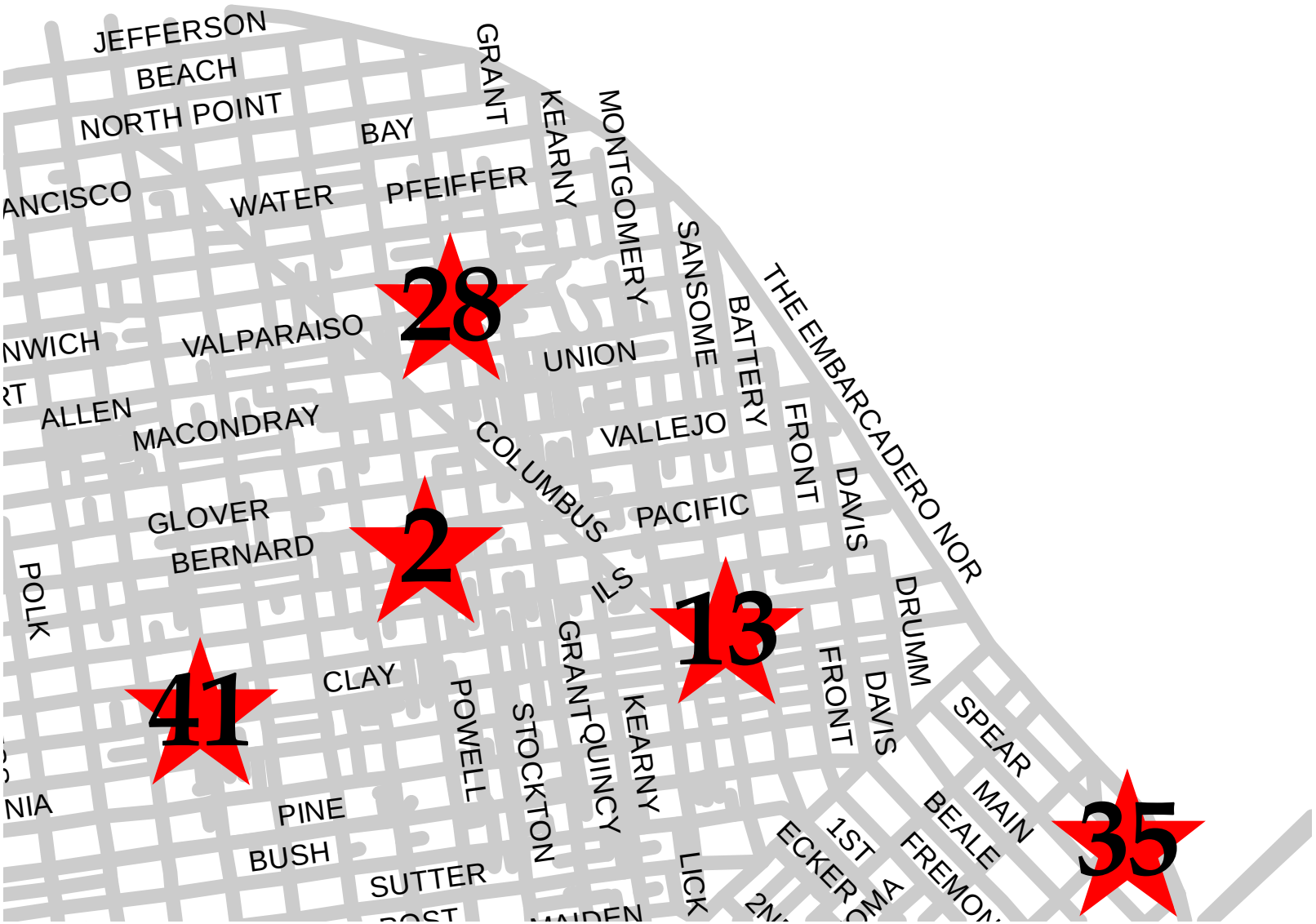

530 Sansome Average Daily Truck Trips - Exsting Plus Project
140
120
100
80
60
40
20
0
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
Jul 2022
Aug 2022
Sep 2022
Oct 2022
Nov 2022
Dec 2022
Jan 2023
Feb 2023
Mar 2023
Apr 2023
May 2023
Jun 2023
Jul 2023
Aug 2023
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
Average


530 Sansome Average Daily Truck Trips - Cumulative
140
120
100
80
60
40
20
0
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
Jul 2022
Aug 2022
Sep 2022
Oct 2022
Nov 2022
Dec 2022
Jan 2023
Feb 2023
Mar 2023
Apr 2023
May 2023
Jun 2023
Jul 2023
Aug 2023
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
Average


530 Sansome Average Daily Worker Trips- Existing Plus Project
600
500
400
300
200
100
0
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
Jul 2022
Aug 2022
Sep 2022
Oct 2022
Nov 2022
Dec 2022
Jan 2023
Feb 2023
Mar 2023
Apr 2023
May 2023
Jun 2023
Jul 2023
Aug 2023
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
Average


530 Sansome Average Daily Worker Trips - Cumulative
600
500
400
300
200
100
0
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
Jul 2022
Aug 2022
Sep 2022
Oct 2022
Nov 2022
Dec 2022
Jan 2023
Feb 2023
Mar 2023
Apr 2023
May 2023
Jun 2023
Jul 2023
Aug 2023
Sep 2023
Oct 2023
Nov 2023
Dec 2023
Jan 2024
Feb 2024
Mar 2024
Apr 2024
Average

Fire Department Station Locations: 2, 28, 35 and 41



Source: *Fire Station Location Map*, Fire Department, City and County of San Francisco

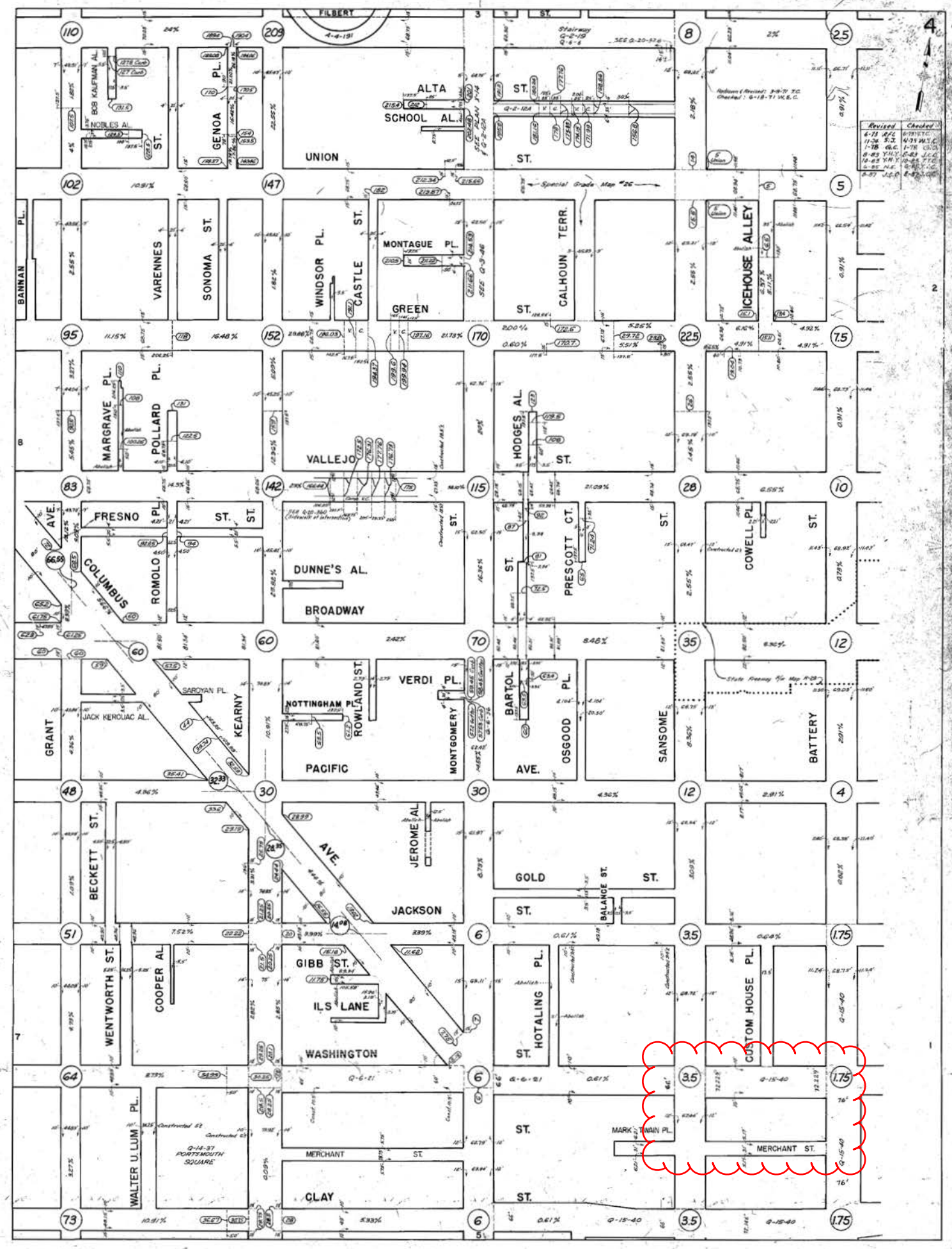
Appendix C:
City Sidewalk and Grade Map

NUMBER

DRAWING NUMBER

DRAWING NUMBER
GRADE MAP

DRAWING

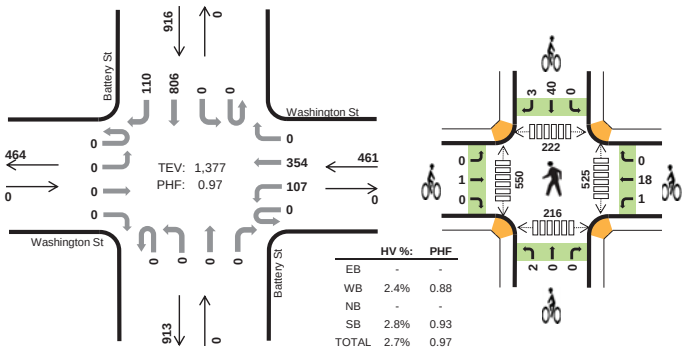


Appendix D: Intersection Pedestrian and Bicycle Counts

Battery St
Washington St

Peak Hour

Date: 08/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	-	-
WB	2.4%	0.88
NB	-	-
SB	2.8%	0.93
TOTAL	2.7%	0.97

Two-Hour Count Summaries

Interval Start	Washington St Eastbound				Washington St Westbound				Battery St Northbound				Battery St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	25	44	0	0	0	0	0	0	0	177	15	261	0
4:15 PM	0	0	0	0	0	21	43	0	0	0	0	0	0	0	182	29	275	0
4:30 PM	0	0	0	0	0	13	59	0	0	0	0	0	0	0	182	22	276	0
4:45 PM	0	0	0	0	0	14	80	0	0	0	0	0	0	0	163	31	288	1,100
5:00 PM	**0**	**0**	**0**	**0**	**0**	**25**	**71**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**194**	**31**	**321**	1,160
5:15 PM	**0**	**0**	**0**	**0**	**0**	**32**	**99**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**193**	**26**	**350**	1,235
5:30 PM	**0**	**0**	**0**	**0**	**0**	**29**	**101**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**203**	**22**	**355**	1,314
5:45 PM	**0**	**0**	**0**	**0**	**0**	**21**	**83**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**216**	**31**	**351**	**1,377**
Count Total	0	0	0	0	0	180	580	0	0	0	0	0	0	0	1,510	207	2,477	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**107**	**354**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**806**	**110**	**1,377**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**8**	**37**	**0**
Peak Hour HV%	-	-	-	-	-	**1%**	**3%**	-	-	-	-	-	-	-	**2%**	**7%**	**3%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	0	7	*9*	0	1	0	2	*3*	85	77	35	55	*252*
4:15 PM	0	0	0	8	*8*	0	1	0	7	*8*	80	73	35	31	*219*
4:30 PM	0	2	0	10	*12*	0	1	0	4	*5*	66	88	38	35	*227*
4:45 PM	0	6	0	6	*12*	0	0	0	8	*8*	95	92	32	26	*245*
5:00 PM	**0**	**2**	**0**	**8**	***10***	**0**	**6**	**0**	**11**	***17***	**123**	**122**	**53**	**35**	*333*
5:15 PM	**0**	**3**	**0**	**3**	***6***	**0**	**5**	**2**	**8**	***15***	**116**	**157**	**57**	**60**	*390*
5:30 PM	**0**	**3**	**0**	**8**	***11***	**0**	**5**	**0**	**12**	***17***	**146**	**148**	**49**	**62**	*405*
5:45 PM	**0**	**3**	**0**	**7**	***10***	**1**	**3**	**0**	**12**	***16***	**140**	**123**	**63**	**59**	***385***
Count Total	0	21	0	57	*78*	1	22	2	64	*89*	851	880	362	363	*2,456*
Peak Hour	**0**	**11**	**0**	**26**	***37***	**1**	**19**	**2**	**43**	***65***	**525**	**550**	**222**	**216**	***1,513***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

www.idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Washington St Eastbound				Washington St Westbound				Battery St Northbound				Battery St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	5	2	9	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	8	0
4:30 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	8	2	12	0
4:45 PM	0	0	0	0	0	1	5	0	0	0	0	0	0	0	4	2	12	41
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**2**	**10**	42
5:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**6**	40
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**3**	**11**	39
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**2**	**10**	**37**
Count Total	0	0	0	0	0	2	19	0	0	0	0	0	0	0	42	15	78	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**8**	**37**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Washington St Eastbound			Washington St Westbound			Battery St Northbound			Battery St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	1	1	3	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	5	2	8	0
4:30 PM	0	0	0	0	1	0	0	0	0	0	4	0	5	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	7	1	8	24
5:00 PM	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**9**	**2**	**17**	38
5:15 PM	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**8**	**0**	**15**	45
5:30 PM	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**11**	**1**	**17**	57
5:45 PM	**0**	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**16**	**65**
Count Total	0	1	0	1	21	0	2	0	0	0	57	7	89	0
Peak Hour	**0**	**1**	**0**	**1**	**18**	**0**	**2**	**0**	**0**	**0**	**40**	**3**	**65**	**0**

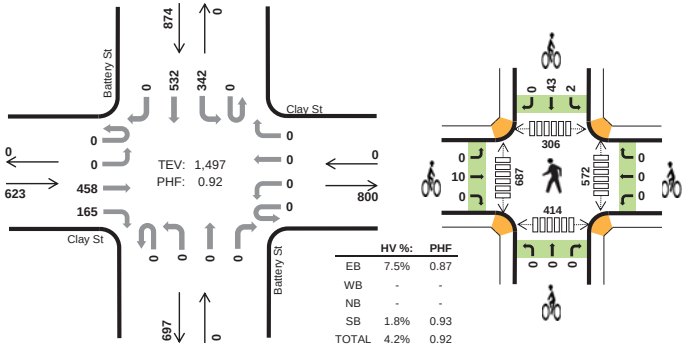
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Battery St
Clay St

Peak Hour

Date: 08/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	7.5%	0.87
WB	-	-
NB	-	-
SB	1.8%	0.93
TOTAL	4.2%	0.92

Two-Hour Count Summaries

Interval Start	Clay St Eastbound				Clay St Westbound				Battery St Northbound				Battery St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	104	26	0	0	0	0	0	0	0	0	0	94	104	0	328	0
4:15 PM	0	0	115	32	0	0	0	0	0	0	0	0	0	88	106	0	341	0
4:30 PM	0	0	115	21	0	0	0	0	0	0	0	0	0	103	80	0	319	0
4:45 PM	0	0	99	22	0	0	0	0	0	0	0	0	0	83	87	0	291	1,279
5:00 PM	**0**	**0**	**122**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**88**	**108**	**0**	**345**	1,296
5:15 PM	**0**	**0**	**111**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**90**	**126**	**0**	**358**	1,313
5:30 PM	**0**	**0**	**119**	**61**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**92**	**135**	**0**	**407**	1,401
5:45 PM	**0**	**0**	**106**	**46**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**72**	**163**	**0**	**387**	**1,497**
Count Total	0	0	891	266	0	0	0	0	0	0	0	0	0	710	909	0	2,776	0
Peak Hour All	**0**	**0**	**458**	**165**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**342**	**532**	**0**	**1,497**	**0**
Peak Hour HV	**0**	**0**	**44**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**7**	**0**	**63**	**0**
Peak Hour HV%	-	-	**10%**	**2%**	-	-	-	-	-	-	-	-	-	**3%**	**1%**	-	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	12	0	0	6	*18*	0	0	0	2	*2*	117	79	63	103	*362*
4:15 PM	9	0	0	7	*16*	2	0	0	6	*8*	112	114	61	83	*370*
4:30 PM	13	0	0	9	*22*	2	0	0	6	*8*	105	99	57	98	*359*
4:45 PM	13	0	0	4	*17*	1	0	1	9	*11*	114	131	69	102	*416*
5:00 PM	**11**	**0**	**0**	**4**	***15***	**1**	**0**	**0**	**10**	***11***	**115**	**163**	**61**	**106**	*445*
5:15 PM	**15**	**0**	**0**	**4**	***19***	**1**	**0**	**0**	**11**	***12***	**155**	**183**	**87**	**111**	*536*
5:30 PM	**12**	**0**	**0**	**4**	***16***	**4**	**0**	**0**	**12**	***16***	**172**	**176**	**81**	**106**	*535*
5:45 PM	**9**	**0**	**0**	**4**	***13***	**4**	**0**	**0**	**12**	***16***	**130**	**165**	**77**	**91**	***463***
Count Total	94	0	0	42	*136*	15	0	1	68	*84*	1,020	1,110	556	800	*3,486*
Peak Hour	**47**	**0**	**0**	**16**	***63***	**10**	**0**	**0**	**45**	***55***	**572**	**687**	**306**	**414**	***1,979***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

www.idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clay St Eastbound				Clay St Westbound				Battery St Northbound				Battery St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	10	2	0	0	0	0	0	0	0	0	0	5	1	0	18	0
4:15 PM	0	0	8	1	0	0	0	0	0	0	0	0	0	5	2	0	16	0
4:30 PM	0	0	12	1	0	0	0	0	0	0	0	0	0	8	1	0	22	0
4:45 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	3	1	0	17	73
5:00 PM	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**15**	70
5:15 PM	**0**	**0**	**13**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**19**	73
5:30 PM	**0**	**0**	**11**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**16**	67
5:45 PM	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**13**	**63**
Count Total	0	0	87	7	0	0	0	0	0	0	0	0	0	30	12	0	136	0
Peak Hour	**0**	**0**	**44**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**7**	**0**	**63**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Clay St Eastbound			Clay St Westbound			Battery St Northbound			Battery St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	2	0	0	0	0	0	0	0	1	5	0	8	0
4:30 PM	0	1	1	0	0	0	0	0	0	1	5	0	8	0
4:45 PM	0	1	0	0	0	0	0	0	1	1	8	0	11	29
5:00 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**11**	38
5:15 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**0**	**12**	42
5:30 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	**0**	**16**	50
5:45 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**16**	**55**
Count Total	0	14	1	0	0	0	0	0	1	5	63	0	84	0
Peak Hour	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**43**	**0**	**55**	**0**

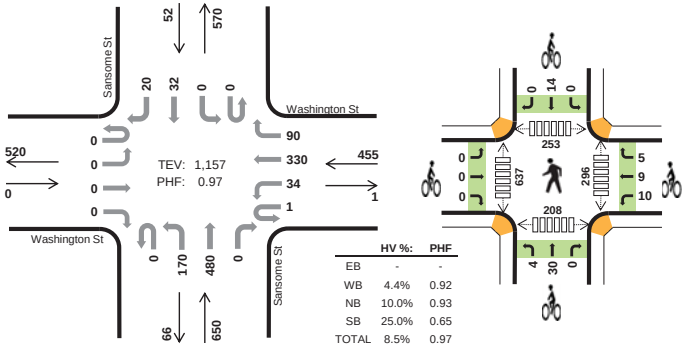
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Sansome St
Washington St

Peak Hour

Date: 08/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	-	-
WB	4.4%	0.92
NB	10.0%	0.93
SB	25.0%	0.65
TOTAL	8.5%	0.97

Two-Hour Count Summaries

Interval Start	Washington St Eastbound				Washington St Westbound				Sansome St Northbound				Sansome St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	8	31	25	0	23	114	0	0	0	6	1	208	0
4:15 PM	0	0	0	0	0	6	48	15	0	32	112	0	0	0	7	2	222	0
4:30 PM	0	0	0	0	0	10	52	22	0	29	114	0	0	0	15	3	245	0
4:45 PM	0	0	0	0	0	10	80	18	0	25	109	0	0	0	10	2	254	929
5:00 PM	**0**	**0**	**0**	**0**	**0**	**9**	**71**	**22**	**0**	**41**	**116**	**0**	**0**	**0**	**8**	**5**	**272**	993
5:15 PM	**0**	**0**	**0**	**0**	**0**	**8**	**88**	**24**	**0**	**39**	**131**	**0**	**0**	**0**	**5**	**2**	**297**	1,068
5:30 PM	**0**	**0**	**0**	**0**	**1**	**11**	**92**	**20**	**0**	**41**	**108**	**0**	**0**	**0**	**12**	**8**	**293**	1,116
5:45 PM	**0**	**0**	**0**	**0**	**0**	**6**	**79**	**24**	**0**	**49**	**125**	**0**	**0**	**0**	**7**	**5**	**295**	**1,157**
Count Total	0	0	0	0	1	68	541	170	0	279	929	0	0	0	70	28	2,086	0
Peak Hour All	**0**	**0**	**0**	**0**	**1**	**34**	**330**	**90**	**0**	**170**	**480**	**0**	**0**	**0**	**32**	**20**	**1,157**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**6**	**13**	**1**	**0**	**10**	**55**	**0**	**0**	**0**	**12**	**1**	**98**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**0%**	**18%**	**4%**	**1%**	**-**	**6%**	**11%**	**-**	**-**	**-**	**38%**	**5%**	**8%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	4	15	2	*21*	0	1	4	0	*5*	59	91	37	64	*251*
4:15 PM	0	1	10	2	*13*	0	3	3	2	*8*	66	92	36	43	*237*
4:30 PM	0	4	16	2	*22*	0	2	8	3	*13*	53	96	53	38	*240*
4:45 PM	0	7	15	3	*25*	0	0	7	1	*8*	46	102	45	31	*224*
5:00 PM	**0**	**6**	**13**	**5**	***24***	**0**	**7**	**11**	**4**	***22***	**84**	**156**	**45**	**45**	*330*
5:15 PM	**0**	**3**	**19**	**2**	***24***	**0**	**5**	**9**	**3**	***17***	**77**	**165**	**67**	**60**	*369*
5:30 PM	**0**	**6**	**13**	**4**	***23***	**0**	**6**	**6**	**5**	***17***	**77**	**164**	**67**	**46**	*354*
5:45 PM	**0**	**5**	**20**	**2**	***27***	**0**	**6**	**8**	**2**	***16***	**58**	**152**	**74**	**57**	***341***
Count Total	0	36	121	22	*179*	0	30	56	20	*106*	520	1,018	424	384	*2,346*
Peak Hour	**0**	**20**	**65**	**13**	***98***	**0**	**24**	**34**	**14**	***72***	**296**	**637**	**253**	**208**	***1,394***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

www.idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Washington St Eastbound				Washington St Westbound				Sansome St Northbound				Sansome St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	2	1	1	0	2	13	0	0	0	2	0	21	0
4:15 PM	0	0	0	0	0	1	0	0	0	2	8	0	0	0	1	1	13	0
4:30 PM	0	0	0	0	0	3	1	0	0	2	14	0	0	0	2	0	22	0
4:45 PM	0	0	0	0	0	5	2	0	0	2	13	0	0	0	3	0	25	81
5:00 PM	**0**	**0**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**1**	**12**	**0**	**0**	**0**	**4**	**1**	**24**	84
5:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**	**16**	**0**	**0**	**0**	**2**	**0**	**24**	95
5:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**4**	**9**	**0**	**0**	**0**	**4**	**0**	**23**	96
5:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**1**	**0**	**2**	**18**	**0**	**0**	**0**	**2**	**0**	**27**	**98**
Count Total	0	0	0	0	0	17	17	2	0	18	103	0	0	0	20	2	179	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**6**	**13**	**1**	**0**	**10**	**55**	**0**	**0**	**0**	**12**	**1**	**98**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Washington St Eastbound			Washington St Westbound			Sansome St Northbound			Sansome St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	1	3	0	0	0	0	5	0
4:15 PM	0	0	0	1	1	1	1	2	0	0	2	0	8	0
4:30 PM	0	0	0	0	2	0	2	6	0	0	3	0	13	0
4:45 PM	0	0	0	0	0	0	1	6	0	0	1	0	8	34
5:00 PM	**0**	**0**	**0**	**4**	**3**	**0**	**2**	**9**	**0**	**0**	**4**	**0**	**22**	51
5:15 PM	**0**	**0**	**0**	**1**	**3**	**1**	**1**	**8**	**0**	**0**	**3**	**0**	**17**	60
5:30 PM	**0**	**0**	**0**	**4**	**0**	**2**	**1**	**5**	**0**	**0**	**5**	**0**	**17**	64
5:45 PM	**0**	**0**	**0**	**1**	**3**	**2**	**0**	**8**	**0**	**0**	**2**	**0**	**16**	**72**
Count Total	0	0	0	11	13	6	9	47	0	0	20	0	106	0
Peak Hour	**0**	**0**	**0**	**10**	**9**	**5**	**4**	**30**	**0**	**0**	**14**	**0**	**72**	**0**

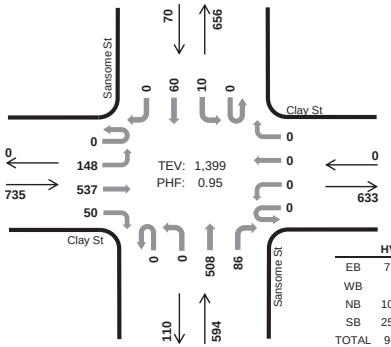
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

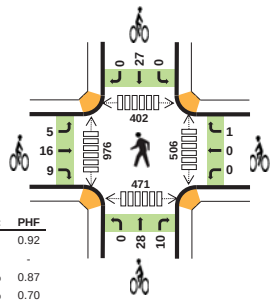
Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Sansome St
Clay St

Peak Hour

Date: 08/23/2017
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV %:	PHF
EB	7.2%	0.92
WB	-	-
NB	10.3%	0.87
SB	25.7%	0.70
TOTAL	9.4%	0.95

Two-Hour Count Summaries

Interval Start	Clay St Eastbound				Clay St Westbound				Sansome St Northbound				Sansome St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	28	115	10	0	0	0	0	0	0	104	19	0	3	11	0	290	0
4:15 PM	0	40	129	11	0	0	0	0	0	0	98	21	0	3	8	0	310	0
4:30 PM	0	32	112	13	0	0	0	0	0	0	104	21	0	6	20	0	308	0
4:45 PM	0	29	112	13	0	0	0	0	0	0	113	18	0	3	17	0	305	1,213
5:00 PM	**0**	**42**	**125**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**108**	**16**	**0**	**4**	**14**	**0**	**325**	1,248
5:15 PM	**0**	**45**	**119**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**130**	**24**	**0**	**1**	**12**	**0**	**341**	1,279
5:30 PM	**0**	**35**	**155**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**119**	**26**	**0**	**3**	**22**	**0**	**370**	1,341
5:45 PM	**0**	**26**	**138**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**151**	**20**	**0**	**2**	**12**	**0**	**363**	**1,399**
Count Total	0	277	1,005	97	0	0	0	0	0	0	927	165	0	25	116	0	2,612	0
Peak Hour All	**0**	**148**	**537**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**508**	**86**	**0**	**10**	**60**	**0**	**1,399**	**0**
Peak Hour HV	**0**	**5**	**42**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**2**	**0**	**1**	**17**	**0**	**132**	**0**
Peak Hour HV%	**-**	**3%**	**8%**	**12%**	**-**	**-**	**-**	**-**	**-**	**-**	**12%**	**2%**	**-**	**10%**	**28%**	**-**	**9%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	0	14	4	*29*	2	0	5	2	*9*	88	175	74	89	*426*
4:15 PM	10	0	9	2	*21*	4	0	5	6	*15*	77	140	81	69	*367*
4:30 PM	11	0	18	5	*34*	8	1	7	5	*21*	86	170	68	76	*400*
4:45 PM	15	0	14	8	*37*	3	1	6	6	*16*	63	160	43	86	*352*
5:00 PM	**15**	**0**	**12**	**7**	***34***	**8**	**0**	**10**	**9**	***27***	**140**	**240**	**108**	**100**	*588*
5:15 PM	**16**	**0**	**21**	**3**	***40***	**6**	**0**	**11**	**4**	***21***	**116**	**245**	**95**	**109**	*565*
5:30 PM	**12**	**0**	**10**	**5**	***27***	**7**	**0**	**8**	**11**	***26***	**138**	**255**	**102**	**138**	*633*
5:45 PM	**10**	**0**	**18**	**3**	***31***	**9**	**1**	**9**	**3**	***22***	**112**	**236**	**97**	**124**	***569***
Count Total	100	0	116	37	*253*	47	3	61	46	*157*	820	1,621	668	791	*3,900*
Peak Hour	**53**	**0**	**61**	**18**	***132***	**30**	**1**	**38**	**27**	***96***	**506**	**976**	**402**	**471**	***2,355***

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

www.idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Clay St Eastbound				Clay St Westbound				Sansome St Northbound				Sansome St Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	10	1	0	0	0	0	0	0	14	0	0	1	3	0	29	0
4:15 PM	0	2	8	0	0	0	0	0	0	0	9	0	0	0	2	0	21	0
4:30 PM	0	0	10	1	0	0	0	0	0	0	16	2	0	0	5	0	34	0
4:45 PM	0	2	12	1	0	0	0	0	0	0	13	1	0	0	8	0	37	121
5:00 PM	**0**	**1**	**10**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**7**	**0**	**34**	126
5:15 PM	**0**	**1**	**14**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**2**	**0**	**0**	**3**	**0**	**40**	145
5:30 PM	**0**	**1**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**1**	**4**	**0**	**27**	138
5:45 PM	**0**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**0**	**3**	**0**	**31**	**132**
Count Total	0	9	82	9	0	0	0	0	0	0	111	5	0	2	35	0	253	0
Peak Hour	**0**	**5**	**42**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**2**	**0**	**1**	**17**	**0**	**132**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Clay St Eastbound			Clay St Westbound			Sansome St Northbound			Sansome St Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	2	0	0	0	0	0	5	0	1	1	0	9	0
4:15 PM	0	4	0	0	0	0	0	4	1	0	6	0	15	0
4:30 PM	0	7	1	0	0	1	0	6	1	0	5	0	21	0
4:45 PM	1	1	1	1	0	0	0	6	0	0	6	0	16	61
5:00 PM	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**8**	**2**	**0**	**9**	**0**	**27**	79
5:15 PM	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**9**	**2**	**0**	**4**	**0**	**21**	85
5:30 PM	**1**	**5**	**1**	**0**	**0**	**0**	**0**	**7**	**1**	**0**	**11**	**0**	**26**	90
5:45 PM	**4**	**2**	**3**	**0**	**0**	**1**	**0**	**4**	**5**	**0**	**3**	**0**	**22**	**96**
Count Total	6	30	11	1	0	2	0	49	12	1	45	0	157	0
Peak Hour	**5**	**16**	**9**	**0**	**0**	**1**	**0**	**28**	**10**	**0**	**27**	**0**	**96**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Deon Fouche: 415 - 757 - 7714 deon.fouche@idaxdata.com

Appendix E:
Travel Demand Assumptions

Proposed Project Travel Demand

Source: 2019 SF Guidelines for residential, office and retail; 2002 SF Guidelines for Athletic Club (adjusted to include taxi/TNC)

Land Use	Amount	Proposed Project
Hotel	# of Rooms	200
	KSF	147.85
Residential	# of Rooms	0
	KSF	0
Retail/Commercial	KSF	46.4
Gym	KSF	36.35
Restaurant*	KSF	10.05
Office	KSF	39.8
Fire Station**	KSF	21.348
Other (Loading and BOH)	KSF	20.6
Below Grade BOH/MEP/Other	KSF	0
Above Grading Loading and BOH	KSF	0

** Not consider the existing retail uses on the site because COVID conditions make it hard to verify what the actual occupancy and travel patterns are. 10 ksf are considered to be restaurant.*

*** Trips associated with the fire station were not calculated becasue there would be no change to the travel.*

Land Use		Amount (ksf)	Amount (bd)	Daily Trip Rate	PM Trip Rate	Daily Person Trips	PM Person Trips	Daily Vehicle Trip Rate	PM Vehicle Trip Rate
Retail/Commercial	**Hotel**	147.9	200	8.4	0.60	1,680	120	1.9	0.14
	Gym	36.4		57.1	6.0	2,075	218	5.6	0.58
	Restaurant	10.1		200	27.0	2,010	271	19.7	2.59
	Office	39.8		15.7	1.4	625	56	3.2	0.30
Total						6,390	665		

PM Person Trips	Hotel	Gym	Restaurant	Office	Total	
Auto	21.0	24.6	30.7	10.3	86.56	87.00
Taxi/TNC	23.5	10.0	12.5	3.4	49.43	50.00
Public Transit	7.1	55.4	68.9	16.0	147.45	148.00
Walk	66.1	119.7	149.0	23.6	358.40	358.00
Bike	2.3	8.1	10.0	2.1	22.45	22.00
Total	120	218	271.07865	55.3	664.29	665.00

PM Vehicle Trips	Total	In	Out
Auto Only	55	18	37
Taxi/TNC Only	31	11	20
Total	86	29	57

Daily Person Trips	Hotel	Gym	Restaurant	Office	Total	
Auto	294	228.23	221.10	112.47	855.8	856
Taxi/TNC	329	103.74	100.50	37.49	571.0	571
Public Transit	99	518.70	502.50	181.21	1,301.5	1302
Walk	926	1,141.14	1,105.50	262.44	3,434.8	3435
Bike	32	82.99	80.40	31.24	226.6	226
Total	1,680	2,074.80	2,010.00	624.86	6,390	6390

Daily Vehicle Trips	Total	In	Out

Person Trips Splits

PM Person Trips	Hotel	Gym	Restaurant	Office
Auto Only	18%	11%	11%	18%
Taxi/TNC	20%	5%	5%	6%
Public Transit	6%	25%	25%	29%
Walk	55%	55%	55%	42%
Bike	2%	4%	4%	5%
	100%	100%	100%	100%

PM Vehicle Trips by Land Use	Total	In	Out
Hotel	27	10	17
Gym	21	8	13
Resaurant	26	10	16
Office	12	1	11
Total	86	29	57

Daily Vehicle Trips by Land Use	Total	In	Out
Hotel	385	185	200
Gym	204	98	106
Resaurant	198	95	103
Office	129	65	64
Total	916	443	473

Residential Variant Travel Demand

Source: 2019 SF Guidelines for residential, office and retail; 2002 SF Guidelines for Athletic Club (adjusted to include taxi/TNC)

Land Use	Amount	Residential Variant
Hotel	# of Rooms	0
	KSF	0
Residential	# of Rooms	348
	KSF	257.4
Retail/Commercial	KSF	0
Gym	KSF	0
Restaurant*	KSF	0
Office	KSF	0
Fire Station**	KSF	9.224
Other (Loading and BOH)	KSF	0
Below Grade BOH/MEP/Other	KSF	17.6
Above Grading Loading and BOH	KSF	1.4

** Not consider the existing retail uses on the site because COVID conditions make it hard to verify what the actual occupancy and travel patterns are. 10 ksf are considered to be restaurant.*

*** Trips associated with the fire station were not calculated becasue there would be no change to the travel.*

Land Use	Amount (ksf)	Amount (bd)	Daily Trip Rate	PM Trip Rate	Daily Person Trips	PM Person Trips
Residential	257	348	4.5	0.4	1,566	139

PM Person Trips	Residential	Residential		
Auto	35	25%	34.800	25%
Taxi/TNC	8	6%	8.352	6%
Public Transit	39	28%	38.976	28%
Walk	52	38%	52.896	38%
Bike	4	3%	4.176	3%
Total	138	99%	139	100%

Residential Vehicle Trips	Daily Total	In	Out	PM Total	In	Out
Total (Auto + TNC)	322	180	142	28	22	6
Auto Only	259	145	114	23	18	5
Taxi / TNC	63	35	28	5	4	1

Daily Person Trips	Residential	Residential		
Auto	388.37	25%	391.500	25%
Taxi/TNC	93.96	6%	93.960	6%
Public Transit	438.48	28%	438.480	28%
Walk	590.38	38%	595.080	38%
Bike	45.41	3%	46.980	3%
Total	1,556.60	99%	1566	100%

Proposed Project Auto and Taxi/TNC Trip Distribution

Source: 2019 SF Guidelines for residential, office, and retail; 2002 SF Guidelines for Athletic Club (adjusted to include taxi/TNC, and converted to 2019 districts)

		INBOUND													OUTBOUND											
		Downtown/NorthBeach	SoMa	Marina/WesternMarket	Mission/Potrero	OuterMission/Hills	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	Total	Downtown/NorthBeach	SoMa	Marina/WesternMarket	Mission/Potrero	OuterMission/Hills	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	Total
Auto+TNC	Hotel	39.0%	8.0%	8.6%	13.7%	4.9%	1.4%	7.1%	3.5%	0.0%	4.8%	6.8%	2.1%	100.0%	28.4%	2.7%	13.1%	9.9%	9.0%	1.9%	2.1%	2.5%	0.0%	21.0%	5.6%	3.9%	100.0%
	Gym	39.0%	8.0%	8.6%	13.7%	4.9%	1.4%	7.1%	3.5%	0.0%	4.8%	6.8%	2.1%	100.0%	28.4%	2.7%	13.1%	9.9%	9.0%	1.9%	2.1%	2.5%	0.0%	21.0%	5.6%	3.9%	100.0%
	Restaurant	39.0%	8.0%	8.6%	13.7%	4.9%	1.4%	7.1%	3.5%	0.0%	4.8%	6.8%	2.1%	100.0%	28.4%	2.7%	13.1%	9.9%	9.0%	1.9%	2.1%	2.5%	0.0%	21.0%	5.6%	3.9%	100.0%
	Office	48.1%	0.0%	2.4%	0.0%	46.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	100.0%	10.4%	1.2%	9.7%	1.8%	20.1%	5.0%	2.4%	2.1%	0.0%	13.2%	23.0%	11.1%	100.0%
	Overall	**39.25%**	**7.79%**	**8.40%**	**13.31%**	**6.21%**	**1.36%**	**6.92%**	**3.39%**	**0.00%**	**4.67%**	**6.65%**	**2.05%**	**100%**	**24.99%**	**2.38%**	**12.41%**	**8.35%**	**11.09%**	**2.51%**	**2.19%**	**2.43%**	**0.00%**	**19.48%**	**8.93%**	**5.24%**	**100%**
Auto+TNC	Hotel	4	1	1	1	1	0	1	0	-	0	1	0	10	5	0	2	2	1	0	0	0	-	3	1	1	17
	Gym	3	1	1	1	0	0	1	0	-	0	1	0	8	4	0	2	1	1	0	0	0	-	3	1	1	13
	Restaurant	4	1	1	1	0	0	1	0	-	0	1	0	10	5	0	2	2	1	0	0	0	-	3	1	1	16
	Office	0	-	0	-	0	-	-	-	-	-	0	-	1	1	0	1	0	2	1	0	0	-	1	2	1	11
	Overall	**11**	**2**	**2**	**4**	**2**	**0**	**2**	**1**	**-**	**1**	**2**	**1**	**29**	**14**	**1**	**7**	**5**	**6**	**1**	**1**	**1**	**-**	**11**	**5**	**3**	**56**
Auto	Hotel	2	0	0	1	0	0	0	0	-	0	0	0	5	2	0	1	1	1	0	0	0	-	2	0	0	8
	Gym	2	0	0	1	0	0	0	0	-	0	0	0	6	3	0	1	1	1	0	0	0	-	2	1	0	9
	Restaurant	3	1	1	1	0	0	0	0	-	0	0	0	7	3	0	1	1	1	0	0	0	-	2	1	0	11
	Office	0	-	0	-	0	-	-	-	-	-	0	-	1	1	0	1	0	2	0	0	0	-	1	2	1	8
TNC	Hotel	2	0	0	1	0	0	0	0	-	0	0	0	5	2	0	1	1	1	0	0	0	-	2	0	0	9
	Gym	1	0	0	0	0	0	0	0	-	0	0	0	2	1	0	0	0	0	0	0	0	-	1	0	0	4
	Restaurant	1	0	0	0	0	0	0	0	-	0	0	0	3	1	0	1	0	0	0	0	0	-	1	0	0	5
	Office	0	-	0	-	0	-	-	-	-	-	0	-	0	0	0	0	0	1	0	0	0	-	0	1	0	3
		4	*1*	*1*	*1*	*1*	*0*	*1*	*0*	*0*	*1*	*1*	*0*	*11*	*5*	*0*	*3*	*2*	*2*	*0*	*0*	*0*	*0*	*4*	*2*	*1*	*20*

Residential Variant Auto and Taxi/TNC Trip Distribution

Source: 2019 SF Guidelines for residential, office, and retail; 2002 SF Guidelines for Athletic Club (adjusted to include taxi/TNC, and converted to 2019 districts)

		INBOUND													OUTBOUND											
		Downtown/NorthBeach	SoMa	Marina/WesternMarket	Mission/Potrero	OuterMission/Hills	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	Total	Downtown/NorthBeach	SoMa	Marina/WesternMarket	Mission/Potrero	OuterMission/Hills	Bayshore	Richmond	Sunset	Islands	South Bay	East Bay	North Bay	Total
Auto+TNC	Residential	39.3%	7.5%	8.1%	0.0%	19.9%	3.7%	0.8%	8.8%	0.0%	5.8%	4.6%	1.5%	100.0%	41.7%	5.0%	37.8%	0.0%	0.0%	11.3%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Auto+TNC		9	2	2	-	4	1	0	2	-	1	1	0	22	3	0	2	-	-	1	0	-	-	-	-	-	6
Auto		7	1	1	-	3	1	0	2	-	1	1	0	18	2	0	2	-	-	1	0	-	-	-	-	-	5
TNC		2	0	0	-	1	0	0	0	-	0	0	0	4	1	0	0	-	-	0	0	-	-	-	-	-	1
		39.3%	**7.5%**	**8.1%**	**0.0%**	**19.9%**	**3.7%**	**0.8%**	**8.8%**	**0.0%**	5.8%	4.6%	1.5%		**41.7%**	**5.0%**	**37.8%**	**0.0%**	**0.0%**	**11.3%**	**4.1%**	**0.0%**	**0.0%**	0.0%	0.0%	0.0%	

Project Loading Demand

Source: 2019 SF Guidelines for residential, office, and retail; 2002 SF Guidelines for Atheletic (adjusted to include taxi/TNC)

Proposed Project

Land Use	Amount (ksf)	Amount (bd or ksf)	Daily Trip Rate	PM Trip Rate	Daily Person Trips	PM Person Trips	Passenger Loading pct person trips	Daily Truck Trip Gen per KSF, from 2002 Guidelines
Hotel	147.9	200	8.4	0.6	1,680	120	21.8%	0.09
Gym	36		57.1	6.0	2,075	218	5.5%	0.22
Restaurant	10.1		200.0	27.0	2,010	271	5.5%	0.22
Office	39.8		15.7	1.4	625	56	7.3%	0.21
Total	234.1				**6,390**	**665**		

BY LAND USE

Land Use	Passenger Loading %	PM Peak Hour Loading Instances	Peak 15 Minute Spaces of Loading Demand
Hotel	21.8%	26	0.87
Gym	5.5%	12	0.40
Restaurant	5.5%	15	0.50
Office	7.3%	4	0.13
Total		57	1.90

Land Use	Freight Loading Rate	Daily Truck Trips	Daily Freight Loading Demand
Hotel	0.09	13	0.75
Gym	0.22	8	0.46
Restaurant	0.22	2	0.12
Office	0.21	8	0.46
Total		31	1.79

Project Loading Demand

Source: 2019 SF Guidelines for residential, office, and retail; 2002 SF Guidelines for Atheletic (adjusted to include taxi/TNC)

Residential Variant

Land Use	Amount (ksf)	Amount (bd or ksf)	Daily Trip Rate	PM Trip Rate	Daily Person Trips	Person Trips	Passenger Loading pct person trips	Daily Truck Trip Gen per KSF, from 2002 Guidelines
Residential	257.4	348	4.5	0.4	1,566	139	8.8%	0.03

Land Use	Passenger Loading %	PM Peak Hour Loading Instances	Peak 15 Minute Spaces of Loading Demand
Residential	8.8%	12	0.40

Land Use	Freight Loading Rate	Daily Truck Trips	Daily Freight Loading Demand
Residential	0.03	8	0.46

Appendix F:
Regulatory Framework

Regulatory Framework

This section provides a summary of the plans and policies of the City and County of San Francisco, and regional, state, and federal agencies that have policy and regulatory control over the project site. No federal regulations, plans, or policies are relevant to the project.

State

CEQA Section 21099(B)(1) (Senate Bill 743)

California Environmental Quality Act (CEQA) Section 21099(b)(1) requires that the Office of Planning and Research (OPR) develop revisions to the CEQA Guidelines and establish criteria for determining the significance of the transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts, pursuant to Section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment a *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, recommending that transportation impacts for projects be measured using a VMT metric. On March 3, 2016, based on compelling evidence in that document and the department's independent review of the literature on level of service and VMT, the San Francisco Planning Commission adopted OPR's recommendation to use the VMT metric instead of automobile delay to evaluate the transportation impacts of projects (resolution 19579). In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing Senate Bill 743 (section 15064.3). The Office of Planning and Research developed a *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.

Regional

Plan Bay Area 2040

Plan Bay Area 2040 is a state-mandated integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete a Sustainable Communities Strategy as part of a Regional Transportation Plan. This strategy integrates transportation, land use, and housing to meet greenhouse gas reduction targets set by the California Air Resources Board. Plan Bay Area 2040 meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

In the Bay Area, the Metropolitan Transportation Commission and the Association of Bay Area Governments adopted the latest plan in 2017. To help meet the greenhouse gas reduction targets, the plan identified priority development areas (PDAs). The agencies estimate approximately 77 percent of housing and 55 percent of job growth will occur in a PDA between 2010 and 2040. These PDAs tend to be centrally located, with high levels of transit service, and lower than average VMT generation per capita. The project site is located in the Downtown/Van Ness/Northeast Neighborhoods PDA.

Local

Transit First Policy

The City's Transit First Policy, adopted by the board of supervisors in 1973 and amended in 1998, is contained in section 8A.115 of the City Charter. The Transit First Policy is a set of principles that emphasize the City's commitment to give pedestrian, bicyclist, and public transit use of public rights-of-way priority over the private automobile. These principles are embodied in the policies and objectives of the Transportation Element of the San Francisco General Plan. All City boards, commissions, and departments are required by law to implement the City's Transit First Policy principles in conducting the City's affairs.

Vision Zero

In 2014, the San Francisco Board of Supervisors adopted a resolution to implement an action plan that would reduce traffic fatalities to zero by 2024 through engineering, education, and enforcement (resolution 91-14). The numerous San Francisco agencies responsible for the action plan adopted similar resolutions. In 2017, the Board of Supervisors amended the Transportation and Urban Design elements of the San Francisco General Plan to implement Vision Zero (ordinance 175-17).

San Francisco General Plan

The Transportation Element of the general plan General Plan is composed of objectives and policies that relate to the eight aspects of the citywide transportation system: general, regional transportation, congestion management, vehicle circulation, transit, pedestrians, bicycles, citywide parking, and goods management. The transportation element references the City's Transit First Policy in its introduction and contains objectives and policies that are pertinent to the proposed project. It includes objectives related to locating development near transit facilities, prioritizing sustainable modes of travel, integrating and connecting land use development and transportation investments, and designing streets for walking, bicycling, and public transit.

Downtown Plan

Approved by the Board of Supervisors in 1985, the Downtown Plan establishes land use policies and objectives around a vision of maintaining and improving the City's downtown as a world-renowned cultural and economic center. Key land use and transportation policy objectives include encouraging commercial development, prioritizing high-capacity transportation modes, and enhancing the public realm. The project site is within the Downtown Plan's boundaries which are commonly defined as the C-3 zoning district.

Better Streets Plan, Policy and Requirements

In 2006, the San Francisco Board of Supervisors adopted the Better Streets Policy. Since then, the board has amended the policy several times, including in 2010 to reference the Better Streets Plan. The Better Streets Plan creates a unified set of standards, guidelines, and implementation strategies to govern how San Francisco designs, builds, and maintains its pedestrian environment. The planning code requires certain new development projects to make changes to the public right-of-way so that it is consistent with the Better Streets Plan (section 138.1). The planning code requires most projects to plant and maintain street trees and some larger projects to submit a streetscape plan, which may require elements such as sidewalk widening, transit boarding islands, and medians.

San Francisco Regulations for Working in San Francisco Streets (Blue Book)

The San Francisco Regulations for Working in San Francisco Streets (the Blue Book) contains regulations that are prepared and regularly updated by the San Francisco Municipal Transportation Agency (SFMTA), under the authority derived from the San Francisco Transportation Code, to serve as a guide for contractors working in San Francisco streets. The manual establishes rules and guidance so that work can be done safely and with the least possible interference with pedestrians, bicyclists, and transit and vehicular traffic. The manual also contains relevant general information, contact information, and procedures related to working in the public right-of-way when it is controlled by agencies other than SFMTA.

In addition to the regulations presented in the manual, all traffic control, warning, and guidance devices must conform to the California Manual on Uniform Traffic Control Devices. Furthermore, contractors are responsible for complying with all applicable city, state, and federal codes, rules, and regulations. The party responsible for setting up traffic controls during construction shall be held accountable and responsible if such controls do not meet the guidance and requirements established by the manual and any applicable state requirements.

Summary of Public Works Code sections 724 and 2.4.20

Section 724 of the San Francisco Public Works Code1 addresses the temporary occupation of the public-right-of way. This section contains requirements for clearances to SF Fire Department equipment, traffic-signal equipment, noticing, pedestrian clearances, parking plans, trash cleanup, and city indemnification.

San Francisco Public Works Code section 724(a)(1) requires that material and equipment not occupy more than the designated parking lane width and not more than half of the official sidewalk width along the boundary of the fronting property unless permission is granted pursuant to sections 724.7 and 724.8 for temporary occupancy of additional street space. Material and equipment shall mean only construction material used at the site, construction equipment, vehicles bearing the logo or other identifying

[1] San Francisco Public Works Code, https://codelibrary.amlegal.com/codes/san_francisco/latest/sf_publicworks/0-0-0-3684, accessed December 2020.

information so that the City could verify that it belongs to the contractor or a subcontractor working at the site and refuse containers for construction debris.

For purposes of section 724.1(b), which addresses the required fee amount related to temporary street space occupancy for any purpose other than a building construction operation, material and equipment also shall include any material or equipment related to the proposed use. Parking lane width shall not exceed eight feet in width, and if such lane also is designated as a commute lane, such lane may not be occupied unless permission is granted pursuant to sections 724.7 and 724.8 for temporary occupancy of additional street space.

To meet these requirements, the contract shall require the following at our job site:

- A minimum clearance of four feet must be maintained at all times to accommodate pedestrian path of travel requirements.
- Clearance of materials from fire hydrants, fire alarm boxes and value covers shall be as required by the Fire Department.
- Clearance of materials from traffic signal controllers and pull boxes shall be as required by SFPW.
- All sand, dirt or other materials shall be prevented from being blown or moved to other parts of the street, or from interfering with other property use. The gutters shall not be obstructed.
- Lights, barriers, barricades, signs, cones, and other devices for pedestrian and traffic safety, and other requirements shall be provided as set forth in SFPW orders or regulations.

Section 2.4.20 of the San Francisco Public Works Code addresses permits to excavate, requires that the applicant for an excavation for permit for major work, or excavation that will affect the public right-of-way,2 that is 30 consecutive calendar days or longer to submit a contractor parking plan, including a proposal to reduce parking demand in the project site vicinity, to SFPW for its review. Such a parking plan shall include:

- The number and total linear feet of on-street parking spaces that would be impacted;
- The number and total linear feet of parking spaces on side streets proposed for staging and other construction purposes that would be impacted;
- The amount and type of equipment placed on streets to be excavated and side streets;
- Solutions to stockpiling construction materials in locations other than the proposed permit area in order to minimize impacted street area;
- The average number of employees anticipated each day at the work site;
- Timeline and phasing of the project, including the duration of each phase, and how it will affect the number and total linear feet of on street parking spaces set aside for the excavation project at each phase;
- A proposal to provide SFPW with updates in writing, by phone, or an in-person visit regarding any changes to the status of the project, on a regular basis as appropriate, but no later than at the mid-point of the permit term or any extension thereof. If the permittee provides updates by

[2] Public Works Code section 2.4.4 defines "major work" as any reasonably foreseeable excavation that will affect the public right-of-way for more than 15 consecutive calendar days.

phone or in-person visit, the permittee shall provide this same information in writing to SFPW within two business days of the phone or in-person communication;

- Information about the availability of on-site or nearby parking garages or other off-street parking opportunities in the vicinity. As part of this required information, the project sponsor shall submit a list of all available public and private parking garages within a 300-foot radius of the project limits and information on whether those garages include carpooling parking spaces. In addition, the project sponsor shall specify if he/she contacted any off-street parking opportunities and the name and date of such contact;
- A proposal concerning opportunities for reducing parking demand in the vicinity of the project site, such as car-pooling, van transportation, transit, or other off-site parking arrangements;
- A proposal on how the project sponsor will make the on-street parking available to the general public if no work is scheduled and/or no equipment or material storage is required on the street(s) or portion thereof by 4:00 pm if project work is complete for the day. The project sponsor shall include this information in the courtesy notice to property owners required under the San Francisco Public Works Code section 2.4.20(d);
- Any other information SFPW or other affected City departments, such as SFMTA, deems valuable tor understanding the impact of the project on the neighborhood and neighborhood parking supply.

Transportation Sustainability Fee

The planning code requires certain new development projects to pay a fee, based on the size of the development, to the City (section 411A). The fee offsets a portion of the impacts of development projects on the transportation system. The City may use the fee only for specific transportation-related programs, such as programs related to transit capital maintenance, local and regional transit service expansion and reliability, complete streets, and program administration.

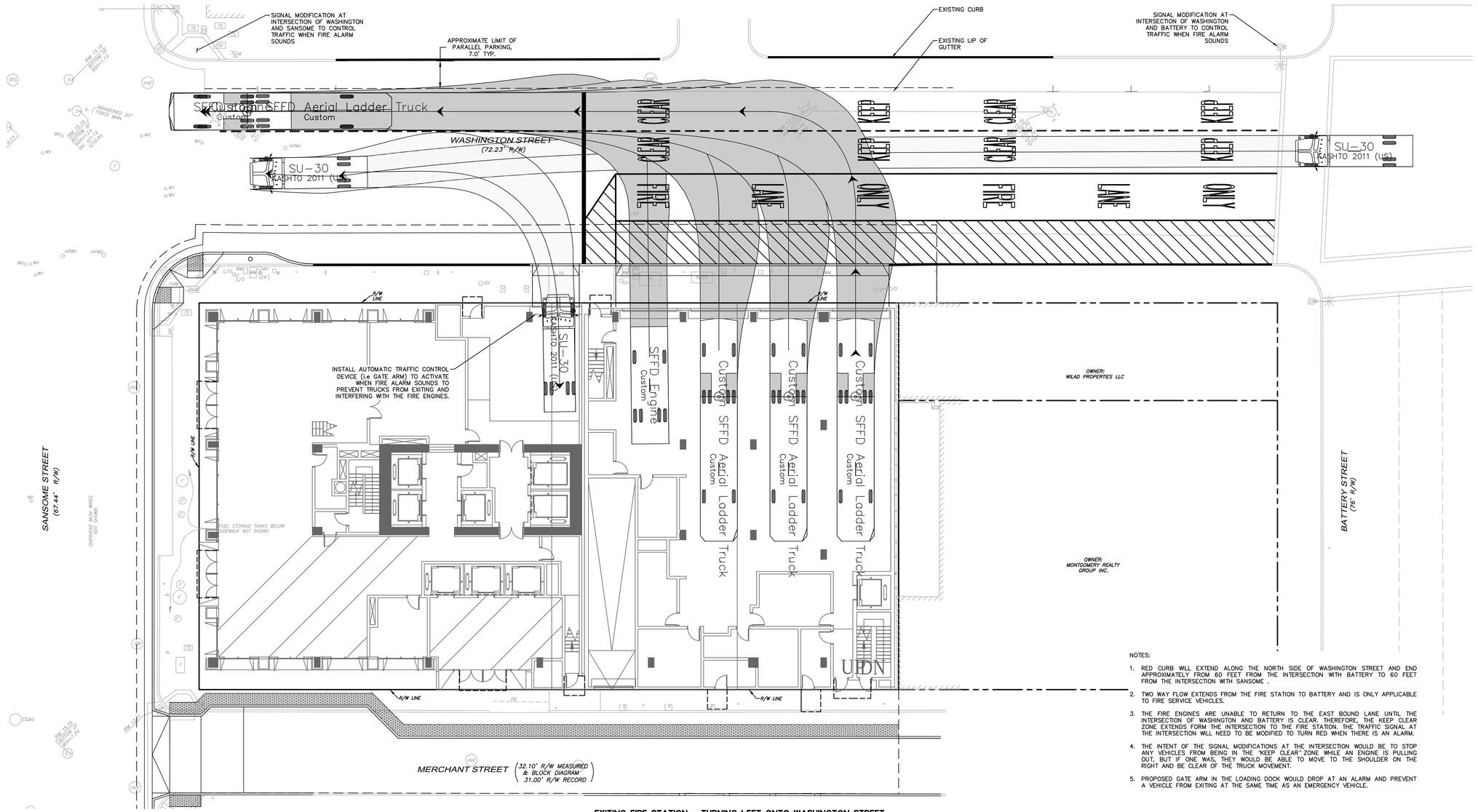
Transportation Demand Management Program

The planning code requires certain new development projects to incorporate "design features, incentives, and tools" to reduce VMT (section 169). Developers choose measures from a menu of options to develop an overall transportation demand management (TDM) plan. Some options in the menu may overlap with requirements elsewhere in the planning code (e.g., bicycle parking, car-share parking). Each development project's TDM plan requires routine monitoring and reporting to the planning department to demonstrate compliance.

Off-Street Loading

The planning code requires certain new development projects to include off-street freight loading spaces (section 152.1). The planning code requirements for loading spaces depends on the size of the development project. It sets minimum dimensions for off-street freight loading and allows for substituted service vehicle spaces (section 154(b)).

Appendix G:
Truck Turning Template



EXITING FIRE STATION – TURNING LEFT ONTO WASHINGTON STREET

NOTES:

1. RED CURB WILL EXTEND ALONG THE NORTH SIDE OF WASHINGTON STREET AND END APPROXIMATELY FROM 60 FEET FROM THE INTERSECTION WITH BATTERY TO 60 FEET FROM THE INTERSECTION WITH SANSOME .
2. TWO WAY FLOW EXTENDS FROM THE FIRE STATION TO BATTERY AND IS ONLY APPLICABLE TO FIRE SERVICE VEHICLES.
3. THE FIRE ENGINES ARE UNABLE TO RETURN TO THE EAST BOUND LANE UNTIL THE INTERSECTION OF WASHINGTON AND BATTERY IS CLEAR. THEREFORE, THE KEEP CLEAR ZONE EXTENDS FORM THE INTERSECTION TO THE FIRE STATION. THE TRAFFIC SIGNAL AT THE INTERSECTION WILL NEED TO BE MODIFIED TO TURN RED WHEN THERE IS AN ALARM.
4. THE INTENT OF THE SIGNAL MODIFICATIONS AT THE INTERSECTION WOULD BE TO STOP ANY VEHICLES FROM BEING IN THE "KEEP CLEAR" ZONE WHILE AN ENGINE IS PULLING OUT, BUT IF ONE WAS, THEY WOULD BE ABLE TO MOVE TO THE SHOULDER ON THE RIGHT AND BE CLEAR OF THE TRUCK MOVEMENT.
5. PROPOSED GATE ARM IN THE LOADING DOCK WOULD DROP AT AN ALARM AND PREVENT A VEHICLE FROM EXITING AT THE SAME TIME AS AN EMERGENCY VEHICLE.

GRAPHIC SCALE
10 0 10 20

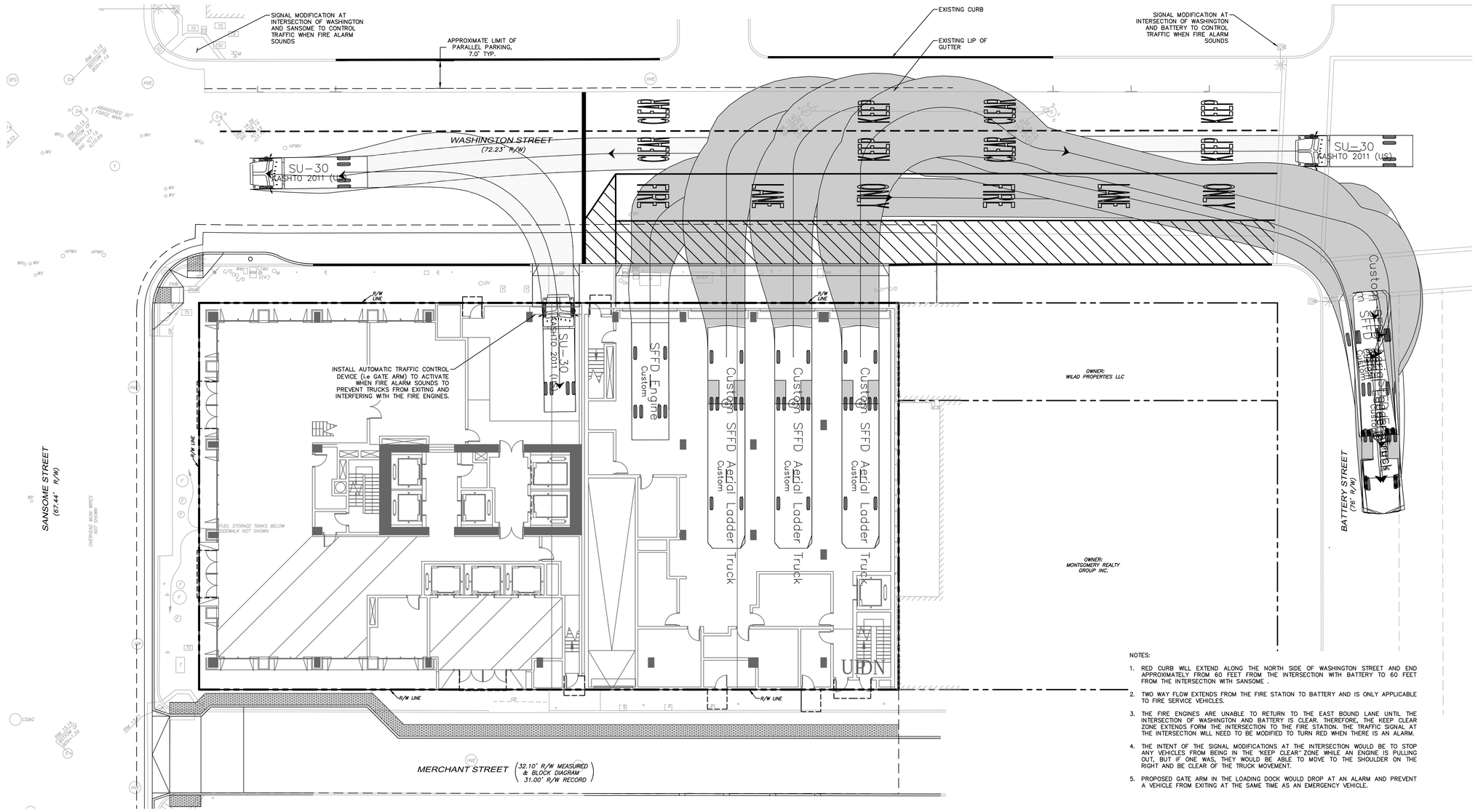
City and County of San Francisco

RELATED

SOM
SKIDMORE, OWINGS & MERRILL LLP
ONE MARITIME PLAZA
SAN FRANCISCO, CA 94111

BKF
150 CALIFORNIA ST, SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

REGISTERED PROFESSIONAL ENGINEER
No. 87174
EXP. 6/30/22
CIVIL
STATE OF CALIFORNIA



EXITING FIRE STATION – TURNING RIGHT ONTO WASHINGTON STREET

NOTES:

1. RED CURB WILL EXTEND ALONG THE NORTH SIDE OF WASHINGTON STREET AND END APPROXIMATELY FROM 60 FEET FROM THE INTERSECTION WITH BATTERY TO 60 FEET FROM THE INTERSECTION WITH SANSOME .
2. TWO WAY FLOW EXTENDS FROM THE FIRE STATION TO BATTERY AND IS ONLY APPLICABLE TO FIRE SERVICE VEHICLES.
3. THE FIRE ENGINES ARE UNABLE TO RETURN TO THE EAST BOUND LANE UNTIL THE INTERSECTION OF WASHINGTON AND BATTERY IS CLEAR. THEREFORE, THE KEEP CLEAR ZONE EXTENDS FORM THE INTERSECTION TO THE FIRE STATION. THE TRAFFIC SIGNAL AT THE INTERSECTION WILL NEED TO BE MODIFIED TO TURN RED WHEN THERE IS AN ALARM.
4. THE INTENT OF THE SIGNAL MODIFICATIONS AT THE INTERSECTION WOULD BE TO STOP ANY VEHICLES FROM BEING IN THE "KEEP CLEAR" ZONE WHILE AN ENGINE IS PULLING OUT, BUT IF ONE WAS, THEY WOULD BE ABLE TO MOVE TO THE SHOULDER ON THE RIGHT AND BE CLEAR OF THE TRUCK MOVEMENT.
5. PROPOSED GATE ARM IN THE LOADING DOCK WOULD DROP AT AN ALARM AND PREVENT A VEHICLE FROM EXITING AT THE SAME TIME AS AN EMERGENCY VEHICLE.

GRAPHIC SCALE
10 0 10 20

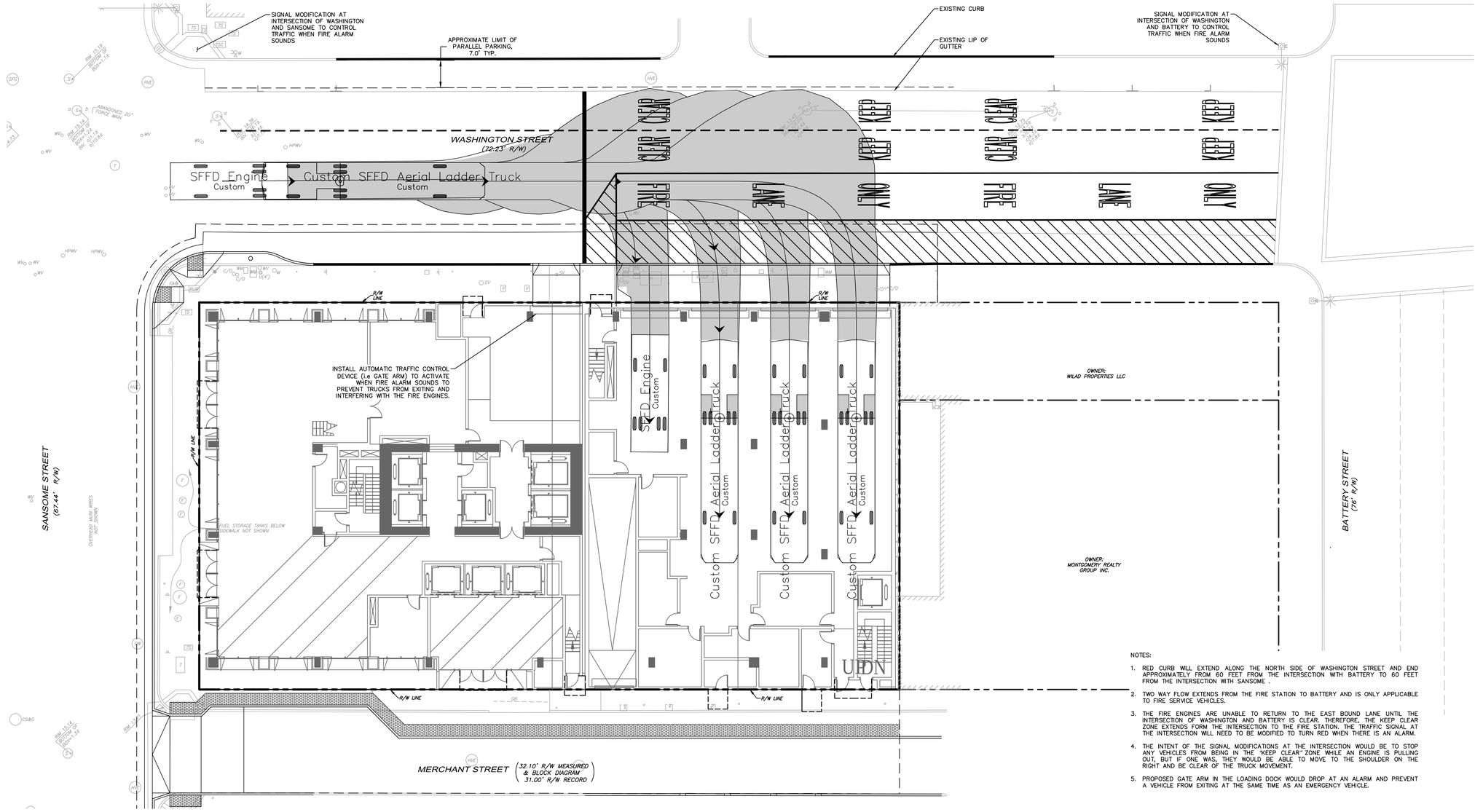
City and County of San Francisco

RELATED

SOM
SKIDMORE, OWINGS & MERRILL LLP
ONE MARITIME PLAZA
SAN FRANCISCO, CA 94111

BKF
150 CALIFORNIA ST, SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

REGISTERED PROFESSIONAL ENGINEER
RACHEL A. O'CONNOR
No. 25817
DP 6/30/22
CIVIL
STATE OF CALIFORNIA



ENTERING FIRE STATION (BACK-IN)

NOTES:

1. RED CURB WILL EXTEND ALONG THE NORTH SIDE OF WASHINGTON STREET AND END APPROXIMATELY FROM 60 FEET FROM THE INTERSECTION WITH BATTERY TO 60 FEET FROM THE INTERSECTION WITH SANSOME .
2. TWO WAY FLOW EXTENDS FROM THE FIRE STATION TO BATTERY AND IS ONLY APPLICABLE TO FIRE SERVICE VEHICLES.
3. THE FIRE ENGINES ARE UNABLE TO RETURN TO THE EAST BOUND LANE UNTIL THE INTERSECTION OF WASHINGTON AND BATTERY IS CLEAR. THEREFORE, THE KEEP CLEAR ZONE EXTENDS FORM THE INTERSECTION TO THE FIRE STATION. THE TRAFFIC SIGNAL AT THE INTERSECTION WILL NEED TO BE MODIFIED TO TURN RED WHEN THERE IS AN ALARM.
4. THE INTENT OF THE SIGNAL MODIFICATIONS AT THE INTERSECTION WOULD BE TO STOP ANY VEHICLES FROM BEING IN THE "KEEP CLEAR" ZONE WHILE AN ENGINE IS PULLING OUT, BUT IF ONE WAS, THEY WOULD BE ABLE TO MOVE TO THE SHOULDER ON THE RIGHT AND BE CLEAR OF THE TRUCK MOVEMENT.
5. PROPOSED GATE ARM IN THE LOADING DOCK WOULD DROP AT AN ALARM AND PREVENT A VEHICLE FROM EXITING AT THE SAME TIME AS AN EMERGENCY VEHICLE.

GRAPHIC SCALE
10 0 10 20

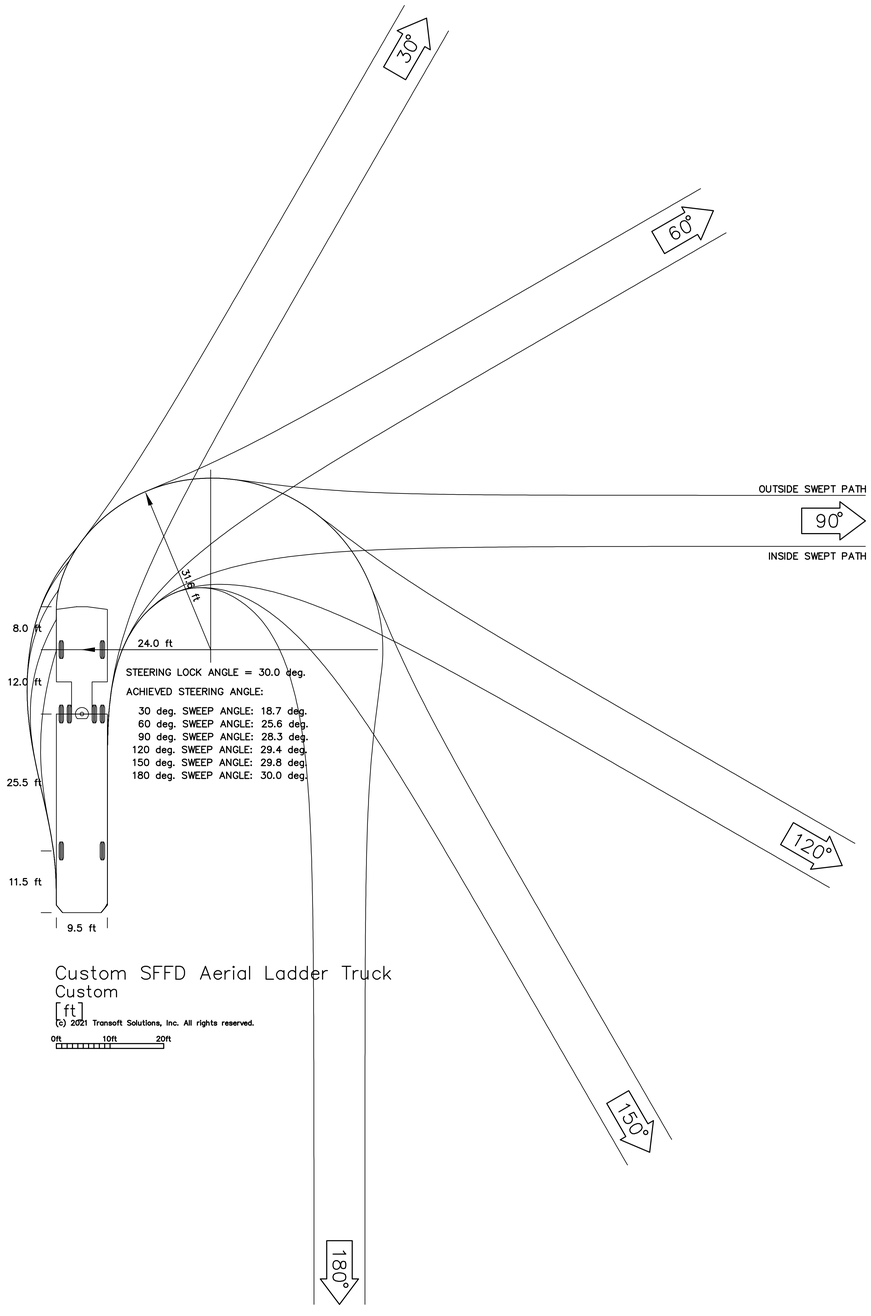
City and County of San Francisco

RELATED

SOM
SKIDMORE, OWINGS & MERRILL LLP
ONE MARITIME PLAZA
SAN FRANCISCO, CA 94111

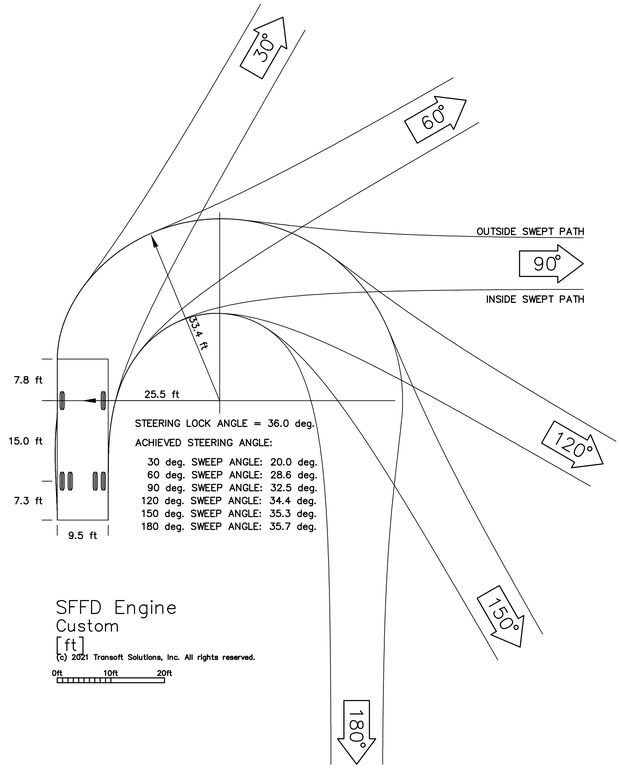
BKF
150 CALIFORNIA ST, SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

EXPIRES: 6/30/22
CIVIL
STATE OF CALIFORNIA



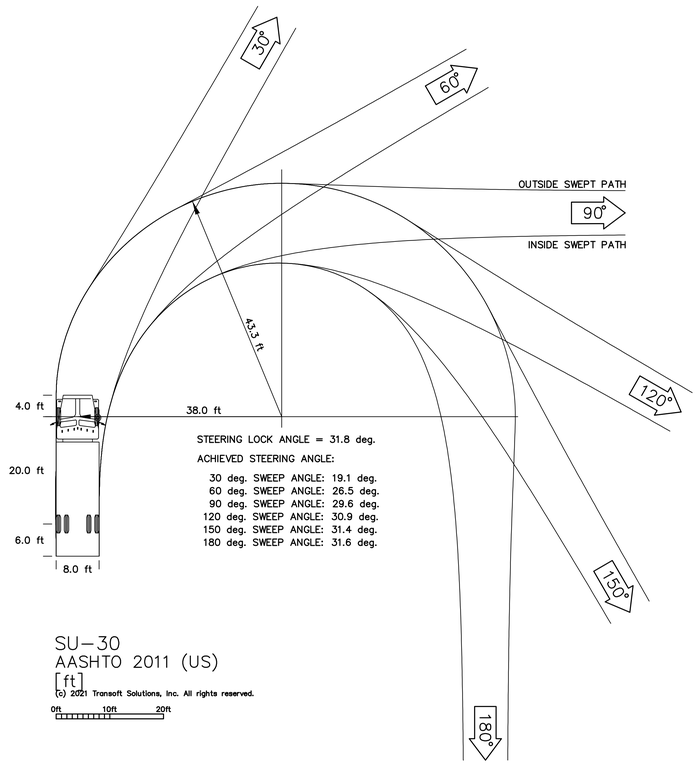
Custom SFFD Aerial Ladder Truck
Custom
[ft]

0ft 10ft 20ft



SFFD Engine
Custom
[ft]

0ft 10ft 20ft



SU-30
AASHTO 2011 (US)
[ft]

0ft 10ft 20ft

GRAPHIC SCALE
10 0 10 20

City and County of San Francisco

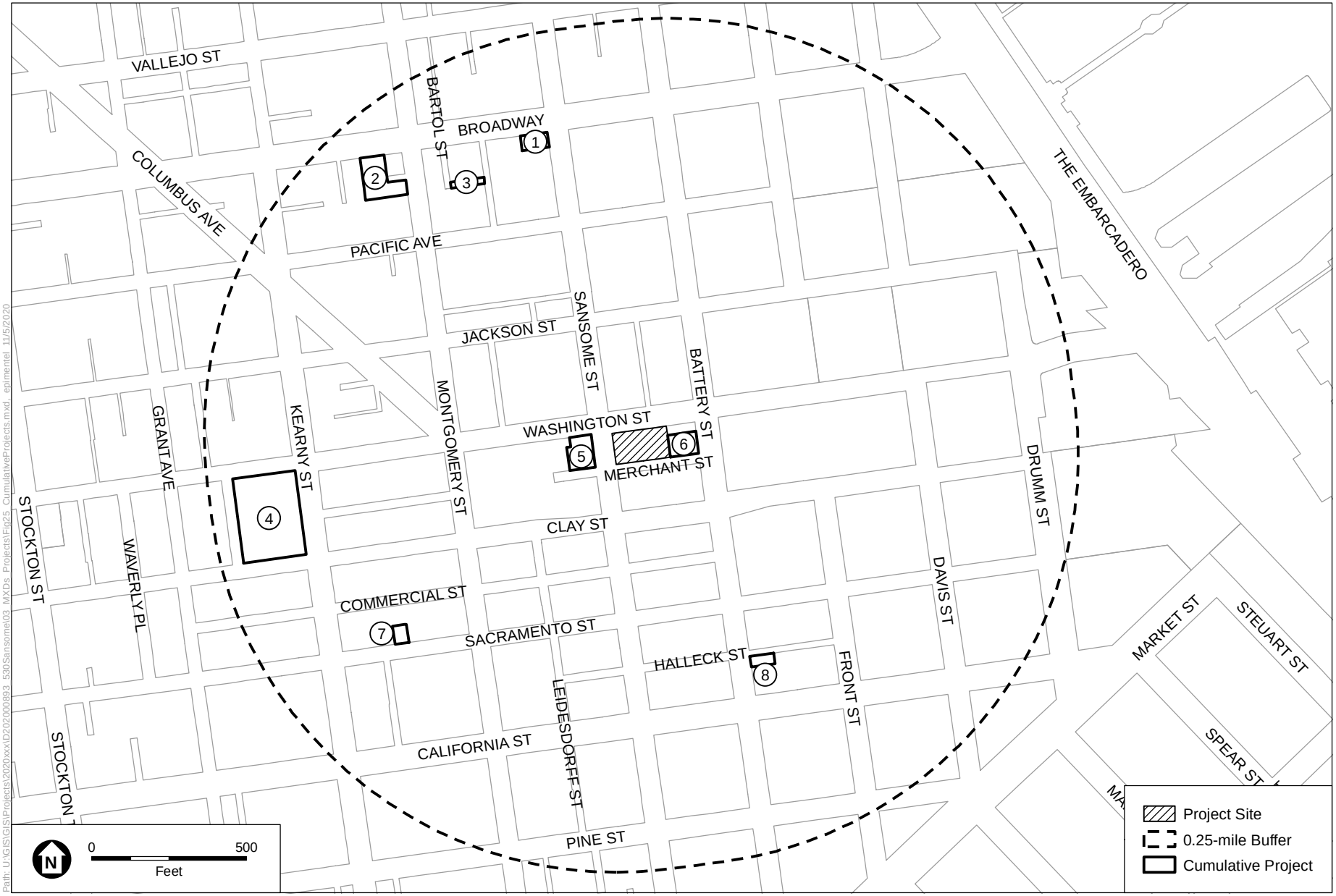
RELATED

SOM
SKIDMORE, OWINGS & MERRILL LLP
ONE MARITIME PLAZA
SAN FRANCISCO, CA 94111

BKF
150 CALIFORNIA ST, SUITE 600
SAN FRANCISCO, CA 94111
(415) 930-7900
www.bkf.com

REGISTERED PROFESSIONAL ENGINEER
EXP. 6/30/22
CIVIL
STATE OF CALIFORNIA

Appendix H:
Cumulative Projects



SOURCE: San Francisco Planning Department, 2020; ESA, 2020

530 Sansome Street; Case No: 2019-017481ENV

Figure 25
Cumulative Projects

APPENDIX C

Noise and Vibration Technical Memorandum

ESA

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900 phone
415.896.0332 fax

esassoc.com

Technical Memorandum

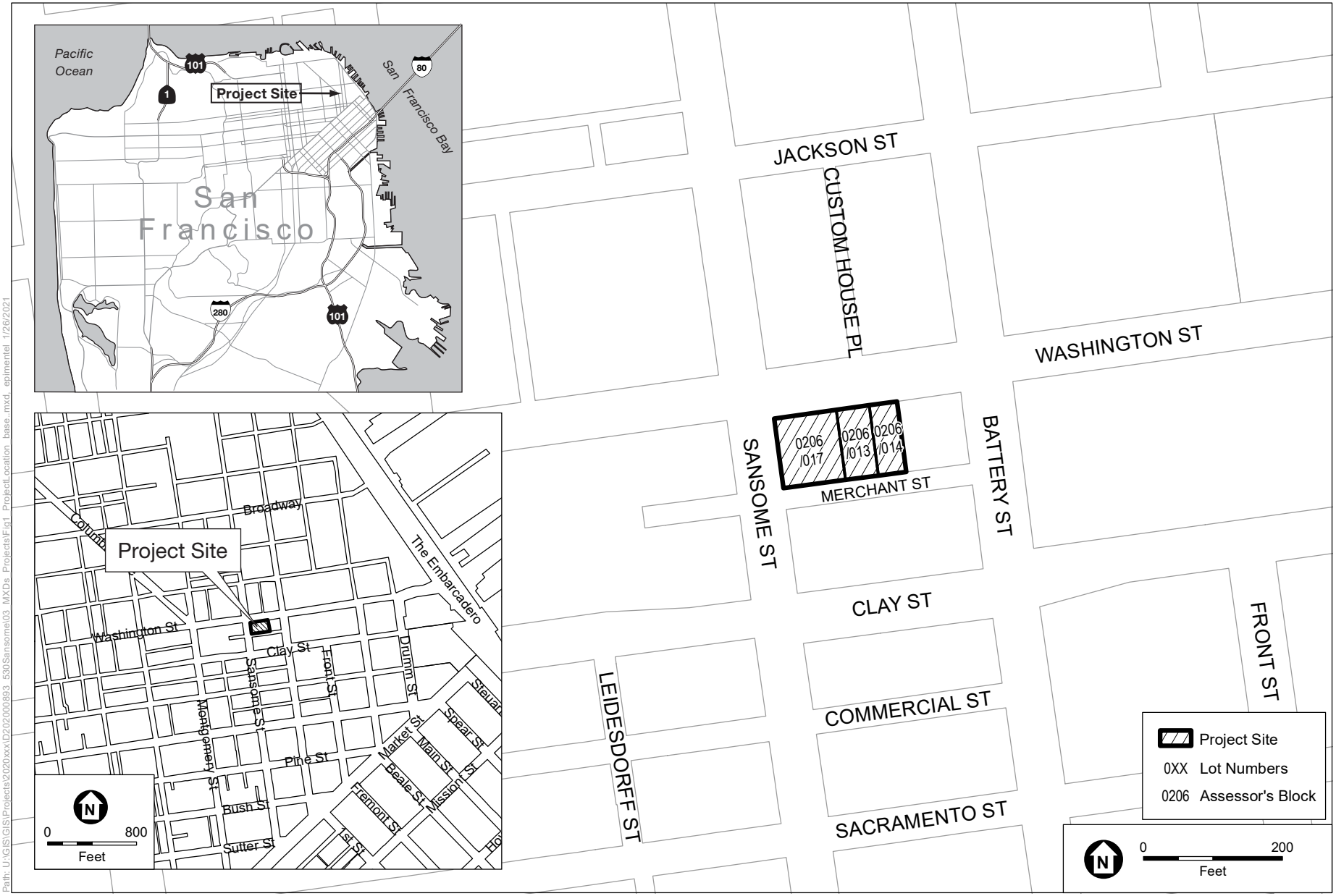
date	March 31, 2021
to	Alana Callagy, San Francisco Planning Department
from	Chris Sanchez, ESA
subject	Final Noise Technical Memorandum – 530 Sansome Street Project

1. Project Description

The 17,733-square-foot project site consists of three lots (Assessor's Block 0206, Lots 013, 014, and 017) located on the western portion of the block bounded by Sansome Street to the west, Washington Street to the north, Battery Street to the west, and Merchant Street to the south (see **Figure 1, Project Location**). The project site is located in the Financial District neighborhood of San Francisco.

The project site is currently developed with three buildings: a vacant three-story office building with a basement at 425 Washington Street, a vacant two-story commercial building with a basement at 439–445 Washington Street, and a two-story-with-mezzanine San Francisco Fire Station 13 building and a basement at 530 Sansome Street.

The proposed 530 Sansome Street project (proposed project) would involve demolition of the existing buildings and construction of a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide approximately 6,480 square feet of retail/restaurant space on the first and second floors; approximately 40,490 square feet of office space on the first, second, and sixth through eighth floors; approximately 35,230 square feet of fitness center space on the first through fifth floors; and approximately 146,065 square feet of hotel space that would accommodate 200 guest rooms. The 44-foot-tall (53 feet total, including rooftop mechanical equipment), four-story building on the eastern portion of the project site would include approximately 20,240 square feet of space for the new fire station. The three below-grade levels would provide 48 vehicle parking spaces, one loading space, two vehicle service spaces, 26 class 1 bicycle parking spaces, and utility rooms for the fire station, hotel, and retail/restaurant uses.



SOURCE: San Francisco Planning Department, 2020; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

Figure 1
Project Location

The sponsors also propose a residential project variant, under which the massing/height of the buildings and fire station use would remain largely the same as the proposed project, but would construct 256 residential units instead of commercial uses (hotel, office, fitness center, and retail/restaurant). Under the residential variant, 6,384 square feet of common open space would be located on the 21st floor of the building. The four-story replacement fire station building would remain the same for the residential project variant. The three below-grade levels for the residential variant would provide 82 vehicle parking spaces, one loading space, two vehicle service spaces, 144 class 1 bicycle parking spaces, and utility rooms for the fire station.

1.1 Project Construction

Construction for both the proposed project and residential variant is estimated to last 29 months with overlapping phases; however, neither building would be occupied during construction. Demolition would take approximately two months. Excavation and shoring would last approximately five months. Foundation and below-grade construction would last about four months. Building construction and exterior and interior finishing phases would partially overlap and last approximately 17 months. Construction of the basement levels and foundation installation would require excavation extending to approximately 40 feet below ground surface. Overall, excavation of the basement levels would remove approximately 28,000 cubic yards of soil.

Construction workers driving to the project site could park at the garage located at One Maritime Plaza, which is accessible via Washington or Clay streets, or other nearby public garages. Construction equipment and materials would be staged on sidewalks adjacent to the project site, including a portion of the on-street angled parking area on the south side of Washington Street. Pedestrian traffic would be routed to a protected pedestrian lane in the on-street angled parking area on the south side of Washington Street. A full closure of Washington Street would occur for two days to erect and dismantle a tower crane, and easternmost northbound lane on Sansome Street and southernmost westbound lane of Washington Street would be closed for one day during the mat foundation placement. Over the life of the project construction, closures of those same travel lanes on Sansome and Washington streets could be necessary for two single-day periods for utility work. Nighttime closure of Merchant Street could be necessary on two separate days for utility work.

The majority of project construction would occur during daytime hours. Some construction activities that would extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), such as a 20-hour concrete pour, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling.

During construction, SFFD personnel and firetrucks would be relocated to nearby offsite fire stations, and would continue to serve the Financial District neighborhood and the city in general. Relocation of fire equipment typically takes no more than eight hours to complete.

2. Characteristics of Noise and Vibration

2.1 Noise Principles and Descriptors

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. The sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Because

sound pressure can vary greatly within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. When assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA).[1] Frequency A-weighting is typically applied to community noise measurements. All noise levels presented in this report are A-weighted unless otherwise stated.

2.2 Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, nearby motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise effects. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

- L_{eq}: The L_{eq}, or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The L_{eq} may also be referred to as the average sound level.
- L_{max}: The maximum, instantaneous noise level experienced during a given period of time.
- L_{min}: The minimum, instantaneous noise level experienced during a given period of time.
- L_{dn}: Also termed the day-night average noise level (DNL), the L_{dn} is the average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10 p.m. to 7 a.m. to account for greater nighttime noise sensitivity.
- CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dB to measured noise levels between the hours of

[1] All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

7 p.m. to 10 p.m. and after an addition of 10 dB to noise levels between the hours of 10 p.m. to 7 a.m. to account for greater noise sensitivity in the evening and nighttime, respectively.

2.3 Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people include subjective effects (e.g., dissatisfaction, annoyance), interference effects (e.g., communication, sleep, and learning interference), physiological effects (e.g., startle response), and physical effects (e.g., hearing loss). With regard to increases in A-weighted noise level, the following relationships generally occur:

- Except in controlled laboratory experiments, a change of 1 dB cannot be perceived;
- Outside of the laboratory, a 3 dB change in noise levels is considered to be a barely perceivable difference;
- A change in noise levels of 5 dB is considered to be a readily perceivable difference; and
- A change in noise levels of 10 dB is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Since the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined sound level would be 53 dB, not 100 dB.

2.4 Fundamentals of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe physical vibration effects on buildings. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick people), and vibration-sensitive equipment.

Another useful vibration descriptor is known as vibration decibels or VdBs. VdBs are generally used when evaluating human response to vibration, as opposed to structural effects (for which PPV is the more commonly used descriptor). Vibration decibels are established relative to a reference quantity, typically 1×10^{-6} inches per second and utilize the root mean square (RMS) of the velocity of the vibration signal to convey the average magnitude felt by the human body.[2]

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the exception of blasting, vibratory equipment,

[2] U.S. Department of Transportation, Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, September 2018.

and pile-driving during construction. The Federal Transit Administration (FTA) measure of the threshold of architectural damage for modern reinforced structures is 0.5 in/sec PPV.[3]

A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people.[4]

3. Environmental Setting

3.1 Existing Ambient Noise Levels

The project site is located on the east side of Sansome Street between Washington and Merchant streets in San Francisco's Financial District (see **Figure 2, Noise Monitoring Locations and Existing Noise-Sensitive Receptors within 900 Feet of the Project Site**). The project site is currently developed with an operational fire station, and two vacant commercial buildings. The project site is primarily surrounded by office uses with ground floor retail uses. Noise sources in the project vicinity consist of vehicle traffic on Sansome, Washington, and Merchant streets, and fire station operations.

To characterize the background noise environment in the project vicinity, this analysis relies on two long-term (24 hours) measurements taken in August 2019 and one short-term (15 minutes) measurement taken in December 2020.[5] The short-term noise measurement was taken on a Wednesday in December 2020 to establish existing daytime noise levels at more distant residential receptors on Hotaling Place, near the intersection of Hotaling Place and Washington Street. Measurement locations are indicated on Figure 2 as "Noise Monitoring Location." Noise measurement data are included in Attachment A, Supporting Noise Technical Information. A summary of noise measurement results is presented in **Table 1, Summary of Long- and Short-Term Noise Monitoring in the Project Vicinity**. As indicated in Table 1, daytime noise levels at receptors locations in the project area range from 69 to 73 dBA [Leq]. Noise sources in the project area primarily consist of vehicle traffic on Sansome, Washington, and Battery streets. More distant noise sources that marginally contribute to the noise environment during quieter moments consist of the mechanical equipment intakes and exhaust from office buildings, typically at the second-story level.

The two long-term sound level measurements were conducted in the project vicinity on August 27, 2019[6] adjacent to residential apartments on the northeast corner of Battery and Washington streets and adjacent to the Club Quarters Hotel on the corner of Merchant and Battery streets. These measurements were conducted prior to shelter-in-place orders resulting from Covid-19 and are therefore representative of more typical traffic levels within the Financial District (see Section 3.3 for a full discussion of sensitive receptors in the project vicinity). One short-term measurement was collected at a receptor location west of the project site at the intersection of Washington Street and Hotaling Place. The 2020 sound level survey was conducted using a Larson Davis LxT

---

[3] Ibid.

[4] Ibid.

[5] At the direction of planning department staff, the analysis in this memorandum relies on long-term monitoring data collected in August 2019. The 2019 data was collected prior to the COVID-19 pandemic and associated shelter-in-place and working-from-home directives and opportunities.

[6] City and County of San Francisco, Draft Environmental Impact Report, 447 Battery Street Project, Case 2014.1036E, Appendix B, Initial Study, October 21, 2020.

sound level meter, which was calibrated prior to use and operated according to the manufacturer's specifications. The measured noise levels and the sources of noise monitored at the measurement locations are shown in Table 1.

TABLE 1
SUMMARY OF LONG- AND SHORT-TERM NOISE MONITORING IN THE PROJECT VICINITY

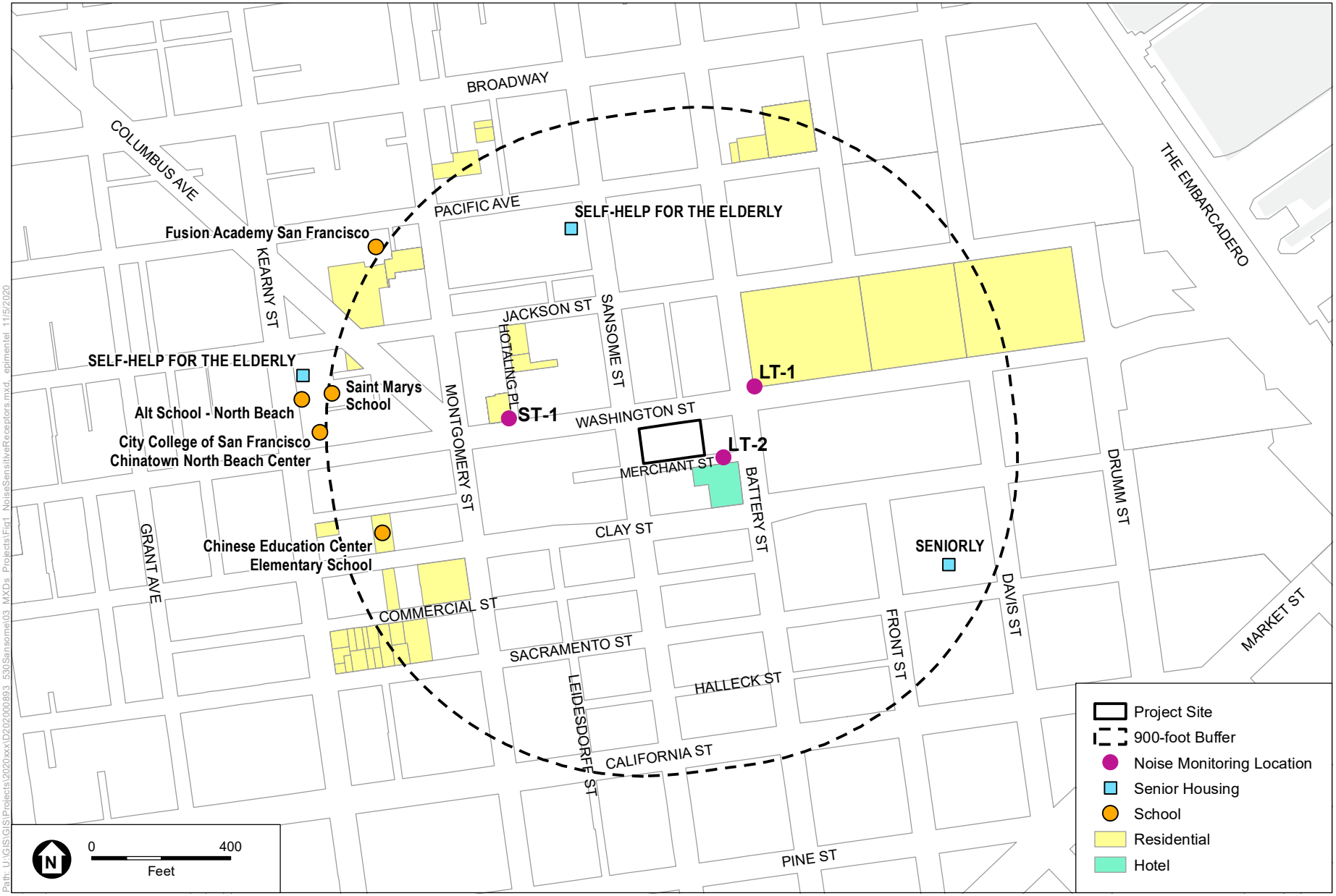
Measurement Location		Date and Time Period	Daytime Leq dBA	24-hour L90 dBA	Ldn	Noise Sources
Long-Term Measurements (24 hours)						
LT-1	Southwest corner of Battery and Washington streets (Gateway Apartments)	August 27, 2019	73	65	75	Vehicle and bus traffic
LT-2	Northwest corner of Merchant and Battery Streets, adjacent to existing hotel building	August 27, 2019	69	63	76	Vehicle and bus traffic
Short-Term Measurement (15 minutes)						
ST-1	Northeast corner of Washington Street and Hotaling Place	December 2, 2020	65	60[a]	NA	Vehicle traffic[b]

NOTES: N/A = data point not applicable to short term measurements. LT = Long Term. ST = Short Term.

[a] The L90 metric for the short-term measurement is not a 24-hour average

[b] During monitoring, the noise technician noted use of a standard, consumer grade sander at Hotaling Place. The sander was used intermittently during the monitoring event and contributed marginally to the recorded noise level based on the observations of the noise technician.

SOURCES: ICF, 2019; ESA, 2020.



SOURCE: San Francisco Planning Department, 2020; Google, 2020; ESA, 2020

530 Sansome Street; Case No: 2019-017481ENV

Figure 2
Noise Monitoring Locations and Sensitive Receptors within 900 feet of the Project Site

3.2 Existing Groundborne Vibration Levels

There are no known sources of existing groundborne noise or vibration near the project site. The nearest source of vibration is the California Cable Car operated by Muni on California Street, approximately 800 feet south of the project site. Given its distance and surface location, rail operations are not considered a substantial source of groundborne noise or vibration in the project site vicinity.[7] There is no machinery or activity that generate vibration in the project site vicinity.

3.3 Existing Sensitive Receptors

Some land uses are more sensitive to noise levels than others due to the types of activities typically associated with the uses. Residences, hotels, schools, senior care facilities, and hospitals are generally considered more sensitive to noise than commercial and industrial land uses. Existing noise-sensitive receptors in the project vicinity within 900 feet of the primary project site are composed of residences and a hotel, as listed below in **Table 2, Existing Noise-Sensitive Receptors within 900 Feet of the Project Site**. There are no existing hospitals or skilled nursing facilities within 900 feet of the project site. The Club Quarters Hotel at 424 Clay Street is approximately 75 feet southeast of the project site and, while a commercial use, would be considered a sensitive receptor during nighttime hours. Additionally, intervening structures in the project area provide noise attenuation between noise sources and sensitive receptors. Generally, for an at-grade facility in a residential area where the first row of buildings cover at least 40 percent of the total area, the reduction provided by the first row of buildings is reasonably assumed to be 3 dBA, with 1.5 dBA for each additional row.[8] Given the dense urban development within the Financial District, even more noise reduction would be expected due to the presence of intervening structures.

[7] U.S. DOT, FTA, *Transit Noise and Vibration Impact Assessment Manual*, September 2018, Section 4.3, Noise Screening Procedure, pp. 33–36 (noise 175 feet with intervening buildings) and 136 (vibration 150 feet for residential), https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed October, 9 2020.

[8] Caltrans, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, p. 2-35.

TABLE 2
EXISTING NOISE-SENSITIVE RECEPTORS WITHIN 900 FEET OF THE PROJECT SITE

Type of Sensitive Receptor	Location	Distance from Project Site Boundaries	Representative Monitoring Location
North of Project Site			
Residential	Gateway Apartments on Jackson Street between Battery and Drumm streets	300–900 feet	LT-1
Residential	Hotaling Place (25, 38–42, 60) have upper-story residential units	360–480 feet	ST-1
Residential	67 Columbus Avenue	830 feet	NP
Residential	112 Columbus Avenue	810 feet	NP
Residential	Multiple: 845 Montgomery Street; 41, 43, 45 and 47–55 Osgood Place; 920 Montgomery Street; 284–288 Pacific Avenue; and 733 Front Street	850–900 feet	NP
South of Project Site			
Hotel (nighttime receptor only)	424 Clay Street	35 feet	LT-2
West of Project Site			
Residential	655 Montgomery Street (upper floors)	575 feet	NP
School	Chinese Education Center at 657 Merchant Street	740 feet	NP
School	St. Mary's School/Stern School at 838 Kearny Street	880 feet	NP
Residential	Multiple: residential units on the block of Commercial Street between Kearny and Montgomery streets and on the north side of the same block on Sacramento Street	800–900 feet	NP

NOTES: NP = None proposed. Noise monitoring is not proposed for these locations due to distance and intervening structures.

SOURCES: ESA, 2020; Google Earth (Imagery Date 6/2016) for parcel data (address and distance to the site).

4. Noise and Vibration Effects and Recommended Reduction Measures

This section describes the noise and vibration analysis for the proposed project. It describes the methods used to assess the effects of the proposed project and lists the criteria used by the San Francisco Planning Department to evaluate and determine whether the project would result in effects on the environment.

4.1 Methodology

The CEQA Guidelines do not establish quantitative standards for the purposes of assessing potential noise and vibration related impacts. Appendix G of the CEQA Guidelines suggest that a project's noise impacts be considered with respect to standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The thresholds in this memorandum for assessing the potential effects from the proposed project or residential variant are based on the regulatory guidance for noise within the City and County of San Francisco and criteria developed by state and federal agencies for noise and vibration impacts (see Attachment B, Regulatory Setting).

Construction Noise Levels and Criteria

Construction noise levels were estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM). A general estimate of the project's construction equipment roster and schedule were provided by the applicant and presented in **Table 3, Proposed Construction Equipment by Construction Phase**.[9] An approximate estimate of construction noise levels is conducted for the purpose of this analysis based on the general assessment approach recommended by the FTA.[10] The proposed project and residential variant would have the same construction durations, phasing, and construction equipment; therefore, the construction analysis is the same for both project options.

TABLE 3
PROPOSED CONSTRUCTION EQUIPMENT BY CONSTRUCTION PHASE

	Demolition (3 months)		Site Preparation (4 months)		Grading/ Excavation (5 months)		Drainage/ Utilities/ Subgrade (4 months)		Foundations/ Concrete Pour (4 months)		Building Construction/ Architectural Coatings/Paving (17 months)	
Equipment	Max. Daily Amt.	Hrs/ Day	Max. Daily Amt.	Hrs/ Day	Max. Daily Amt.	Hrs/ Day	Max. Daily Amt.	Hrs/ Day	Max. Daily Amt.	Hrs/ Day	Max. Daily Amt.	Hrs/ Day
Air Compressors	0	0	0	0	2	8	0	0	2	8	0	0
Backhoes	2	8	0	0	0	0	1	8	0	0	0	0
Bore/Drill Rigs	0	0	0	0	1	8	0	0	1	8	0	0
Cranes	0	0	0	0	0	0	0	0	2	8	1	8
Excavator	0	0	1	8	1	8	0	0	1	8	0	0
Forklifts	0	0	0	0	0	0	0	0	0	0	1	8
Generator Sets	0	0	0	0	0	0	0	0	0	0	0	0
Pavers											1	8
Paving Equipment											1	8
Pumps									1	8	1	8
Rollers					1	8						
Slid Steer Loaders	1	8										
Sweepers/Scrubbers	1	8	1	8	1	8			1	8		
Vibratory Compactor	0	0	1	8	0	0	1	8	0	0	0	0

SOURCE: EQX Jackson SQ Holdco LLC, 2020

The FTA methodology for general assessment of construction noise entails a process for calculating the hourly dBA, Leq for each stage of construction. This calculation considers (1) the reference noise emission level at 50 feet for equipment to be used for each stage of construction, (2) the usage factor for each piece of equipment, (3) the distance between construction centerline and receptors, and (4) adjusting for any ground effects, as

[9] Response to the Air Quality Data Request received by ESA via email on November 5, 2020.

[10] FTA does not publish a software noise model. Consequently, FHWA's model was used and impacts assessed using FTA's methodology for assessing impact.

applicable.[11] This methodology calls for determining the resultant noise levels only the for the two noisiest pieces of equipment expected to be used in each stage of construction, then summing the levels for each stage of construction using decibel addition.[12]

The estimated construction noise levels resulting from the proposed project at the nearby off-site sensitive receptors were then analyzed against three criteria to assess the magnitude of noise. First, predicted noise levels from each piece of construction equipment proposed are compared to the construction noise standards established in both the City's municipal code to determine whether operation of this equipment would be within the allowable noise level standards. San Francisco Police Code section 2907(a) states that it shall be unlawful for any person, including the City and County of San Francisco, to operate any powered construction equipment, regardless of age or date of acquisition, if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment. Impact equipment such as pile drivers and jackhammers are exempt from this standard.

Second, this analysis applies the general assessment criteria of the Federal Transit Administration, which establish criteria for residential land uses of 90 dBA during daytime hours and 80 dBA during nighttime hours. For all other land uses the criterion is 100 dBA, during the daytime or nighttime. Third, persistent construction equipment noise resulting in an increase of 10 dBA over existing noise levels would represent a perceived doubling of loudness that is considered a substantial temporary increase in noise levels.

The project would require construction activities that would extend beyond normal hours (i.e., between 8 p.m. and 7 a.m.), which could include concrete pours, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling. Nighttime construction noise is assessed based on its potential to result in sleep disturbance at nearby residential and hotel uses (increase interior noise levels above 45 dBA per section 2909(d)) or result in strongly perceptible levels of vibration as defined in Caltrans or the Federal Transit Administration guidance documents. If these quantitative criteria are exceeded, the evaluation then considers the duration and severity of the exceedance to determine whether the project would result in a substantial temporary increase in noise levels at nearby sensitive receptors. Additionally, section 2908 of the City's noise ordinance prohibits any person, between the hours of 8 p.m. of any day and 7 a.m. of the following day, from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line unless a special permit has been applied for and granted by the Director of Public Works or the Director of Building Inspection.

Groundborne Vibration Levels and Criteria

Groundborne vibration levels resulting from construction activities at the project site were estimated using data published by the FTA in its *Transit Noise and Vibration Impact Assessment* (2018) document. Potential vibration levels resulting from construction of the proposed project or residential variant are identified for off-site locations that are sensitive to vibration (i.e., existing residences) based on their distance from construction activities. While the City has not adopted any thresholds for construction or operational groundborne vibration impacts, this study uses the vibration criteria established in Caltrans' *Transportation and Construction Vibration Guidance Manual*

[11] In an urban area such as downtown San Francisco that have acoustically non-absorptive ground conditions, the ground factor is taken to be zero.

[12] U.S. Department of Transportation, Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, September 2018, pp. 174–179.

document. The potential vibration levels at off-site sensitive locations resulting from construction of the proposed project are analyzed against the vibration criteria established by Caltrans which are shown in **Table 4, Caltrans Vibration Damage Potential Threshold Criteria**, to determine whether an exceedance of allowable vibration levels would occur.

Given the nature of the proposed project or residential variant, "excessive" groundborne vibration or noises would only be generated during project construction activities. Once construction is complete, the proposed project or the residential variant would not involve the use of heavy machinery that is often associated with large commercial or industrial uses. As such, no sources of "excessive" groundborne vibration or noise levels are anticipated as part of project operations.

TABLE 4
CALTRANS VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

	Maximum PPV (in/sec)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTE: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, Transportation and Construction Vibration Guidance Manual (Table 19, p.38), September 2013.

Operational Noise Criteria for Fixed Sources

For the purpose of determining whether the proposed project or residential variant would generate noise levels that would exceed established noise standards, the project's forecasted fixed-mechanical operational noise levels are evaluated to determine if the applicable construction noise regulations of the City of San Francisco are violated. Noise from fixed mechanical sources associated with the proposed project is assessed relative to the standards of Section 2909(b) of the San Francisco Police Code which establishes a standard of 8 dBA increase over ambient noise levels for fixed sources of noise emanating from commercial properties at the property plane. Noise from fixed mechanical sources associated with the residential variant is assessed relative to the standards of Section 2909(a) of the San Francisco Police Code which establishes a standard of 5 dBA increase.

Additionally, operation of fixed mechanical equipment during nighttime hours is also considered with respect to Section 2909(d) of the San Francisco Police Code which establishes a standard that no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10 p.m. to 7 a.m. or 55 dBA between the hours of 7 a.m. to 10 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

With respect to noise from backup diesel generators, potential impacts are qualitatively assessed when two or fewer generators are proposed for any given building. This qualitative assessment considers the frequency of testing for maintenance purposes, and the inclusion of noise attenuation features such as parapets, enclosures, baffles, or silencers.

Operational Roadway Noise Levels

Increases in roadway noise levels are assessed based on trip generation data prepared for the proposed project,[13] and the potential for a doubling of traffic on local roadways. The CEQA Guidelines do not define the levels at which permanent and temporary increases in ambient noise are considered "substantial." Therefore, with regard to traffic noise, the proposed project and residential variant's noise effects were evaluated by comparing traffic volumes as estimated in the travel demand memorandum to existing conditions. Caltrans identifies an increase of traffic noise of 3 dBA as barely perceptible and an increase of 5 dBA as clearly perceptible.[14] A doubling in sound energy (traffic volumes) would result in a 3 dBA change in the noise level, which is barely noticeable to the human ear. Therefore, any increase in traffic that would be less than a doubling in volumes would not be noticeable to existing sensitive receptors in the project vicinity.

4.2 Project Noise Analysis

Construction Noise

Construction of the proposed project would require the use of heavy equipment during all six phases of project construction. Construction activities would also involve the use of smaller power tools, generators, and other lesser sources of noise. During each phase of construction, there would be a different mix of equipment. Thus, construction activity noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment.

Compliance with Section 2907(a) of the San Francisco Police Code

Table 5, Maximum Noise Levels from Construction Equipment, shows the hourly noise levels (L_{max}) produced by various types of equipment proposed by the project sponsor at a reference distance of 50 feet between the equipment and noise receptor as well as the 100-foot distance dictated by the city's noise ordinance. It should be noted that L_{max} noise levels associated with the construction equipment would only be generated when equipment is operated at full power. Typically, the operating cycle for a piece of construction equipment would involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. The L_{max} noise levels shown in Table 5 would, therefore, be expected to only occur occasionally throughout the construction day.

Section 2907 of the city's noise ordinance prohibits operation of any powered construction equipment (non-impact), regardless of age or date of acquisition, if such operation emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment. As shown in Table 5, construction equipment used for building construction would operate within the constraints of the noise ordinance standards.

---

13 Fehr & Peers, *530 Sansome Street Project Travel Demand Memorandum*, 2020

14 Ibid.

General Assessment Construction Noise Criteria of the FTA

The FTA has developed guidelines that can be considered reasonable criteria for quantitative assessment of noise. For residential land uses a daytime criterion of 90 dBA is identified while for all other land uses the criterion is 100 dBA during the daytime hours. If these criteria are exceeded, there may be adverse community reaction.[15]

A conservative estimate of construction noise levels was conducted using the general assessment approach described above and applied for each stage of construction to determine the resultant noise levels for the two noisiest pieces of equipment expected to be used. The two noisiest pieces of construction equipment associated with each construction phase are assumed to operate simultaneously at the closest location to a sensitive receptor.

TABLE 5
MAXIMUM NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level at 50 Feet (dB, L_{max})	Noise Level at 100 Feet (dB, L_{max})
Air Compressors	78	72
Backhoes	78	72
Bore/Drill Rigs	84	78
Vibratory Compactor	83	77
Cranes	81	75
Concrete truck	79	73
Concrete Pump	81	75
Excavator	81	75
Forklifts	83	78
Pavers	77	71
Paving Equipment	77	71
Roller	80	74
Skid steer loaders	79	73
Sweepers	82	76

SOURCE: Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, 2006.

During project construction, the noise levels experienced at the nearest off-site receptor would vary depending on the distance from the construction equipment within the site to the receptor. Input values and calculated noise levels using FTA methodology and the RCNM noise model for each of these construction stages are presented in **Table 6, Exterior Noise at Off-Site Sensitive Uses from Project Construction**. In the table, input values are presented for FTA methodology considerations for the nearest off-site sensitive receptor location to the project site. during construction of each phase of the project, as well as the resultant noise level (the contribution from construction activity added to the existing noise environment).

As shown in Table 6, the estimated daytime construction noise levels generated by the proposed project would range from 61 to 65 dBA L_{eq} at the nearest residential receptor. Daytime construction noise levels would not

[15] U.S. Department of Transportation, Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, September 2018. Table 7-2, p. 179.

result in an increase of greater than 10 dBA[16] over existing levels at the residential receptors nearest the project site. Additionally, noise levels would not exceed the FTA's 90 dBA daytime criterion for residential receptors. Construction noise during all phases would not result in an increase of greater than 10 dBA over existing levels at the nearest sensitive receptor or exceed the FTA's 90 dBA criteria for daytime construction noise at a residential receptor.

TABLE 6
EXTERIOR NOISE AT OFF-SITE SENSITIVE USES FROM DAYTIME PROJECT CONSTRUCTION

Construction Phase	Nearest Off-Site Sensitive Receptor	Distance to Receptor (feet)[a]	Existing Monitored Noise Level (dBA L_{eq})	Loudest Two Noise Sources	Estimated Construction Noise Level (dBA L_{eq})	Exceed 90 dBA Exterior Daytime Standard?	Resultant Noise Level (Existing + Construction) (dBA L_{eq})	Increase over Existing (dBA L_{eq})	Exceed Ambient + 10 dBA Standard?
Phase 1: Demolition	Residential: 500 Battery Street	300	73	Backhoe Backhoe	61	No	73	0	No
Phase 2: Site Preparation	Residential: 500 Battery Street	300	73	Compactor Excavator	62	No	73	0	No
Phase 3: Grading/ Excavation	Residential: 500 Battery Street	300	73	Drill Rig Excavator	65	No	74	1	No
Phase 4: Drainage/Utilities/ Subgrade	Residential: 500 Battery Street	300	73	Backhoe Compactor	63	No	73	0	No
Phase 5: Foundations	Residential: 500 Battery Street	300	73	Drill Rig Excavator	65	No	74	1	No
Phase 6: Building Construction/ Architectural Coatings/Paving	Residential: 500 Battery Street	300	73	Crane Forklift	65	No	74	1	No

NOTES:

Bolded values exceed the 10 dBA over ambient criterion during daytime hours.

[a] The approximate distances are measured from the nearest edge of the construction activity (excluding restriping of roadways and bike lanes) to the nearest sensitive-receptor property line.

Nighttime Construction Noise Impacts

Section 2908 of the city's noise ordinance prohibits any person between the hours of 8 p.m. of any day and 7 a.m. of the following day from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line, unless a special permit has been applied for and granted.

The project sponsor's construction phasing schedule indicates that most equipment would operate only during daytime hours. However, the project would require construction activities that would extend beyond normal hours

[16] Persistent construction equipment noise resulting in an increase of 10 dBA over existing noise levels would represent a perceived doubling of loudness that is considered a substantial temporary increase in noise levels.

(i.e., between 8 p.m. and 7 a.m.), such as a 20-hour concrete pour, crane and hoist erection and adjustment activities, utility work, site maintenance activities and material delivery and handling.

The analysis focuses on the commercial receptor at 424 Clay Street (The Club Quarters Hotel), located 75 feet southeast of the project site. Although the receptor at 424 Clay Street is a commercial use, it is considered a sensitive receptor during nighttime hours as it is a land use where people would reasonably be expected to sleep. The distance for nighttime concrete pours assumes concrete mixer trucks and concrete pumps would be on Sansome or Washington streets, which are approximately 150 feet from 424 Clay Street. The existing average monitored nighttime L_{90} at monitoring location LT-1 at 424 Clay Street is 62 dBA. Therefore, the applicable nighttime construction standard would be 67 dBA. As shown in **Table 7, Nighttime Noise Levels from Concrete Pours**, nighttime concrete pours would be expected to result in a nighttime noise level of 69 dBA, which would be more than 5 dBA above existing nighttime levels. Therefore, the project would need to comply with the noise ordinance and obtain a permit for nighttime construction.

TABLE 7
NIGHTTIME NOISE LEVELS FROM CONCRETE POURS

Receptor	Existing Nighttime Noise Level (dBA, Leq)	Noise Source	Reference Noise Level (dBA)[a]	Distance to Receptor (feet)[a]	Adjusted L_{eq} Level (dBA)	Exceed 80 dBA Exterior Nighttime Standard?	Existing plus Construction Noise Exterior Noise Level (dBA)	Existing plus Construction Noise Interior Noise Level (dBA)	Exceed 45 dBA Interior Nighttime Standard?
424 Clay Street	62[b]	Concrete truck and concrete pump	79/81	150	68	No	69	44	No

NOTES:

[a] Distance for nighttime concrete pours assumes concrete mixer trucks and concrete pumps would be on Sansome Street or Washington Street.

[b] The existing nighttime value is the average of the monitored L90 metric between the hours of 10 p.m. and 7 a.m.

Potential nighttime noise impacts are also assessed based on the 80 dBA exterior noise criterion of the FTA and for the potential to result in sleep disturbance at nearby residential and hotel uses (increase interior noise levels above 45 dBA) as established in the City's noise ordinance. For the nearest receptor, which is a hotel, a standard assumption of exterior to interior noise reduction of 25 dBA with windows closed is applied.[17] As shown in Table 7, noise levels from nighttime concrete pours would be up to 67 dBA at the closest receptor at 424 Clay Street which is below the 80 dBA exterior nighttime criterion for the residential receptors.

Also presented in Table 7 is the predicted interior noise levels from the 20-hour nighttime concrete pour at the nearest receptor. Interior noise levels at the hotel residential receptors from nighttime deliveries would be below the City's 45 dBA standard for the closest nighttime receptor at 424 Clay Street.

Construction Truck Hauling Impacts

Construction trucks would likely access the project site from Kearny Street to Clay Street and Sansome Street. Off haul trucks would exit the project site and use Sansome Street to Broadway to The Embarcadero. Maximum daily haul and vendor truck trips are anticipated to be 60 truck trips per day. Spread across the proposed 10-hour

[17] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed January 23, 2019.

work day, maximum hourly truck trips would be six per hour. Using the algorithms of the Traffic Noise Model of the Federal Highway Administration, these six hourly truck trips would contribute 57.2 dBA to the hourly Leq level at 50 feet from the roadway center. As shown in Table 2, daytime hourly Leq monitored in the project vicinity is 69 dBA. Addition of the contribution of project haul and vendor trucks would result in an increase of less than 0.3 dBA over existing noise levels and would not result in a perceptible increase in noise.

Cumulative Construction Noise

There are eight cumulative projects identified within 0.25 mile of the project site and of these, two would be within 500 feet.[18] The cumulative projects are described individually below, followed by a discussion of the cumulative projects combined with the proposed project.

- **447 Battery Street (adjacent to the east of the project site)**. This project proposes demolition of the existing three story building and construction of a new 18-story hotel with ground floor retail project. Construction noise from this project was evaluated in the initial study for the 447 Battery Street project[19] and found to result in an increase in noise levels from 72.5 to 74 dBA at the Gateway Apartments (LT-1 in Table 2 of this memorandum). This project is approximately 150 feet from the Gateway Apartments.
- **545 Sansome Street (65 feet west of the project site)**. This project proposes to demolish a single-story retail building at 501–505 Washington Street and a concrete capped, below-grade story at 517 Washington Street to construct an office addition to the existing nine-story building. As of March 2021specific construction equipment to be used is unknown and no noise assessment has been conducted. This project is farther from the Gateway Apartments (LT-1 in Table 2 of this memorandum) than the project site.

Cumulative Construction Noise Contributions

As shown in Table 6 of this memorandum, maximum daytime construction noise from the proposed project or residential variant at the nearest residential receptor (Gateway Apartments) would be 65 dBA. The construction noise of the cumulative projects (447 Battery Street and 545 Sansome Street) combined with the proposed project would result in a noise level of 75 dBA, or 2.5 dBA above the existing daytime noise level of 72.5 dBA at this nearest daytime sensitive receptor. Therefore, even if these cumulative projects were constructed simultaneously with the proposed project or residential variant, the resultant noise level would not result in an increase of greater than 10 dBA over existing levels at the nearest receptor or exceed the FTA's 90 dBA criteria for daytime construction noise at a residential receptor. While the proposed project or residential variant and the cumulative project at 447 Battery have the potential for nighttime concrete pours, these events are unlikely to occur at the same time and would be subject to the permitting requirements from the director of Public Works or the director of the Department of Building Inspection if noise would exceed the ambient noise level by 5 dBA at the nearest property plane.

---

[18] This distance was selected because typical construction noise levels can affect a sensitive receptor at distances closer than 500 feet assuming 10 dBA of attenuation from intervening high-rise structures (i.e., two pieces of equipment generating 88 dBA would attenuate to 58 dBA over a distance of 500 feet with intervening building attenuation). An exterior noise level of 60 dBA will typically attenuate to an interior noise level of 35 dBA with the windows closed and 45 dBA with the windows open.

[19] City and County of San Francisco, *Draft Environmental Impact Report, 447 Battery Street Project, Case 2014.1036E*, Appendix B, Initial Study and Appendix C, Noise Data, October 21, 2020.

Exposure to Groundborne Vibration – Construction

Construction activities that would occur within the project site would include grading and excavation, which would have the potential to generate low levels of groundborne vibration. As such, any existing structures uses located within 100 feet of the project site could be exposed to the generation of excessive groundborne vibration or groundborne noise levels related to construction activities. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to structural damage at the highest levels. Site ground vibrations from construction activities rarely reach the levels that can damage structures, but they may be perceived in buildings within 100 feet, depending the on equipment or activity. No pile-driving activities would be required for construction of the proposed project.

The various PPV levels for the types of construction equipment that would operate during the construction of the proposed project are identified in **Table 8, Vibration Levels from Construction Equipment**. This table presents the reference vibration level at a distance of 25 feet as published by FTA as well as the calculated distances at the closest structures. Drilling and compaction operations could occur as close as 5 feet from the adjacent buildings at 423 Washington Street and 447 Battery Street.

The building at 423 Washington Street was constructed in 1983 and would be considered a "modern industrial/commercial building" with regard to the criteria presented in Table 4. The building at 447 Battery Street was constructed in 1907 and falls within the "historic and some older buildings" category with regard to the criteria presented in Table 4. Based on the information presented in Table 8, vibration velocities could reach as high as approximately 0.51 inch-per-second PPV if drilling for piles occurs within 5 feet of the adjacent building and as high as approximately 1.23 inch-per-second PPV if vibratory compaction were to occur within 5 feet of the adjacent building. These vibration levels would exceed the building damage thresholds (0.5 PPV) for the closest non-historic structure (423 Washington Street) as well as exceed the building damage thresholds (0.25 PPV) for the closest historic structure (447 Battery Street). All other historic structures in the immediate vicinity (630 Sansome Street, 555 Battery Street, 545 Sansome Street, and 617–619 Sansome Street are greater than 60 feet from the proposed construction areas and, as indicated in Table 8, vibration levels would be below the building damage thresholds (0.25 PPV) for the closest historic structure. Therefore, a vibration control measure (Vibration Reduction Measure NO-1, Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction) is identified for drilling and compaction activities to address potential vibration impacts to the existing structures at 447 Battery Street and 423 Washington Street.

The building at 447 Battery Street is proposed for demolition as part of the 447 Battery Street project, for which a draft environmental impact report was released in October of 2020.[20] The analysis in this technical memorandum considers the current condition at 447 Battery Street (i.e., a building constructed in 1907). However, if the building at 447 Battery Street has been demolished and replaced with a "modern industrial/commercial building," prior to construction of the 530 Sansome Street proposed project or residential variant, the damage thresholds (0.50 PPV) for that class of building would be applicable to the 447 Battery building. Thus, Vibration Reduction Measure NO-1 is identified for structures at 447 Battery Street and 423 Washington Street.

[20] San Francisco Planning Department Case Number 2014.1036E.

TABLE 8
VIBRATION LEVELS FROM CONSTRUCTION EQUIPMENT

Equipment	Approximate PPV (in/sec) 5 feet (423 Washington Street, 447 Battery Street)	10 feet	25 feet (FTA reference level)	60 feet (555 Battery Street, 545 Sansome Street)	200 feet (617-619 and 630 Sansome Street)
Vibratory Compactor	1.23	0.58	0.21	0.08	0.02
Caisson Drill	0.523	0.243	0.089	0.033	0.009
Loaded Trucks	0.44	0.208	0.076	0.030	0.008

NOTE: Dark-gray-shaded vibration levels exceed the criteria for non-historic structures. Light-gray-shaded vibration levels exceed the criteria for historic structures in addition to the dark gray shaded levels.

SOURCE: FTA, 2018; ESA, 2020

Vibration Impact Reduction Measure NO-1: Protection of Adjacent Buildings/Structures and Vibration Monitoring During Construction

Prior to issuance of any demolition or building permit, the project sponsor shall submit a project-specific Pre-construction Survey and Vibration Management and Monitoring Plan to the Environmental Review Officer (ERO) or the ERO's designee for approval. The plan shall identify all feasible means to avoid damage to potentially affected buildings, which are 423 Washington Street and 447 Battery Street. Should demolition on the building at 447 Battery Street occur, this measure is no longer applicable to that structure; however, to the extent a new structure exists or is under construction at 447 Battery Street, the Pre-construction Survey and Vibration Management and Monitoring Plan shall meet the requirements of this measure for non-historic buildings to avoid damage to such new structure. The project sponsor shall ensure that the following requirements of the Pre-Construction Survey and Vibration Management and Monitoring Plan are included in contract specifications, as necessary.

Pre-construction Survey. Prior to the start of any ground-disturbing activity, the project sponsor shall engage a consultant to undertake a pre-construction survey of the potentially affected historic building at 447 Battery Street and the non-historic building 423 Washington Street. The project sponsor shall engage a structural engineer or other professional with similar qualifications to undertake a pre-construction survey of both buildings, provided that if the historic building at 447 Battery Street has not been demolished, then the project sponsor shall engage a historic architect or qualified historic preservation professional to undertake (in coordination with the structural engineer) the pre-construction survey of 447 Battery Street. If the historic building at 447 Battery Street has not been demolished, the pre-construction survey shall include descriptions and photograph of 447 Battery Street, including all facades, roofs, and details of the character-defining features that could be damaged during construction, and shall document existing damage such as cracks and loose or damaged features (as allowed by the property owner). The report shall also include pre-construction drawings that record the pre-construction condition of the buildings and identify cracks and other features to be monitored during construction. If the historic building at 447 Battery Street has not been demolished, the historic architect or qualified historic preservation professional shall be the lead author of the pre-construction survey for 447 Battery Street. These reports shall be submitted to the ERO and planning department preservation staff for review and approval prior to the start of vibration-generating construction activity.

Vibration Management and Monitoring Plan. The project sponsor shall undertake a monitoring plan to avoid or reduce project-related construction vibration damage to the adjacent buildings and/or

structures at 447 Battery Street and 423 Washington Street to ensure that any such damage is documented and repaired. Prior to issuance of any demolition or building permit, the project sponsor shall submit the Vibration Management and Monitoring Plan that lays out the monitoring program to the ERO for approval. If the historic building at 447 Battery Street has not been demolished, the Vibration Management and Monitoring Plan shall also be submitted to planning department preservation staff for review and approval.

The Vibration Management and Monitoring Plan shall include, at a minimum, the following components, as applicable:

- *Maximum Vibration Level.* Based on the anticipated construction and condition of the affected buildings and/or structures, a qualified acoustical/vibration consultant in coordination with a structural engineer (or professional with similar qualifications) and, in the case the historic building at 447 Battery Street has not been demolished, a historic architect or qualified historic preservation professional, shall establish a maximum vibration level that shall not be exceeded based on existing conditions, soil conditions, anticipated construction practices, and in the event the historic building at 447 Battery Street has not been demolished, character-defining features of that building (common standards are a peak particle velocity [PPV] of 0.25 inch per second for historic and some old buildings, a peak particle velocity [PPV] of 0.3 inch per second for older residential structures, and a peak particle velocity [PPV] of 0.5 inch per second for new residential structures and modern industrial/commercial buildings).
- *Vibration-generating Equipment*. The plan shall identify all vibration-generating equipment to be used during construction (including, but not limited to site preparation, clearing, demolition, excavation, shoring, foundation installation, and building construction).
- *Alternative Construction Equipment and Techniques.* Should construction vibration levels be observed in excess of the established standard, the contractor(s) shall halt construction and put alternative construction techniques into practice, to the extent feasible (e.g., non-vibratory compaction equipment). Following incorporation of the alternative construction techniques, vibration monitoring shall recommence to ensure that vibration levels at each affected building and/or structure on adjacent properties are not exceeded.
- *Vibration Monitoring.* The plan shall identify the method and equipment for vibration monitoring. To ensure that construction vibration levels do not exceed the established standard, the acoustical/vibration consultant shall monitor vibration levels at each affected building and/or structure on adjacent properties (as allowed by property owners) and prohibit vibratory construction activities that generate vibration levels in excess of the standard.

    - Should construction vibration levels be observed in excess of the standards established in the plan, the contractor(s) shall halt construction and put alternative construction techniques identified in the plan into practice, to the extent feasible.
    - The historic architect or qualified historic preservation professional (for effects on the historic building at 447 Battery Street if it has not been demolished) and/or structural engineer shall inspect each affected building and/or structure (as allowed by property owners) in the event the construction activities exceed the established standards.
    - If vibration has damaged nearby buildings and/or structures that are not historic, the structural engineer shall immediately notify the ERO and prepare a damage report documenting the features of the building and/or structure that has been damaged.
    - If vibration has damaged the historic building at 447 Battery Street, the historic preservation consultant shall immediately notify the ERO or the ERO's designee and

preservation staff and prepare a damage report documenting the features of the building and/or structure that has been damaged.

- If no damage has occurred to the buildings at 447 Battery Street and Washington Street, then the historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall submit a monthly report to the ERO (and preservation staff, if needed) for review. This report shall identify and summarize the vibration level exceedances and describe the actions taken to reduce vibration.
- Following incorporation of the alternative construction techniques and/or planning department review of the damage report, vibration monitoring shall recommence to ensure that vibration levels at 447 Battery Street and 423 Washington Street are not exceeded.

- *Periodic Inspections.* The plan shall identify the intervals and parties responsible for periodic inspections. The historic architect or qualified historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer shall conduct regular periodic inspections of each building and/or structure (as allowed by property owners) during vibration-generating construction activity on the project site. The plan will specify how often inspections and reporting shall occur.

- *Repair Damage*. The plan shall also identify provisions to be followed should damage to any building and/or structure occur due to construction-related vibration. The building(s) and/or structure(s) shall be remediated to their pre-construction condition (as allowed by property owners) at the conclusion of vibration-generating activity on the site. Should damage occur at the historic building at 447 Battery Street, the building and/or structure shall be restored to its pre-construction condition in consultation with the historic architect or qualified historic preservation professions and planning department preservation staff.
- *Vibration Monitoring Results Report*. After construction is complete the project sponsor shall submit a final report from the historic architect or qualified historic preservation professional (if the historic building at 447 Battery Street has not been demolished) and/or structural engineer to the planning department. The report shall include, at a minimum, collected monitoring records, building and/or structure condition summaries, descriptions of all instances of vibration level exceedance, identification of damage incurred due to vibration, and corrective actions taken to restore damaged buildings and structures. The planning department shall review and approve the Vibration Monitoring Results Report.

Cumulative Construction Vibration

There are eight cumulative projects identified within 0.25 mile of the project site and of these only one would be within 25 feet (447 Battery Street).[21] Under the cumulative scenario, the 447 Battery Street project would demolish the existing historic building and construct a new hotel building with groundfloor retail. Therefore, the 447 Battery Street project building would fall within the "modern industrial/commercial building" category with regard to the criteria presented in Table 4 of this memorandum. If construction of the 447 Battery Street project and the proposed project or residential variant occurred simultaneously, cumulative vibration levels could exceed the building damage threshold (0.5 PPV) for the closest non-historic structure at 423 Washington Street if pile drilling or compaction of each project were to occur at adjacent boundaries. Under such a scenario, vibration

[21] This distance was selected because, as shown in Table 8, the operation of standard construction equipment and activities generates vibration levels below the applicable threshold for historic structures.

levels exceeding 1.0 PPV could occur. Therefore, Vibration Impact Reduction Measure NO-1, is identified to address cumulative vibration impacts to the existing structure at 423 Washington Street and the new structure at 447 Battery Street should it be completed (or under construction) prior to construction of the 530 Sansome Street proposed project or residential variant.

Operational Noise Generation

Heating, Ventilating, and Air Conditioning Equipment Noise

The proposed project or the residential variant would introduce new stationary noise sources, including heating, ventilation, and air-conditioning (HVAC) equipment, exhaust fans, a chiller, cooling towers, and two emergency generators (one for the proposed project or residential variant and a larger replacement generator for the fire station). All equipment would be located in a mechanical penthouse on the rooftop of the hotel or residential tower and the replacement fire station. All equipment in the mechanical penthouse for both the tower and fire station would be shielded by the shell of the penthouse, which would attenuate noise and avoid disturbances for the nearest sensitive receptor at 424 Clay Street.

Weekly testing (generally less than one hour) of emergency backup generators typically does not result in a substantial temporary increase in ambient noise levels provided the project being analyzed is proposing no more than two generators.

Operation of all other stationary equipment of the proposed project would be subject to section 2909(b) of the noise ordinance, which limits noise produced at commercial and industrial properties to no more than 8 dBA above the local ambient condition at any point outside the property plane.

Operation of stationary equipment of the replacement fire station would be subject to section 2909(c) of the noise ordinance, which limits noise produced at public land uses to no more than 10 dBA above the local ambient condition at any point outside the property plane.

Operation of stationary equipment of the residential variant would be subject to section 2909(a) of the noise ordinance, which limits noise produced at residential properties to no more than 5 dBA above the local ambient condition at any point outside the property plane.

In addition, stationary operational noise under either the proposed project or residential variant would be limited by section 2909(d) of the noise ordinance, which provides that noise from stationary equipment at residential interiors cannot exceed 55 dBA during daytime hours (7 a.m. to 10 p.m.) and 45 dBA during nighttime hours (10 p.m. to 7 a.m.).

Although the exact noise levels from stationary equipment cannot be quantified at this time, some of the louder equipment, such as HVAC equipment and exhaust fans, can produce sound levels in the range of 70 to 75 dBA at 50 feet, depending on the size of the unit.[22] All equipment would either be located in the mechanical penthouse at the top of the buildings or in the basement and therefore would be shielded.

[22] Hoover and Keith, Noise Control for Buildings and Manufacturing Plants, Equipment and Products, 1981.

Replacement Fire Station

The replacement fire station building would be largely the same under the proposed project and residential variant. The replacement fire station would have the same design elements and operational characteristics as the existing fire station. There would be no increase in employees or service area and no increase in the annual average number of response calls is anticipated to result from the replacement of the fire station.

Additionally, the replacement fire station would also have a mechanical penthouse for its independent equipment above the fourth floor on the east end of the building. As a public land use, the restrictions of police code section 2909(c) would apply which would be an ambient plus an additional 10 dBA standard, which for the proposed project would be 73 dBA (63 dBA + 10 dBA). Similar to the HVAC equipment for the proposed project tower, the mechanical penthouse would conservatively be expected to attenuate noise by at least 5 dBA. However, given the placement of the HVAC equipment above the fourth floor, there would be no vertical distance attenuation (unlike the proposed project tower). The resultant noise level would be 70 dBA at the property line which would be below the applicable ambient plus 10 dBA standard (73 dBA) specific to the project area for this public land use.

With respect to section 2909(d), the stationary equipment operating at 70 dBA at the ground level property plane, as discussed above, would result in interior noise level at the closest nighttime receptor (the hotel at 424 Clay Street) of 45 dBA, assuming 25 dBA of exterior to interior attenuation from the building shell.[23] This interior noise level would below the nighttime noise standard of 45 dBA. Therefore, stationary equipment noise of the replacement fire station would not exceed the section 2909(c) or 2909(d) standards.

The mechanical penthouse for the fire station would conservatively be expected to attenuate noise by at least 5 dBA and there would be no vertical distance attenuation. The location of the mechanical penthouse would attenuate HVAC equipment noise to 70 dBA at the property line, which would be below the applicable ambient plus 10 dBA standard (73 dBA).

The existing fire station generates noise from operation, which includes sirens associated with emergency response calls and occasional truck maintenance operations. The proposed project or residential variant would replace the existing station and not increase the level of operations; therefore, the proposed project or residential variant would not result in an increase in operational noise associated with the fire station.

Proposed Project

As shown in Table 2, the ambient (24-hour L90) noise level taken at LT-2 (Merchant Street nearest the project site) was 63 dBA. Therefore, the applicable standard under 2909(b) would be 71 dBA (63 dBA + 8 dBA). Based on the higher end of HVAC equipment sound levels of 75 dBA, operation of the proposed project's HVAC equipment would not produce noise greater than 71 dBA at any point outside the property plane at ground level on Merchant Street. The proposed project's HVAC equipment would be located in the mechanical penthouse at the top of the building and the noise would attenuate due to vertical separation. The hotel to the southeast at 424 Clay Street (11 stories), and the commercial building to the east at 423 Washington Street (seven stories) and 447 Battery Street (three stories) are mid- or low-rise buildings; therefore, there would be a substantial vertical distance between the proposed project's mechanical penthouse (above the 19th story) and the top floors of the

[23] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed November 25, 2020.

adjacent buildings. These eight stories of vertical attenuation (approximately 100 feet) would be sufficient to reduce noise by 6 dBA, while a nominal estimate for shielding of the penthouse enclosure would be 5 dBA. Together, the shielding provided by the penthouse enclosures and vertical separation would be sufficient to provide an attenuation of 11 dBA which would reduce the ground level noise at the property plane to 64 dBA. This would be below the applicable 2909(b) standard of 71 dBA.

With respect to section 2909(d), the stationary equipment operating at 64 dBA at the ground level property plane would result in interior noise level at the closest nighttime receptor (the hotel at 424 Clay Street) of 39 dBA, assuming 25 dBA of exterior to interior attenuation from the building shell.[24] This interior noise level would be below the nighttime noise standard of 45 dBA. Therefore, stationary equipment noise of the proposed project tower would not exceed the section 2909(b) or 2909(d) standards.

Residential Variant

Under the residential variant, HVAC equipment would be subject to section 2909(a) of the noise ordinance, which limits noise produced at residential properties to no more than 5 dBA above the local ambient condition at any point outside the property plane. As shown in Table 2, the ambient (24-hour L90) noise level taken at LT-2 (Merchant Street nearest the project site) was 63 dBA. Therefore, the applicable standard under 2909(a) would be 68 dBA (63 dBA + 5 dBA).

Similar to that described above for the proposed project's tower, under the residential variant, all mechanical equipment would be shielded; as such, the typical noise level for HVAC equipment, 75 dBA, would be attenuated by the equipment shielding and enclosures. Further attenuation would also occur due to the vertical distance between the mechanical penthouse and the nearest upper floors on existing adjacent buildings. Together, the shielding provided by the penthouse enclosures and vertical separation would be sufficient to provide an attenuation of 11 dBA which would reduce the ground level noise at the property plane to 64 dBA. This would be below applicable 68 dBA standard of 2909(a).

Traffic Noise

The increase in traffic resulting from implementation of the proposed project or residential variant would increase the ambient noise levels at sensitive uses located in proximity to the project area. A doubling (100 percent increase) in traffic volumes would result in a 3 dBA change in the noise level, which is barely noticeable to the human ear. Therefore, any increase in traffic that would be less than a doubling in volumes would not be noticeable to existing sensitive receptors in the project vicinity.

Peak hour vehicle trips estimated in the travel demand memorandum indicates that the proposed project and residential variant would generate up to 86 and 28 additional peak hour vehicle trips to the local roadway network, respectively. Peak hour traffic volume counts compiled by SFMTA indicate that existing peak hour volumes on Sansome Street and Washington Street are 323 and 425, respectively. Conservatively adding all of the proposed project's peak hour traffic to Sansome Street would increase traffic volumes by 27 percent, while adding all project traffic to Washington Street would increase traffic volumes by 20 percent. The addition of the residential variant's peak hour traffic would increase traffic volumes on Sansome and Washington streets by 9 percent and 7 percent, respectively. These increases are well below the doubling of traffic volumes needed to

[24] U.S. EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974, http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.pdf, accessed November 25, 2020.

produce a barely noticeable change in traffic noise (i.e., a doubling of traffic volumes, or a 100 percent increase). Therefore, traffic noise associated with the project would not exceed the identified criteria.

ENCLOSURES:

Attachment A: Supporting Noise Technical Information
Attachment B: Regulatory Setting

This page intentionally left blank

Attachment A

Supporting Noise Technical Information

A.1. Noise Monitoring Data

Table E6-2. Long-Term Noise Level Measurements Near the Project Site

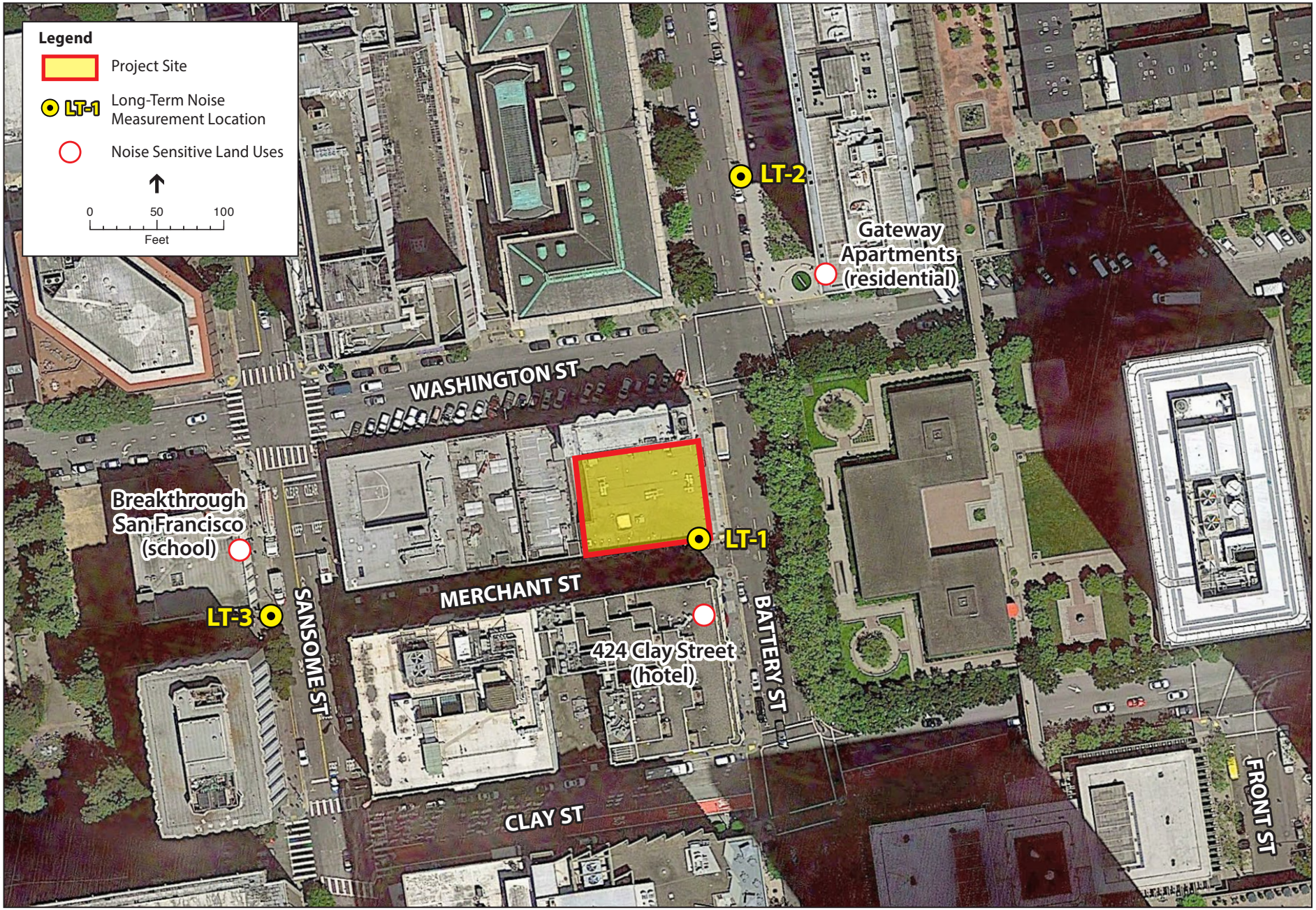
Site	Site Description	Time Period	Measured: L_{dn} L_{eq} (24-hour) Daytime L_{eq} (13-hour L_{eq})[1]	Primary Noise Sources
LT-1	Southeast corner of project site at corner of Merchant and Battery Streets, adjacent to existing hotel building.	08/27/19–08/28/19	76.1 69.0 68.6	Traffic on Battery Street, fire department vehicles, pedestrian voices, other urban noises.
LT-2	Near 550 Battery Street, in front of the Gateway Apartments residential tower.	08/27/19–08/28/19	75.0 71.0 72.5	Traffic on Battery Street, fire department vehicles, pedestrian voices, other urban noises.
LT-3	In front of 505 Sansome Street, across from San Francisco Fire Department fire station.	08/27/19–08/28/19	80.9 75.0 75.6	Traffic on Sansome Street, fire department vehicles, pedestrian voices, other urban noises.

Note: See Appendix C for data.
LT = long-term (24-hour) ambient noise measurement.
[1] A 13-hour L_{eq} was calculated using long-term measurement data to compare construction noise levels. The San Francisco Municipal Code permits construction to occur between 7 a.m. and 8 p.m. (i.e., 13 hours); therefore, the L_{eq} noise level was calculated using hourly noise level measurement data for the hours between 7 a.m. and 8 p.m. for a direct comparison.

Existing noise levels in the project area are high and characteristic of an urban/city environment, with all long-term measurements having a day-night sound level (L_{dn}) of 75 dBA or greater. San Francisco Fire Department Station 13 is on the same block as the project site, at 530 Sansome Street, and directly across the street from long-term noise measurement location 3. The fire station contributes frequent siren and truck noise to the ambient noise environment.

The nearest sensitive receptor to the project site is a hotel at 424 Clay Street, which has a façade that faces the project site. The nearest windows in the hotel are approximately 20 feet from the project site, across Merchant Street. In addition, an apartment building (Gateway Apartments) is approximately 150 feet northeast of the project site. Farther away from the project site (approximately 250 feet) is a school (Breakthrough Collaborative), located at 545 Sansome Street; however, there is no direct line of sight between this land use and the project site. These three noise-sensitive land uses are shown in **Figure E6-1**, p. E6-3.

The project site is in a dense urban area. Although other noise-sensitive receptors may also be affected by the project's noise impacts, the closest sensitive receptors would experience impacts that would be more severe than those experienced by receptors located at greater distances from the project site.



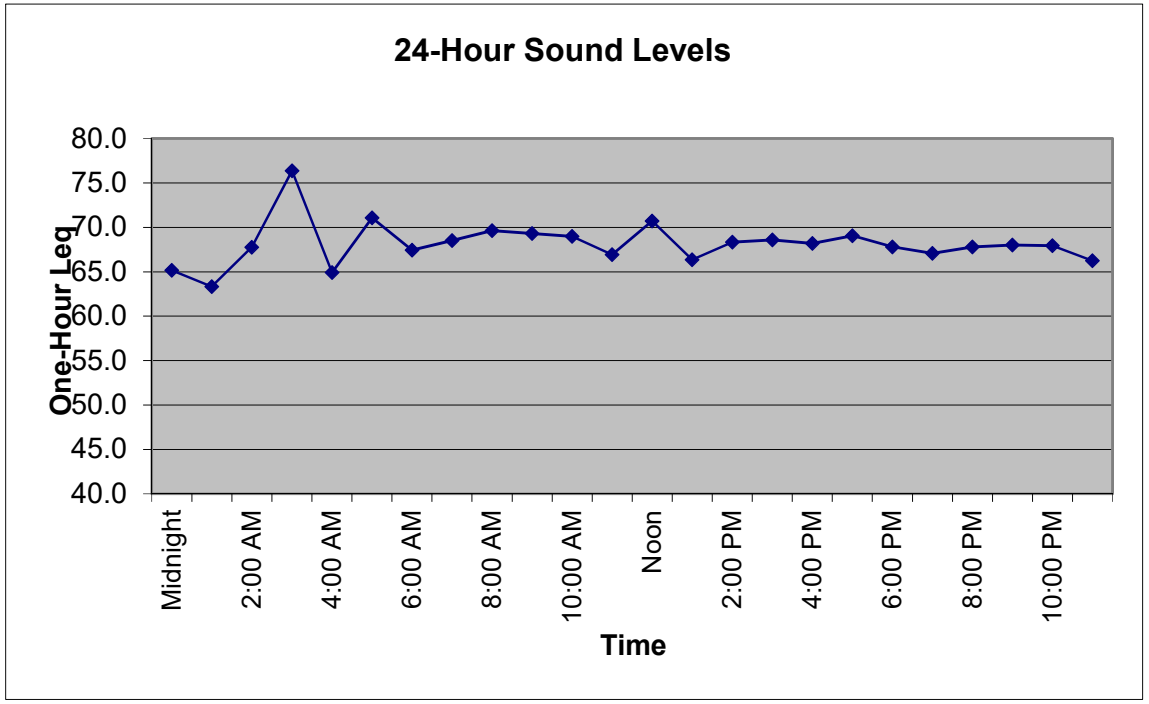
ICF Graphics ... 00492.16 (2-3-2020)

447 Battery Street Project
Case No: 2014.1036ENV

Figure E.6-1
Noise Measurement Locations

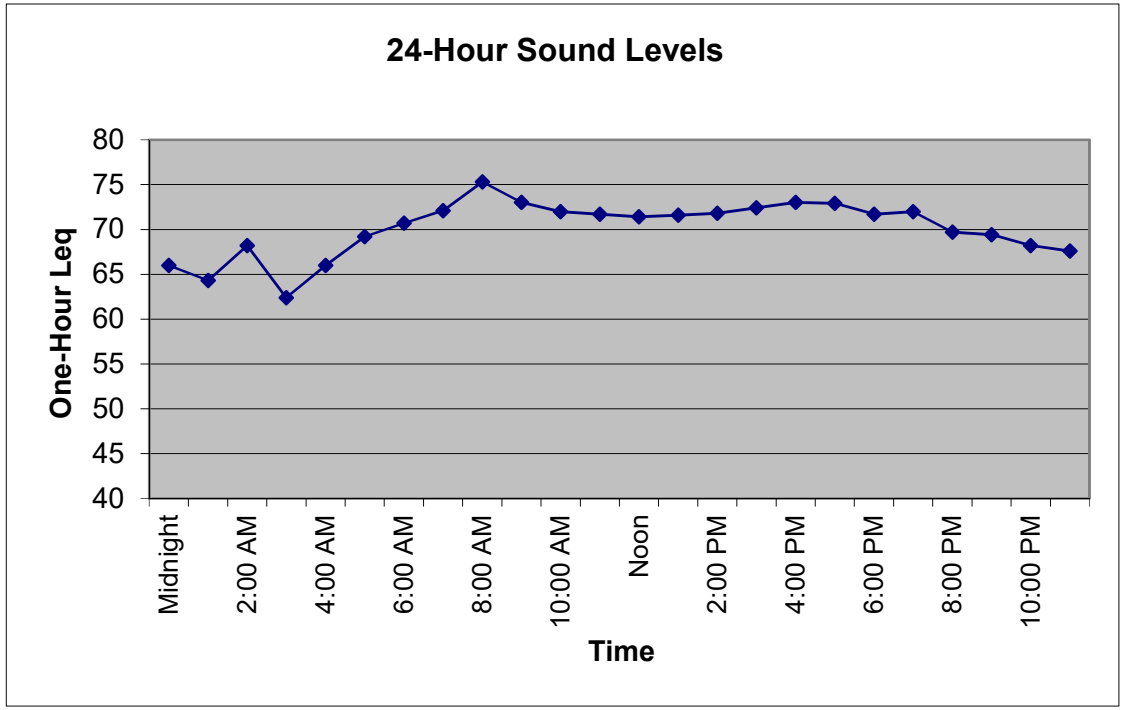
Ldn/CNEL Calculation Spreadsheet

Project:	447 Battery Street		Date:	8/28/2019	Analyst:	C. Matsui		
Location:	LT-1							
Time		Leq(24)	Ldn	CNEL	Worst Hour Leq	Ldn minus Worst Hour Leq	CNEL minus Ldn	Day
Midnight	65.2	69.0	76.1	76.2	76.4	-0.3	0.2	Evening
1:00 AM	63.3		7.6	7.7				Night
2:00 AM	67.7							
3:00 AM	76.4							
4:00 AM	64.9							
5:00 AM	71.1							
6:00 AM	67.4							
7:00 AM	68.5							
8:00 AM	69.6							
9:00 AM	69.3							
10:00 AM	69.0							
11:00 AM	66.9							
Noon	70.7							
1:00 PM	66.4							
2:00 PM	68.3							
3:00 PM	68.6							
4:00 PM	68.2							
5:00 PM	69.0							
6:00 PM	67.8							
7:00 PM	67.1							
8:00 PM	67.8							
9:00 PM	68.0							
10:00 PM	67.9							
11:00 PM	66.3							



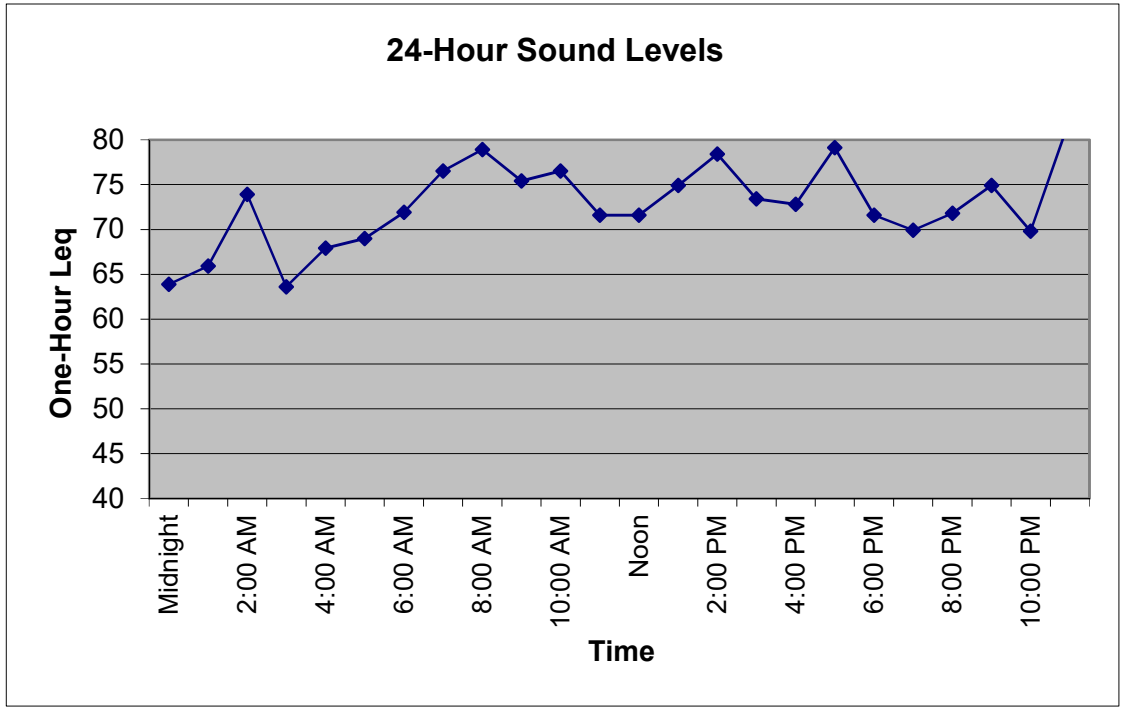
Ldn/CNEL Calculation Spreadsheet

Project:	447 Battery Street		Date:	8/28/2019	Analyst:	C. Matsui		
Location:	LT-2							
Time		Leq(24)	Ldn	CNEL	Worst Hour Leq	Ldn minus Worst Hour Leq	CNEL minus Ldn	Day
Midnight	66	71.0	75.0	75.4	75.3	-0.3	0.4	Evening
1:00 AM	64.3		2.9	3.3				Night
2:00 AM	68.2							
3:00 AM	62.4							
4:00 AM	66							
5:00 AM	69.2							
6:00 AM	70.7							
7:00 AM	72.1							
8:00 AM	75.3							
9:00 AM	73							
10:00 AM	72							
11:00 AM	71.7							
Noon	71.4							
1:00 PM	71.6							
2:00 PM	71.8							
3:00 PM	72.4							
4:00 PM	73							
5:00 PM	72.9							
6:00 PM	71.7							
7:00 PM	72							
8:00 PM	69.7							
9:00 PM	69.4							
10:00 PM	68.2							
11:00 PM	67.6							



Ldn/CNEL Calculation Spreadsheet

Project:	447 Battery Street		Date:	8/28/2019	Analyst:	C. Matsui		
Location:	LT-3							
Time		Leq(24)	Ldn	CNEL	Worst Hour Leq	Ldn minus Worst Hour Leq	CNEL minus Ldn	Day
Midnight	63.9	75.0	80.9	81.1	82.3	-1.4	0.2	Evening
1:00 AM	65.9		4.4	4.6				Night
2:00 AM	73.9							
3:00 AM	63.6							
4:00 AM	67.9							
5:00 AM	69							
6:00 AM	71.9							
7:00 AM	76.5							
8:00 AM	78.9							
9:00 AM	75.4							
10:00 AM	76.5							
11:00 AM	71.6							
Noon	71.6							
1:00 PM	74.9							
2:00 PM	78.4							
3:00 PM	73.4							
4:00 PM	72.8							
5:00 PM	79.1							
6:00 PM	71.6							
7:00 PM	69.9							
8:00 PM	71.8							
9:00 PM	74.9							
10:00 PM	69.8							
11:00 PM	82.3							



Summary

File Name on Meter	LxT_Data.071
File Name on PC	SLM_0004337_LxT_Data_071.00.ldbin
Serial Number	0004337
Model	SoundTrack LxT®
Firmware Version	2.402
User	C. Sanchez
Location	ST-1 Wasington Street at Hotaling Place
Job Description	530 Sansome
Note	

Measurement

Description	
Start	2020-11-27 15:34:52
Stop	2020-11-27 15:54:53
Duration	00:20:01.1
Run Time	00:20:01.1
Pause	00:00:00.0
Pre Calibration	11/27/2020 14:30:46 PM
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT2B
Microphone Correction	Off
Integration Method	Linear
Overload	143.0 dB

	A	**C**	**Z**	
Under Range Peak	99.3	96.3	**101.3**	dB
Under Range Limit	**37.7**	37.2	44.0	dB
Noise Floor	28.6	28.1	34.9	dB

Results

LA_{eq}	64.6		
LAE	95.4		
EA	387.641	µPa²h	
EA8	9.295	mPa²h	
EA40	46.474	mPa²h	
$LZ_{peak\ (max)}$	2020-11-27 15:54:31	105.7	dB
LAS_{max}	2020-11-27 15:54:31	84.3	dB
LAS_{min}	2020-11-27 15:48:39	58.7	dB
SEA	-99.9	dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZ_{peak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZ_{peak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZ_{peak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

LC_{eq}	72.8	dB
LA_{eq}	64.6	dB
LC_{eq} - LA_{eq}	8.2	dB
LAI_{eq}	68.2	dB
LA_{eq}	64.6	dB
LAI_{eq} - LA_{eq}	3.6	dB

A.2. Construction Noise Calculations

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Demolition

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	300.0	0.0
Backhoe	No	40		77.6	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	62.0	58.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62.0	58.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.0	61.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Site Preparation

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	300.0	0.0
Flat Bed Truck	No	40		74.3	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Equipment															
Compactor (ground)		67.7	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck		58.7	54.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	67.7	61.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	360.0	0.0
Flat Bed Truck	No	40		74.3	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Compactor (ground)	66.1	59.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flat Bed Truck	57.1	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.1	60.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	360.0	0.0
Backhoe	No	40		77.6	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Backhoe	60.4	56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	60.4	56.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	60.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Grading

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Auger Drill Rig	No	20		84.4	300.0	0.0
Excavator	No	40		80.7	300.0	0.0

Results

Noise Limit Exceedance (dBA)

Noise Limits (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Auger Drill Rig	68.8	61.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	65.1	61.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.8	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Auger Drill Rig	No	20		84.4	360.0	0.0
Excavator	No	40		80.7	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Auger Drill Rig	62.0	55.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.6	60.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Foundations

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	300.0	0.0
Auger Drill Rig	No	20		84.4	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Evening	Night
Equipment		Lmax Leq	Lmax Leq	Lmax Leq	Lmax Leq
Excavator		65.1 61.2	N/A N/A	N/A N/A	N/A N/A
Auger Drill Rig		68.8 61.8	N/A N/A	N/A N/A	N/A N/A
	Total	68.8 64.5	N/A N/A	N/A N/A	N/A N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	360.0	0.0
Auger Drill Rig	No	20		84.4	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	67.2	60.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.2	62.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Drainage Subgrade

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	300.0	0.0
Compactor (ground)	No	20		83.2	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Night	Day	Calculated (dBA) Evening	Night	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Equipment															
Backhoe				62.0	58.0			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)				67.7	60.7			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total			67.7	62.6			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	360.0	0.0
Compactor (ground)	No	20		83.2	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Calculated (dBA)									
Equipment	Day		Evening		Night		Day	Evening	Night
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	62.0	55.0			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	63.6	59.6			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	63.6	60.9			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Building Construction

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	300.0	0.0
Gradall	No	40		83.4	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane	65.0	57.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gradall	67.8	63.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.8	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	360.0	0.0
Gradall	No	40		83.4	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Crane	63.4	55.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gradall	66.3	62.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.3	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/23/2020
Case Description: 530 Sansome Night Concrete Pour

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Gateway	Residential	69.0	69.0	60.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	300.0	0.0
Concrete Mixer Truck	No	40		78.8	300.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Concrete Pump Truck	65.8	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	63.2	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.8	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #2 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Hotaling Place	Residential	69.0	69.0	60.0

			Equipment			
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	360.0	0.0
Concrete Mixer Truck	No	40		78.8	360.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

	Calculated (dBA)				Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Pump Truck	64.3	57.3			N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	61.7	57.7			N/A	N/A	N/A	N/A	N/A	N/A
Total	64.3	60.5			N/A	N/A	N/A	N/A	N/A	N/A

**** Receptor #3 ****

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Club Quarters Hotel	Commercial	69.0	69.0	60.0

			Equipment			
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Pump Truck	No	20		81.4	150.0	0.0
Concrete Mixer Truck	No	40		78.8	150.0	0.0

Results

	Calculated (dBA)				Noise Limits (dBA)				
	Day		Evening		Night		Noise Limit Exceedance (dBA)		
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq		
Concrete Pump Truck	71.9	64.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Concrete Mixer Truck	69.3	65.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Total	71.9	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A		

Attachment B

Regulatory Setting

Regulatory Setting

Federal Noise Standards

There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed project. With regard to noise exposure and workers, the Office of Safety and Health Administration (OSHA) regulations safeguard the hearing of workers exposed to occupational noise. Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

California Noise Standards

The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The State of California updated its building code requirements with respect to sound transmission, effective July 2015. California Building Code Section 1207 (California Code of Regulations Title 24) establishes material requirements in terms of sound transmission class (STC)[1] of 50 for all common interior walls and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas. It also sets an interior performance standard of 45 dBA from exterior noise sources. This interior standard was part of Section 1207 prior to 2015. As a multi-family residential structure, the subject building was constructed to the interior standards pursuant to the California Building Code at the time of its construction.

State Vibration Standards

There are no state vibration standards applicable to the proposed project. Moreover, according to the California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual* (2013), there are no official Caltrans standards for vibration. However, the 2013 Guidance Manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08–0.12 in/sec PPV for extremely fragile historic buildings, ruins, and ancient monuments, to 0.50–2.0 in/sec PPV for modern industrial/commercial buildings.

[1] The STC is used as a measure of a materials ability to reduce sound. The STC is equal to the number of decibels a sound is reduced as it passes through a material.

San Francisco General Plan

Land Use Compatibility Guidelines for Community Noise

The Environmental Protection Element of the San Francisco General Plan contains Land Use Compatibility Guidelines for Community Noise.[2] These guidelines, which are similar to but differ somewhat from state guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable exterior noise levels for various newly developed land uses. The City's guidelines, which are presented in **Figure B-1, San Francisco Land Use Compatibility Chart for Community Noise**, indicate exterior noise levels that might be inappropriate for sensitive land uses and would therefore require additional noise insulation considerations beyond standard practices. Though Figure 8 presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum "satisfactory" noise level is 60 dBA (L_{dn}) for residential and hotel uses; 65 dBA (L_{dn}) for school classrooms, libraries, churches, and hospitals; 70 dBA (L_{dn}) for playgrounds, parks, office buildings, retail commercial uses, and noise-sensitive manufacturing/communications uses; and 77 dBA for other commercial uses such as wholesale, some retail, industrial/manufacturing, transportation, communications, and utilities. If these uses are proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements will normally be necessary prior to final review and approval.

Noise-Related Policies

The following policies of the San Francisco General Plan Environmental Protection Element that relate to noise issues are relevant to the proposed project:

> **Policy 10.1:** Promote site planning, building orientation and design and interior layout that will lessen noise intrusion. Because sound levels drop as distance from the source increases, building setbacks can play an important role in reducing noise for the building occupants…Buildings sited with their narrower dimensions facing the noise source and sited to shield or be shielded by other buildings also help reduce noise intrusion. Although walls with no windows or small windows cut down on noise from exterior sources, in most cases it would not be feasible or desirable to eliminate wall openings. However, interior layout can achieve similar results by locating rooms whose use require more quiet, such as bedrooms, away from the street noise.
>
> **Policy 10.2:** Promote the incorporation of noise insulation materials in new construction. State-imposed noise insulation standards apply to all new residential structures except detached single-family dwellings. Protection against exterior noise and noise within a building is also important in many nonresidential structures. Builders should be encouraged to take into account prevailing noise levels and to include noise insulation materials as needed to provide adequate insulation.
>
> **Policy 11.1:** Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use. New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site … exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features

[2] City and County of San Francisco, San Francisco General Plan https://generalplan.sfplanning.org/, accessed December 1, 2020.

should be incorporated in the design or else the construction or development should not be undertaken.

Policy 11.1: Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use. New development should be examined to determine whether background and/or thoroughfare noise level of the site is consistent with the guidelines for the proposed use. If the noise levels for the development site […] exceed the sound level guidelines established for that use, as shown in the accompanying land use compatibility chart, then either needed noise insulation features should be incorporated in the design or else the construction or development should not be undertaken.

Policy 11.3: Locate new noise-generating development so that the noise impact is reduced. Developments which will bring appreciable traffic into or through noise-sensitive areas should be discouraged, if there are appropriate alternative locations where the noise impact would be less. For those activities—such as a hospital—that need a quiet environment, yet themselves generate considerable traffic, the proper location presents a dilemma. In those cases, the new development should locate where this traffic will not present a problem and, if necessary, incorporate the proper noise insulation

San Francisco Noise Ordinance

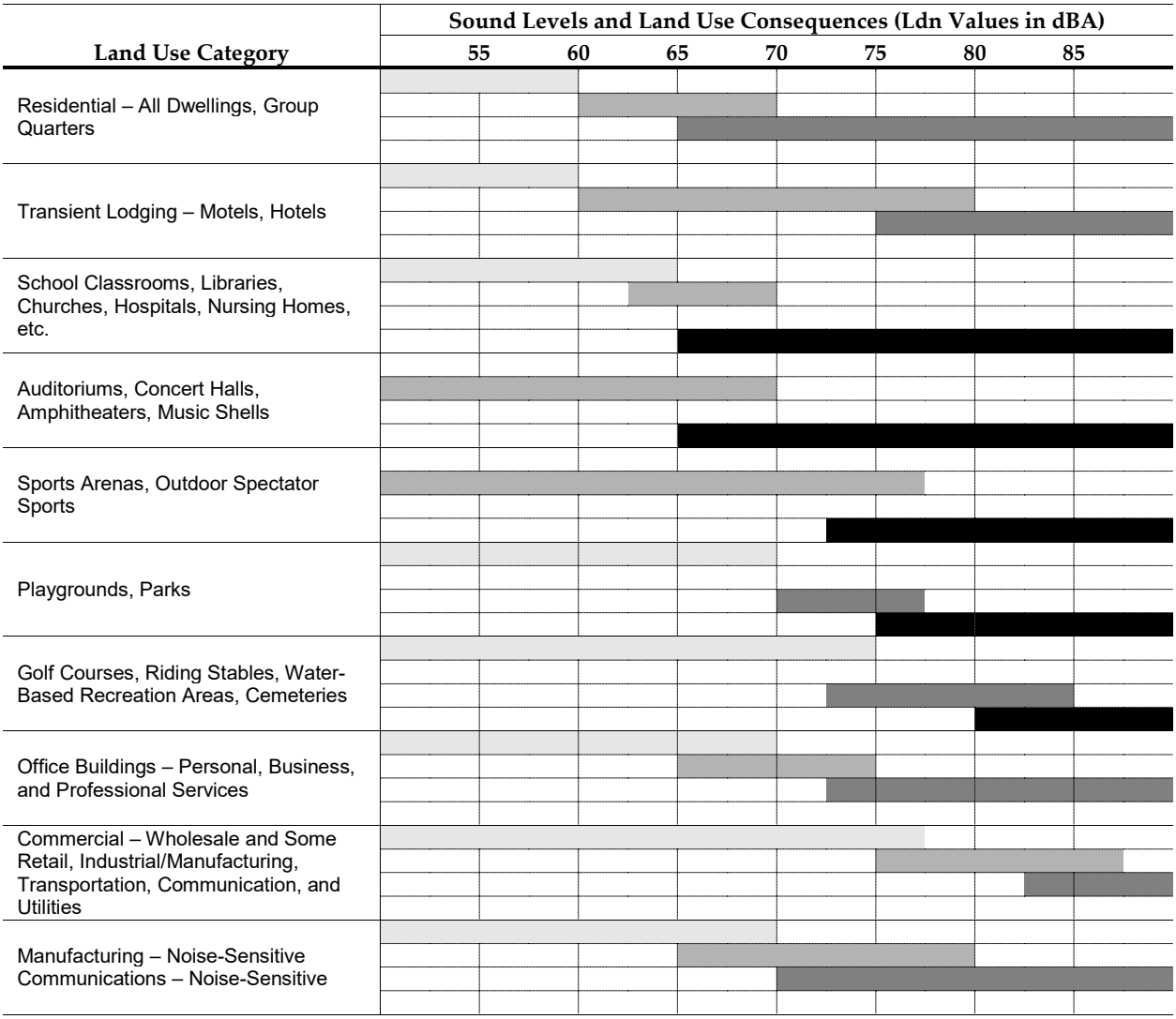
In San Francisco, regulation of noise is stipulated in the Noise Ordinance, i.e. San Francisco Police Code Article 29, Regulation of Noise, which states that the City's policy is to prohibit unnecessary, excessive, and offensive noises from all sources subject to police power. Article 29 Sections 2907 and 2908 regulate construction equipment and construction work at night, while Section 2909 provides for limits on stationary-source noise from machinery and equipment. Sections 2907 and 2908 are enforced by the Department of Building Inspection, and Section 2909 is enforced by the Department of Public Health. Summaries of these and other relevant sections are presented below.

Sections Regulating Construction Noise

San Francisco Police Code Sections 2907(a) and (b) state that it shall be unlawful for any person, including the City and County of San Francisco, to operate any powered construction equipment, regardless of age or date of acquisition, if the operation of such equipment emits noise at a level in excess of 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance. Exemptions from this requirement include:

- Impact tools and equipment with intake and exhaust mufflers recommended by the manufacturers and approved by the Director of Public Works as best accomplishing maximum noise attenuation; and

Figure B-1 San Francisco Land Use Compatibility Chart for Community Noise



SOURCE: San Francisco Planning Department, *San Francisco General Plan*, Environmental Protection Element, adopted on June 27, 1996, https://generalplan.sfplanning.org/I6_Environmental_Protection.htm, accessed December 1, 2020.

Satisfactory, with no special noise insulation requirements. Noise levels in this range are considered "Acceptable."

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Noise levels in this range are considered "Conditionally Acceptable."

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Noise levels in this range are considered "Conditionally Unacceptable."

New construction or development should generally not be undertaken. Noise levels in this range are considered "Unacceptable."

- Pavement breakers and jackhammers equipped with acoustically attenuating shields or shrouds recommended by the manufacturers and approved by the Director of Public Works as best accomplishing maximum noise attenuation.

San Francisco Police Code Section 2908 prohibits any person between the hours of 8 p.m. of any day and 7 a.m. of the following day from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line, unless a special permit has been applied for and granted by the Director of Public Works.

Sections Regulating Operational Noise

San Francisco Police Code Section 2909 establishes a not-to-exceed noise standard for fixed sources of noise, such as building mechanical equipment and industrial or commercial processing machinery. Unlike the state building code (Title 24) standard, which is applicable to interior living space only, the standards in Section 2909(a), (b), and (c) are applicable outdoors, at the property line of the affected use, and vary based on the residential or commercial nature of the noise generator's use. For example, the noise limits for operation of commercial and industrial properties provide that no person shall produce or allow to be produced a noise level more than 8 dBA above the local ambient level at the property plane. For noise sources emanating from residential properties, the noise limits are 5 dBA above the ambient level at any point outside of the property plane of a residential use. The noise limits for public property provide that no person shall produce a noise level more than 10 dBA above the local ambient level at a distance of 25 feet or more on public property.

As is common for noise standards, the permitted noise level for fixed residential interior noise limits identified in Section 2909(d) is lower at night than during the day. For example, maximum noise levels at any sleeping or living room in any dwelling unit located on residential property must not exceed 45 dBA between 10 p.m. and 7 a.m., and 55 dBA between 7 a.m. and 10 p.m. None of the noise limits set forth in this section apply to activity for which the City and County of San Francisco has issued a permit that contains noise limit provisions that are different from those set forth in the San Francisco Police Code. Additionally, the Directors of Public Health, Public Works, or Building Inspection, or the Entertainment Commission, or the Chief of Police may grant variances to noise regulations, over which they have jurisdiction pursuant to Section 2916.

San Francisco Building and Administrative Codes

The City approved amendments to its building code on May 21, 2015. Section 1207.6 now addresses exterior sound transmission control for residential structures, although it was previously addressed in the California Building Code Section 1207 at the time the subject building was constructed. The code requires that residential structures located in noise critical areas—such as in proximity to highways, county roads, city streets, railroads, rapid transit lines, airports, nighttime entertainment venues, or industrial areas—shall be designed to prevent the intrusion of exterior noises beyond levels prescribed by the municipal code. Proper design to accomplish this goal shall include, but not be limited to, orientation of the residential structure, setbacks, shielding, and sound insulation of the building.

The section establishes an interior noise level performance standard for noise attributable to exterior sources of 45 dBA CNEL in any habitable room. Further, an acoustical analysis is required for residential structures to be located where the Ldn or CNEL exceeds 60 dBA, demonstrating that the proposed design will limit exterior noise to the prescribed allowable interior level. As a multi-family residential structure, the subject building was constructed to these standards pursuant to the California Building Code.

APPENDIX D

Air Quality Technical Memorandum

530 SANSOME STREET PROJECT

Air Quality Technical Memorandum - Final

Prepared for
San Francisco Planning Department
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

March 2021

ESA

530 SANSOME STREET PROJECT

Air Quality Technical Memorandum - Final

Prepared for
San Francisco Planning Department
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

March 2021

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900
www.esassoc.com

ESA

Bend	Orlando	San Jose
Camarillo	Pasadena	Santa Monica
Delray Beach	Petaluma	Sarasota
Destin	Portland	Seattle
Irvine	Sacramento	Tampa
Los Angeles	San Diego	
Oakland	San Francisco	

D202000893.00

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations. This document was produced using recycled paper.

TABLE OF CONTENTS

530 Sansome Street Air Quality Technical Memorandum

Page

List of Tables

CHAPTER 1
Introduction

Introduction

Environmental Science Associate (ESA) has prepared this Air Quality Technical Memorandum (AQTM) for purposes of environmental analysis under the California Environmental Quality Act (CEQA) of the 530 Sansome Street Project (proposed project).

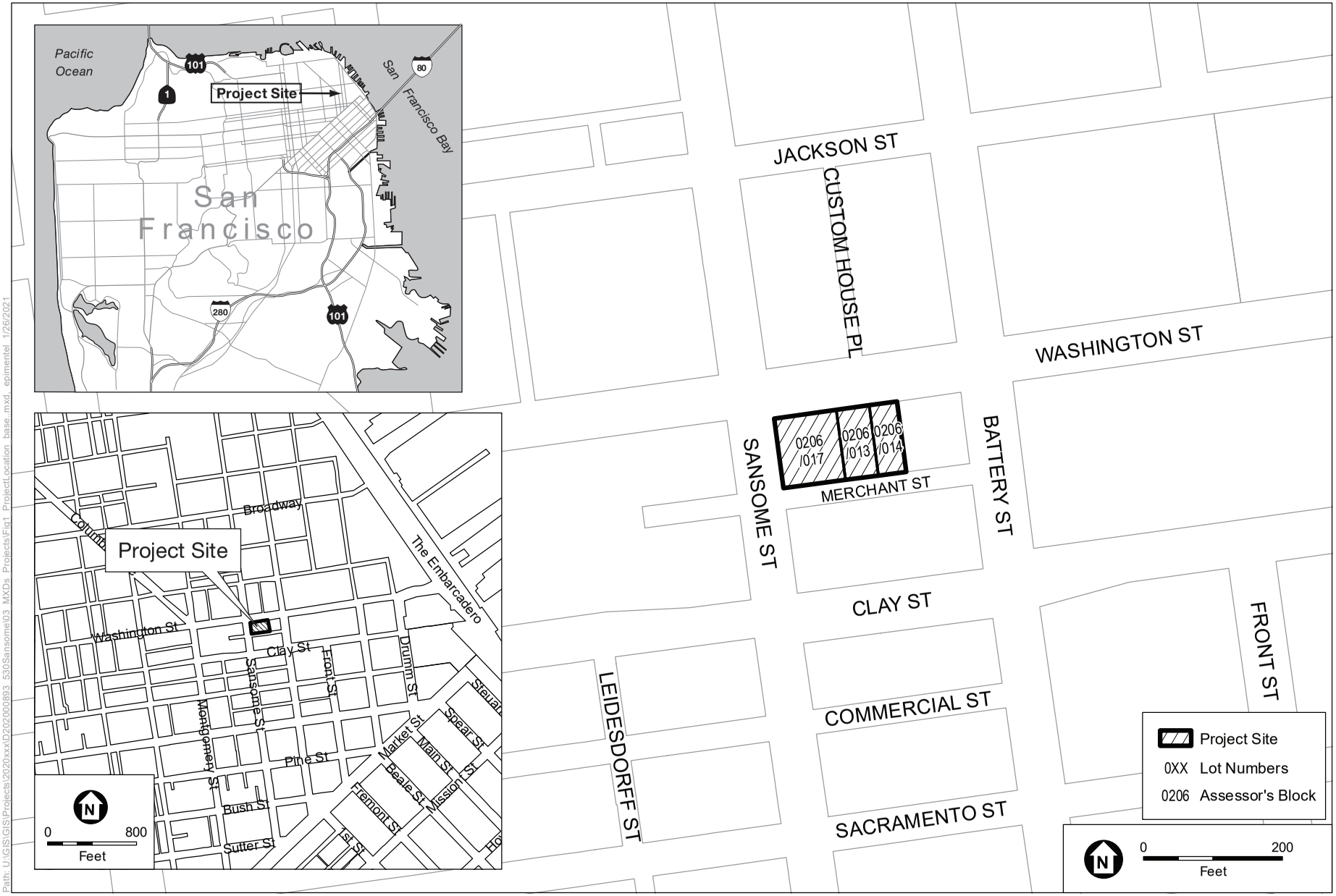
This AQTM evaluates criteria air pollutant emissions[1] resulting from construction and operation of the proposed project in accordance with San Francisco Planning Department Environmental Planning (EP) Division's CEQA requirements.

Project Description

The project sponsors propose to redevelop the 17,733-square-foot project site (Assessor's Block 0206, Lots 013, 014, and 017, see **Figure 1**) located at the southeast intersection of Sansome and Washington streets, on the block bound by Sansome Street to the west, Washington Street to the north, Battery Street to the east, and Merchant Street to the south, with a mixed-use building. The project would demolish the existing fire station (Fire Station 13) and two adjacent commercial buildings at the project site and construct a replacement fire station and an approximately 218-foot-tall mixed-use building at the project site. The project site, within the Financial District neighborhood, is developed with three buildings: a three-story office building with a basement at 425 Washington Street, a two-story commercial building with a basement at 439–445 Washington Street, and Fire Station 13, a two-story building with mezzanine and a basement at 530 Sansome Street.

The proposed project would demolish the existing buildings and construct a 19-story building and a four-story replacement fire station, with three below-grade levels under both buildings. The 19-story, approximately 218-foot-tall (236 feet total, including rooftop mechanical equipment) building would provide a new 200-guest-room hotel, approximately 40,490 square feet of office space, and approximately 35,230 square feet of fitness center space. The building would also include approximately 6,470 square feet of retail/restaurant space at the first and second level. The three below-grade levels would provide parking space and utility and

[1] The AQTM does not address greenhouse gas emissions and toxic air contaminants ("TACs"), as they will be evaluated separately in the proposed project's environmental document.



SOURCE: San Francisco Planning Department, 2020; ESA, 2021

530 Sansome Street; Case No: 2019-017481ENV

Figure 1
Project Location

back-of-house rooms for the fire station, hotel, and retail uses. New publicly accessible open space would be provided in the form of streetscape improvements to Merchant Street. The proposed project would convert the western portion of Merchant Street into a shared street/living alley[2] and would provide approximately 4,810 square feet of privately owned public open space (POPOS).

The sponsors also propose a residential variant to the project, under which the massing/height of the building and replacement fire station use would remain the same as the proposed project, but would construct 256 residential units instead of commercial uses (hotel, office, gym, and retail). Under the residential variant, 6,384 square feet of common open space would be located on level 21 of the building.

Project Construction

The project sponsors estimate that project construction would last 29 months with overlapping phases. Demolition would take approximately two months. Excavation and shoring would last approximately five months. Foundation and below-grade construction would last about four months. The base building and exterior and interior finishing phases would partially overlap and last approximately 17 months. Construction of the planned basement levels and foundation installation would require excavation extending about 40 feet below ground surface. Overall, excavation of the basement levels would remove approximately 28,000 cubic yards of soil.

Construction workers driving to the project site would park at a garage located on Washington and Battery streets. Construction equipment and materials would be staged at sidewalks surrounding the project site, including a portion of the on-street parking lane on Washington and Merchant streets.

During construction, San Francisco Fire Department personnel and apparatus would be relocated to offsite fire stations that are as close as possible to the project site (Station 28 at 1814 Stockton Street, Station 38 at 2150 California Street and Station 4 at 449 Mission Rock) and would continue to serve the Financial District neighborhood and the City in general. Relocation of fire equipment typically takes no more than eight hours to complete.

[2] A shared street/living alley is a narrow, low-volume traffic street designed to prioritize pedestrians, bicyclists, and provides space for social uses. Vehicles may access but with reduced speeds. The 447 Battery Street project (Case No. 2014.1036E) would be responsible for the eastern portion of Merchant Street.

This page intentionally left blank

CHAPTER 2
Modeling Methods and Assumptions

Construction Modeling

Construction emissions were estimated primarily using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. Additional calculations were prepared outside of CalEEMod to calculate on-road mobile emissions using 2017 EMission FACtor (EMFAC2017), as CalEEMod uses an older version of EMFAC, EMFAC2014. The primary assumptions used to model construction emissions are presented below. **Table 1** presents the project characteristics of the proposed project and the residential variant.

TABLE 1
PROJECT CHARACTERISTICS (GSF)

Proposed Use	Proposed Project	Residential Variant[a]
Hotel	146,065 (200 guest rooms)	N/A
Residential	N/A	257,400 (256 DU)
Office	40,490	N/A
Retail/Restaurant	6,470	N/A
Fitness Center	35,230	N/A
Fire Station	20,240	20,240
Parking	17,950 (48 spaces)	24,900 (82 spaces)

ABBREVIATIONS:
GSF = gross square feet
DU = dwelling unit

[a] The 21-story residential variant would have the same building envelope/height as the proposed project.

SOURCE: Skidmore, Owings & Merrill LLP, February 2021

1. Off-road construction equipment

a. Anticipated Schedule: the proposed project's construction schedule and phasing was based on project-specific data provided by the project sponsor. The proposed project and residential variant would have the same schedules and phasing. Construction phasing consisted of nine phases as shown in **Table 2**.

b. Equipment:

i. Off-road equipment, quantities, and usage for each phase were based on project-specific data provided by the project sponsor. Off-road equipment horsepower and engine tier were provided by CalEEMod default data. Equipment usage for the proposed project and residential variant would be the same, as shown in **Table 3**. Construction equipment by phase and hours per day are shown in **Table 4**.

TABLE 2
CONSTRUCTION SCHEDULE

Phase	Start Date	End Date	Workdays
Demolition	12/1/2021	1/25/2022	40
Site Preparation	12/1/2021	3/22/2022	80
Soil Hauling	12/1/2021	4/29/2022	150
Grading	3/1/2022	7/18/2022	100
Concrete Pour	8/1/2022	8/1/2022	1
Drainage Utilities Subgrade	8/1/2022	11/18/2022	80
Foundations and Concrete Pour	8/1/2022	11/18/2022	80
Building Construction	12/1/2022	3/20/2024	340
Architectural Coating	9/1/2023	11/9/2023	50
Paving	3/1/2024	3/28/2024	20

NOTE: This schedule was generated by CalEEMod based on the start date and number of workdays per phase. In reality, there will be gap days in the schedule, resulting in an end date that is slightly later than what CalEEMod generates. CalEEMod cannot incorporate gaps into the construction schedule. Construction is scheduled to be completed in April 2024.

SOURCE: EQX Jackson SQ Holdco LLC, 2020

TABLE 3
CONSTRUCTION EQUIPMENT FLEET

Equipment Type	Number of Equipment	Engine Horsepower	Uncontrolled Engine Tier	Controlled Engine Tier
Air Compressors	4	78	CalEEMod default	n/a (electric)
Backhoes	3	97	CalEEMod default	Tier 4 Final
Bore/Drill Rigs	2	221	CalEEMod default	Tier 4 Final
Cement and Mortar Mixers	1	9	CalEEMod default	Tier 4 Final
Cranes	4	231	CalEEMod default	Tier 4 Final
Excavators	3	158	CalEEMod default	Tier 4 Final
Forklifts	1	89	CalEEMod default	Tier 4 Final
Pavers	1	130	CalEEMod default	Tier 4 Final
Paving Equipment	1	132	CalEEMod default	Tier 4 Final
Plate Compactors	2	8	CalEEMod default	Tier 4 Final
Pumps	2	84	CalEEMod default	Tier 4 Final
Rollers	1	80	CalEEMod default	Tier 4 Final
Skid Steer Loaders	1	65	CalEEMod default	Tier 4 Final
Sweepers/Scubbers	4	64	CalEEMod default	Tier 4 Final
Vibratory Compactor	2	8	CalEEMod default	Tier 4 Final

ABBREVIATIONS:
n/a = not applicable

SOURCE: EQX Jackson SQ Holdco LLC, 2020

TABLE 4
CONSTRUCTION EQUIPMENT FLEET BY PHASE

Phase	Phase/Equipment Type	Number of Equipment	Hours per Day
Demolition	Skid Steer Loaders	1	8
	Sweepers/Scrubbers	1	8
	Backhoes	2	8
Site Preparation	Excavators	1	8
	Plate Compactors	1	8
	Sweepers/Scrubbers	1	8
Grading	Air Compressors	2	4
	Bore/Drill Rigs	1	8
	Excavators	1	8
	Rollers	1	8
	Sweepers/Scrubbers	1	8
Concrete Pour	Cement and Mortar Mixers	1	20
Drainage Utilities Subgrade	Vibratory Compactors	1	8
	Backhoes	1	8
Foundations and Concrete Pour	Air Compressors	2	4
	Bore/Drill Rigs	1	8
	Cranes	2	8
	Excavators	1	8
	Pumps	1	8
	Sweepers/Scrubbers	1	8
Architectural Coating	Cranes	1	8
Building Construction	Cranes	1	8
	Forklifts	1	8
	Pumps	1	8
Paving	Pavers	1	8
	Paving Equipment	1	8

SOURCE: EQX Jackson SQ Holdco LLC, 2020

2. On-road construction equipment

a. Vendor and haul truck travel:

i. Daily vendor trips delivering materials and supplies to the project site would occur during several phases of site preparation and building construction. The number of vendor trips is generated by CalEEMod, based on project construction characteristics. Vendor trip lengths were based on the CalEEMod default of 7.3 miles. Emissions were based on default vendor truck fleet mix values from CalEEMod, which assumes 50 percent HHDT and 50 percent MHDT. Emissions were calculated outside of CalEEMod using the California Air Resources Board's (CARB) 2017 EMission FACtor (EMFAC2017) model, as CalEEMod uses an older version, EMFAC2014.

ii. As a result of grading activities, the proposed project would export 28,000 cubic yards (CY) of soil requiring approximately 1,750 haul trucks. The CalEEMod default haul truck distance of 20 miles was assumed for soil export. Haul truck travel emissions were calculated using EMFAC2017.

b. Haul truck idling:

i. It was assumed that idling activities would total 15 minutes per trip, representing three separate 5-minute idling occurrences: check-in to the site or queuing at the site boundary upon arrival, on-site idling during loading/unloading, and check-out of the site or queuing at the site boundary upon departure.

ii. Idling emission rates for the HHDT and MHDT category were generated using EMFAC2017.

c. Worker vehicle trips:

i. Daily worker vehicle trips traveling to the project site would occur during all phases of construction. The number of workers was provided by the project sponsor.

ii. Worker vehicle trip lengths were based on the CalEEMod default of 10.8 miles, and emissions were calculated using EMFAC2017.

3. Asphalt paving

a. Fugitive ROG emissions from asphalt paving were calculated in CalEEMod assuming approximately 0.02 acre of the site would be paved with asphalt, for the conform strip at the location of new sidewalks.

4. Architectural coatings

a. The analysis calculated emissions of reactive organic gases (ROG) from applications of architectural coatings (i.e., paint) assuming that these coatings would meet BAAQMD standards for volatile organic compounds (VOC) content limits (Regulation 8, Rule 3), which are 100-150 grams VOC per liter.

5. Control measures

a. Off-road construction equipment: all off-road construction equipment was modeled with Tier 4 Final engine emission standards, except for air compressors, which would be electric in the controlled scenario.

Operational Modeling

Similar to construction emissions, operational emissions were estimated primarily using the CalEEMod version 2016.3.2 emissions model for area and stationary sources and EMFAC2017 for mobile sources. The primary assumptions used to model operational emissions are presented below.

1. **Mobile sources**:

a. Mobile source emissions were based on vehicle trip rates for each land use provided in the project's traffic study.[3] The vehicle trip rates and lengths are provided in **Table 5** below.

[3] Fehr & Peers, *Travel Demand Memorandum*, November 2020, Tables 6, 7, 8, 9, and 12.

b. The traffic study vehicle trip rates are primarily light-duty vehicles, but would also include a small percentage of trucks for delivery vehicles at the curb. The fleet mix for passenger vehicles was obtained from EMFAC2017, for San Francisco County. The passenger vehicle fleet mix from EMFAC2017 includes light-duty autos (LDA), light-duty trucks (LDT), motorcycles (MCY), medium-duty vehicles (MDV), and motor homes (MH). Delivery vehicles were assumed to be 50 percent MHDT and 50 percent HHDT, consistent with the CalEEMod default construction vendor fleet mix.

c. To calculate emissions from road dust, the default silt loading factor within CalEEMod (0.1 grams per square meter) was updated to a value of 0.04 grams per square meter, based on CARB Miscellaneous Process Methodology 7.9 — Entrained Road Travel, Paved Road Dust.[4]

TABLE 5
DAILY VEHICLE TRIPS AND TRIP LENGTHS

Trip Type	Daily Vehicle Trips (one-way)	Average Trip Length (miles)[a]
Proposed Project		
Auto	564	Work-related 9.5 All other 7.3
Taxi/TNC	352	Work-related 9.5 All other 7.3
Total	*916*	—
Residential Variant		
Auto	259	Work-related 10.8 Shopping or commercial to customer 4.8 Commercial non-work and other 5.7
Taxi/TNC	63	Work-related 10.8 Shopping or commercial to customer 4.8 Commercial non-work and other 5.7
Total	*332*	—

ABBREVIATIONS:
TNC = Transportation Network Companies

NOTES:

[a] The average vehicle trip lengths are CalEEMod defaults. Hotel uses provide an amenity to employees and visitors in Downtown San Francisco and would generate substantially less VMT compared to the rest of the region due to the density of complementary land uses and high transit accessibility to the project site.

SOURCE: Fehr & Peers, *Travel Demand Memorandum*, November, 2020, Tables 6, 7, and 12.

2. **Area sources**:

a. Area source emissions from landscaping equipment, consumer products, paint and other architectural coatings, and natural gas combustion in heaters, boilers, and restaurant stoves were generated using CalEEMod. Emissions were based on the square footage of the proposed development.

[4] Bay Area Air Quality Management District, *Miscellaneous Process Methodology 7.9 Entrained Road Travel, Paved Road Dust*, November 2016. Available at https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2016.pdf. Accessed January 2019.

b. The CalEEMod default consumer product emission factor was used to estimate daily ROG emissions from the use of consumer product by future occupants of the proposed development. This factor is 2.14×10^{-5} pounds of ROG per square foot per day.

c. For the residential variant, it was assumed that there would be a total of six fireplaces in select residential units, two fireplaces in the lobby, and four fireplaces on the top floor amenity space, all natural-gas fired.[5]

d. Default CalEEMod energy usage rates, which are based on 2016 Title 24 energy standards.

3. **Emergency generators**:

a. Diesel-powered emergency generator emissions were estimated using CalEEMod. Emissions were estimated assuming a 400-horsepower generator for the proposed project or residential variant and a 464-horsepower generator for the fire station, operating for a maximum annual non-emergency operation schedule of 50 hours, consistent with emergency standby engine testing limits established in BAAQMD Regulation 9-8-330.3. The fire department tests their generators once a week for approximately 30 minutes (26 annual hours);[6] however, emissions were conservatively estimated based on the maximum annual non-emergency operation schedule of 50 hours.

b. The proposed project and residential variant would each have one emergency generator. The fire station would replace its existing 200-horsepower generator with a newer generator up to current emissions standards.[7] The new generator would have an average of 464-horsepower (346 kilowatts).The new generators were included in the analysis.

4. **Freight/delivery vehicle travel and idling**:

a. Emissions associated with daily freight delivery and service vehicle trips to the loading docks were estimated outside of CalEEMod using emission factors from EMFAC2017 by vehicle type. These loading dock trips would occur in addition to the vehicle trips discussed in the *Mobile Sources* section above (item 1), which only include delivery trips at the curb. Emissions from transport refrigeration units (TRUs) were also included for the proposed project, for hotel and restaurant delivery trips, calculated using the CARB OFFROAD-ORION emissions database.

b. The number of daily delivery/service vehicle trips was provided in the project project's traffic study.[8] **Table 6** present the freight loading trip rates for the proposed project and residential variant.

c. The default CalEEMod construction vendor fleet mix for delivery trucks was used to estimate emissions from operational freight/delivery trips (50 percent MHDT and 50 percent HHDT).

d. It was assumed that all delivery trucks were diesel-powered.

---

5 The building permit was submitted on December 20, 2019. The project therefore will not be subject to Ordinance 237-20, which bans natural gas for building permits submitted after June 1, 2021.

6 DeWitt, Dawn, Assistant Deputy Chief, Support Services, San Francisco Fire Department, e-mail correspondence with Susan Yogi, Senior Managing Associate, Environmental Science Associates, March 3, 2021.

7 DeWitt, Dawn, Assistant Deputy Chief, Support Services, San Francisco Fire Department, e-mail correspondence with Susan Yogi, Senior Managing Associate, Environmental Science Associates, October 22, 2020.

8 Fehr & Peers, *Travel Demand Memorandum,* November 2020.

e. Travel emissions were estimated assuming 7.3 miles per one-way vehicle trip, which is the CalEEMod default trip length for "commercial-non-work" trip types.

f. Idling emissions were estimated assuming 15 minutes of idling per roundtrip, representing three separate 5-minute idling occurrences: arrival to the site, on-site idling during loading/unloading, and readying for departure after delivery.

TABLE 6
FREIGHT LOADING TRIP RATES AND TRIP LENGTHS

Trip Type	Daily Delivery Truck Trips (roundtrips)	Average Trip Length[a]
Proposed Project		
Hotel	13	7.3
Gym	8	7.3
Restaurant	2	7.3
Office	8	7.3
Total	*31*	—
Residential Variant		
Residential	8	7.3

NOTES:
[a] The average vehicle trip lengths are the CalEEMod default values for the City of San Francisco for Commercial-Work trip types (C-W).

SOURCE: Fehr & Peers, *Travel Demand Memorandum*, November, 2020, Tables 8 and 9.

This page intentionally left blank

CHAPTER 3
Results

The following tables present the results of the construction and operations analysis for the proposed project and residential variant.

Construction Emissions

The following tables present average daily uncontrolled and controlled construction emissions by source (e.g., off-road equipment). Controlled construction emissions means that all off-road construction equipment was modeled with Tier 4 Final engine emission standards except for air compressors, which would be electric. The tables presented below include:

- **Table 7:** detailed average daily uncontrolled and controlled construction emissions for the proposed project and residential variant by year and source.
- **Table 8:** summary average daily uncontrolled and controlled construction emissions for the proposed project and residential variant by year.

The number of construction days in each year are as follows: 30 days in 2021, 260 days in 2022, 260 days in 2023, and 58 days in 2024.

TABLE 7
AVERAGE DAILY CONSTRUCTION EMISSIONS BY SOURCE FOR THE PROPOSED PROJECT AND RESIDENTIAL VARIANT

	Average Daily Emissions (pounds/day)							
	Uncontrolled				Controlled[b]			
Year/Source[a]	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
2021								
Off-Road Equipment	0.90	8.67	0.52	0.48	0.24	3.53	0.02	0.02
Paving	—	—	—	—	—	—	—	—
Architectural Coating	—	—	—	—	—	—	—	—
Hauling – Travel	0.15	4.93	0.11	0.07	0.15	4.93	0.11	0.07
Hauling – Idling	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vendor Trucks	0.17	4.56	0.13	0.08	0.17	4.56	0.13	0.08
Worker Trips	0.33	0.24	0.14	0.06	0.33	0.24	0.14	0.06
2021 Subtotal[c]	*1.55*	*18.41*	*0.90*	*0.69*	*0.89*	*13.27*	*0.41*	*0.23*
2022								
Off-Road Equipment	1.36	12.83	0.63	0.59	0.32	2.59	0.04	0.04
Paving	—	—	—	—	—	—	—	—
Architectural Coating	—	—	—	—	—	—	—	—
Hauling – Travel	0.04	1.56	0.03	0.02	0.04	1.56	0.03	0.02
Hauling – Idling	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vendor Trucks	0.14	4.53	0.12	0.07	0.14	4.53	0.12	0.07
Worker Trips	0.32	0.23	0.15	0.06	0.32	0.23	0.15	0.06
2022 Subtotal[c]	*1.86*	*19.15*	*0.93*	*0.74*	*0.82*	*8.90*	*0.34*	*0.18*
2023								
Off-Road Equipment	0.78	7.53	0.35	0.34	0.16	0.67	0.02	0.02
Paving	—	—	—	—	—	—	—	—
Architectural Coating – Proposed Project	10.01	—	—	—	10.01	—	—	—
Architectural Coating – Residential Variant	14.68				14.68			
Hauling – Travel	—	—	—	—	—	—	—	—
Hauling – Idling	—	—	—	—	—	—	—	—
Vendor Trucks	0.08	3.45	0.10	0.04	0.08	3.45	0.10	0.04
Worker Trips	0.25	0.17	0.12	0.05	0.25	0.17	0.12	0.05
2023 Subtotal – Proposed Project[c]	*11.13*	*11.15*	*0.57*	*0.43*	*10.49*	*4.30*	*0.24*	*0.12*
2023 Subtotal – Residential Variant[c]	*15.79*	*11.15*	*0.57*	*0.43*	*15.16*	*4.30*	*0.24*	*0.12*

TABLE 7 (CONTINUED)
AVERAGE DAILY CONSTRUCTION EMISSIONS BY SOURCE FOR THE PROPOSED PROJECT AND RESIDENTIAL VARIANT

Year/Source[a]	Average Daily Emissions (pounds/day)							
	Uncontrolled				Controlled[b]			
	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
2024								
Off-Road Equipment	0.41	3.87	0.18	0.17	0.09	0.40	0.01	0.01
Paving	<0.01	—	—	—	<0.01	—	—	—
Architectural Coating	—	—	—	—	—	—	—	—
Hauling – Travel	—	—	—	—	—	—	—	—
Hauling – Idling	—	—	—	—	—	—	—	—
Vendor Trucks	0.08	3.39	0.10	0.04	0.08	3.39	0.10	0.04
Worker Trips	0.24	0.16	0.12	0.05	0.24	0.16	0.12	0.05
2024 Subtotal[c]	*0.73*	*7.42*	*0.39*	*0.26*	*0.41*	*3.95*	*0.23*	*0.11*

ABBREVIATIONS:

ROG = reactive organic gases
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
CalEEMod = CALifornia Emissions Estimator MODel
VOC = volatile organic compounds

NOTES:

[a] Categories defined as follows:
Off-Road Equipment = operating emissions from heavy-duty equipment, such as bulldozers, cranes, and excavators. Refer to Tables 2 and 3 for equipment activity assumptions. Emissions were modeled using CalEEMod.
Paving = Fugitive ROG emissions from asphalt paving. Emissions were modeled using CalEEMod.
Architectural Coatings = Fugitive ROG emissions from the application of architectural coatings. Emissions were modeled using CalEEMod.
Hauling – travel = Travel emissions from heavy-duty on-road haul trucks. Emissions were modeled using CalEEMod. Haul and vendor truck idling emissions were also calculated using EMFAC2017 and found to be negligible.
Vendor Trucks = Operating emissions from heavy-duty on-road vendor trucks. The analysis also calculated idling emissions, assuming that each haul truck would idle 15 minutes while unloading soil or material on the project site. Emissions were modeled using EMFAC2017; idling emissions were found to be negligible.
Worker Trips = Operating emission from employee vehicles. Emissions were modeled using CalEEMod.

[b] Controls include: (1) all off-road construction equipment was modeled with Tier 4 Final engine emission standards except for air compressors which were assumed to be electric.

[c] The number of construction days in each year are as follows: 30 days in 2021, 260 days in 2022, 260 days in 2023, and 58 days in 2024. In addition, in 2023 the architectural coating emissions are different for the proposed project and residential variant due to the differences in square footage of painted surfaces between them.

SOURCE: ESA, 2020.

TABLE 8
AVERAGE DAILY CONSTRUCTION EMISSIONS BY YEAR FOR THE PROPOSED PROJECT AND RESIDENTIAL VARIANT

Year[b]	Average Daily Emissions (pounds/day)							
	Uncontrolled				Controlled[a]			
	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust	ROG	NO_X	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
2021	*1.55*	*18.41*	*0.90*	*0.69*	*0.89*	*13.27*	*0.41*	*0.23*
2022	*1.86*	*19.15*	*0.93*	*0.74*	*0.82*	*8.90*	*0.34*	*0.18*
2023 Proposed Project	*11.13*	*11.15*	*0.57*	*0.43*	*10.49*	*4.30*	*0.24*	*0.12*
2023 Residential Variant	*15.79*	*11.15*	*0.57*	*0.43*	*15.16*	*4.30*	*0.24*	*0.12*
2024	*0.73*	*7.42*	*0.39*	*0.26*	*0.41*	*3.95*	*0.23*	*0.11*

ABBREVIATIONS:

ROG = reactive organic gases
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
VOC = volatile organic compounds

NOTES:

[a] Controls include: (1) all off-road construction equipment was modeled with Tier 4 Final engine emission standards except for air compressors which were assumed to be electric.

[b] The number of construction days in each year are as follows: 30 days in 2021, 260 days in 2022, 260 days in 2023, and 58 days in 2024. In addition, in 2023 the architectural coating emissions are different for the proposed project and residential variant due to the differences in square footage of painted surfaces between them.

SOURCE: ESA, 2020.

Operational Emissions

The following tables present average daily and total annual uncontrolled operational emissions by source (e.g., area). The tables presented below include:

- **Table 9:** average daily uncontrolled operational emissions for the proposed project and residential variant by source at project build out.
- **Table 10:** total annual uncontrolled operational emissions for the proposed project and residential variant by source at project build out.

TABLE 9
AVERAGE DAILY UNCONTROLLED OPERATIONAL EMISSIONS BY SOURCE FOR THE PROPOSED PROJECT AND RESIDENTIAL VARIANT

	Average Daily Emissions (pounds/day)[b]							
	Proposed Project				Residential Variant			
Phase/Year/Source[a]	ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Operation – 2024								
Area	6.05	<0.01	<0.01	<0.01	7.39	0.16	0.22	0.22
Energy	0.24	2.18	0.17	0.17	0.07	0.56	0.05	0.05
Mobile	1.89	0.80	2.05	0.65	0.70	0.34	0.99	0.32
Emergency Generators	0.19	0.54	0.03	0.03	0.19	0.54	0.03	0.03
Delivery Vehicles[c]	1.40	33.12	1.24	0.24	0.49	11.37	0.31	0.07
Total	*9.77*	*36.64*	*3.48*	*1.09*	*8.84*	*12.97*	*1.60*	*0.68*

ABBREVIATIONS:

ROG = reactive organic gases
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
CalEEMod = CALifornia Emissions Estimator MODel

NOTES:

[a] Categories defined as follows:
Area = Emissions from landscaping equipment, consumer products, and architectural coatings. Refer to Table 1 for the land use type and sizes assumed in the modeling. Emissions were modeled using CalEEMod.
Energy = Emissions from natural gas combustion for space heating and cooking. Refer to Table 1 for the land use type and sizes assumed in the modeling. Emissions were modeled using CalEEMod.
Mobile = Operating emissions from daily office, residential, and retail/restaurant auto trips. Refer to Table 5 for the daily vehicle trips and trip lengths by land use type. Emission from auto trips were estimated using CalEEMod.
Emergency Generators = Operating emissions from diesel-powered emergency generators.
Delivery Vehicles = Operating emissions from daily office, retail, and restaurant delivery vehicles trips. Refer to Table 6 for the daily vehicle trips and trip lengths by land use type. Emissions were estimated using emission factors from EMFAC2017.

[b] PM_{10} and $PM_{2.5}$ dust includes road dust, brake wear, and tire wear.
[c] Includes TRUs on hotel and restaurant delivery vehicles, for the proposed project only.

SOURCE: ESA, 2020

TABLE 10
TOTAL ANNUAL UNCONTROLLED OPERATIONAL EMISSIONS BY SOURCE FOR THE PROPOSED PROJECT AND RESIDENTIAL VARIANT

	Total Annual Emissions (tons/year)							
	Proposed Project				Residential Variant			
Phase/Year/Source[a]	ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Operation – 2024								
Area	1.10	<0.01	<0.01	0.0001	1.35	0.03	0.04	0.04
Energy	0.04	0.40	0.03	0.03	0.01	0.10	0.01	0.01
Mobile	0.34	0.15	0.37	0.12	0.13	0.06	0.18	0.06
Emergency Generators	0.04	0.10	0.01	0.01	0.04	0.10	0.01	0.01
Delivery Vehicles[c]	0.26	6.04	0.48	0.12	0.09	2.08	0.06	0.01
Total	*1.78*	*6.69*	*0.63*	*0.20*	*1.61*	*2.37*	*0.29*	*0.12*

ABBREVIATIONS:

ROG = reactive organic gases
NO_X = oxides of nitrogen
PM_{10} = particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter
CalEEMod = CALifornia Emissions Estimator MODel

NOTES:

[a] Categories defined as follows:
Area = Emissions from landscaping equipment, consumer products, and architectural coatings. Refer to Table 1 for the land use type and sizes assumed in the modeling. Emissions were modeled using CalEEMod.
Energy = Emissions from natural gas combustion for space heating and cooking. Refer to Table 1 for the land use type and sizes assumed in the modeling. Emissions were modeled using CalEEMod.
Mobile = Operating emissions from daily office, residential, and retail/restaurant auto trips. Refer to Table 5 for the daily vehicle trips and trip lengths by land use type. Emission from auto trips were estimated using EMFAC2017.
Emergency Generators = Operating emissions from diesel-powered emergency generators.
Delivery Vehicles = Operating emissions from daily office, retail, and restaurant delivery vehicles trips. Refer to Table 6 for the daily vehicle trips and trip lengths by land use type. Emissions were estimated using emission factors from EMFAC2017.

[b] PM_{10} and $PM_{2.5}$ dust includes road dust, brake wear, and tire wear.
[c] Includes TRUs on hotel and restaurant delivery vehicles, for the proposed project only.

SOURCE: ESA, 2020

APPENDIX A

Emissions Calculations

A1: **CalEEMod Output: Proposed Project Construction Emissions and Operational Area, Energy, and Stationary Source Emissions**

A2: **CalEEMod Output: Residential Variant Construction Emissions and Operational Area, Energy, and Stationary Source Emissions**

A3: **EMFAC2017 Output and Calculations: Proposed Project and Residential Variant Construction On-Road Emissions**

A4: **EMFAC2017 Calculations: Proposed Project Operational On-Road Emissions**

A5: **EMFAC2017 Calculations: Residential Variant Operational On-Road Emissions Year**

A6: **EMFAC2017 Output Files**

A7: **Road Dust Calculations: Proposed Project and Residential Variant**

A8: **TRU Emissions Calculations Using OFFROAD-ORION**

This page intentionally left blank

A1 CalEEMod Output: Proposed Project Construction Emissions and Operational Area, Energy, and Stationary Source Emissions

530 Sansome - Proposed Project - San Francisco County, Annual

530 Sansome - Proposed Project

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	39.80	1000sqft	0.28	40,490.00	0
User Defined Industrial	1.00	User Defined Unit	0.10	20,240.00	0
Enclosed Parking with Elevator	49.00	Space	0.01	19,600.00	0
Other Asphalt Surfaces	0.02	Acre	0.02	871.20	0
Health Club	36.40	1000sqft	0.00	35,230.00	0
Hotel	200.00	Room	0.00	146,065.00	0
Quality Restaurant	10.10	1000sqft	0.00	6,470.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	225.2	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE emission factor calculated from 2016 - 2018 average.

Land Use - per Project Sponsor data. "User Defined Industrial" represents the fire station.

Construction Phase - per Project Sponsor data.

Off-road Equipment - per Project Sponsor data.

Off-road Equipment - placeholder equipment for soil hauling phase

Trips and VMT - per Project Sponsor data. Soil hauling trucks based on 16 cubic yard capacity (CalEEMod default). Vendor trips based on total of 14,000 truck round trips

Demolition -

Grading - per Project Sponsor data

Vehicle Trips - Based on TIS for the project.

Road Dust - Silt Loading factor of 0.04 g/m2 based on: California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9 — Entrained Road Travel, Paved Road Dust, Revised and updated March 2018, https://ww2.arb.ca.gov/ei/areasrc/fullpdf/full7-9-2018.pdf

Energy Use -

Construction Off-road Equipment Mitigation - per Project Sponsor data.

Energy Mitigation -

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	124,248.00	124,425.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	372,743.00	373,275.00
tblAreaCoating	Area_Nonresidential_Exterior	124248	124425
tblAreaCoating	Area_Nonresidential_Interior	372743	373275
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	340.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	150.00
tblConstructionPhase	NumDays	2.00	100.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblGrading	AcresOfGrading	6.25	0.00

tblGrading	AcresOfGrading	5.00	0.50
tblLandUse	LandUseSquareFeet	39,800.00	40,490.00
tblLandUse	LandUseSquareFeet	0.00	20,240.00
tblLandUse	LandUseSquareFeet	36,400.00	35,230.00
tblLandUse	LandUseSquareFeet	290,400.00	146,065.00
tblLandUse	LandUseSquareFeet	10,100.00	6,470.00
tblLandUse	LotAcreage	0.91	0.28
tblLandUse	LotAcreage	0.00	0.10
tblLandUse	LotAcreage	0.44	0.01
tblLandUse	LotAcreage	0.84	0.00
tblLandUse	LotAcreage	6.67	0.00
tblLandUse	LotAcreage	0.23	0.00
tblOffRoadEquipment	HorsePower	187.00	1.00
tblOffRoadEquipment	HorsePower	187.00	1.00
tblOffRoadEquipment	LoadFactor	0.41	0.10
tblOffRoadEquipment	LoadFactor	0.41	0.10
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	225.2
tblRoadDust	RoadSiltLoading	0.1	0.04
tblSolidWaste	SolidWasteGenerationRate	9.22	6.21
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	464.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00

tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,750.00
tblTripsAndVMT	VendorTripNumber	0.00	44.00
tblTripsAndVMT	VendorTripNumber	44.00	640.00
tblTripsAndVMT	WorkerTripNumber	3.00	109.00
tblVehicleTrips	ST_TR	2.46	0.72
tblVehicleTrips	ST_TR	20.87	3.55
tblVehicleTrips	ST_TR	8.19	1.93
tblVehicleTrips	ST_TR	94.36	20.67
tblVehicleTrips	SU_TR	1.05	0.31
tblVehicleTrips	SU_TR	26.73	4.55
tblVehicleTrips	SU_TR	5.95	1.41
tblVehicleTrips	SU_TR	72.16	15.80
tblVehicleTrips	WD_TR	11.03	3.24
tblVehicleTrips	WD_TR	32.93	5.60
tblVehicleTrips	WD_TR	8.17	1.93
tblVehicleTrips	WD_TR	89.95	19.70
tblWater	IndoorWaterUseRate	3,065,690.50	2,064,029.24
tblWater	OutdoorWaterUseRate	195,682.37	131,746.55

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2021	0.0229	0.2910	0.2426	7.5000e-004	0.0485	8.3500e-003	0.0568	0.0111	7.7100e-003	0.0188	0.0000	73.1390	73.1390	0.0128	0.0000	73.4589
2022	0.2403	2.5666	2.3153	7.1500e-003	0.2124	0.0807	0.2931	0.0563	0.0758	0.1321	0.0000	669.3488	669.3488	0.1183	0.0000	672.3050
2023	1.4629	1.6106	1.3734	4.4900e-003	0.1537	0.0515	0.2052	0.0418	0.0488	0.0906	0.0000	418.6128	418.6128	0.0562	0.0000	420.0181
2024	0.0353	0.3508	0.3433	1.0400e-003	0.0337	0.0110	0.0447	9.1600e-003	0.0104	0.0196	0.0000	96.6075	96.6075	0.0140	0.0000	96.9584
Maximum	**1.4629**	**2.5666**	**2.3153**	**7.1500e-003**	**0.2124**	**0.0807**	**0.2931**	**0.0563**	**0.0758**	**0.1321**	**0.0000**	**669.3488**	**669.3488**	**0.1183**	**0.0000**	**672.3050**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0130	0.2139	0.2508	7.5000e-004	0.0485	8.7000e-004	0.0494	0.0111	8.4000e-004	0.0119	0.0000	73.1390	73.1390	0.0128	0.0000	73.4589
2022	0.1130	1.3315	2.4588	7.1500e-003	0.2124	8.0300e-003	0.2205	0.0563	7.8500e-003	0.0641	0.0000	638.7094	638.7094	0.1163	0.0000	641.6158
2023	1.3745	0.6319	1.5372	4.4900e-003	0.1537	4.5300e-003	0.1582	0.0418	4.4300e-003	0.0462	0.0000	418.6126	418.6126	0.0562	0.0000	420.0178
2024	0.0162	0.1406	0.3897	1.0400e-003	0.0337	1.0900e-003	0.0348	9.1600e-003	1.0700e-003	0.0102	0.0000	96.6074	96.6074	0.0140	0.0000	96.9584
Maximum	**1.3745**	**1.3315**	**2.4588**	**7.1500e-003**	**0.2124**	**8.0300e-003**	**0.2205**	**0.0563**	**7.8500e-003**	**0.0641**	**0.0000**	**638.7094**	**638.7094**	**0.1163**	**0.0000**	**641.6158**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**13.90**	**51.90**	**-8.46**	**0.00**	**0.00**	**90.42**	**22.84**	**0.00**	**90.06**	**49.25**	**0.00**	**2.44**	**2.44**	**0.99**	**0.00**	**2.43**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-1-2021	2-28-2022	0.7399	0.5728
2	3-1-2022	5-31-2022	0.6479	0.3694

3	**6-1-2022**	**8-31-2022**	0.5902	0.2333
4	**9-1-2022**	**11-30-2022**	0.9569	0.4088
5	**12-1-2022**	**2-28-2023**	0.4308	0.1822
6	**3-1-2023**	**5-31-2023**	0.4199	0.1741
7	**6-1-2023**	**8-31-2023**	0.4188	0.1730
8	**9-1-2023**	**11-30-2023**	1.8248	1.4869
9	**12-1-2023**	**2-29-2024**	0.4016	0.1716
10	**3-1-2024**	**5-31-2024**	0.1226	0.0434
		Highest	1.8248	1.4869

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1023	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003
Energy	0.0435	0.3958	0.3325	2.3700e-003		0.0301	0.0301		0.0301	0.0301	0.0000	662.4622	662.4622	0.0381	0.0141	667.6071
Mobile	0.1657	0.6219	1.6916	6.0700e-003	0.2915	6.5400e-003	0.2980	0.0849	6.1100e-003	0.0910	0.0000	559.4101	559.4101	0.0239	0.0000	560.0065
Stationary	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Waste						0.0000	0.0000		0.0000	0.0000	73.1173	0.0000	73.1173	4.3211	0.0000	181.1451
Water						0.0000	0.0000		0.0000	0.0000	5.1915	11.3153	16.5068	0.5347	0.0129	33.7156
Total	**1.3469**	**1.1167**	**2.1176**	**8.6100e-003**	**0.2915**	**0.0418**	**0.3333**	**0.0849**	**0.0414**	**0.1263**	**78.3089**	**1,249.6441**	**1,327.9530**	**4.9201**	**0.0270**	**1,458.9889**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1023	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003
Energy	0.0435	0.3958	0.3325	2.3700e-003		0.0301	0.0301		0.0301	0.0301	0.0000	662.4622	662.4622	0.0381	0.0141	667.6071
Mobile	0.1657	0.6219	1.6916	6.0700e-003	0.2915	6.5400e-003	0.2980	0.0849	6.1100e-003	0.0910	0.0000	559.4101	559.4101	0.0239	0.0000	560.0065
Stationary	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Waste						0.0000	0.0000		0.0000	0.0000	73.1173	0.0000	73.1173	4.3211	0.0000	181.1451
Water						0.0000	0.0000		0.0000	0.0000	5.1915	11.3153	16.5068	0.5347	0.0129	33.7156
Total	**1.3469**	**1.1167**	**2.1176**	**8.6100e-003**	**0.2915**	**0.0418**	**0.3333**	**0.0849**	**0.0414**	**0.1263**	**78.3089**	**1,249.6441**	**1,327.9530**	**4.9201**	**0.0270**	**1,458.9889**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2021	1/25/2022	5	40	
2	Site Preparation	Site Preparation	12/1/2021	3/22/2022	5	80	
3	Soil Hauling	Grading	12/1/2021	4/29/2022	7	150	
4	Grading	Grading	3/1/2022	7/18/2022	5	100	
5	Concrete Pour	Building Construction	8/1/2022	8/1/2022	5	1	
6	Drainage Utilities Subgrade	Building Construction	8/1/2022	11/18/2022	5	80	

7	Foundations and Concrete Pour	Building Construction	8/1/2022	11/18/2022	5	80	
8	Building Construction	Building Construction	12/1/2022	3/20/2024	5	340	
9	Architectural Coating	Architectural Coating	9/1/2023	11/9/2023	5	50	
10	Paving	Paving	3/1/2024	3/28/2024	5	20	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 373,275; Non-Residential Outdoor: 124,425; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Graders	1	1.00	1	0.10
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Soil Hauling	Aerial Lifts	1		63	0.31
Grading	Air Compressors	2	4.00	78	0.48
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	1.00	1	0.10
Grading	Rollers	1	8.00	80	0.38
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Concrete Pour	Cement and Mortar Mixers	1	20.00	9	0.56
Drainage Utilities Subgrade	Plate Compactors	1	8.00	8	0.43
Drainage Utilities Subgrade	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Foundations and Concrete Pour	Air Compressors	2	4.00	78	0.48
Foundations and Concrete Pour	Bore/Drill Rigs	1	8.00	221	0.50
Foundations and Concrete Pour	Cranes	2	8.00	231	0.29
Foundations and Concrete Pour	Excavators	1	8.00	158	0.38
Foundations and Concrete Pour	Pumps	1	8.00	84	0.74
Foundations and Concrete Pour	Sweepers/Scrubbers	1	8.00	64	0.46
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Pumps	1	8.00	84	0.74
Architectural Coating	Cranes	1	8.00	231	0.29
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Soil Hauling	1	109.00	44.00	1,750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Pour	1	109.00	640.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Utilities Subgrade	2	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundations and Concrete Pour	8	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	2.2900e-003	0.0000	2.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8000e-003	0.0788	0.0904	1.2000e-004		4.7800e-003	4.7800e-003		4.4000e-003	4.4000e-003	0.0000	10.9352	10.9352	3.5400e-003	0.0000	11.0236
Total	**7.8000e-003**	**0.0788**	**0.0904**	**1.2000e-004**	**0.0151**	**4.7800e-003**	**0.0199**	**2.2900e-003**	**4.4000e-003**	**6.6900e-003**	**0.0000**	**10.9352**	**10.9352**	**3.5400e-003**	**0.0000**	**11.0236**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0208	6.8000e-003	5.0000e-005	1.6800e-003	6.0000e-005	1.7400e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	5.6510	5.6510	1.0400e-003	0.0000	5.6769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**8.2000e-004**	**0.0210**	**9.1900e-003**	**6.0000e-005**	**2.5900e-003**	**7.0000e-005**	**2.6600e-003**	**6.8000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**6.4838**	**6.4838**	**1.0600e-003**	**0.0000**	**6.5101**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	2.2900e-003	0.0000	2.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0335	0.0940	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.9352	10.9352	3.5400e-003	0.0000	11.0236
Total	**2.1800e-003**	**0.0335**	**0.0940**	**1.2000e-004**	**0.0151**	**2.0000e-004**	**0.0153**	**2.2900e-003**	**2.0000e-004**	**2.4900e-003**	**0.0000**	**10.9352**	**10.9352**	**3.5400e-003**	**0.0000**	**11.0236**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0208	6.8000e-003	5.0000e-005	1.6800e-003	6.0000e-005	1.7400e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	5.6510	5.6510	1.0400e-003	0.0000	5.6769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**8.2000e-004**	**0.0210**	**9.1900e-003**	**6.0000e-005**	**2.5900e-003**	**7.0000e-005**	**2.6600e-003**	**6.8000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**6.4838**	**6.4838**	**1.0600e-003**	**0.0000**	**6.5101**

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0400e-003	0.0517	0.0661	9.0000e-005		2.8500e-003	2.8500e-003		2.6200e-003	2.6200e-003	0.0000	8.0893	8.0893	2.6200e-003	0.0000	8.1547
Total	**5.0400e-003**	**0.0517**	**0.0661**	**9.0000e-005**	**0.0112**	**2.8500e-003**	**0.0140**	**1.6900e-003**	**2.6200e-003**	**4.3100e-003**	**0.0000**	**8.0893**	**8.0893**	**2.6200e-003**	**0.0000**	**8.1547**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0141	5.1700e-003	4.0000e-005	1.6100e-003	4.0000e-005	1.6500e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	4.0997	4.0997	7.7000e-004	0.0000	4.1190
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.4000e-004	1.6500e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5927	0.5927	1.0000e-005	0.0000	0.5930
Total	**5.7000e-004**	**0.0143**	**6.8200e-003**	**5.0000e-005**	**2.2800e-003**	**5.0000e-005**	**2.3300e-003**	**6.0000e-004**	**4.0000e-005**	**6.4000e-004**	**0.0000**	**4.6924**	**4.6924**	**7.8000e-004**	**0.0000**	**4.7120**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6100e-003	0.0248	0.0695	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.0893	8.0893	2.6200e-003	0.0000	8.1547

Total	**1.6100e-003**	**0.0248**	**0.0695**	**9.0000e-005**	**0.0112**	**1.5000e-004**	**0.0113**	**1.6900e-003**	**1.5000e-004**	**1.8400e-003**	**0.0000**	**8.0893**	**8.0893**	**2.6200e-003**	**0.0000**	**8.1547**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0141	5.1700e-003	4.0000e-005	1.6100e-003	4.0000e-005	1.6500e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	4.0997	4.0997	7.7000e-004	0.0000	4.1190
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.4000e-004	1.6500e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5927	0.5927	1.0000e-005	0.0000	0.5930
Total	**5.7000e-004**	**0.0143**	**6.8200e-003**	**5.0000e-005**	**2.2800e-003**	**5.0000e-005**	**2.3300e-003**	**6.0000e-004**	**4.0000e-005**	**6.4000e-004**	**0.0000**	**4.6924**	**4.6924**	**7.8000e-004**	**0.0000**	**4.7120**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7300e-003	0.0513	0.0625	9.0000e-005		3.0500e-003	3.0500e-003		2.8200e-003	2.8200e-003	0.0000	8.1463	8.1463	2.5600e-003	0.0000	8.2102
Total	**5.7300e-003**	**0.0513**	**0.0625**	**9.0000e-005**	**2.7000e-004**	**3.0500e-003**	**3.3200e-003**	**3.0000e-005**	**2.8200e-003**	**2.8500e-003**	**0.0000**	**8.1463**	**8.1463**	**2.5600e-003**	**0.0000**	**8.2102**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**3.3000e-004**	**2.1000e-004**	**2.3900e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8328**	**0.8328**	**2.0000e-005**	**0.0000**	**0.8332**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4500e-003	0.0195	0.0672	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	8.1463	8.1463	2.5600e-003	0.0000	8.2102
Total	**1.4500e-003**	**0.0195**	**0.0672**	**9.0000e-005**	**2.7000e-004**	**1.5000e-004**	**4.2000e-004**	**3.0000e-005**	**1.5000e-004**	**1.8000e-004**	**0.0000**	**8.1463**	**8.1463**	**2.5600e-003**	**0.0000**	**8.2102**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**3.3000e-004**	**2.1000e-004**	**2.3900e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8328**	**0.8328**	**2.0000e-005**	**0.0000**	**0.8332**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1092	0.1534	2.3000e-004		6.1600e-003	6.1600e-003		5.6900e-003	5.6900e-003	0.0000	20.1841	20.1841	6.3300e-003	0.0000	20.3424
Total	**0.0124**	**0.1092**	**0.1534**	**2.3000e-004**	**2.7000e-004**	**6.1600e-003**	**6.4300e-003**	**3.0000e-005**	**5.6900e-003**	**5.7200e-003**	**0.0000**	**20.1841**	**20.1841**	**6.3300e-003**	**0.0000**	**20.3424**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	7.7000e-004	4.7000e-004	5.5200e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	2.0000e-005	6.1000e-004	0.0000	1.9873	1.9873	4.0000e-005	0.0000	1.9882
Total	**7.7000e-004**	**4.7000e-004**	**5.5200e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**1.9873**	**1.9873**	**4.0000e-005**	**0.0000**	**1.9882**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5900e-003	0.0484	0.1664	2.3000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	20.1840	20.1840	6.3300e-003	0.0000	20.3424
Total	**3.5900e-003**	**0.0484**	**0.1664**	**2.3000e-004**	**2.7000e-004**	**3.6000e-004**	**6.3000e-004**	**3.0000e-005**	**3.6000e-004**	**3.9000e-004**	**0.0000**	**20.1840**	**20.1840**	**6.3300e-003**	**0.0000**	**20.3424**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	4.7000e-004	5.5200e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	2.0000e-005	6.1000e-004	0.0000	1.9873	1.9873	4.0000e-005	0.0000	1.9882
Total	**7.7000e-004**	**4.7000e-004**	**5.5200e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**1.9873**	**1.9873**	**4.0000e-005**	**0.0000**	**1.9882**

3.4 Soil Hauling - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0584	0.0191	1.5000e-004	0.0118	1.7000e-004	0.0120	2.9900e-003	1.6000e-004	3.1500e-003	0.0000	15.8677	15.8677	2.9100e-003	0.0000	15.9405
Vendor	2.0800e-003	0.0782	0.0239	1.8000e-004	4.4600e-003	1.8000e-004	4.6300e-003	1.2900e-003	1.7000e-004	1.4600e-003	0.0000	18.6383	18.6383	2.4700e-003	0.0000	18.7002
Worker	4.8100e-003	3.0700e-003	0.0351	1.4000e-004	0.0134	1.0000e-004	0.0135	3.5500e-003	9.0000e-005	3.6400e-003	0.0000	12.2349	12.2349	2.5000e-004	0.0000	12.2412
Total	**8.2600e-003**	**0.1396**	**0.0781**	**4.7000e-004**	**0.0296**	**4.5000e-004**	**0.0301**	**7.8300e-003**	**4.2000e-004**	**8.2500e-003**	**0.0000**	**46.7409**	**46.7409**	**5.6300e-003**	**0.0000**	**46.8818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0584	0.0191	1.5000e-004	0.0118	1.7000e-004	0.0120	2.9900e-003	1.6000e-004	3.1500e-003	0.0000	15.8677	15.8677	2.9100e-003	0.0000	15.9405
Vendor	2.0800e-003	0.0782	0.0239	1.8000e-004	4.4600e-003	1.8000e-004	4.6300e-003	1.2900e-003	1.7000e-004	1.4600e-003	0.0000	18.6383	18.6383	2.4700e-003	0.0000	18.7002
Worker	4.8100e-003	3.0700e-003	0.0351	1.4000e-004	0.0134	1.0000e-004	0.0135	3.5500e-003	9.0000e-005	3.6400e-003	0.0000	12.2349	12.2349	2.5000e-004	0.0000	12.2412
Total	**8.2600e-003**	**0.1396**	**0.0781**	**4.7000e-004**	**0.0296**	**4.5000e-004**	**0.0301**	**7.8300e-003**	**4.2000e-004**	**8.2500e-003**	**0.0000**	**46.7409**	**46.7409**	**5.6300e-003**	**0.0000**	**46.8818**

3.4 Soil Hauling - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0100e-003	0.2062	0.0754	5.5000e-004	0.0139	5.6000e-004	0.0145	3.7600e-003	5.4000e-004	4.3000e-003	0.0000	59.7876	59.7876	0.0112	0.0000	60.0683
Vendor	7.4800e-003	0.2842	0.0899	6.9000e-004	0.0171	6.0000e-004	0.0177	4.9500e-003	5.7000e-004	5.5100e-003	0.0000	70.6024	70.6024	9.3600e-003	0.0000	70.8365
Worker	0.0174	0.0107	0.1257	5.0000e-004	0.0513	3.8000e-004	0.0516	0.0136	3.5000e-004	0.0140	0.0000	45.2224	45.2224	8.7000e-004	0.0000	45.2442
Total	**0.0299**	**0.5010**	**0.2909**	**1.7400e-003**	**0.0823**	**1.5400e-003**	**0.0838**	**0.0223**	**1.4600e-003**	**0.0238**	**0.0000**	**175.6124**	**175.6124**	**0.0215**	**0.0000**	**176.1490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0100e-003	0.2062	0.0754	5.5000e-004	0.0139	5.6000e-004	0.0145	3.7600e-003	5.4000e-004	4.3000e-003	0.0000	59.7876	59.7876	0.0112	0.0000	60.0683
Vendor	7.4800e-003	0.2842	0.0899	6.9000e-004	0.0171	6.0000e-004	0.0177	4.9500e-003	5.7000e-004	5.5100e-003	0.0000	70.6024	70.6024	9.3600e-003	0.0000	70.8365
Worker	0.0174	0.0107	0.1257	5.0000e-004	0.0513	3.8000e-004	0.0516	0.0136	3.5000e-004	0.0140	0.0000	45.2224	45.2224	8.7000e-004	0.0000	45.2442
Total	**0.0299**	**0.5010**	**0.2909**	**1.7400e-003**	**0.0823**	**1.5400e-003**	**0.0838**	**0.0223**	**1.4600e-003**	**0.0238**	**0.0000**	**175.6124**	**175.6124**	**0.0215**	**0.0000**	**176.1490**

3.5 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0529	0.4725	0.5746	1.1900e-003		0.0244	0.0244		0.0229	0.0229	0.0000	103.8328	103.8328	0.0292	0.0000	104.5624
Total	**0.0529**	**0.4725**	**0.5746**	**1.1900e-003**	**0.0000**	**0.0244**	**0.0244**	**0.0000**	**0.0229**	**0.0229**	**0.0000**	**103.8328**	**103.8328**	**0.0292**	**0.0000**	**104.5624**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4200e-003	1.4800e-003	0.0174	7.0000e-005	7.1100e-003	5.0000e-005	7.1600e-003	1.8900e-003	5.0000e-005	1.9400e-003	0.0000	6.2756	6.2756	1.2000e-004	0.0000	6.2786
Total	**2.4200e-003**	**1.4800e-003**	**0.0174**	**7.0000e-005**	**7.1100e-003**	**5.0000e-005**	**7.1600e-003**	**1.8900e-003**	**5.0000e-005**	**1.9400e-003**	**0.0000**	**6.2756**	**6.2756**	**1.2000e-004**	**0.0000**	**6.2786**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0138	0.1172	0.6055	1.1900e-003		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	86.8110	86.8110	0.0281	0.0000	87.5129
Total	**0.0138**	**0.1172**	**0.6055**	**1.1900e-003**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**1.6300e-003**	**1.6300e-003**	**0.0000**	**86.8110**	**86.8110**	**0.0281**	**0.0000**	**87.5129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	2.4200e-003	1.4800e-003	0.0174	7.0000e-005	7.1100e-003	5.0000e-005	7.1600e-003	1.8900e-003	5.0000e-005	1.9400e-003	0.0000	6.2756	6.2756	1.2000e-004	0.0000	6.2786
Total	**2.4200e-003**	**1.4800e-003**	**0.0174**	**7.0000e-005**	**7.1100e-003**	**5.0000e-005**	**7.1600e-003**	**1.8900e-003**	**5.0000e-005**	**1.9400e-003**	**0.0000**	**6.2756**	**6.2756**	**1.2000e-004**	**0.0000**	**6.2786**

3.6 Concrete Pour - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0000e-005	4.6000e-004	3.9000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0573	0.0573	1.0000e-005	0.0000	0.0574
Total	**7.0000e-005**	**4.6000e-004**	**3.9000e-004**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0573**	**0.0573**	**1.0000e-005**	**0.0000**	**0.0574**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0347	0.0110	8.0000e-005	2.0900e-003	7.0000e-005	2.1600e-003	6.0000e-004	7.0000e-005	6.7000e-004	0.0000	8.6298	8.6298	1.1400e-003	0.0000	8.6584
Worker	1.5000e-004	9.0000e-005	1.0600e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3800	0.3800	1.0000e-005	0.0000	0.3802
Total	**1.0600e-003**	**0.0348**	**0.0121**	**8.0000e-005**	**2.5200e-003**	**7.0000e-005**	**2.5900e-003**	**7.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**9.0098**	**9.0098**	**1.1500e-003**	**0.0000**	**9.0386**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0573	0.0573	1.0000e-005	0.0000	0.0574
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0573**	**0.0573**	**1.0000e-005**	**0.0000**	**0.0574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0347	0.0110	8.0000e-005	2.0900e-003	7.0000e-005	2.1600e-003	6.0000e-004	7.0000e-005	6.7000e-004	0.0000	8.6298	8.6298	1.1400e-003	0.0000	8.6584
Worker	1.5000e-004	9.0000e-005	1.0600e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3800	0.3800	1.0000e-005	0.0000	0.3802
Total	**1.0600e-003**	**0.0348**	**0.0121**	**8.0000e-005**	**2.5200e-003**	**7.0000e-005**	**2.5900e-003**	**7.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**9.0098**	**9.0098**	**1.1500e-003**	**0.0000**	**9.0386**

3.7 Drainage Utilities Subgrade - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	8.1900e-003	0.0771	0.0979	1.4000e-004		4.0000e-003	4.0000e-003		3.7100e-003	3.7100e-003	0.0000	12.1823	12.1823	3.6700e-003	0.0000	12.2740
Total	**8.1900e-003**	**0.0771**	**0.0979**	**1.4000e-004**		**4.0000e-003**	**4.0000e-003**		**3.7100e-003**	**3.7100e-003**	**0.0000**	**12.1823**	**12.1823**	**3.6700e-003**	**0.0000**	**12.2740**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5200e-003	6.5800e-003	0.0937	1.4000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	12.1823	12.1823	3.6700e-003	0.0000	12.2740
Total	**1.5200e-003**	**6.5800e-003**	**0.0937**	**1.4000e-004**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**12.1823**	**12.1823**	**3.6700e-003**	**0.0000**	**12.2740**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

3.8 Foundations and Concrete Pour - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0796	0.7625	0.6859	1.5700e-003		0.0357	0.0357		0.0337	0.0337	0.0000	137.0107	137.0107	0.0346	0.0000	137.8766
Total	**0.0796**	**0.7625**	**0.6859**	**1.5700e-003**		**0.0357**	**0.0357**		**0.0337**	**0.0337**	**0.0000**	**137.0107**	**137.0107**	**0.0346**	**0.0000**	**137.8766**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0180	0.1242	0.7753	1.5700e-003		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	123.3932	123.3932	0.0338	0.0000	124.2370
Total	**0.0180**	**0.1242**	**0.7753**	**1.5700e-003**		**2.2400e-003**	**2.2400e-003**		**2.2400e-003**	**2.2400e-003**	**0.0000**	**123.3932**	**123.3932**	**0.0338**	**0.0000**	**124.2370**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

3.9 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.2200e-003	0.0903	0.0746	1.5000e-004		4.3900e-003	4.3900e-003		4.1800e-003	4.1800e-003	0.0000	13.2711	13.2711	2.6000e-003	0.0000	13.3360
Total	**9.2200e-003**	**0.0903**	**0.0746**	**1.5000e-004**		**4.3900e-003**	**4.3900e-003**		**4.1800e-003**	**4.1800e-003**	**0.0000**	**13.2711**	**13.2711**	**2.6000e-003**	**0.0000**	**13.3360**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0525	0.0166	1.3000e-004	3.1600e-003	1.1000e-004	3.2700e-003	9.1000e-004	1.1000e-004	1.0200e-003	0.0000	13.0525	13.0525	1.7300e-003	0.0000	13.0958

Worker	3.2200e-003	1.9700e-003	0.0232	9.0000e-005	9.4700e-003	7.0000e-005	9.5400e-003	2.5200e-003	6.0000e-005	2.5900e-003	0.0000	8.3605	8.3605	1.6000e-004	0.0000	8.3645
Total	**4.6000e-003**	**0.0545**	**0.0399**	**2.2000e-004**	**0.0126**	**1.8000e-004**	**0.0128**	**3.4300e-003**	**1.7000e-004**	**3.6100e-003**	**0.0000**	**21.4130**	**21.4130**	**1.8900e-003**	**0.0000**	**21.4603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7100e-003	7.4100e-003	0.0860	1.5000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	13.2711	13.2711	2.6000e-003	0.0000	13.3360
Total	**1.7100e-003**	**7.4100e-003**	**0.0860**	**1.5000e-004**		**2.3000e-004**	**2.3000e-004**		**2.3000e-004**	**2.3000e-004**	**0.0000**	**13.2711**	**13.2711**	**2.6000e-003**	**0.0000**	**13.3360**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0525	0.0166	1.3000e-004	3.1600e-003	1.1000e-004	3.2700e-003	9.1000e-004	1.1000e-004	1.0200e-003	0.0000	13.0525	13.0525	1.7300e-003	0.0000	13.0958
Worker	3.2200e-003	1.9700e-003	0.0232	9.0000e-005	9.4700e-003	7.0000e-005	9.5400e-003	2.5200e-003	6.0000e-005	2.5900e-003	0.0000	8.3605	8.3605	1.6000e-004	0.0000	8.3645
Total	**4.6000e-003**	**0.0545**	**0.0399**	**2.2000e-004**	**0.0126**	**1.8000e-004**	**0.0128**	**3.4300e-003**	**1.7000e-004**	**3.6100e-003**	**0.0000**	**21.4130**	**21.4130**	**1.8900e-003**	**0.0000**	**21.4603**

3.9 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1016	0.9787	0.8716	1.8000e-003		0.0460	0.0460		0.0437	0.0437	0.0000	156.8386	156.8386	0.0303	0.0000	157.5967
Total	**0.1016**	**0.9787**	**0.8716**	**1.8000e-003**		**0.0460**	**0.0460**		**0.0437**	**0.0437**	**0.0000**	**156.8386**	**156.8386**	**0.0303**	**0.0000**	**157.5967**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.5147	0.1896	1.4500e-003	0.0374	7.4000e-004	0.0381	0.0108	7.1000e-004	0.0115	0.0000	150.4244	150.4244	0.0200	0.0000	150.9242
Worker	0.0360	0.0211	0.2564	1.0500e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0306	0.0000	94.9891	94.9891	1.7300e-003	0.0000	95.0322
Total	**0.0492**	**0.5358**	**0.4460**	**2.5000e-003**	**0.1494**	**1.5600e-003**	**0.1509**	**0.0406**	**1.4700e-003**	**0.0421**	**0.0000**	**245.4135**	**245.4135**	**0.0217**	**0.0000**	**245.9565**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.0202	0.0876	1.0162	1.8000e-003		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	156.8385	156.8385	0.0303	0.0000	157.5965
Total	**0.0202**	**0.0876**	**1.0162**	**1.8000e-003**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**156.8385**	**156.8385**	**0.0303**	**0.0000**	**157.5965**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.5147	0.1896	1.4500e-003	0.0374	7.4000e-004	0.0381	0.0108	7.1000e-004	0.0115	0.0000	150.4244	150.4244	0.0200	0.0000	150.9242
Worker	0.0360	0.0211	0.2564	1.0500e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0306	0.0000	94.9891	94.9891	1.7300e-003	0.0000	95.0322
Total	**0.0492**	**0.5358**	**0.4460**	**2.5000e-003**	**0.1494**	**1.5600e-003**	**0.1509**	**0.0406**	**1.4700e-003**	**0.0421**	**0.0000**	**245.4135**	**245.4135**	**0.0217**	**0.0000**	**245.9565**

3.9 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0212	0.2020	0.1924	4.0000e-004		9.1100e-003	9.1100e-003		8.6500e-003	8.6500e-003	0.0000	34.9868	34.9868	6.7400e-003	0.0000	35.1552
Total	**0.0212**	**0.2020**	**0.1924**	**4.0000e-004**		**9.1100e-003**	**9.1100e-003**		**8.6500e-003**	**8.6500e-003**	**0.0000**	**34.9868**	**34.9868**	**6.7400e-003**	**0.0000**	**35.1552**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1120	0.0419	3.2000e-004	8.3400e-003	1.6000e-004	8.5000e-003	2.4100e-003	1.5000e-004	2.5600e-003	0.0000	33.2449	33.2449	4.4500e-003	0.0000	33.3563
Worker	7.6400e-003	4.2800e-003	0.0536	2.2000e-004	0.0250	1.8000e-004	0.0252	6.6400e-003	1.7000e-004	6.8100e-003	0.0000	20.3463	20.3463	3.5000e-004	0.0000	20.3550
Total	**0.0105**	**0.1163**	**0.0955**	**5.4000e-004**	**0.0333**	**3.4000e-004**	**0.0337**	**9.0500e-003**	**3.2000e-004**	**9.3700e-003**	**0.0000**	**53.5912**	**53.5912**	**4.8000e-003**	**0.0000**	**53.7113**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5100e-003	0.0195	0.2267	4.0000e-004		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	34.9867	34.9867	6.7400e-003	0.0000	35.1551
Total	**4.5100e-003**	**0.0195**	**0.2267**	**4.0000e-004**		**6.0000e-004**	**6.0000e-004**		**6.0000e-004**	**6.0000e-004**	**0.0000**	**34.9867**	**34.9867**	**6.7400e-003**	**0.0000**	**35.1551**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1120	0.0419	3.2000e-004	8.3400e-003	1.6000e-004	8.5000e-003	2.4100e-003	1.5000e-004	2.5600e-003	0.0000	33.2449	33.2449	4.4500e-003	0.0000	33.3563
Worker	7.6400e-003	4.2800e-003	0.0536	2.2000e-004	0.0250	1.8000e-004	0.0252	6.6400e-003	1.7000e-004	6.8100e-003	0.0000	20.3463	20.3463	3.5000e-004	0.0000	20.3550
Total	**0.0105**	**0.1163**	**0.0955**	**5.4000e-004**	**0.0333**	**3.4000e-004**	**0.0337**	**9.0500e-003**	**3.2000e-004**	**9.3700e-003**	**0.0000**	**53.5912**	**53.5912**	**4.8000e-003**	**0.0000**	**53.7113**

3.10 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7900e-003	0.0954	0.0459	1.4000e-004		3.9800e-003	3.9800e-003		3.6600e-003	3.6600e-003	0.0000	12.6738	12.6738	4.1000e-003	0.0000	12.7763
Total	**1.3107**	**0.0954**	**0.0459**	**1.4000e-004**		**3.9800e-003**	**3.9800e-003**		**3.6600e-003**	**3.6600e-003**	**0.0000**	**12.6738**	**12.6738**	**4.1000e-003**	**0.0000**	**12.7763**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	8.2000e-004	9.9500e-003	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.6869	3.6869	7.0000e-005	0.0000	3.6886
Total	**1.4000e-003**	**8.2000e-004**	**9.9500e-003**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1900e-003**	**0.0000**	**3.6869**	**3.6869**	**7.0000e-005**	**0.0000**	**3.6886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3019					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7700e-003	7.6800e-003	0.0650	1.4000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	12.6738	12.6738	4.1000e-003	0.0000	12.7763
Total	**1.3036**	**7.6800e-003**	**0.0650**	**1.4000e-004**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**12.6738**	**12.6738**	**4.1000e-003**	**0.0000**	**12.7763**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	1.4000e-003	8.2000e-004	9.9500e-003	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.6869	3.6869	7.0000e-005	0.0000	3.6886
Total	**1.4000e-003**	**8.2000e-004**	**9.9500e-003**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1900e-003**	**0.0000**	**3.6869**	**3.6869**	**7.0000e-005**	**0.0000**	**3.6886**

3.11 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4800e-003	0.0324	0.0546	9.0000e-005		1.5400e-003	1.5400e-003		1.4100e-003	1.4100e-003	0.0000	7.7077	7.7077	2.4900e-003	0.0000	7.7700
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5100e-003**	**0.0324**	**0.0546**	**9.0000e-005**		**1.5400e-003**	**1.5400e-003**		**1.4100e-003**	**1.4100e-003**	**0.0000**	**7.7077**	**7.7077**	**2.4900e-003**	**0.0000**	**7.7700**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	7.0000e-005	8.5000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3218	0.3218	1.0000e-005	0.0000	0.3220
Total	**1.2000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3218**	**0.3218**	**1.0000e-005**	**0.0000**	**0.3220**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0800e-003	4.6800e-003	0.0666	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.7077	7.7077	2.4900e-003	0.0000	7.7700
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1100e-003**	**4.6800e-003**	**0.0666**	**9.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.7077**	**7.7077**	**2.4900e-003**	**0.0000**	**7.7700**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	7.0000e-005	8.5000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3218	0.3218	1.0000e-005	0.0000	0.3220
Total	**1.2000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3218**	**0.3218**	**1.0000e-005**	**0.0000**	**0.3220**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1657	0.6219	1.6916	6.0700e-003	0.2915	6.5400e-003	0.2980	0.0849	6.1100e-003	0.0910	0.0000	559.4101	559.4101	0.0239	0.0000	560.0065
Unmitigated	0.1657	0.6219	1.6916	6.0700e-003	0.2915	6.5400e-003	0.2980	0.0849	6.1100e-003	0.0910	0.0000	559.4101	559.4101	0.0239	0.0000	560.0065

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	128.95	28.66	12.34	234,112	234,112
Health Club	203.84	129.22	165.62	324,318	324,318
Hotel	386.00	386.00	282.00	705,146	705,146
Other Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	198.97	208.77	159.58	230,997	230,997
User Defined Industrial	0.00	0.00	0.00		
Total	917.76	752.64	619.54	1,494,572	1,494,572

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Quality Restaurant	9.50	7.30	7.30	12.00	69.00	19.00	38	18	44
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
General Office Building	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Health Club	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Hotel	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Other Asphalt Surfaces	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Quality Restaurant	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
User Defined Industrial	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.6087	231.6087	0.0298	6.1700e-003	234.1932
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	231.6087	231.6087	0.0298	6.1700e-003	234.1932
NaturalGas Mitigated	0.0435	0.3958	0.3325	2.3700e-003		0.0301	0.0301		0.0301	0.0301	0.0000	430.8535	430.8535	8.2600e-003	7.9000e-003	433.4139
NaturalGas Unmitigated	0.0435	0.3958	0.3325	2.3700e-003		0.0301	0.0301		0.0301	0.0301	0.0000	430.8535	430.8535	8.2600e-003	7.9000e-003	433.4139

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	782672	4.2200e-003	0.0384	0.0322	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.7663	41.7663	8.0000e-004	7.7000e-004	42.0145
Health Club	871943	4.7000e-003	0.0427	0.0359	2.6000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	46.5302	46.5302	8.9000e-004	8.5000e-004	46.8067
Hotel	5.33283e+006	0.0288	0.2614	0.2196	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.5803	284.5803	5.4500e-003	5.2200e-003	286.2714
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.08644e+006	5.8600e-003	0.0533	0.0447	3.2000e-004		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	57.9767	57.9767	1.1100e-003	1.0600e-003	58.3212
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0435**	**0.3958**	**0.3325**	**2.3800e-003**		**0.0301**	**0.0301**		**0.0301**	**0.0301**	**0.0000**	**430.8535**	**430.8535**	**8.2500e-003**	**7.9000e-003**	**433.4139**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	782672	4.2200e-003	0.0384	0.0322	2.3000e-004		2.9200e-003	2.9200e-003		2.9200e-003	2.9200e-003	0.0000	41.7663	41.7663	8.0000e-004	7.7000e-004	42.0145
Health Club	871943	4.7000e-003	0.0427	0.0359	2.6000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	46.5302	46.5302	8.9000e-004	8.5000e-004	46.8067
Hotel	5.33283e+006	0.0288	0.2614	0.2196	1.5700e-003		0.0199	0.0199		0.0199	0.0199	0.0000	284.5803	284.5803	5.4500e-003	5.2200e-003	286.2714

Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.08644e+006	5.8600e-003	0.0533	0.0447	3.2000e-004		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.0000	57.9767	57.9767	1.1100e-003	1.0600e-003	58.3212
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0435**	**0.3958**	**0.3325**	**2.3800e-003**		**0.0301**	**0.0301**		**0.0301**	**0.0301**	**0.0000**	**430.8535**	**430.8535**	**8.2500e-003**	**7.9000e-003**	**433.4139**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	114856	11.7324	1.5100e-003	3.1000e-004	11.8634
General Office Building	505315	51.6174	6.6500e-003	1.3800e-003	52.1934
Health Club	266339	27.2062	3.5000e-003	7.2000e-004	27.5098
Hotel	1.19335e+006	121.8996	0.0157	3.2500e-003	123.2599
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	187501	19.1530	2.4700e-003	5.1000e-004	19.3667
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**231.6087**	**0.0298**	**6.1700e-003**	**234.1933**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	114856	11.7324	1.5100e-003	3.1000e-004	11.8634
General Office Building	505315	51.6174	6.6500e-003	1.3800e-003	52.1934
Health Club	266339	27.2062	3.5000e-003	7.2000e-004	27.5098
Hotel	1.19335e+006	121.8996	0.0157	3.2500e-003	123.2599
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	187501	19.1530	2.4700e-003	5.1000e-004	19.3667
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**231.6087**	**0.0298**	**6.1700e-003**	**234.1933**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1023	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003
Unmitigated	1.1023	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1302					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9718					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003
Total	**1.1023**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0100e-003**	**6.0100e-003**	**2.0000e-005**	**0.0000**	**6.4000e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1302					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9718					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0100e-003	6.0100e-003	2.0000e-005	0.0000	6.4000e-003
Total	**1.1023**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0100e-003**	**6.0100e-003**	**2.0000e-005**	**0.0000**	**6.4000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.5068	0.5347	0.0129	33.7156
Unmitigated	16.5068	0.5347	0.0129	33.7156

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	7.0738 / 4.33556	7.7041	0.2312	5.5900e-003	15.1495
Health Club	2.15281 / 1.31946	2.3446	0.0704	1.7000e-003	4.6105
Hotel	5.07335 / 0.563706	4.6153	0.1657	3.9800e-003	9.9449
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.06403 / 0.131747	1.8428	0.0674	1.6200e-003	4.0107
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.5068**	**0.5347**	**0.0129**	**33.7156**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	7.0738 / 4.33556	7.7041	0.2312	5.5900e-003	15.1495
Health Club	2.15281 / 1.31946	2.3446	0.0704	1.7000e-003	4.6105
Hotel	5.07335 / 0.563706	4.6153	0.1657	3.9800e-003	9.9449
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	2.06403 / 0.131747	1.8428	0.0674	1.6200e-003	4.0107
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**16.5068**	**0.5347**	**0.0129**	**33.7156**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	73.1173	4.3211	0.0000	181.1451
Unmitigated	73.1173	4.3211	0.0000	181.1451

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	37.01	7.5127	0.4440	0.0000	18.6124
Health Club	207.48	42.1166	2.4890	0.0000	104.3420
Hotel	109.5	22.2275	1.3136	0.0000	55.0677
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	6.21	1.2606	0.0745	0.0000	3.1230
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**73.1173**	**4.3211**	**0.0000**	**181.1451**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	37.01	7.5127	0.4440	0.0000	18.6124
Health Club	207.48	42.1166	2.4890	0.0000	104.3420
Hotel	109.5	22.2275	1.3136	0.0000	55.0677
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	6.21	1.2606	0.0745	0.0000	3.1230
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**73.1173**	**4.3211**	**0.0000**	**181.1451**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	400	0.73	Diesel
Emergency Generator	1	0	50	464	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Total	**0.0354**	**0.0991**	**0.0904**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**5.2100e-003**	**5.2100e-003**	**0.0000**	**16.4504**	**16.4504**	**2.3100e-003**	**0.0000**	**16.5081**

11.0 Vegetation

This page intentionally left blank

A2 CalEEMod Output: Residential Variant Construction Emissions and Operational Area, Energy, and Stationary Source Emissions

530 Sansome - Residential Variant

San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.10	20,240.00	0
Other Asphalt Surfaces	0.02	Acre	0.02	871.20	0
Condo/Townhouse High Rise	256.00	Dwelling Unit	0.29	257,400.00	732

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	4.6	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	225.2	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE emission factor calculated from 2016 - 2018 average.

Land Use - "User Defined Industrial" represents the fire station.

Construction Phase - per Project Sponsor data

Off-road Equipment - Place holder phase for soil hauling trucks

Trips and VMT - Material export truck trips based on 16 cubic yards capacity per truck (CalEEMod default). Vendor trips based on a total of 14,000 round trips

Demolition -

Grading - per Project Sponsor data

Vehicle Trips - Trip rates from TIS for the project (residential variant).

Road Dust - Silt Loading factor of 0.04 g/m2 based on: California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9 - Entrained Road Travel, Paved Road Dust, Revised and updated March 2018, https://ww2.arb.ca.gov/ei/areasrc/fullpdf/full7-9-2018.pdf

Woodstoves - per Project Sponsor data.

Energy Use -

Construction Off-road Equipment Mitigation - per Project Sponsor data

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	10,120.00	10,175.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	30,360.00	30,525.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	173,745.00	172,800.00
tblArchitecturalCoating	ConstArea_Residential_Interior	521,235.00	518,400.00
tblAreaCoating	Area_Nonresidential_Exterior	10120	10175
tblAreaCoating	Area_Nonresidential_Interior	30360	30525
tblAreaCoating	Area_Residential_Exterior	173745	172800
tblAreaCoating	Area_Residential_Interior	521235	518400
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	5.00	50.00
tblConstructionPhase	NumDays	100.00	1.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	340.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	150.00
tblConstructionPhase	NumDays	2.00	100.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFireplaces	NumberNoFireplace	10.24	12.00
tblFireplaces	NumberWood	43.52	0.00

tblGrading	AcresOfGrading	6.25	0.00
tblGrading	AcresOfGrading	5.00	0.50
tblLandUse	LandUseSquareFeet	0.00	20,240.00
tblLandUse	LandUseSquareFeet	256,000.00	257,400.00
tblLandUse	LotAcreage	0.00	0.10
tblLandUse	LotAcreage	4.00	0.29
tblOffRoadEquipment	HorsePower	187.00	1.00
tblOffRoadEquipment	HorsePower	63.00	0.00
tblOffRoadEquipment	HorsePower	187.00	1.00
tblOffRoadEquipment	LoadFactor	0.41	0.10
tblOffRoadEquipment	LoadFactor	0.41	0.10
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	225.2
tblRoadDust	RoadSiltLoading	0.1	0.04
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	464.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,750.00
tblTripsAndVMT	VendorTripNumber	0.00	44.00
tblTripsAndVMT	VendorTripNumber	31.00	640.00

tblTripsAndVMT	VendorTripNumber	31.00	44.00
tblTripsAndVMT	VendorTripNumber	31.00	44.00
tblTripsAndVMT	VendorTripNumber	31.00	44.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	5.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	109.00
tblTripsAndVMT	WorkerTripNumber	28.00	18.00
tblTripsAndVMT	WorkerTripNumber	193.00	109.00
tblTripsAndVMT	WorkerTripNumber	193.00	109.00
tblTripsAndVMT	WorkerTripNumber	193.00	109.00
tblTripsAndVMT	WorkerTripNumber	193.00	109.00
tblTripsAndVMT	WorkerTripNumber	39.00	22.00
tblVehicleTrips	ST_TR	4.31	1.30
tblVehicleTrips	SU_TR	3.43	1.00
tblVehicleTrips	WD_TR	4.18	1.26

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0434	0.4759	0.4339	1.0600e-003	0.0602	0.0187	0.0789	0.0175	0.0176	0.0351	0.0000	99.6746	99.6746	0.0175	0.0000	100.1128
2022	0.3649	3.7346	3.6401	9.2400e-003	0.2949	0.1432	0.4380	0.1016	0.1347	0.2363	0.0000	851.1628	851.1628	0.1600	0.0000	855.1626
2023	2.1135	2.0425	1.9988	5.3700e-003	0.1537	0.0730	0.2267	0.0418	0.0687	0.1105	0.0000	496.1282	496.1282	0.0796	0.0000	498.1181

2024	0.0480	0.4718	0.5180	1.2900e-003	0.0337	0.0166	0.0503	9.1600e-003	0.0156	0.0247	0.0000	118.2730	118.2730	0.0207	0.0000	118.7916
Maximum	**2.1135**	**3.7346**	**3.6401**	**9.2400e-003**	**0.2949**	**0.1432**	**0.4380**	**0.1016**	**0.1347**	**0.2363**	**0.0000**	**851.1628**	**851.1628**	**0.1600**	**0.0000**	**855.1626**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0352	0.4186	0.4413	1.0600e-003	0.0602	0.0124	0.0726	0.0175	0.0119	0.0293	0.0000	99.6746	99.6746	0.0175	0.0000	100.1128
2022	0.2487	2.6137	3.8134	9.2400e-003	0.2949	0.0761	0.3710	0.1016	0.0720	0.1736	0.0000	826.6510	826.6510	0.1584	0.0000	830.6110
2023	2.0395	1.2494	2.0899	5.3700e-003	0.1537	0.0352	0.1889	0.0418	0.0326	0.0744	0.0000	491.0214	491.0214	0.0793	0.0000	493.0037
2024	0.0310	0.2877	0.5558	1.2900e-003	0.0337	7.9700e-003	0.0417	9.1600e-003	7.4200e-003	0.0166	0.0000	118.2730	118.2730	0.0207	0.0000	118.7915
Maximum	**2.0395**	**2.6137**	**3.8134**	**9.2400e-003**	**0.2949**	**0.0761**	**0.3710**	**0.1016**	**0.0720**	**0.1736**	**0.0000**	**826.6510**	**826.6510**	**0.1584**	**0.0000**	**830.6110**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**8.38**	**32.05**	**-4.70**	**0.00**	**0.00**	**47.63**	**15.09**	**0.00**	**47.62**	**27.71**	**0.00**	**1.89**	**1.89**	**0.68**	**0.00**	**1.89**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2021**	**2-28-2022**	1.2302	1.0855
2	**3-1-2022**	**5-31-2022**	1.1101	0.8406
3	**6-1-2022**	**8-31-2022**	0.8218	0.5022
4	**9-1-2022**	**11-30-2022**	1.2240	0.7351
5	**12-1-2022**	**2-28-2023**	0.5426	0.3448
6	**3-1-2023**	**5-31-2023**	0.5308	0.3350
7	**6-1-2023**	**8-31-2023**	0.5297	0.3339

8	**9-1-2023**	**11-30-2023**	2.5783	2.2922
9	**12-1-2023**	**2-29-2024**	0.5072	0.3235
10	**3-1-2024**	**5-31-2024**	0.1867	0.1058
		Highest	2.5783	2.2922

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3530	0.0290	2.0846	7.2000e-004		0.0407	0.0407		0.0407	0.0407	3.9928	7.8988	11.8916	0.0217	9.0000e-005	12.4612
Energy	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	236.4634	236.4634	0.0174	5.3100e-003	238.4799
Mobile	0.0682	0.2659	0.7640	2.9100e-003	0.1417	3.0800e-003	0.1447	0.0413	2.8800e-003	0.0441	0.0000	268.4229	268.4229	0.0111	0.0000	268.6993
Stationary	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Waste						0.0000	0.0000		0.0000	0.0000	23.9042	0.0000	23.9042	1.4127	0.0000	59.2217
Water						0.0000	0.0000		0.0000	0.0000	5.2916	12.9786	18.2703	0.5452	0.0132	35.8269
Total	**1.4687**	**0.4969**	**2.9828**	**4.4600e-003**	**0.1417**	**0.0573**	**0.1990**	**0.0413**	**0.0571**	**0.0984**	**33.1886**	**542.2142**	**575.4028**	**2.0104**	**0.0186**	**631.1970**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	1.3530	0.0290	2.0846	7.2000e-004		0.0407	0.0407		0.0407	0.0407	3.9928	7.8988	11.8916	0.0217	9.0000e-005	12.4612
Energy	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	236.4634	236.4634	0.0174	5.3100e-003	238.4799
Mobile	0.0682	0.2659	0.7640	2.9100e-003	0.1417	3.0800e-003	0.1447	0.0413	2.8800e-003	0.0441	0.0000	268.4229	268.4229	0.0111	0.0000	268.6993
Stationary	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Waste						0.0000	0.0000		0.0000	0.0000	23.9042	0.0000	23.9042	1.4127	0.0000	59.2217
Water						0.0000	0.0000		0.0000	0.0000	5.2916	12.9786	18.2703	0.5452	0.0132	35.8269
Total	**1.4687**	**0.4969**	**2.9828**	**4.4600e-003**	**0.1417**	**0.0573**	**0.1990**	**0.0413**	**0.0571**	**0.0984**	**33.1886**	**542.2142**	**575.4028**	**2.0104**	**0.0186**	**631.1970**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2021	1/25/2022	5	40	
2	Site Preparation	Site Preparation	12/1/2021	3/22/2022	5	80	
3	Soil Hauling	Grading	12/1/2021	4/29/2022	7	150	
4	Grading	Grading	3/1/2022	7/18/2022	5	100	
5	Concrete Pour	Building Construction	8/1/2022	8/1/2022	5	1	
6	Drainage Utilities Subgrade	Building Construction	8/1/2022	11/18/2022	5	80	
7	Foundations and Concrete Pour	Building Construction	8/1/2022	11/18/2022	5	80	
8	Building Construction	Building Construction	12/1/2022	3/20/2024	5	340	
9	Architectural Coating	Architectural Coating	9/1/2023	11/9/2023	5	50	
10	Paving	Paving	3/1/2024	3/28/2024	5	20	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.02

Residential Indoor: 518,400; Residential Outdoor: 172,800; Non-Residential Indoor: 30,525; Non-Residential Outdoor: 10,175; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Skid Steer Loaders	1	8.00	65	0.37
Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Demolition	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Graders	1	1.00	1	0.10
Site Preparation	Plate Compactors	1	8.00	8	0.43
Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Soil Hauling	Aerial Lifts	1	0.00	0	0.31
Soil Hauling	Concrete/Industrial Saws	1	8.00	81	0.73
Soil Hauling	Rubber Tired Dozers	1	1.00	247	0.40
Soil Hauling	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Air Compressors	2	4.00	78	0.48
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	1.00	1	0.10
Grading	Rollers	1	8.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Sweepers/Scrubbers	1	8.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Concrete Pour	Cement and Mortar Mixers	1	20.00	9	0.56
Concrete Pour	Cranes	1	4.00	231	0.29
Concrete Pour	Forklifts	2	6.00	89	0.20
Concrete Pour	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Drainage Utilities Subgrade	Cranes	1	4.00	231	0.29
Drainage Utilities Subgrade	Forklifts	2	6.00	89	0.20
Drainage Utilities Subgrade	Plate Compactors	1	8.00	8	0.43
Drainage Utilities Subgrade	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Foundations and Concrete Pour	Air Compressors	2	4.00	78	0.48
Foundations and Concrete Pour	Bore/Drill Rigs	1	8.00	221	0.50
Foundations and Concrete Pour	Cranes	2	8.00	231	0.29
Foundations and Concrete Pour	Excavators	1	8.00	158	0.38
Foundations and Concrete Pour	Forklifts	2	6.00	89	0.20
Foundations and Concrete Pour	Pumps	1	8.00	84	0.74
Foundations and Concrete Pour	Sweepers/Scrubbers	1	8.00	64	0.46
Foundations and Concrete Pour	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Pumps	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Architectural Coating	Cranes	1	8.00	231	0.29
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	10.00	0.00	224.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Soil Hauling	5	109.00	44.00	1,750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	11	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Pour	6	109.00	640.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Drainage Utilities Subgrade	5	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundations and Concrete Pour	12	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	109.00	44.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	2.2900e-003	0.0000	2.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.1295	0.1385	2.1000e-004		7.5400e-003	7.5400e-003		7.0900e-003	7.0900e-003	0.0000	18.1972	18.1972	4.2400e-003	0.0000	18.3033
Total	**0.0137**	**0.1295**	**0.1385**	**2.1000e-004**	**0.0151**	**7.5400e-003**	**0.0226**	**2.2900e-003**	**7.0900e-003**	**9.3800e-003**	**0.0000**	**18.1972**	**18.1972**	**4.2400e-003**	**0.0000**	**18.3033**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0208	6.8000e-003	5.0000e-005	1.6800e-003	6.0000e-005	1.7400e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	5.6510	5.6510	1.0400e-003	0.0000	5.6769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**8.2000e-004**	**0.0210**	**9.1900e-003**	**6.0000e-005**	**2.5900e-003**	**7.0000e-005**	**2.6600e-003**	**6.8000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**6.4838**	**6.4838**	**1.0600e-003**	**0.0000**	**6.5101**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0151	0.0000	0.0151	2.2900e-003	0.0000	2.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.1161	0.1406	2.1000e-004		4.9200e-003	4.9200e-003		4.7000e-003	4.7000e-003	0.0000	18.1972	18.1972	4.2400e-003	0.0000	18.3033
Total	**0.0109**	**0.1161**	**0.1406**	**2.1000e-004**	**0.0151**	**4.9200e-003**	**0.0200**	**2.2900e-003**	**4.7000e-003**	**6.9900e-003**	**0.0000**	**18.1972**	**18.1972**	**4.2400e-003**	**0.0000**	**18.3033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	4.9000e-004	0.0208	6.8000e-003	5.0000e-005	1.6800e-003	6.0000e-005	1.7400e-003	4.4000e-004	6.0000e-005	5.0000e-004	0.0000	5.6510	5.6510	1.0400e-003	0.0000	5.6769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**8.2000e-004**	**0.0210**	**9.1900e-003**	**6.0000e-005**	**2.5900e-003**	**7.0000e-005**	**2.6600e-003**	**6.8000e-004**	**7.0000e-005**	**7.5000e-004**	**0.0000**	**6.4838**	**6.4838**	**1.0600e-003**	**0.0000**	**6.5101**

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9700e-003	0.0849	0.1011	1.5000e-004		4.5700e-003	4.5700e-003		4.3100e-003	4.3100e-003	0.0000	13.4565	13.4565	3.1200e-003	0.0000	13.5346
Total	**8.9700e-003**	**0.0849**	**0.1011**	**1.5000e-004**	**0.0112**	**4.5700e-003**	**0.0157**	**1.6900e-003**	**4.3100e-003**	**6.0000e-003**	**0.0000**	**13.4565**	**13.4565**	**3.1200e-003**	**0.0000**	**13.5346**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0141	5.1700e-003	4.0000e-005	1.6100e-003	4.0000e-005	1.6500e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	4.0997	4.0997	7.7000e-004	0.0000	4.1190
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	2.3000e-004	1.4000e-004	1.6500e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5927	0.5927	1.0000e-005	0.0000	0.5930
Total	**5.7000e-004**	**0.0143**	**6.8200e-003**	**5.0000e-005**	**2.2800e-003**	**5.0000e-005**	**2.3300e-003**	**6.0000e-004**	**4.0000e-005**	**6.4000e-004**	**0.0000**	**4.6924**	**4.6924**	**7.8000e-004**	**0.0000**	**4.7120**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0112	0.0000	0.0112	1.6900e-003	0.0000	1.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2600e-003	0.0785	0.1030	1.5000e-004		3.0300e-003	3.0300e-003		2.8900e-003	2.8900e-003	0.0000	13.4565	13.4565	3.1200e-003	0.0000	13.5346
Total	**7.2600e-003**	**0.0785**	**0.1030**	**1.5000e-004**	**0.0112**	**3.0300e-003**	**0.0142**	**1.6900e-003**	**2.8900e-003**	**4.5800e-003**	**0.0000**	**13.4565**	**13.4565**	**3.1200e-003**	**0.0000**	**13.5346**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.4000e-004	0.0141	5.1700e-003	4.0000e-005	1.6100e-003	4.0000e-005	1.6500e-003	4.2000e-004	4.0000e-005	4.6000e-004	0.0000	4.0997	4.0997	7.7000e-004	0.0000	4.1190
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.4000e-004	1.6500e-003	1.0000e-005	6.7000e-004	1.0000e-005	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5927	0.5927	1.0000e-005	0.0000	0.5930
Total	**5.7000e-004**	**0.0143**	**6.8200e-003**	**5.0000e-005**	**2.2800e-003**	**5.0000e-005**	**2.3300e-003**	**6.0000e-004**	**4.0000e-005**	**6.4000e-004**	**0.0000**	**4.6924**	**4.6924**	**7.8000e-004**	**0.0000**	**4.7120**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8800e-003	0.0731	0.0885	1.3000e-004		4.3400e-003	4.3400e-003		4.0000e-003	4.0000e-003	0.0000	11.2855	11.2855	3.5700e-003	0.0000	11.3747
Total	**7.8800e-003**	**0.0731**	**0.0885**	**1.3000e-004**	**2.7000e-004**	**4.3400e-003**	**4.6100e-003**	**3.0000e-005**	**4.0000e-003**	**4.0300e-003**	**0.0000**	**11.2855**	**11.2855**	**3.5700e-003**	**0.0000**	**11.3747**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**3.3000e-004**	**2.1000e-004**	**2.3900e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8328**	**0.8328**	**2.0000e-005**	**0.0000**	**0.8332**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2600e-003	0.0374	0.0933	1.3000e-004		1.1900e-003	1.1900e-003		1.1000e-003	1.1000e-003	0.0000	11.2855	11.2855	3.5700e-003	0.0000	11.3747
Total	**3.2600e-003**	**0.0374**	**0.0933**	**1.3000e-004**	**2.7000e-004**	**1.1900e-003**	**1.4600e-003**	**3.0000e-005**	**1.1000e-003**	**1.1300e-003**	**0.0000**	**11.2855**	**11.2855**	**3.5700e-003**	**0.0000**	**11.3747**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.1000e-004	2.3900e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8328	0.8328	2.0000e-005	0.0000	0.8332
Total	**3.3000e-004**	**2.1000e-004**	**2.3900e-003**	**1.0000e-005**	**9.1000e-004**	**1.0000e-005**	**9.2000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8328**	**0.8328**	**2.0000e-005**	**0.0000**	**0.8332**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1569	0.2172	3.2000e-004		8.7300e-003	8.7300e-003		8.0500e-003	8.0500e-003	0.0000	27.9725	27.9725	8.8500e-003	0.0000	28.1938

Total	**0.0171**	**0.1569**	**0.2172**	**3.2000e-004**	**2.7000e-004**	**8.7300e-003**	**9.0000e-003**	**3.0000e-005**	**8.0500e-003**	**8.0800e-003**	**0.0000**	**27.9725**	**27.9725**	**8.8500e-003**	**0.0000**	**28.1938**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	4.7000e-004	5.5200e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	2.0000e-005	6.1000e-004	0.0000	1.9873	1.9873	4.0000e-005	0.0000	1.9882
Total	**7.7000e-004**	**4.7000e-004**	**5.5200e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**1.9873**	**1.9873**	**4.0000e-005**	**0.0000**	**1.9882**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5600e-003	0.0875	0.2308	3.2000e-004		2.4400e-003	2.4400e-003		2.2800e-003	2.2800e-003	0.0000	27.9725	27.9725	8.8500e-003	0.0000	28.1938
Total	**7.5600e-003**	**0.0875**	**0.2308**	**3.2000e-004**	**2.7000e-004**	**2.4400e-003**	**2.7100e-003**	**3.0000e-005**	**2.2800e-003**	**2.3100e-003**	**0.0000**	**27.9725**	**27.9725**	**8.8500e-003**	**0.0000**	**28.1938**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	4.7000e-004	5.5200e-003	2.0000e-005	2.2500e-003	2.0000e-005	2.2700e-003	6.0000e-004	2.0000e-005	6.1000e-004	0.0000	1.9873	1.9873	4.0000e-005	0.0000	1.9882
Total	**7.7000e-004**	**4.7000e-004**	**5.5200e-003**	**2.0000e-005**	**2.2500e-003**	**2.0000e-005**	**2.2700e-003**	**6.0000e-004**	**2.0000e-005**	**6.1000e-004**	**0.0000**	**1.9873**	**1.9873**	**4.0000e-005**	**0.0000**	**1.9882**

3.4 Soil Hauling - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	6.4100e-003	0.0000	6.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1124	0.1173	1.9000e-004		6.3100e-003	6.3100e-003		6.0200e-003	6.0200e-003	0.0000	16.1345	16.1345	3.0100e-003	0.0000	16.2097
Total	**0.0124**	**0.1124**	**0.1173**	**1.9000e-004**	**0.0117**	**6.3100e-003**	**0.0180**	**6.4100e-003**	**6.0200e-003**	**0.0124**	**0.0000**	**16.1345**	**16.1345**	**3.0100e-003**	**0.0000**	**16.2097**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0584	0.0191	1.5000e-004	0.0118	1.7000e-004	0.0120	2.9900e-003	1.6000e-004	3.1500e-003	0.0000	15.8677	15.8677	2.9100e-003	0.0000	15.9405
Vendor	2.0800e-003	0.0782	0.0239	1.8000e-004	4.4600e-003	1.8000e-004	4.6300e-003	1.2900e-003	1.7000e-004	1.4600e-003	0.0000	18.6383	18.6383	2.4700e-003	0.0000	18.7002
Worker	4.8100e-003	3.0700e-003	0.0351	1.4000e-004	0.0134	1.0000e-004	0.0135	3.5500e-003	9.0000e-005	3.6400e-003	0.0000	12.2349	12.2349	2.5000e-004	0.0000	12.2412
Total	**8.2600e-003**	**0.1396**	**0.0781**	**4.7000e-004**	**0.0296**	**4.5000e-004**	**0.0301**	**7.8300e-003**	**4.2000e-004**	**8.2500e-003**	**0.0000**	**46.7409**	**46.7409**	**5.6300e-003**	**0.0000**	**46.8818**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	6.4100e-003	0.0000	6.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0117	0.1044	0.1177	1.9000e-004		5.8200e-003	5.8200e-003		5.5700e-003	5.5700e-003	0.0000	16.1345	16.1345	3.0100e-003	0.0000	16.2096
Total	**0.0117**	**0.1044**	**0.1177**	**1.9000e-004**	**0.0117**	**5.8200e-003**	**0.0175**	**6.4100e-003**	**5.5700e-003**	**0.0120**	**0.0000**	**16.1345**	**16.1345**	**3.0100e-003**	**0.0000**	**16.2096**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3700e-003	0.0584	0.0191	1.5000e-004	0.0118	1.7000e-004	0.0120	2.9900e-003	1.6000e-004	3.1500e-003	0.0000	15.8677	15.8677	2.9100e-003	0.0000	15.9405
Vendor	2.0800e-003	0.0782	0.0239	1.8000e-004	4.4600e-003	1.8000e-004	4.6300e-003	1.2900e-003	1.7000e-004	1.4600e-003	0.0000	18.6383	18.6383	2.4700e-003	0.0000	18.7002

Worker	4.8100e-003	3.0700e-003	0.0351	1.4000e-004	0.0134	1.0000e-004	0.0135	3.5500e-003	9.0000e-005	3.6400e-003	0.0000	12.2349	12.2349	2.5000e-004	0.0000	12.2412
Total	**8.2600e-003**	**0.1396**	**0.0781**	**4.7000e-004**	**0.0296**	**4.5000e-004**	**0.0301**	**7.8300e-003**	**4.2000e-004**	**8.2500e-003**	**0.0000**	**46.7409**	**46.7409**	**5.6300e-003**	**0.0000**	**46.8818**

3.4 Soil Hauling - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0448	0.0000	0.0448	0.0246	0.0000	0.0246	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0422	0.3816	0.4444	7.1000e-004		0.0201	0.0201		0.0192	0.0192	0.0000	61.9609	61.9609	0.0114	0.0000	62.2469
Total	**0.0422**	**0.3816**	**0.4444**	**7.1000e-004**	**0.0448**	**0.0201**	**0.0649**	**0.0246**	**0.0192**	**0.0438**	**0.0000**	**61.9609**	**61.9609**	**0.0114**	**0.0000**	**62.2469**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0100e-003	0.2062	0.0754	5.5000e-004	0.0139	5.6000e-004	0.0145	3.7600e-003	5.4000e-004	4.3000e-003	0.0000	59.7876	59.7876	0.0112	0.0000	60.0683
Vendor	7.4800e-003	0.2842	0.0899	6.9000e-004	0.0171	6.0000e-004	0.0177	4.9500e-003	5.7000e-004	5.5100e-003	0.0000	70.6024	70.6024	9.3600e-003	0.0000	70.8365
Worker	0.0174	0.0107	0.1257	5.0000e-004	0.0513	3.8000e-004	0.0516	0.0136	3.5000e-004	0.0140	0.0000	45.2224	45.2224	8.7000e-004	0.0000	45.2442
Total	**0.0299**	**0.5010**	**0.2909**	**1.7400e-003**	**0.0823**	**1.5400e-003**	**0.0838**	**0.0223**	**1.4600e-003**	**0.0238**	**0.0000**	**175.6124**	**175.6124**	**0.0215**	**0.0000**	**176.1490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0448	0.0000	0.0448	0.0246	0.0000	0.0246	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0400	0.3547	0.4463	7.1000e-004		0.0186	0.0186		0.0178	0.0178	0.0000	61.9608	61.9608	0.0114	0.0000	62.2468
Total	**0.0400**	**0.3547**	**0.4463**	**7.1000e-004**	**0.0448**	**0.0186**	**0.0634**	**0.0246**	**0.0178**	**0.0424**	**0.0000**	**61.9608**	**61.9608**	**0.0114**	**0.0000**	**62.2468**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0100e-003	0.2062	0.0754	5.5000e-004	0.0139	5.6000e-004	0.0145	3.7600e-003	5.4000e-004	4.3000e-003	0.0000	59.7876	59.7876	0.0112	0.0000	60.0683
Vendor	7.4800e-003	0.2842	0.0899	6.9000e-004	0.0171	6.0000e-004	0.0177	4.9500e-003	5.7000e-004	5.5100e-003	0.0000	70.6024	70.6024	9.3600e-003	0.0000	70.8365
Worker	0.0174	0.0107	0.1257	5.0000e-004	0.0513	3.8000e-004	0.0516	0.0136	3.5000e-004	0.0140	0.0000	45.2224	45.2224	8.7000e-004	0.0000	45.2442
Total	**0.0299**	**0.5010**	**0.2909**	**1.7400e-003**	**0.0823**	**1.5400e-003**	**0.0838**	**0.0223**	**1.4600e-003**	**0.0238**	**0.0000**	**175.6124**	**175.6124**	**0.0215**	**0.0000**	**176.1490**

3.5 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.0376	0.0000	0.0376	0.0207	0.0000	0.0207	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0884	0.7932	0.9481	1.7900e-003		0.0413	0.0413		0.0390	0.0390	0.0000	155.9007	155.9007	0.0388	0.0000	156.8707
Total	**0.0884**	**0.7932**	**0.9481**	**1.7900e-003**	**0.0376**	**0.0413**	**0.0789**	**0.0207**	**0.0390**	**0.0597**	**0.0000**	**155.9007**	**155.9007**	**0.0388**	**0.0000**	**156.8707**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4200e-003	1.4800e-003	0.0174	7.0000e-005	7.1100e-003	5.0000e-005	7.1600e-003	1.8900e-003	5.0000e-005	1.9400e-003	0.0000	6.2756	6.2756	1.2000e-004	0.0000	6.2786
Total	**2.4200e-003**	**1.4800e-003**	**0.0174**	**7.0000e-005**	**7.1100e-003**	**5.0000e-005**	**7.1600e-003**	**1.8900e-003**	**5.0000e-005**	**1.9400e-003**	**0.0000**	**6.2756**	**6.2756**	**1.2000e-004**	**0.0000**	**6.2786**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0376	0.0000	0.0376	0.0207	0.0000	0.0207	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0534	0.4737	1.0017	1.7900e-003		0.0207	0.0207		0.0199	0.0199	0.0000	142.2832	142.2832	0.0379	0.0000	143.2310

Total	**0.0534**	**0.4737**	**1.0017**	**1.7900e-003**	**0.0376**	**0.0207**	**0.0583**	**0.0207**	**0.0199**	**0.0405**	**0.0000**	**142.2832**	**142.2832**	**0.0379**	**0.0000**	**143.2310**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4200e-003	1.4800e-003	0.0174	7.0000e-005	7.1100e-003	5.0000e-005	7.1600e-003	1.8900e-003	5.0000e-005	1.9400e-003	0.0000	6.2756	6.2756	1.2000e-004	0.0000	6.2786
Total	**2.4200e-003**	**1.4800e-003**	**0.0174**	**7.0000e-005**	**7.1100e-003**	**5.0000e-005**	**7.1600e-003**	**1.8900e-003**	**5.0000e-005**	**1.9400e-003**	**0.0000**	**6.2756**	**6.2756**	**1.2000e-004**	**0.0000**	**6.2786**

3.6 Concrete Pour - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-004	3.9700e-003	3.9600e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.9000e-004	1.9000e-004	0.0000	0.5580	0.5580	1.7000e-004	0.0000	0.5622
Total	**4.2000e-004**	**3.9700e-003**	**3.9600e-003**	**1.0000e-005**		**2.0000e-004**	**2.0000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**0.5580**	**0.5580**	**1.7000e-004**	**0.0000**	**0.5622**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0347	0.0110	8.0000e-005	2.0900e-003	7.0000e-005	2.1600e-003	6.0000e-004	7.0000e-005	6.7000e-004	0.0000	8.6298	8.6298	1.1400e-003	0.0000	8.6584
Worker	1.5000e-004	9.0000e-005	1.0600e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3800	0.3800	1.0000e-005	0.0000	0.3802
Total	**1.0600e-003**	**0.0348**	**0.0121**	**8.0000e-005**	**2.5200e-003**	**7.0000e-005**	**2.5900e-003**	**7.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**9.0098**	**9.0098**	**1.1500e-003**	**0.0000**	**9.0386**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2000e-004	2.8400e-003	4.0200e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.5580	0.5580	1.7000e-004	0.0000	0.5622
Total	**3.2000e-004**	**2.8400e-003**	**4.0200e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.5580**	**0.5580**	**1.7000e-004**	**0.0000**	**0.5622**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.1000e-004	0.0347	0.0110	8.0000e-005	2.0900e-003	7.0000e-005	2.1600e-003	6.0000e-004	7.0000e-005	6.7000e-004	0.0000	8.6298	8.6298	1.1400e-003	0.0000	8.6584
Worker	1.5000e-004	9.0000e-005	1.0600e-003	0.0000	4.3000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.3800	0.3800	1.0000e-005	0.0000	0.3802
Total	**1.0600e-003**	**0.0348**	**0.0121**	**8.0000e-005**	**2.5200e-003**	**7.0000e-005**	**2.5900e-003**	**7.1000e-004**	**7.0000e-005**	**7.9000e-004**	**0.0000**	**9.0098**	**9.0098**	**1.1500e-003**	**0.0000**	**9.0386**

3.7 Drainage Utilities Subgrade - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0225	0.2241	0.2050	3.5000e-004		0.0117	0.0117		0.0108	0.0108	0.0000	30.3791	30.3791	9.5500e-003	0.0000	30.6178
Total	**0.0225**	**0.2241**	**0.2050**	**3.5000e-004**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**30.3791**	**30.3791**	**9.5500e-003**	**0.0000**	**30.6178**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212

Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0151	0.1426	0.2068	3.5000e-004		7.8600e-003	7.8600e-003		7.2400e-003	7.2400e-003	0.0000	30.3790	30.3790	9.5500e-003	0.0000	30.6178
Total	**0.0151**	**0.1426**	**0.2068**	**3.5000e-004**		**7.8600e-003**	**7.8600e-003**		**7.2400e-003**	**7.2400e-003**	**0.0000**	**30.3790**	**30.3790**	**9.5500e-003**	**0.0000**	**30.6178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

3.8 Foundations and Concrete Pour - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0996	0.9598	0.9342	1.9100e-003		0.0471	0.0471		0.0441	0.0441	0.0000	166.9306	166.9306	0.0443	0.0000	168.0384
Total	**0.0996**	**0.9598**	**0.9342**	**1.9100e-003**		**0.0471**	**0.0471**		**0.0441**	**0.0441**	**0.0000**	**166.9306**	**166.9306**	**0.0443**	**0.0000**	**168.0384**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.0456	0.4096	1.0254	1.9100e-003		0.0171	0.0171		0.0159	0.0159	0.0000	156.0365	156.0365	0.0436	0.0000	157.1266
Total	**0.0456**	**0.4096**	**1.0254**	**1.9100e-003**		**0.0171**	**0.0171**		**0.0159**	**0.0159**	**0.0000**	**156.0365**	**156.0365**	**0.0436**	**0.0000**	**157.1266**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0300e-003	0.1910	0.0604	4.6000e-004	0.0115	4.0000e-004	0.0119	3.3200e-003	3.8000e-004	3.7100e-003	0.0000	47.4638	47.4638	6.3000e-003	0.0000	47.6212
Worker	0.0117	7.1600e-003	0.0845	3.4000e-004	0.0345	2.6000e-004	0.0347	9.1700e-003	2.4000e-004	9.4000e-003	0.0000	30.4016	30.4016	5.9000e-004	0.0000	30.4163
Total	**0.0167**	**0.1982**	**0.1449**	**8.0000e-004**	**0.0460**	**6.6000e-004**	**0.0466**	**0.0125**	**6.2000e-004**	**0.0131**	**0.0000**	**77.8654**	**77.8654**	**6.8900e-003**	**0.0000**	**78.0374**

3.9 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0129	0.1272	0.1238	2.2000e-004		6.3700e-003	6.3700e-003		6.0000e-003	6.0000e-003	0.0000	19.2832	19.2832	4.5400e-003	0.0000	19.3968
Total	**0.0129**	**0.1272**	**0.1238**	**2.2000e-004**		**6.3700e-003**	**6.3700e-003**		**6.0000e-003**	**6.0000e-003**	**0.0000**	**19.2832**	**19.2832**	**4.5400e-003**	**0.0000**	**19.3968**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0525	0.0166	1.3000e-004	3.1600e-003	1.1000e-004	3.2700e-003	9.1000e-004	1.1000e-004	1.0200e-003	0.0000	13.0525	13.0525	1.7300e-003	0.0000	13.0958
Worker	3.2200e-003	1.9700e-003	0.0232	9.0000e-005	9.4700e-003	7.0000e-005	9.5400e-003	2.5200e-003	6.0000e-005	2.5900e-003	0.0000	8.3605	8.3605	1.6000e-004	0.0000	8.3645
Total	**4.6000e-003**	**0.0545**	**0.0399**	**2.2000e-004**	**0.0126**	**1.8000e-004**	**0.0128**	**3.4300e-003**	**1.7000e-004**	**3.6100e-003**	**0.0000**	**21.4130**	**21.4130**	**1.8900e-003**	**0.0000**	**21.4603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.8000e-003	0.0613	0.1330	2.2000e-004		3.0900e-003	3.0900e-003		2.8600e-003	2.8600e-003	0.0000	19.2832	19.2832	4.5400e-003	0.0000	19.3968
Total	**6.8000e-003**	**0.0613**	**0.1330**	**2.2000e-004**		**3.0900e-003**	**3.0900e-003**		**2.8600e-003**	**2.8600e-003**	**0.0000**	**19.2832**	**19.2832**	**4.5400e-003**	**0.0000**	**19.3968**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.3800e-003	0.0525	0.0166	1.3000e-004	3.1600e-003	1.1000e-004	3.2700e-003	9.1000e-004	1.1000e-004	1.0200e-003	0.0000	13.0525	13.0525	1.7300e-003	0.0000	13.0958
Worker	3.2200e-003	1.9700e-003	0.0232	9.0000e-005	9.4700e-003	7.0000e-005	9.5400e-003	2.5200e-003	6.0000e-005	2.5900e-003	0.0000	8.3605	8.3605	1.6000e-004	0.0000	8.3645
Total	**4.6000e-003**	**0.0545**	**0.0399**	**2.2000e-004**	**0.0126**	**1.8000e-004**	**0.0128**	**3.4300e-003**	**1.7000e-004**	**3.6100e-003**	**0.0000**	**21.4130**	**21.4130**	**1.8900e-003**	**0.0000**	**21.4603**

3.9 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1410	1.3779	1.4517	2.6100e-003		0.0657	0.0657		0.0618	0.0618	0.0000	227.9709	227.9709	0.0533	0.0000	229.3041
Total	**0.1410**	**1.3779**	**1.4517**	**2.6100e-003**		**0.0657**	**0.0657**		**0.0618**	**0.0618**	**0.0000**	**227.9709**	**227.9709**	**0.0533**	**0.0000**	**229.3041**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.5147	0.1896	1.4500e-003	0.0374	7.4000e-004	0.0381	0.0108	7.1000e-004	0.0115	0.0000	150.4244	150.4244	0.0200	0.0000	150.9242
Worker	0.0360	0.0211	0.2564	1.0500e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0306	0.0000	94.9891	94.9891	1.7300e-003	0.0000	95.0322
Total	**0.0492**	**0.5358**	**0.4460**	**2.5000e-003**	**0.1494**	**1.5600e-003**	**0.1509**	**0.0406**	**1.4700e-003**	**0.0421**	**0.0000**	**245.4135**	**245.4135**	**0.0217**	**0.0000**	**245.9565**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0754	0.6688	1.5665	2.6100e-003		0.0317	0.0317		0.0294	0.0294	0.0000	227.9706	227.9706	0.0533	0.0000	229.3038
Total	**0.0754**	**0.6688**	**1.5665**	**2.6100e-003**		**0.0317**	**0.0317**		**0.0294**	**0.0294**	**0.0000**	**227.9706**	**227.9706**	**0.0533**	**0.0000**	**229.3038**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0132	0.5147	0.1896	1.4500e-003	0.0374	7.4000e-004	0.0381	0.0108	7.1000e-004	0.0115	0.0000	150.4244	150.4244	0.0200	0.0000	150.9242

Worker	0.0360	0.0211	0.2564	1.0500e-003	0.1120	8.2000e-004	0.1128	0.0298	7.6000e-004	0.0306	0.0000	94.9891	94.9891	1.7300e-003	0.0000	95.0322
Total	**0.0492**	**0.5358**	**0.4460**	**2.5000e-003**	**0.1494**	**1.5600e-003**	**0.1509**	**0.0406**	**1.4700e-003**	**0.0421**	**0.0000**	**245.4135**	**245.4135**	**0.0217**	**0.0000**	**245.9565**

3.9 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0296	0.2860	0.3221	5.8000e-004		0.0130	0.0130		0.0122	0.0122	0.0000	50.8647	50.8647	0.0119	0.0000	51.1615
Total	**0.0296**	**0.2860**	**0.3221**	**5.8000e-004**		**0.0130**	**0.0130**		**0.0122**	**0.0122**	**0.0000**	**50.8647**	**50.8647**	**0.0119**	**0.0000**	**51.1615**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1120	0.0419	3.2000e-004	8.3400e-003	1.6000e-004	8.5000e-003	2.4100e-003	1.5000e-004	2.5600e-003	0.0000	33.2449	33.2449	4.4500e-003	0.0000	33.3563
Worker	7.6400e-003	4.2800e-003	0.0536	2.2000e-004	0.0250	1.8000e-004	0.0252	6.6400e-003	1.7000e-004	6.8100e-003	0.0000	20.3463	20.3463	3.5000e-004	0.0000	20.3550
Total	**0.0105**	**0.1163**	**0.0955**	**5.4000e-004**	**0.0333**	**3.4000e-004**	**0.0337**	**9.0500e-003**	**3.2000e-004**	**9.3700e-003**	**0.0000**	**53.5912**	**53.5912**	**4.8000e-003**	**0.0000**	**53.7113**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0161	0.1402	0.3489	5.8000e-004		6.3000e-003	6.3000e-003		5.8300e-003	5.8300e-003	0.0000	50.8647	50.8647	0.0119	0.0000	51.1614
Total	**0.0161**	**0.1402**	**0.3489**	**5.8000e-004**		**6.3000e-003**	**6.3000e-003**		**5.8300e-003**	**5.8300e-003**	**0.0000**	**50.8647**	**50.8647**	**0.0119**	**0.0000**	**51.1614**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1120	0.0419	3.2000e-004	8.3400e-003	1.6000e-004	8.5000e-003	2.4100e-003	1.5000e-004	2.5600e-003	0.0000	33.2449	33.2449	4.4500e-003	0.0000	33.3563
Worker	7.6400e-003	4.2800e-003	0.0536	2.2000e-004	0.0250	1.8000e-004	0.0252	6.6400e-003	1.7000e-004	6.8100e-003	0.0000	20.3463	20.3463	3.5000e-004	0.0000	20.3550
Total	**0.0105**	**0.1163**	**0.0955**	**5.4000e-004**	**0.0333**	**3.4000e-004**	**0.0337**	**9.0500e-003**	**3.2000e-004**	**9.3700e-003**	**0.0000**	**53.5912**	**53.5912**	**4.8000e-003**	**0.0000**	**53.7113**

3.10 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Archit. Coating	1.9084					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1280	0.0911	2.2000e-004		5.7500e-003	5.7500e-003		5.4400e-003	5.4400e-003	0.0000	19.0569	19.0569	4.4800e-003	0.0000	19.1690
Total	**1.9220**	**0.1280**	**0.0911**	**2.2000e-004**		**5.7500e-003**	**5.7500e-003**		**5.4400e-003**	**5.4400e-003**	**0.0000**	**19.0569**	**19.0569**	**4.4800e-003**	**0.0000**	**19.1690**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	8.2000e-004	9.9500e-003	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.6869	3.6869	7.0000e-005	0.0000	3.6886
Total	**1.4000e-003**	**8.2000e-004**	**9.9500e-003**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1900e-003**	**0.0000**	**3.6869**	**3.6869**	**7.0000e-005**	**0.0000**	**3.6886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9084					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1100e-003	0.0440	0.0675	2.2000e-004		1.8600e-003	1.8600e-003		1.7600e-003	1.7600e-003	0.0000	13.9504	13.9504	4.1800e-003	0.0000	14.0548

Total	**1.9135**	**0.0440**	**0.0675**	**2.2000e-004**		**1.8600e-003**	**1.8600e-003**		**1.7600e-003**	**1.7600e-003**	**0.0000**	**13.9504**	**13.9504**	**4.1800e-003**	**0.0000**	**14.0548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-003	8.2000e-004	9.9500e-003	4.0000e-005	4.3500e-003	3.0000e-005	4.3800e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.6869	3.6869	7.0000e-005	0.0000	3.6886
Total	**1.4000e-003**	**8.2000e-004**	**9.9500e-003**	**4.0000e-005**	**4.3500e-003**	**3.0000e-005**	**4.3800e-003**	**1.1600e-003**	**3.0000e-005**	**1.1900e-003**	**0.0000**	**3.6869**	**3.6869**	**7.0000e-005**	**0.0000**	**3.6886**

3.11 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7800e-003	0.0694	0.0996	1.6000e-004		3.2500e-003	3.2500e-003		3.0300e-003	3.0300e-003	0.0000	13.4953	13.4953	4.0600e-003	0.0000	13.5969
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.8100e-003**	**0.0694**	**0.0996**	**1.6000e-004**		**3.2500e-003**	**3.2500e-003**		**3.0300e-003**	**3.0300e-003**	**0.0000**	**13.4953**	**13.4953**	**4.0600e-003**	**0.0000**	**13.5969**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	7.0000e-005	8.5000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3218	0.3218	1.0000e-005	0.0000	0.3220
Total	**1.2000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3218**	**0.3218**	**1.0000e-005**	**0.0000**	**0.3220**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3400e-003	0.0312	0.1106	1.6000e-004		1.3300e-003	1.3300e-003		1.2700e-003	1.2700e-003	0.0000	13.4953	13.4953	4.0600e-003	0.0000	13.5968
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3700e-003**	**0.0312**	**0.1106**	**1.6000e-004**		**1.3300e-003**	**1.3300e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**13.4953**	**13.4953**	**4.0600e-003**	**0.0000**	**13.5968**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	7.0000e-005	8.5000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3218	0.3218	1.0000e-005	0.0000	0.3220
Total	**1.2000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3218**	**0.3218**	**1.0000e-005**	**0.0000**	**0.3220**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0682	0.2659	0.7640	2.9100e-003	0.1417	3.0800e-003	0.1447	0.0413	2.8800e-003	0.0441	0.0000	268.4229	268.4229	0.0111	0.0000	268.6993
Unmitigated	0.0682	0.2659	0.7640	2.9100e-003	0.1417	3.0800e-003	0.1447	0.0413	2.8800e-003	0.0441	0.0000	268.4229	268.4229	0.0111	0.0000	268.6993

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	322.56	332.80	256.00	726,404	726,404
Other Asphalt Surfaces	0.00	0.00	0.00		
User Defined Industrial	0.00	0.00	0.00		
Total	322.56	332.80	256.00	726,404	726,404

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse High Rise	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
Other Asphalt Surfaces	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519
User Defined Industrial	0.604697	0.038136	0.192426	0.089922	0.013708	0.005077	0.031210	0.009257	0.004288	0.003553	0.006262	0.000945	0.000519

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	117.1958	117.1958	0.0151	3.1200e-003	118.5036
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	117.1958	117.1958	0.0151	3.1200e-003	118.5036
NaturalGas Mitigated	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	119.2676	119.2676	2.2900e-003	2.1900e-003	119.9763
NaturalGas Unmitigated	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	119.2676	119.2676	2.2900e-003	2.1900e-003	119.9763

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse High Rise	2.23499e+006	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	119.2676	119.2676	2.2900e-003	2.1900e-003	119.9763
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0121**	**0.1030**	**0.0438**	**6.6000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.2676**	**119.2676**	**2.2900e-003**	**2.1900e-003**	**119.9763**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse High Rise	2.23499e+006	0.0121	0.1030	0.0438	6.6000e-004		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	119.2676	119.2676	2.2900e-003	2.1900e-003	119.9763
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0121**	**0.1030**	**0.0438**	**6.6000e-004**		**8.3300e-003**	**8.3300e-003**		**8.3300e-003**	**8.3300e-003**	**0.0000**	**119.2676**	**119.2676**	**2.2900e-003**	**2.1900e-003**	**119.9763**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	1.1473e+006	117.1958	0.0151	3.1200e-003	118.5036
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**117.1958**	**0.0151**	**3.1200e-003**	**118.5036**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	1.1473e+006	117.1958	0.0151	3.1200e-003	118.5036
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**117.1958**	**0.0151**	**3.1200e-003**	**118.5036**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3530	0.0290	2.0846	7.2000e-004		0.0407	0.0407		0.0407	0.0407	3.9928	7.8988	11.8916	0.0217	9.0000e-005	12.4612
Unmitigated	1.3530	0.0290	2.0846	7.2000e-004		0.0407	0.0407		0.0407	0.0407	3.9928	7.8988	11.8916	0.0217	9.0000e-005	12.4612

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1908					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0844					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	7.1200e-003	0.1846	6.2000e-004		0.0302	0.0302		0.0302	0.0302	3.9928	4.7938	8.7866	0.0188	9.0000e-005	9.2817
Landscaping	0.0571	0.0219	1.9000	1.0000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	3.1050	3.1050	2.9800e-003	0.0000	3.1795
Total	**1.3530**	**0.0290**	**2.0846**	**7.2000e-004**		**0.0407**	**0.0407**		**0.0407**	**0.0407**	**3.9928**	**7.8988**	**11.8916**	**0.0217**	**9.0000e-005**	**12.4612**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1908					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0844					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	7.1200e-003	0.1846	6.2000e-004		0.0302	0.0302		0.0302	0.0302	3.9928	4.7938	8.7866	0.0188	9.0000e-005	9.2817
Landscaping	0.0571	0.0219	1.9000	1.0000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	3.1050	3.1050	2.9800e-003	0.0000	3.1795
Total	**1.3530**	**0.0290**	**2.0846**	**7.2000e-004**		**0.0407**	**0.0407**		**0.0407**	**0.0407**	**3.9928**	**7.8988**	**11.8916**	**0.0217**	**9.0000e-005**	**12.4612**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.2703	0.5452	0.0132	35.8269
Unmitigated	18.2703	0.5452	0.0132	35.8269

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	16.6794 / 10.5153	18.2703	0.5452	0.0132	35.8269
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.2703**	**0.5452**	**0.0132**	**35.8269**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	16.6794 / 10.5153	18.2703	0.5452	0.0132	35.8269
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**18.2703**	**0.5452**	**0.0132**	**35.8269**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.9042	1.4127	0.0000	59.2217
Unmitigated	23.9042	1.4127	0.0000	59.2217

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	117.76	23.9042	1.4127	0.0000	59.2217
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**23.9042**	**1.4127**	**0.0000**	**59.2217**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Condo/Townhouse High Rise	117.76	23.9042	1.4127	0.0000	59.2217
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**23.9042**	**1.4127**	**0.0000**	**59.2217**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	400	0.73	Diesel
Emergency Generator	1	0	50	464	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0354	0.0991	0.0904	1.7000e-004		5.2100e-003	5.2100e-003		5.2100e-003	5.2100e-003	0.0000	16.4504	16.4504	2.3100e-003	0.0000	16.5081
Total	**0.0354**	**0.0991**	**0.0904**	**1.7000e-004**		**5.2100e-003**	**5.2100e-003**		**5.2100e-003**	**5.2100e-003**	**0.0000**	**16.4504**	**16.4504**	**2.3100e-003**	**0.0000**	**16.5081**

11.0 Vegetation

This page intentionally left blank

A3 EMFAC2017 Output and Calculations: Proposed Project and Residential Variant On-Road Construction Emissions

530 Sansome Street - 2021 Construction Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Work Days
2021	30

Mile	Feet
1	5280

Construction On-Road Trips

Phase	Worker One-Way Trips	Vendor One-Way Trips	Hauling One-Way Trips	Work Days per Phase	Annual Worker Trips	Annual Vendor Trips	Annual Haul Trips
Demo	10	0	224	40	230	0	129
Site Prep	10	0	0	80	230	0	0
Soil Hauling	109	44	1750	150	3270	1320	355
TOTAL	129	44	1974	N/A	3730	1320	484

	Trips Lengths (mi)
Worker	10.8
Vendor	7.3
Hauling	20

	PhaseStartDate	PhaseEndDate	Work Days in 2021	Fraction for total Soil Hauling Amount
Demolition	12/1/2021	12/31/2021	23	0.58
Site Preparation	12/1/2021	12/31/2021	23	N/A
Soil Hauling	12/1/2021	12/31/2021	30	0.20

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2021	LDA	Aggregated	Aggregated	GAS	156525.5687	5485729.948	737676.722	0.042539745	0	0.212040884	0.001797043	0	0.001859026	0.002000001	0.015750005	0.001954416	0	0.002021725	0.008000002	0.036750011	0.012068977	0	0.272396113	0.108086712	0.234758583	0.1934575	0.19658599
SAN FRANCISCO	2021	LDT1	Aggregated	Aggregated	GAS	16761.84806	522112.2277	78069.05378	0.079850677	0	0.256337909	0.002136907	0	0.002195158	0.002000001	0.015750005	0.002323991	0	0.00238725	0.008000002	0.036750011	0.022150887	0	0.345388812	0.155314729	0.566106493	0.294427805	0.31455643
SAN FRANCISCO	2021	LDT2	Aggregated	Aggregated	GAS	52137.20517	1651683.774	245279.9206	0.07241738	0	0.303953644	0.001757212	0	0.001737995	0.002000001	0.015750005	0.001911099	0	0.001890169	0.008000002	0.036750011	0.016779116	0	0.342095115	0.114656244	0.397305691	0.251073847	0.2331379
SAN FRANCISCO	2021	MHDT	Aggregated	Aggregated	DSL	4009.563494	213998.2057	35796.06284	2.778577961	11.17218126	1.514085434	0.066470322	0.025829877	0	0.003000001	0.055860016	0.069475815	0.026997789	0	0.012000003	0.130340037	0.166079419	0.148855911	0	0	0	0	0
SAN FRANCISCO	2021	HHDT	Aggregated	Aggregated	DSL	1101.864373	73603.90795	7568.648365	5.675492831	46.45286976	2.051348997	0.056957369	0.071442247	0	0.008693593	0.025559162	0.059532728	0.074672549	0	0.03477437	0.059638045	0.143252341	2.506981106	0	0	0	0	0

CONSTRUCTION

Project Background Information

Background Info		
Worker Trips		
Total annual one-way trips		3730
Trip Length		10.8
Vendor Trips		
Total annual one-way trips		1320
Trip Length		7.3
Haul Trips		
Total annual one-way trips		484
Trip Length		20

Fleet Mix		
Worker Trips		
LDA	GAS	0.5000
LDT1	GAS	0.2500
LDT2	GAS	0.2500
Vendor Trips		
HHDT	Diesel	0.5
MHDT	Diesel	0.5
Haul Trips		
HHDT	Diesel	1

Emissions Calcs

g/ton 907185

					g/mi	g/trip	g/vehicle/day	ROG	ROG	ROG	ROG	ROG	ROG	NOx	NOx	NOx	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM10	PM10	PM10	PM10	PM10
								g/mi	g/vehicle/day	g/trip	g/trip	g/trip	g/vehicle/day	g/mi	g/vehicle/day	g/trip	g/mi	g/vehicle/day	g/trip	g/mi	g/mi	g/mi	g/vehicle/day	g/trip	g/mi	g/mi
			One-Way Trips	mi	tot mi	tot trip	tot veh	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW
3	LDA	GAS	1865	10.8	20142.0	1865	933	2.68E-04	0.00E+00	5.60E-04	2.22E-04	4.83E-04	1.99E-04	2.02E-04	9.44E-04	0.00E+00	4.36E-04	3.99E-05	0.00E+00	3.82E-06	4.44E-05	3.50E-04	4.34E-05	0.00E+00	4.16E-06	1.78E-04	8.16E-04
4	LDT1	GAS	933	10.8	10071.0	933	466	2.46E-04	0.00E+00	3.55E-04	1.60E-04	5.82E-04	1.51E-04	1.62E-04	8.86E-04	0.00E+00	2.63E-04	2.37E-05	0.00E+00	2.26E-06	2.22E-05	1.75E-04	2.58E-05	0.00E+00	2.45E-06	8.88E-05	4.08E-04
5	LDT2	GAS	933	10.8	10071.0	933	466	1.86E-04	0.00E+00	3.52E-04	1.18E-04	4.08E-04	1.29E-04	1.20E-04	8.04E-04	0.00E+00	3.12E-04	1.95E-05	0.00E+00	1.79E-06	2.22E-05	1.75E-04	2.12E-05	0.00E+00	1.94E-06	8.88E-05	4.08E-04
6	HHDT	DSL	660	7.3	4818	660	330	7.61E-04	9.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-02	1.69E-02	1.49E-03	3.02E-04	2.60E-05	0.00E+00	4.62E-05	1.36E-04	3.16E-04	2.72E-05	0.00E+00	1.85E-04	3.17E-04
7	MHDT	DSL	660	7.3	4818	660	330	8.82E-04	5.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-02	4.06E-03	1.10E-03	3.53E-04	9.40E-06	0.00E+00	1.59E-05	2.97E-04	3.69E-04	9.82E-06	0.00E+00	6.37E-05	6.92E-04
8	HHDT	DSL	484	20	9671	484	242	1.53E-03	6.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.05E-02	1.24E-02	1.09E-03	6.07E-04	1.90E-05	0.00E+00	9.27E-05	2.72E-04	6.35E-04	1.99E-05	0.00E+00	3.71E-04	6.36E-04

Sum of Emissions

ton/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	1.93E-03	1.38E-03	1.04E-03	4.38E-04
LDT1	GAS	1.66E-03	1.15E-03	5.25E-04	2.23E-04
LDT2	GAS	1.31E-03	1.12E-03	5.20E-04	2.18E-04
HHDT	DSL	1.67E-03	4.85E-02	8.45E-04	5.10E-04
MHDT	DSL	9.36E-04	1.99E-02	1.13E-03	6.75E-04
HHDT	DSL	2.20E-03	7.40E-02	1.66E-03	9.91E-04
Total		**0.010**	**0.146**	**0.006**	**0.003**

lbs/day	**0.65**	**9.74**	**0.38**	**0.20**

tons/yr	ROG	NOx	PM10	PM2.5
Haul	0.0022	0.0740	0.0017	0.0010
Vendor	0.0026	0.0685	0.0020	0.0012
Worker	0.0049	0.0036	0.0021	0.0009

lbs/day	ROG	NOx	PM10	PM2.5
Haul	0.1463	4.9316	0.1107	0.0661
Vendor	0.1739	4.5637	0.1320	0.0790
Worker	0.3268	0.2431	0.1391	0.0586

Delivery Truck Idling Emissions

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2021	Annual	San Francisco (SF)	MHDT	IDLEX	ROG	1.408517712
2021	Annual	San Francisco (SF)	MHDT	IDLEX	NOx	56.3833734
2021	Annual	San Francisco (SF)	MHDT	IDLEX	PM2.5	0.13022426
2021	Annual	San Francisco (SF)	MHDT	IDLEX	PM10	0.136112423
2021	Annual	San Francisco (SF)	MHDT	IDLEX	CO2	6683.840106
2021	Annual	San Francisco (SF)	HHDT	IDLEX	ROG	2.104418674
2021	Annual	San Francisco (SF)	HHDT	IDLEX	NOx	43.09321641
2021	Annual	San Francisco (SF)	HHDT	IDLEX	PM2.5	0.052908727
2021	Annual	San Francisco (SF)	HHDT	IDLEX	PM10	0.055301025
2021	Annual	San Francisco (SF)	HHDT	IDLEX	CO2	6261.667349

Emissions Calcs

			POUNDS PER DAY			
Heavy Truck Idling						
Daily Delivery and Haul Trips		78				
Idling Time per Trip (hours)		0.25				
Fleet Mix			ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.0000152	0.0006092	0.0000015	0.0000014
HHDT	DSL	0.5	0.0000227	0.0004656	0.0000006	0.0000006
Total Daily Truck Idling Emissions (pounds)			**0.0000380**	**0.0010748**	**0.0000021**	**0.0000020**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

530 Sansome Street - 2022 Construction Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Work Days
2022	260

Mile	Feet
1	5280

Construction On-Road Trips

Phase	Worker One-Way Trips/Day	Vendor One-Way Trips	Hauling One-Way Trips	Work Days per Phase	Annual Worker Trips	Annual Vendor Trips	Annual Haul Trips
Demo	10	0	224	17	170	0	95
Site Prep	10	0	0	80	570	0	0
Soil Hauling	109	44	1750	150	12862	5192	1395
Grading	18	0	0	100	1800	0	0
Concrete Pour	109	640	0	1	109	640	0
Drainage, Util, Sub.	109	44	0	80	8720	3520	0
Found. & Concrete	109	44	0	80	8720	3520	0
Arch Coating	22	0	0	50	1100	0	0
TOTAL				N/A	34051	12872	1490

	Trips Lengths (mi)
Worker	10.8
Vendor	7.3
Hauling	20

	PhaseStartDate	PhaseEndDate	Work Days in 2022	Fraction for total Demo and Soil Hauling Amount
Demo	1/1/2022	1/25/2022	17	0.43
Site Prep	1/1/2022	3/22/2022	57	N/A
Soil Hauling	1/1/2022	4/29/2022	118	0.80
Grading	3/1/2022	7/18/2022	100	N/A
Concrete Pour	8/1/2022	8/1/2022	1	N/A
Drainage Utilities Subgrade	8/1/2022	11/18/2022	80	N/A
Foundations and Concrete	8/1/2022	11/18/2022	80	N/A
Architectural Coating	9/1/2022	11/9/2022	50	N/A
Building Construction	12/1/2022	12/31/2022	22	N/A

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2022	LDA	Aggregated	Aggregated	GAS	158974.3436	5490904.987	749894.4893	0.037515102	0	0.19839375	0.001711286	0	0.001780809	0.002000001	0.015750005	0.001861161	0	0.001936711	0.008000002	0.036750011	0.010369879	0	0.247722333	0.100979301	0.224815806	0.180849238	0.18152181
SAN FRANCISCO	2022	LDT1	Aggregated	Aggregated	GAS	17225.75338	527114.4284	80263.74505	0.069318775	0	0.238740456	0.002007488	0	0.002068654	0.002000001	0.015750005	0.0021832	0	0.002249734	0.008000002	0.036750011	0.018959991	0	0.312258034	0.144426201	0.530067375	0.276656221	0.2900166
SAN FRANCISCO	2022	LDT2	Aggregated	Aggregated	GAS	53507.32088	1662242.685	251569.6648	0.063513126	0	0.279584325	0.001694525	0	0.001686309	0.002000001	0.015750005	0.00184293	0	0.001833972	0.008000002	0.036750011	0.014931732	0	0.317048359	0.110467085	0.390295376	0.248335838	0.22755298
SAN FRANCISCO	2022	MHDT	Aggregated	Aggregated	DSL	4172.305531	227092.9149	37001.33141	2.109033505	10.01387122	1.743993654	0.036668742	0.017382236	0	0.003000001	0.055860016	0.03832674	0.018168183	0	0.012000003	0.130340037	0.086515186	0.130856378	0	0	0	0	0
SAN FRANCISCO	2022	HHDT	Aggregated	Aggregated	DSL	1102.419742	74477.37434	7662.52304	4.902115675	45.67901171	2.278813712	0.032130994	0.047943457	0	0.008692723	0.025556606	0.033583814	0.050111247	0	0.034770893	0.059632082	0.087378451	2.527564193	0	0	0	0	0

CONSTRUCTION

Project Background Information

Background Info	
Worker Trips	
Total annual one-way trips	34051
Trip Length	10.8
Vendor Trips	
Total annual one-way trips	12872
Trip Length	7.3
Haul Trips	
Total annual one-way trips	1490
Trip Length	20

Fleet Mix		
Worker Trips		
LDA	GAS	0.5000
LDT1	GAS	0.2500
LDT2	GAS	0.2500
Vendor Trips		
HHDT	Diesel	0.5
MHDT	Diesel	0.5
Haul Trips		
HHDT	Diesel	1

Emissions Calcs

g/ton	907185						ROG EMISSIONS TONS PER YEAR							NOx EMISSIONS TONS PER YEAR			PM2.5 EMISSIONS TONS PER YEAR					PM10 EMISSIONS TONS PER YEAR				
				g/mi	g/trip	g/vehicle/day	ROG	ROG	ROG	ROG	ROG	ROG	ROG	NOx	NOx	NOx	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM10	PM10	PM10	PM10	PM10
			One-Way Trips	mi	tot mi	tot trip	tot veh	g/mi ROG_RUNEX	g/vehicle/day ROG_IDLEX	g/trip ROG_STREX	g/trip ROG_HOTSOAK	g/trip ROG_RUNLOSS	g/vehicle/day ROG_RESTLOSS	g/vehicle/day ROG_DIURN	g/mi NOx_RUNEX	g/vehicle/day NOx_IDLEX	g/trip NOx_STREX	g/mi PM2.5_RUNEX	g/vehicle/day PM2.5_IDLEX	g/trip PM2.5_STREX	g/mi PM2.5_PMTW	g/mi PM2.5_PMBW	g/mi PM10_RUNEX	g/vehicle/day PM10_IDLEX	g/trip PM10_STREX	g/mi PM10_PMTW	g/mi PM10_PMBW
3	LDA	GAS	17026	10.8	183875.4	17026	8513	2.10E-03	0.00E+00	4.65E-03	1.90E-03	4.22E-03	1.70E-03	1.70E-03	7.60E-03	0.00E+00	3.72E-03	3.47E-04	0.00E+00	3.34E-05	4.05E-04	3.19E-03	3.77E-04	0.00E+00	3.63E-05	1.62E-03	7.45E-03
4	LDT1	GAS	8513	10.8	91937.7	8513	4256	1.92E-03	0.00E+00	2.93E-03	1.36E-03	4.97E-03	1.30E-03	1.36E-03	7.03E-03	0.00E+00	2.24E-03	2.03E-04	0.00E+00	1.94E-05	2.03E-04	1.60E-03	2.21E-04	0.00E+00	2.11E-05	8.11E-04	3.72E-03
5	LDT2	GAS	8513	10.8	91937.7	8513	4256	1.51E-03	0.00E+00	2.98E-03	1.04E-03	3.66E-03	1.17E-03	1.07E-03	6.44E-03	0.00E+00	2.62E-03	1.72E-04	0.00E+00	1.58E-05	2.03E-04	1.60E-03	1.87E-04	0.00E+00	1.72E-05	8.11E-04	3.72E-03
6	HHDT	DSL	6436	7.3	46982.8	6436	3218	4.53E-03	8.97E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.54E-01	1.62E-01	1.62E-02	1.66E-03	1.70E-04	0.00E+00	4.50E-04	1.32E-03	1.74E-03	1.78E-04	0.00E+00	1.80E-03	3.09E-03
7	MHDT	DSL	6436	7.3	46982.8	6436	3218	4.48E-03	4.64E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-01	3.55E-02	1.24E-02	1.90E-03	6.17E-05	0.00E+00	1.55E-04	2.89E-03	1.98E-03	6.44E-05	0.00E+00	6.21E-04	6.75E-03
8	HHDT	DSL	1490	20	29809	1490	745	2.87E-03	2.08E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-01	3.75E-02	3.74E-03	1.06E-03	3.94E-05	0.00E+00	2.86E-04	8.40E-04	1.10E-03	4.12E-05	0.00E+00	1.14E-03	1.96E-03

Sum of Emissions

ton/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	1.63E-02	1.13E-02	9.48E-03	3.98E-03
LDT1	GAS	1.38E-02	9.27E-03	4.78E-03	2.02E-03
LDT2	GAS	1.14E-02	9.06E-03	4.74E-03	1.99E-03
HHDT	DSL	1.35E-02	4.32E-01	6.81E-03	3.61E-03
MHDT	DSL	4.94E-03	1.57E-01	9.42E-03	5.01E-03
HHDT	DSL	4.95E-03	2.02E-01	4.25E-03	2.22E-03
Total		**0.0649**	**0.8212**	**0.0395**	**0.0188**
lbs/day		**0.50**	**6.32**	**0.30**	**0.14**

tons/yr	ROG	NOx	PM10	PM2.5
Haul	0.0049	0.2023	0.0042	0.0022
Vendor	0.0184	0.5892	0.0162	0.0086
Worker	0.0415	0.0297	0.0190	0.0080

lbs/day	ROG	NOx	PM10	PM2.5
Haul	0.0381	1.5565	0.0327	0.0171
Vendor	0.1418	4.5323	0.1248	0.0663
Worker	0.3194	0.2281	0.1462	0.0614

Delivery Truck Idling Emissions

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2022	Annual	San Francisco (SF)	MHDT	IDLEX	ROG	1.280504516
2022	Annual	San Francisco (SF)	MHDT	IDLEX	NOx	50.10049466
2022	Annual	San Francisco (SF)	MHDT	IDLEX	PM2.5	0.086870176
2022	Annual	San Francisco (SF)	MHDT	IDLEX	PM10	0.090798059
2022	Annual	San Francisco (SF)	MHDT	IDLEX	CO2	6545.594513
2022	Annual	San Francisco (SF)	HHDT	IDLEX	ROG	2.087351029
2022	Annual	San Francisco (SF)	HHDT	IDLEX	NOx	40.82267312
2022	Annual	San Francisco (SF)	HHDT	IDLEX	PM2.5	0.043114552
2022	Annual	San Francisco (SF)	HHDT	IDLEX	PM10	0.045064001
2022	Annual	San Francisco (SF)	HHDT	IDLEX	CO2	6160.228305

Emissions Calcs

			POUNDS PER DAY			
Delivery Truck Trips						
Daily Delivery and Haul Trips		55				
Idling Time per Trip (hours)		0.25				
Fleet Mix			ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.0000097	0.0003813	0.0000007	0.0000007
HHDT	DSL	0.5	0.0000159	0.0003107	0.0000003	0.0000003
Total Daily Truck Idling Emissions (pounds)			**0.0000256**	**0.0006920**	**0.0000010**	**0.0000010**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

530 Sansome Street - 2023 Construction Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Work Days
2023	260

Mile	Feet
1	5280

Construction On-Road Trips

Phase	Worker One-Way Trips	Vendor One-Way Trips	Hauling One-Way Trips	Work Days per Phase	Annual Worker Trips	Annual Vendor Trips
Building Constr.	109	44	0	260	28340	11440

	PhaseStartDate	PhaseEndDate	Work Days in 2023
Building Constr.	1/1/2023	12/31/2023	260

	Trips Lengths (mi)
Worker	10.8
Vendor	7.3
Hauling	20

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2023	LDA	Aggregated	Aggregated	GAS	161367.5254	5500029.786	761670.7597	0.033455291	0	0.186203565	0.001635011	0	0.001709662	0.002000001	0.015750005	0.001778213	0	0.001859367	0.008000002	0.036750011	0.008975291	0	0.225953357	0.094729662	0.215898681	0.169402221	0.16819115
SAN FRANCISCO	2023	LDT1	Aggregated	Aggregated	GAS	17686.48377	532518.1594	82418.29182	0.060488404	0	0.222937637	0.001894801	0	0.001957487	0.002000001	0.015750005	0.002060742	0	0.002128891	0.008000002	0.036750011	0.016255265	0	0.282787232	0.134725932	0.499989967	0.26059694	0.26833577
SAN FRANCISCO	2023	LDT2	Aggregated	Aggregated	GAS	54830.80016	1673679.19	257591.6391	0.056078628	0	0.258130678	0.001640123	0	0.001641938	0.002000001	0.015750005	0.001783773	0	0.001785736	0.008000002	0.036750011	0.013316126	0	0.294023608	0.106637656	0.384404749	0.245535895	0.22232181
SAN FRANCISCO	2023	MHDT	Aggregated	Aggregated	DSL	4267.480541	240025.9423	37523.1845	1.524749952	8.409482833	2.153423708	0.006972861	0.007900669	0	0.003000001	0.055860016	0.007288143	0.008257902	0	0.012000003	0.130340037	0.011598675	0.110976454	0	0	0	0	0
SAN FRANCISCO	2023	HHDT	Aggregated	Aggregated	DSL	1101.651548	75402.68465	7731.816001	4.068075173	42.92627593	2.551924879	0.023079352	0.042840192	0	0.008691516	0.025553057	0.024122898	0.044777236	0	0.034766064	0.0596238	0.036013464	2.549889813	0	0	0	0	0

CONSTRUCTION

Project Background Information

Background Info	
Worker Trips	
Total annual one-way trips	28340
Trip Length	10.8
Vendor Trips	
Total annual one-way trips	11440
Trip Length	7.3
Haul Trips	
Total annual one-way trips	0
Trip Length	20

Fleet Mix		
Worker Trips		
LDA	GAS	0.5000
LDT1	GAS	0.2500
LDT2	GAS	0.2500
Vendor Trips		
HHDT	Diesel	0.5
MHDT	Diesel	0.5
Haul Trips		
HHDT	Diesel	1

Emissions Calcs

g/ton 907185

			One-Way Trips	mi	g/mi tot mi	g/trip tot trip	g/vehicle/day tot veh	ROG EMISSIONS TONS PER YEAR: ROG g/mi ROG_RUNEX	ROG g/vehicle/day ROG_IDLEX	ROG g/trip ROG_STREX	ROG g/trip ROG_HOTSOAK	ROG g/trip ROG_RUNLOSS	ROG g/vehicle/day ROG_RESTLOSS	ROG g/vehicle/day ROG_DIURN	NOx EMISSIONS TONS PER YEAR: NOx g/mi NOx_RUNEX	NOx g/vehicle/day NOx_IDLEX	NOx g/trip NOx_STREX	PM2.5 EMISSIONS TONS PER YEAR: PM2.5 g/mi PM2.5_RUNEX	PM2.5 g/vehicle/day PM2.5_IDLEX	PM2.5 g/trip PM2.5_STREX	PM2.5 g/mi PM2.5_PMTW	PM2.5 g/mi PM2.5_PMBW	PM10 EMISSIONS TONS PER YEAR: PM10 g/mi PM10_RUNEX	PM10 g/vehicle/day PM10_IDLEX	PM10 g/trip PM10_STREX	PM10 g/mi PM10_PMTW	PM10 g/mi PM10_PMBW
3	LDA	GAS	14170	10.8	153036.0	14170	7085	1.51E-03	0.00E+00	3.53E-03	1.48E-03	3.37E-03	1.32E-03	1.31E-03	5.64E-03	0.00E+00	2.91E-03	2.76E-04	0.00E+00	2.67E-05	3.37E-04	2.66E-03	3.00E-04	0.00E+00	2.90E-05	1.35E-03	6.20E-03
4	LDT1	GAS	7085	10.8	76518.0	7085	3543	1.37E-03	0.00E+00	2.21E-03	1.05E-03	3.90E-03	1.02E-03	1.05E-03	5.10E-03	0.00E+00	1.74E-03	1.60E-04	0.00E+00	1.53E-05	1.69E-04	1.33E-03	1.74E-04	0.00E+00	1.66E-05	6.75E-04	3.10E-03
5	LDT2	GAS	7085	10.8	76518.0	7085	3543	1.12E-03	0.00E+00	2.30E-03	8.33E-04	3.00E-03	9.59E-04	8.68E-04	4.73E-03	0.00E+00	2.02E-03	1.38E-04	0.00E+00	1.28E-05	1.69E-04	1.33E-03	1.50E-04	0.00E+00	1.39E-05	6.75E-04	3.10E-03
6	HHDT	DSL	5720	7.3	41756	5720	2860	1.66E-03	8.04E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-01	1.35E-01	1.61E-02	1.06E-03	1.35E-04	0.00E+00	4.00E-04	1.18E-03	1.11E-03	1.41E-04	0.00E+00	1.60E-03	2.74E-03
7	MHDT	DSL	5720	7.3	41756	5720	2860	5.34E-04	3.50E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.02E-02	2.65E-02	1.36E-02	3.21E-04	2.49E-05	0.00E+00	1.38E-04	2.57E-03	3.35E-04	2.60E-05	0.00E+00	5.52E-04	6.00E-03
8	HHDT	DSL	0	20	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Sum of Emissions

ton/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	1.25E-02	8.55E-03	7.88E-03	3.30E-03
LDT1	GAS	1.06E-02	6.84E-03	3.96E-03	1.67E-03
LDT2	GAS	9.08E-03	6.75E-03	3.94E-03	1.65E-03
HHDT	DSL	9.70E-03	3.39E-01	5.60E-03	2.77E-03
MHDT	DSL	8.84E-04	1.10E-01	6.91E-03	3.06E-03
HHDT	DSL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**0.0428**	**0.4711**	**0.0283**	**0.0124**
lbs/day		**0.33**	**3.62**	**0.22**	**0.10**

tons/yr	ROG	NOx	PM10	PM2.5
Haul	0.0000	0.0000	0.0000	0.0000
Vendor	0.0106	0.4489	0.0125	0.0058
Worker	0.0322	0.0221	0.0158	0.0066

lbs/day	ROG	NOx	PM10	PM2.5
Haul	0.0000	0.0000	0.0000	0.0000
Vendor	0.0814	3.4534	0.0962	0.0448
Worker	0.2478	0.1703	0.1214	0.0509

Delivery Truck Idling Emissions

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2023	Annual	San Francisco (SF)	MHDT	IDLEX	ROG	1.149440815
2023	Annual	San Francisco (SF)	MHDT	IDLEX	NOx	41.4257563
2023	Annual	San Francisco (SF)	MHDT	IDLEX	PM2.5	0.038869778
2023	Annual	San Francisco (SF)	MHDT	IDLEX	PM10	0.040627297
2023	Annual	San Francisco (SF)	MHDT	IDLEX	CO2	6345.102725
2023	Annual	San Francisco (SF)	HHDT	IDLEX	ROG	2.081528119
2023	Annual	San Francisco (SF)	HHDT	IDLEX	NOx	38.1231379
2023	Annual	San Francisco (SF)	HHDT	IDLEX	PM2.5	0.038810196
2023	Annual	San Francisco (SF)	HHDT	IDLEX	PM10	0.040565021
2023	Annual	San Francisco (SF)	HHDT	IDLEX	CO2	5974.54793

Emissions Calcs

			POUNDS PER DAY			
Delivery Truck Trips						
Daily Delivery and Haul Trips		44				
Idling Time per Trip (hours)		0.25				
Fleet Mix			ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.0000070	0.0002511	0.0000002	0.0000002
HHDT	DSL	0.5	0.0000126	0.0002311	0.0000002	0.0000002
Total Daily Truck Idling Emissions (pounds)			**0.0000196**	**0.0004823**	**0.0000005**	**0.0000005**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

530 Sansome Street - 2024 Construction Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Work Days
1	58

Mile	Feet
1	5280

Construction On-Road Trips

Phase	Worker One-Way Trips	Vendor One-Way Trips	Hauling One-Way Trips	Work Days per Phase	Annual Worker Trips	Annual Vendor Trips
Building Constr.	109	44	0	58	6322	2552
Paving	5	0	0	20	100	0
TOTAL					6422	2552

	PhaseStartDate	PhaseEndDate	Work Days in 2024
Building Const.	1/1/2024	3/20/2024	58
Paving	3/1/2024	3/28/2024	20

	Trips Lengths (mi)
Worker	10.8
Vendor	7.3
Hauling	20

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	GAS	163734.1006	5508576.903	773124.2786	0.030194596	0	0.17514932	0.001568021	0	0.001647092	0.002000001	0.015750005	0.001705366	0	0.001791363	0.008000002	0.036750011	0.007823913	0	0.206509031	0.089299453	0.208352778	0.159252221	0.15663952
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	GAS	18144.31553	537839.8913	84533.10791	0.053247498	0	0.208691309	0.001796468	0	0.001860536	0.002000001	0.015750005	0.001953813	0	0.002023483	0.008000002	0.036750011	0.014026058	0	0.256574038	0.126077917	0.473440604	0.246112044	0.24919975
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	GAS	56108.06507	1684641.33	263352.4596	0.049930964	0	0.239214876	0.001591358	0	0.001603205	0.002000001	0.015750005	0.001730745	0	0.001743627	0.008000002	0.036750011	0.011923542	0	0.272821995	0.103075037	0.378813669	0.242449531	0.21723132
SAN FRANCISCO	2024	MHDT	Aggregated	Aggregated	DSL	4559.674657	252707.8914	40097.34972	1.525212438	7.975604041	2.165184647	0.006958156	0.006637677	0	0.003000001	0.055860016	0.007272773	0.006937804	0	0.012000003	0.130340037	0.011374366	0.107868307	0	0	0	0	0
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	DSL	1104.365622	76354.37625	7858.384306	3.94352033	42.3782252	2.590633821	0.023106733	0.040549544	0	0.008690351	0.025549633	0.024151517	0.042383014	0	0.034761406	0.05961581	0.035382065	2.588336207	0	0	0	0	0

CONSTRUCTION

Project Background Information

Background Info	
Worker Trips	
Total annual one-way trips	6422
Trip Length	10.8
Vendor Trips	
Total annual one-way trips	2552
Trip Length	7.3
Haul Trips	
Total annual one-way trips	0
Trip Length	20

Fleet Mix		
Worker Trips		
LDA	GAS	0.5000
LDT1	GAS	0.2500
LDT2	GAS	0.2500
Vendor Trips		
HHDT	Diesel	0.5
MHDT	Diesel	0.5
Haul Trips		
HHDT	Diesel	1

Emissions Calcs

	g/ton	907185																									
								ROG EMISSIONS TONS PER YEAR							NOx EMISSIONS TONS PER YEAR			PM2.5 EMISSIONS TONS PER YEAR					PM10 EMISSIONS TONS PER YEAR					
					g/mi	g/trip	g/vehicle/day	ROG	ROG	ROG	ROG	ROG	ROG	ROG	NOx	NOx	NOx	PM2.5	PM2.5	PM2.5	PM2.5	PM2.5	PM10	PM10	PM10	PM10	PM10
			One-Way Trips	mi	tot mi	tot trip	tot veh	g/mi ROG_RUNEX	g/vehicle/day ROG_IDLEX	g/trip ROG_STREX	g/trip ROG_HOTSOAK	g/trip ROG_RUNLOSS	g/vehicle/day ROG_RESTLOSS	g/vehicle/day ROG_DIURN	g/mi NOx_RUNEX	g/vehicle/day NOx_IDLEX	g/trip NOx_STREX	g/mi PM2.5_RUNEX	g/vehicle/day PM2.5_IDLEX	g/trip PM2.5_STREX	g/mi PM2.5_PMTW	g/mi PM2.5_PMBW	g/mi PM10_RUNEX	g/vehicle/day PM10_IDLEX	g/trip PM10_STREX	g/mi PM10_PMTW	g/mi PM10_PMBW
3	LDA	GAS	3211	10.8	34678.8	3211	1606	2.99E-04	0.00E+00	7.31E-04	3.16E-04	7.37E-04	2.82E-04	2.77E-04	1.15E-03	0.00E+00	6.20E-04	5.99E-05	0.00E+00	5.83E-06	7.65E-05	6.02E-04	6.52E-05	0.00E+00	6.34E-06	3.06E-04	1.40E-03
4	LDT1	GAS	1606	10.8	17339.4	1606	803	2.68E-04	0.00E+00	4.54E-04	2.23E-04	8.38E-04	2.18E-04	2.21E-04	1.02E-03	0.00E+00	3.69E-04	3.43E-05	0.00E+00	3.29E-06	3.82E-05	3.01E-04	3.73E-05	0.00E+00	3.58E-06	1.53E-04	7.02E-04
5	LDT2	GAS	1606	10.8	17339.4	1606	803	2.28E-04	0.00E+00	4.83E-04	1.82E-04	6.70E-04	2.15E-04	1.92E-04	9.54E-04	0.00E+00	4.23E-04	3.04E-05	0.00E+00	2.84E-06	3.82E-05	3.01E-04	3.31E-05	0.00E+00	3.09E-06	1.53E-04	7.02E-04
6	HHDT	DSL	1276	7.3	9314.8	1276	638	3.63E-04	1.82E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-02	2.98E-02	3.64E-03	2.37E-04	2.85E-05	0.00E+00	8.92E-05	2.62E-04	2.48E-04	2.98E-05	0.00E+00	3.57E-04	6.12E-04
7	MHDT	DSL	1276	7.3	9314.8	1276	638	1.17E-04	7.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-02	5.61E-03	3.05E-03	7.14E-05	4.67E-06	0.00E+00	3.08E-05	5.74E-04	7.47E-05	4.88E-06	0.00E+00	1.23E-04	1.34E-03
8	HHDT	DSL	0	20	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Sum of Emissions

ton/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	2.64E-03	1.77E-03	1.78E-03	7.44E-04
LDT1	GAS	2.22E-03	1.39E-03	8.96E-04	3.77E-04
LDT2	GAS	1.97E-03	1.38E-03	8.91E-04	3.73E-04
HHDT	DSL	2.18E-03	7.39E-02	1.25E-03	6.17E-04
MHDT	DSL	1.93E-04	2.43E-02	1.54E-03	6.80E-04
HHDT	DSL	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total		**0.0092**	**0.1028**	**0.0064**	**0.0028**
lbs/day		**0.32**	**3.54**	**0.22**	**0.10**

tons/yr	ROG	NOx	PM10	PM2.5
Haul	0.0000	0.0000	0.0000	0.0000
Vendor	0.0024	0.0983	0.0028	0.0013
Worker	0.0068	0.0045	0.0036	0.0015

lbs/day	ROG	NOx	PM10	PM2.5
Haul	0.0000	0.0000	0.0000	0.0000
Vendor	0.0819	3.3881	0.0961	0.0448
Worker	0.2357	0.1565	0.1231	0.0515

Delivery Truck Idling Emissions

EMFAC2017 Output

Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2024	Annual	San Francisco (SF)	MHDT	IDLEX	ROG	1.107605157
2024	Annual	San Francisco (SF)	MHDT	IDLEX	NOx	39.65158474
2024	Annual	San Francisco (SF)	MHDT	IDLEX	PM2.5	0.032958375
2024	Annual	San Francisco (SF)	MHDT	IDLEX	PM10	0.034448606
2024	Annual	San Francisco (SF)	MHDT	IDLEX	CO2	6241.578857
2024	Annual	San Francisco (SF)	HHDT	IDLEX	ROG	2.083640088
2024	Annual	San Francisco (SF)	HHDT	IDLEX	NOx	37.20507784
2024	Annual	San Francisco (SF)	HHDT	IDLEX	PM2.5	0.036175215
2024	Annual	San Francisco (SF)	HHDT	IDLEX	PM10	0.037810898
2024	Annual	San Francisco (SF)	HHDT	IDLEX	CO2	5897.625468

Emissions Calcs

			POUNDS PER DAY			
Delivery Truck Trips						
Daily Delivery and Haul Trips		44				
Idling Time per Trip (hours)		0.25				
Fleet Mix			ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.0000067	0.0002404	0.0000002	0.0000002
HHDT	DSL	0.5	0.0000126	0.0002256	0.0000002	0.0000002
Total Daily Truck Idling Emissions (pounds)			**0.0000193**	**0.0004660**	**0.0000004**	**0.0000004**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

A4 EMFAC2017 Output and Calculations: Proposed Project Operational On-Road Emissions

530 Sansome Street - Proposed Project - 2024 Operational Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Operational Days
1	365

Mile	Feet
1	5280

Operational Trips

	Daily One-Way Trips	One-way Annual Trips	Trip Length (mi) CalEEMod Default
Autos/Taxis/TNC	916	334340	from CalEEMod
Delivery Trucks	62	19344	7.3

Trip Data are from the Transportation Study: Table 10 for vehicles, Table 14 for freight deliveries
Truck delivery trip length from CalEEMod default; assume truck deliveries 6 days/week

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSX and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	GAS	163734.1006	550857	6.903	773124.2786	0.030194596	0	0.17514932	0.001568021	0	0.001647092	0.002000001	0.015750005	0.001705366	0	0.001791363	0.008000002	0.036750011	0.007823913	0	0.206509031	0.089299453	0.208352778	0.159252221	0.156633952
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	DSL	2245.991202	7372	.38859	10478.65414	0.05472934	0	0	0.006078612	0	0	0.002000001	0.015750005	0.00635346	0	0	0.008000002	0.036750011	0.018685539	0	0	0	0	0	0
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	ELEC	5004.454312	195338	.1059	24640.17335	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0.004888026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	GAS	18144.31553	537839	.8913	84533.10791	0.053247498	0	0.208691309	0.001796468	0	0.001860536	0.002000001	0.015750005	0.001953813	0	0.002023483	0.008000002	0.036750011	0.014026058	0	0.256574038	0.126077917	0.473440604	0.246112044	0.249159975
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	DSL	10.52080826	152.5	4388	36.09846578	0.923345616	0	0	0.117468856	0	0	0.002000001	0.015750005	0.122780277	0	0	0.008000002	0.036750011	0.163978992	0	0	0	0	0	0
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	ELEC	202.3157893	8273.5	3315	1009.227447	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0.004888026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	GAS	56108.06507	1684641	.33	263352.4596	0.049930964	0	0.239214876	0.001591358	0	0.001603205	0.002000001	0.015750005	0.001730745	0	0.001743627	0.008000002	0.036750011	0.011923542	0	0.272821995	0.103075037	0.378813669	0.242449531	0.21723132
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	DSL	598.2141521	18953	02185	2869.618118	0.04139856	0	0	0.004905258	0	0	0.002000001	0.015750005	0.005127052	0	0	0.008000002	0.036750011	0.024492649	0	0	0	0	0	0
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	ELEC	869.0407731	25403	.37938	4340.460832	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0.004888026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	MCY	Aggregated	Aggregated	GAS	10824.88122	70626	.09721	21649.76244	1.187092788	0	0.275941066	0.002230161	0	0.002819897	0.001	0.005040001	0.002384984	0	0.002993381	0.004000001	0.011760003	2.800348026	0	1.986570317	0.778967007	2.280819528	1.022949883	1.58271733
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	GAS	29933.21275	1003721	.835	141548.0335	0.050049995	0	0.243625713	0.001628797	0	0.001689702	0.002000001	0.015750005	0.001771446	0	0.001837663	0.008000002	0.036750011	0.012297275	0	0.288416168	0.09508028	0.451057215	0.239760723	0.21576097
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	DSL	994.4453375	35161	.12803	4799.570526	0.035347392	0	0	0.003984516	0	0	0.002000001	0.015750005	0.004164678	0	0	0.008000002	0.036750011	0.015995484	0	0	0	0	0	0
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	ELEC	465.6163304	14266	.46023	2361.897603	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0.004888026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	MH	Aggregated	Aggregated	GAS	362.5762447	4192	.615487	36.27212752	0.239057277	0	0.317164693	0.001517209	0	0.000364416	0.003000001	0.055860016	0.001650103	0	0.000396335	0.012000003	0.130340037	0.039335062	0	0.117732356	0.052709274	1.587708632	0.021566175	0.0526883
SAN FRANCISCO	2024	MH	Aggregated	Aggregated	DSL	143.2054296	1614	.614115	14.32054296	2.903646808	0	0	0.040234039	0	0	0.004000001	0.055860016	0.042053244	0	0	0.016000005	0.130340037	0.078001995	0	0	0	0	0	0
SAN FRANCISCO	2024	LHDT1	Aggregated	Aggregated	GAS	4255.958369	145205	.3312	63407.43832	0.152121107	0.036874138	0.483985951	0.001933162	0	0.000319141	0.002000001	0.032760009	0.00210249	0	0.000347095	0.008000002	0.076440022	0.032630916	0.422833801	0.097200282	0.088193617	0.611531119	0.019849726	0.03070234
SAN FRANCISCO	2024	LHDT1	Aggregated	Aggregated	DSL	2253.840821	90672	.9642	28350.4822	0.648784421	1.636339753	0	0.013263746	0.026483773	0	0.003000001	0.032760009	0.013863474	0.027681251	0	0.012000003	0.076440022	0.131077711	0.109759705	0	0	0	0	0
SAN FRANCISCO	2024	LHDT2	Aggregated	Aggregated	GAS	537.9041039	18436	.23298	8013.969671	0.166438053	0.035743644	0.467402188	0.001896672	0	0.000292471	0.002000001	0.038220011	0.002062804	0	0.000318089	0.008000002	0.089180026	0.025065515	0.409915814	0.094138076	0.090126935	0.604533108	0.019037801	0.03000676
SAN FRANCISCO	2024	LHDT2	Aggregated	Aggregated	DSL	965.7201108	36643	.24526	12147.54412	0.619872896	1.718389617	0	0.016935302	0.02704979	0	0.003000001	0.038220011	0.017701041	0.028272861	0	0.012000003	0.089180026	0.131317418	0.109759705	0	0	0	0	0
SAN FRANCISCO	2024	MHDT	Aggregated	Aggregated	GAS	516.7564417	24640	.80273	10339.26289	0.316667978	0.088744401	0.367625313	0.001111572	0	0.000384725	0.003000001	0.055860016	0.001208936	0	0.000418423	0.012000003	0.130340037	0.046488278	1.016472188	0.194667935	0.079108893	0.451959261	0.019400815	0.02991301
SAN FRANCISCO	2024	MHDT	Aggregated	Aggregated	DSL	4559.674657	252707	.8914	40097.34972	1.525212438	7.975604041	2.165184647	0.006958156	0.006637677	0	0.003000001	0.055860016	0.007727773	0.006937804	0	0.012000003	0.130340037	0.011374366	0.107868307	0	0	0	0	0
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	GAS	1.128626437	129.8	16231	22.58155775	3.316548581	0	0.009132594	0.001321498	0	0.000752367	0.005000001	0.026460008	0.001437249	0	0.000818267	0.020000006	0.061740018	0.418920073	0	0.002217094	0.137659072	0.939305249	0.031289675	0.04838504
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	DSL	1104.365622	76354	.37625	7858.384306	3.94352033	42.3782252	2.590633821	0.023106733	0.040549544	0	0.008690351	0.026549633	0.024151517	0.042383014	0	0.034761406	0.059615	0.035382065	2.588336207	0	0	0	0	0
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	NG	215.2692661	8776	.611325	839.5501376	1.323389572	20.33353458	0	0.004253983	0.023134136	0	0.009000003	0.026460008	0.004446329	0.024180159	0	0.03600001	0.061740018	0.123038428	0.035890573	0	0	0	0	0

OPERATION

Truck & Employee Vehicle Aggregate Speed On-Road Emissions

EMFAC2017 Output - Worker and Truck Trips (Aggregate Speed)

Project Background information

Background Info	
Autos/Taxis/TNC	
Annual VMT from CalEEMod	1,494,572.0
Annual One-Way Trips from TIS	334340
Delivery Trucks	
Annual one-way trips	19344
Trip Length	7.3

Fleet Mix		
Autos/Taxis/TNC		
LDA	GAS	60.03%
	DSL	0.80%
	ELEC	2.13%
LDT1	GAS	5.86%
	DSL	0.00%
	ELEC	0.09%
LDT2	GAS	18.36%
	DSL	0.21%
	ELEC	0.28%
MCY	GAS	0.77%
MDV	GAS	10.94%
	DSL	0.38%
	ELEC	0.16%
Delivery trucks	MHDT	DSL 50.00%
Delivery trucks	HHDT	DSL 50.00%

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate: Weekday	Saturday	Sunday	Unmitigated: Annual VMT	Mitigated: Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	128.95	28.66	12.34	234.112	234.112
Health Club	203.84	129.22	165.62	324.318	324.318
Hotel	386.00	386.00	282.00	705.146	705.146
Other Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	198.97	208.77	159.58	230.997	230.997
User Defined Industrial	0.00	0.00	0.00		
Total	917.76	752.64	619.54	1,494.572	1,494.572

Row Labels	Sum of VMT
LDA	**62.96%**
GAS	60.03%
DSL	0.80%
ELEC	2.13%
LDT1	**5.95%**
GAS	5.86%
DSL	0.00%
ELEC	0.09%
LDT2	**18.84%**
GAS	18.36%
DSL	0.21%
ELEC	0.28%
MCY	**0.77%**
GAS	0.77%
MDV	**11.48%**
GAS	10.94%
DSL	0.38%
ELEC	0.16%
Grand Total	**100.00%**

Emissions Calcs

			ROG EMISSIONS - TONS PER YEAR							NOx EMISSIONS - TONS PER YEAR			PM2.5 EMISSIONS - TONS PER YEAR					PM10 EMISSIONS - TONS PER YEAR				
g/ton	907185																					
		Annual VMT	g/mi tot mi	g/trip tot one-way trips	g/vehicle/day tot veh	ROG g/mi ROG_RUNEX	ROG g/vehicle/day ROG_IDLEX	ROG g/trip ROG_STREX	ROG g/trip ROG_HOTSOAK	ROG g/trip ROG_RUNLOSS	ROG g/vehicle/day ROG_RESTLOSS	ROG g/vehicle/day ROG_DIURN	NOx g/mi NOx_RUNEX	NOx g/vehicle/day NOx_IDLEX	NOx g/trip NOx_STREX	PM2.5 g/mi PM2.5_RUNEX	PM2.5 g/vehicle/day PM2.5_IDLEX	PM2.5 g/trip PM2.5_STREX	PM2.5 g/mi PM2.5_PMTW	PM2.5 g/mi PM2.5_PMBW	PM10 g/mi PM10_RUNEX	PM10 g/vehicle/day PM10_IDLEX	PM10 g/trip PM10_STREX	PM10 g/mi PM10_PMTW	PM10 g/mi PM10_PMBW
3	LDA	GAS	897,196	897,196.1	200,705	100353	7.74E-03	0.00E+00	4.57E-02	1.98E-02	4.61E-02	1.76E-02	1.73E-02	2.99E-02	0.00E+00	3.87E-02	1.55E-03	0.00E+00	3.64E-04	1.98E-03	1.56E-02	1.69E-03	0.00E+00	3.96E-04	7.91E-03	3.63E-02
4		DSL	11,950	11,950.4	2,673	1337	2.46E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.21E-04	0.00E+00	0.00E+00	8.01E-05	0.00E+00	0.00E+00	2.63E-05	2.07E-04	8.37E-05	0.00E+00	0.00E+00	1.05E-04	4.84E-04
5		ELEC	31,815	31,815.2	7,117	3559	0.00E+00	0.00E+00	0.00E+00	3.83E-05	0.00E+00	1.31E-05	4.68E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.01E-05	5.52E-04	0.00E+00	0.00E+00	0.00E+00	2.81E-04	1.29E-03
6	LDT1	GAS	87,599	87,599.4	19,596	9798	1.35E-03	0.00E+00	5.54E-03	2.72E-03	1.02E-02	2.66E-03	2.69E-03	5.14E-03	0.00E+00	4.51E-03	1.73E-04	0.00E+00	4.02E-05	1.93E-04	1.52E-03	1.89E-04	0.00E+00	4.37E-05	7.72E-04	3.55E-03
7		DSL	25	24.8	6	3	4.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.53E-05	0.00E+00	0.00E+00	3.22E-06	0.00E+00	0.00E+00	5.48E-08	4.31E-07	3.36E-06	0.00E+00	0.00E+00	2.19E-07	1.01E-06
8		ELEC	1,348	1,347.5	301	151	0.00E+00	0.00E+00	0.00E+00	1.62E-06	0.00E+00	5.53E-07	1.98E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.97E-06	2.34E-05	0.00E+00	0.00E+00	0.00E+00	1.19E-05	5.46E-05
9	LDT2	GAS	274,382	274,381.9	61,380	30690	3.61E-03	0.00E+00	1.85E-02	6.97E-03	2.56E-02	8.20E-03	7.35E-03	1.51E-02	0.00E+00	1.62E-02	4.81E-04	0.00E+00	1.08E-04	6.05E-04	4.76E-03	5.23E-04	0.00E+00	1.18E-04	2.42E-03	1.11E-02
10		DSL	3,087	3,086.9	691	345	8.33E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.41E-04	0.00E+00	0.00E+00	1.67E-05	0.00E+00	0.00E+00	6.81E-06	5.36E-05	1.74E-05	0.00E+00	0.00E+00	2.72E-05	1.25E-04
11		ELEC	4,138	4,137.5	926	463	0.00E+00	0.00E+00	0.00E+00	4.99E-06	0.00E+00	1.70E-06	6.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.12E-06	7.18E-05	0.00E+00	0.00E+00	0.00E+00	3.65E-05	1.68E-04
12	MCY	GAS	11,503	11,503.1	2,573	1287	3.55E-02	0.00E+00	5.63E-03	2.21E-03	6.47E-03	1.45E-03	2.24E-03	1.51E-02	0.00E+00	7.83E-04	2.83E-05	0.00E+00	8.00E-06	1.27E-05	6.39E-05	3.02E-05	0.00E+00	8.49E-06	5.07E-05	1.49E-04
13	MDV	GAS	163,479	163,478.8	36,571	18285	2.22E-03	0.00E+00	1.16E-02	3.83E-03	1.37E-02	4.83E-03	4.35E-03	9.02E-03	0.00E+00	9.82E-03	2.94E-04	0.00E+00	6.81E-05	3.60E-04	2.84E-03	3.19E-04	0.00E+00	7.41E-05	1.44E-03	6.62E-03
14		DSL	5,727	5,726.8	1,281	641	1.01E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-04	0.00E+00	0.00E+00	2.52E-05	0.00E+00	0.00E+00	1.26E-05	9.94E-05	2.63E-05	0.00E+00	0.00E+00	5.05E-05	2.32E-04
15		ELEC	2,324	2,323.6	520	260	0.00E+00	0.00E+00	0.00E+00	2.80E-06	0.00E+00	9.54E-07	3.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-06	4.03E-05	0.00E+00	0.00E+00	0.00E+00	2.05E-05	9.41E-05
16																										
17																										
18	MHDT	DSL	70,606	70,605.6	167,170	83585	8.85E-04	9.94E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01	7.35E-01	3.99E-01	5.42E-04	6.12E-04	0.00E+00	2.33E-04	4.35E-03	5.66E-04	6.39E-04	0.00E+00	9.34E-04	1.01E-02
19	HHDT	DSL	70,606	70,605.6	167,170	83585	2.75E-03	2.38E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.07E-01	3.90E+00	4.77E-01	1.80E-03	3.74E-03	0.00E+00	6.76E-04	1.99E-03	1.88E-03	3.91E-03	0.00E+00	2.71E-03	4.64E-03

Sum of On-Road Emissions

tons/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	1.54E-01	6.86E-02	4.63E-02	1.95E-02
	DSL	2.46E-04	7.21E-04	6.73E-04	3.14E-04
	ELEC	9.82E-05	0.00E+00	1.57E-03	6.22E-04
LDT1	GAS	2.52E-02	9.65E-03	4.55E-03	1.93E-03
	DSL	4.44E-06	2.53E-05	4.59E-06	3.70E-06
	ELEC	4.16E-06	0.00E+00	6.65E-05	2.64E-05
LDT2	GAS	7.02E-02	3.13E-02	1.42E-02	5.96E-03
	DSL	8.33E-05	1.41E-04	1.70E-04	7.71E-05
	ELEC	1.28E-05	0.00E+00	2.04E-04	8.10E-05
MCY	GAS	5.35E-02	1.58E-02	2.39E-04	1.13E-04
MDV	GAS	4.06E-02	1.88E-02	8.46E-03	3.56E-03
	DSL	1.01E-04	2.23E-04	3.09E-04	1.37E-04
	ELEC	7.17E-06	0.00E+00	1.15E-04	4.55E-05
Total		0.344	0.145	0.077	0.032
Delivery Trucks					
MHDT	DSL	1.08E-02	1.25E+00	1.23E-02	5.73E-03
HHDT	DSL	2.41E-01	4.69E+00	1.31E-02	8.20E-03
Total		0.252	5.941	0.025	0.014

PPD		ROG	NOx	PM10	PM2.5
LDA	GAS	8.45E-01	3.76E-01	2.54E-01	1.07E-01
	DSL	1.35E-03	3.95E-03	3.69E-03	1.72E-03
	ELEC	5.38E-04	0.00E+00	8.60E-03	3.41E-03
LDT1	GAS	1.38E-01	5.29E-02	2.50E-02	1.06E-02
	DSL	2.43E-05	1.39E-04	2.51E-05	2.03E-05
	ELEC	2.28E-05	0.00E+00	3.64E-04	1.44E-04
LDT2	GAS	3.85E-01	1.71E-01	7.77E-02	3.26E-02
	DSL	4.57E-04	7.72E-04	9.30E-04	4.22E-04
	ELEC	7.00E-05	0.00E+00	1.12E-03	4.44E-04
MCY	GAS	2.93E-01	8.68E-02	1.31E-03	6.18E-04
MDV	GAS	2.22E-01	1.03E-01	4.63E-02	1.95E-02
	DSL	5.53E-04	1.22E-03	1.69E-03	7.52E-04
	ELEC	3.93E-05	0.00E+00	6.28E-04	2.49E-04
Total		1.887	0.796	0.421	0.177
Delivery Trucks					
MHDT	DSL	5.93E-02	6.86E+00	6.73E-02	3.14E-02
HHDT	DSL	1.32E+00	2.57E+01	7.19E-02	4.49E-02
Total		1.381	32.556	0.139	0.076

Delivery Truck Idling Emissions

IDLING
Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2024	Annual	San Francisco (S	MHDT	IDLEX	ROG	1.107605157
2024	Annual	San Francisco (S	MHDT	IDLEX	NOx	39.65158474
2024	Annual	San Francisco (S	MHDT	IDLEX	PM2.5	0.032958375
2024	Annual	San Francisco (S	MHDT	IDLEX	PM10	0.034448606
2024	Annual	San Francisco (S	MHDT	IDLEX	CO2	6241.578857
2024	Annual	San Francisco (S	HHDT	IDLEX	ROG	2.083640088
2024	Annual	San Francisco (S	HHDT	IDLEX	NOx	37.20507784
2024	Annual	San Francisco (S	HHDT	IDLEX	PM2.5	0.036175215
2024	Annual	San Francisco (S	HHDT	IDLEX	PM10	0.037810898
2024	Annual	San Francisco (S	HHDT	IDLEX	CO2	5897.625468

Emissions Calcs

Delivery Truck Trips						
Annual Delivery Trips	9672					
Idling Time per Trip (hours)	0.25					
Fleet Mix			ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.001	0.053	0.00005	0.00004
HHDT	DSL	0.5	0.003	0.050	0.00005	0.00005
Total Annual Truck Idling Emissions (tons)			**0.0043**	**0.1024**	**0.0001**	**0.0001**
Total Daily Truck Idling Emissions (lbs)			**0.02**	**0.56**	**0.001**	**0.001**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

Sum of Delivery Truck On-Road plus Idling Emissions	ROG	NOx	PM10	PM2.5	Road Dust: PM10	PM2.5
Tons per Year	0.256	6.044	0.026	0.014	0.200	0.030
Pounds per Day	1.404	33.117	0.140	0.077	1.093	0.164

This page intentionally left blank

A5 EMFAC2017 Output and Calculations: Residential Variant Operational On-Road Emissions Year

530 Sansome Street - Proposed Project - 2024 Operational Emissions

Tons	Pounds	Grams
1	2000	907185
	1	453.6

Year	Operational Days
1	365

Mile	Feet
1	5280

Operational Trips

	Daily One-Way Trips	One-way Annual Trips	Trip Length (mi) CalEEMod Default
Autos/Taxis/TNC	322	117530	from CalEEMod
Delivery Trucks	16	4992	7.3

Trip Data are from the Transportation Study: Table 11 for vehicles, Table 15 for freight deliveries
Truck delivery trip length from CalEEMod defaults; assume truck deliveries 6 days/week

EMFAC2017 Output

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RUNEX	PM2.5_IDLEX	PM2.5_STREX	PM2.5_PMTW	PM2.5_PMBW	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSOAK	ROG_RUNLOSS	ROG_RESTLOSS	ROG_DIURN
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	GAS	163734.1006	5508576.903	773124.2786	0.030194596	0	0.17514932	0.001568021	0	0.001647092	0.002000001	0.015750005	0.001705366	0	0.001791363	0.008000002	0.036750011	0.007823913	0	0.206509031	0.089299453	0.208352778	0.159252221	0.15663952
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	DSL	2245.991202	73372.38859	10478.65414	0.05472934	0	0	0.006078612	0	0	0.002000001	0.015750005	0.00635346	0	0	0.008000002	0.036750011	0.018685539	0	0	0	0	0	0
SAN FRANCISCO	2024	LDA	Aggregated	Aggregated	ELEC	5004.454312	195338.1059	24640.17335	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0	0.004488026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	GAS	18144.31553	537839.8913	84533.10791	0.053247498	0	0.208691309	0.001796468	0	0.001860536	0.002000001	0.015750005	0.001953813	0	0.002023483	0.008000002	0.036750011	0.014026058	0	0.256574038	0.126077917	0.473440604	0.246112044	0.24919975
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	DSL	10.52080826	152.5494388	36.09846578	0.923345616	0	0	0.117468856	0	0	0.002000001	0.015750005	0.122780277	0	0	0.008000002	0.036750011	0.161978992	0	0	0	0	0	0
SAN FRANCISCO	2024	LDT1	Aggregated	Aggregated	ELEC	202.3157893	8273.533315	1009.227447	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0	0.004488026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	GAS	56108.06507	1684641.33	263352.4596	0.049930964	0	0.239214876	0.001591358	0	0.001603205	0.002000001	0.015750005	0.001730745	0	0.001743627	0.008000002	0.036750011	0.015923542	0	0.272821995	0.130075037	0.378813669	0.242449531	0.21723132
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	DSL	598.2141521	18953.02185	2869.618118	0.04139856	0	0	0.004905258	0	0	0.002000001	0.015750005	0.005127052	0	0	0.008000002	0.036750011	0.024492649	0	0	0	0	0	0
SAN FRANCISCO	2024	LDT2	Aggregated	Aggregated	ELEC	869.0407731	25403.37938	4340.460832	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0	0.004488026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	MCY	Aggregated	Aggregated	GAS	10824.88122	70626.09721	21649.76244	1.187092788	0	0.275941066	0.002230161	0	0.002843897	0.001	0.005040001	0.002384984	0	0.002993381	0.004000001	0.011760003	2.800348026	0	1.986570317	0.778967007	2.280819528	1.022949883	1.58271733
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	GAS	29933.21275	1003721.835	141548.0335	0.050049995	0	0.243625713	0.001628797	0	0.001689702	0.002000001	0.015750005	0.001771446	0	0.001837663	0.008000002	0.036750011	0.012297275	0	0.288416168	0.09508028	0.340507215	0.239760723	0.21576097
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	DSL	994.4453375	35161.12803	4799.570526	0.035347392	0	0	0.003984516	0	0	0.002000001	0.015750005	0.004164678	0	0	0.008000002	0.036750011	0.015995484	0	0	0	0	0	0
SAN FRANCISCO	2024	MDV	Aggregated	Aggregated	ELEC	465.6163304	14266.46023	2361.897603	0	0	0	0	0	0	0.002000001	0.015750005	0	0	0	0.008000002	0.036750011	0	0	0	0.004488026	0	0.003329798	0.01193709
SAN FRANCISCO	2024	MH	Aggregated	Aggregated	GAS	362.5762447	4192.615487	36.27212752	0.239057277	0	0.317164693	0.001517209	0	0.000364416	0.003000001	0.055860016	0.001650103	0	0.000396335	0.012000003	0.130340037	0.039935062	0	0.117732356	0.052709274	1.587708632	0.021566175	0.0526883
SAN FRANCISCO	2024	MH	Aggregated	Aggregated	DSL	143.2054296	1614.614115	14.32054296	2.903646808	0	0	0.040234039	0	0	0.004000001	0.055860016	0.042053244	0	0	0.016000005	0.130340037	0.078001995	0	0	0	0	0	0
SAN FRANCISCO	2024	LHDT1	Aggregated	Aggregated	GAS	4255.958369	145205.3312	63407.43832	0.152121107	0.036874138	0.483985951	0.001933162	0	0.000319141	0.002000001	0.032760009	0.00210249	0	0.000347095	0.008000002	0.076440022	0.032630916	0.422833801	0.097200282	0.088193617	0.611531119	0.019849726	0.03070234
SAN FRANCISCO	2024	LHDT1	Aggregated	Aggregated	DSL	2253.840821	90672.9642	28350.4822	0.648784421	1.636339753	0	0.013263746	0.026483773	0	0.003000001	0.032760009	0.013863474	0.027681251	0	0.012000003	0.076440022	0.131077711	0.109759705	0	0	0	0	0
SAN FRANCISCO	2024	LHDT2	Aggregated	Aggregated	GAS	537.9041039	18436.23298	8013.969671	0.166438053	0.035743644	0.467402188	0.001896672	0	0.000292471	0.002000001	0.038220011	0.002062804	0	0.000318089	0.008000002	0.089180026	0.025065515	0.409915814	0.094138076	0.090126935	0.604533108	0.019037801	0.03000676
SAN FRANCISCO	2024	LHDT2	Aggregated	Aggregated	DSL	965.7201108	36643.24526	12147.54412	0.619872896	1.718389617	0	0.016935302	0.02704979	0	0.003000001	0.038220011	0.017701041	0.028272861	0	0.012000003	0.089180026	0.133117418	0.109759705	0	0	0	0	0
SAN FRANCISCO	2024	MHDT	Aggregated	Aggregated	GAS	516.7564417	24640.80273	10339.26289	0.316667978	0.088744401	0.367625313	0.001111572	0	0.000384725	0.003000001	0.055860016	0.001208936	0	0.000418423	0.012000003	0.130340037	0.046488278	1.016472188	0.194667935	0.079108893	0.451959261	0.019400815	0.02991301
SAN FRANCISCO	2024	MHDT	Aggregated	Aggregated	DSL	4559.674657	252707.8914	40097.34972	1.525212438	7.975604041	2.165184647	0.006958156	0.006637677	0	0.003000001	0.055860016	0.007272773	0.006937804	0	0.012000003	0.130340037	0.011374366	0.107868307	0	0	0	0	0
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	GAS	1.128626437	129.8816231	22.58155775	3.316548581	0	0.009132594	0.001321498	0	0.000752367	0.005000001	0.026460008	0.001437249	0	0.000818267	0.020000006	0.061740018	0.418920073	0	0.002217094	0.137659072	0.93905249	0.031289675	0.04838504
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	DSL	1104.365622	76354.37625	7858.384306	3.94352033	42.3782252	2.590633821	0.023106733	0.040549544	0	0.008690351	0.025549633	0.024151517	0.042383014	0	0.034761406	0.059651581	0.035382065	2.588336207	0	0	0	0	0
SAN FRANCISCO	2024	HHDT	Aggregated	Aggregated	NG	215.2692661	8776.611325	839.5501376	1.323389572	20.33353458	0	0.004253983	0.023134136	0	0.009000003	0.026460008	0.004446329	0.024180159	0	0.03600001	0.061740018	0.123038428	0.035890573	0	0	0	0	0

OPERATION

Truck & Employee Vehicle Aggregate Speed On-Road Emissions

EMFAC2017 Output - Worker and Truck Trips (Aggregate Speed)

Project Background information

Background Info	
Auto/Taxis/TNC	
Annual VMT from CalEEMod	726,404.0
Annual One-Way Trips from TIS	117530
Delivery Trucks	
Annual one-way trips	4992
Trip Length	7.3

Fleet Mix		
Auto/Taxi/TNC		
LDA	GAS	60.03%
	DSL	0.80%
	ELEC	2.13%
LDT1	GAS	5.86%
	DSL	0.00%
	ELEC	0.09%
LDT2	GAS	18.36%
	DSL	0.21%
	ELEC	0.28%
MCY	GAS	0.77%
MDV	GAS	10.94%
	DSL	0.38%
	ELEC	0.16%
Delivery trucks	MHDT	DSL	50.00%
Delivery trucks	HHDT	DSL	50.00%

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate: Weekday	Saturday	Sunday	Unmitigated: Annual VMT	Mitigated: Annual VMT
Condo/Townhouse High Rise	322.56	332.80	296.00	726,404	726,404
Other Asphalt Surfaces	0.00	0.00	0.00		
User Defined Industrial	0.00	0.00	0.00		
Total	322.56	332.80	296.00	726,404	726,404

Row Labels	Sum of VMT
LDA	**62.96%**
GAS	60.03%
DSL	0.80%
ELEC	2.13%
LDT1	**5.95%**
GAS	5.86%
DSL	0.00%
ELEC	0.09%
LDT2	**18.84%**
GAS	18.36%
DSL	0.21%
ELEC	0.28%
MCY	**0.77%**
GAS	0.77%
MDV	**11.48%**
GAS	10.94%
DSL	0.38%
ELEC	0.16%
Grand Total	**100.00%**

Emissions Calcs

g/ton	907185					ROG EMISSIONS - TONS PER YEAR							NOx EMISSIONS - TONS PER YEAR			PM2.5 EMISSIONS - TONS PER YEAR					PM10 EMISSIONS - TONS PER YEAR				
		Annual VMT	g/mi tot mi	g/trip tot one-way trips	g/vehicle/day tot veh	ROG g/mi ROG_RUNEX	ROG g/vehicle/day ROG_IDLEX	ROG g/trip ROG_STREX	ROG g/trip ROG_HOTSOAK	ROG g/trip ROG_RUNLOSS	ROG g/vehicle/day ROG_RESTLOSS	ROG g/vehicle/day ROG_DIURN	NOx g/mi NOx_RUNEX	NOx g/vehicle/day NOx_IDLEX	NOx g/trip NOx_STREX	PM2.5 g/mi PM2.5_RUNEX	PM2.5 g/vehicle/day PM2.5_IDLEX	PM2.5 g/trip PM2.5_STREX	PM2.5 g/mi PM2.5_PMTW	PM2.5 g/mi PM2.5_PMBW	PM10 g/mi PM10_RUNEX	PM10 g/vehicle/day PM10_IDLEX	PM10 g/trip PM10_STREX	PM10 g/mi PM10_PMTW	PM10 g/mi PM10_PMBW
3	LDA	GAS	4360623	4360623.5	705544	35277	3.79E-03	0.00E+00	1.61E-02	6.94E-03	1.62E-02	6.19E-03	6.09E-03	1.45E-02	0.00E+00	1.36E-02	7.54E-04	0.00E+00	1.28E-04	9.61E-04	7.57E-03	8.20E-04	0.00E+00	1.39E-04	3.85E-03	1.77E-02
4		DSL	5808	5808.2	940	470	1.20E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.50E-04	0.00E+00	0.00E+00	3.89E-05	0.00E+00	0.00E+00	1.28E-05	1.01E-04	4.07E-05	0.00E+00	0.00E+00	5.12E-05	2.35E-04
5		ELEC	15463	15463.1	2502	1251	0.00E+00	0.00E+00	0.00E+00	1.35E-05	0.00E+00	4.59E-06	1.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.41E-05	2.68E-04	0.00E+00	0.00E+00	0.00E+00	1.36E-04	6.26E-04
6	LDT1	GAS	42576	42575.8	6889	3444	6.58E-04	0.00E+00	1.95E-03	9.57E-04	3.60E-03	9.34E-04	9.46E-04	2.50E-03	0.00E+00	1.58E-03	8.43E-05	0.00E+00	1.41E-05	9.39E-05	7.39E-04	9.17E-05	0.00E+00	1.54E-05	3.75E-04	1.72E-03
7		DSL	12	12.1	2	1	2.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-05	0.00E+00	0.00E+00	1.56E-06	0.00E+00	0.00E+00	2.66E-08	2.10E-07	1.63E-06	0.00E+00	0.00E+00	1.06E-07	4.89E-07
8		ELEC	655	654.9	106	53	0.00E+00	0.00E+00	0.00E+00	5.71E-07	0.00E+00	1.94E-07	6.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-06	1.14E-05	0.00E+00	0.00E+00	0.00E+00	5.78E-06	2.65E-05
9	LDT2	GAS	133357	133357.3	21577	10788	1.75E-03	0.00E+00	6.49E-03	2.45E-03	9.01E-03	2.88E-03	2.58E-03	7.34E-03	0.00E+00	5.69E-03	2.34E-04	0.00E+00	3.81E-05	2.94E-04	2.32E-03	2.54E-04	0.00E+00	4.15E-05	1.18E-03	5.40E-03
10		DSL	1500	1500.3	243	121	4.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.85E-05	0.00E+00	0.00E+00	8.11E-06	0.00E+00	0.00E+00	3.31E-06	2.60E-05	8.48E-06	0.00E+00	0.00E+00	1.32E-05	6.08E-05
11		ELEC	2011	2010.9	325	163	0.00E+00	0.00E+00	0.00E+00	1.75E-06	0.00E+00	5.97E-07	2.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-06	3.49E-05	0.00E+00	0.00E+00	0.00E+00	1.77E-05	8.15E-05
12	MCY	GAS	5591	5590.8	905	452	1.73E-02	0.00E+00	1.98E-03	7.77E-04	2.27E-03	5.10E-04	7.89E-04	7.32E-03	0.00E+00	2.75E-04	1.37E-05	0.00E+00	2.81E-06	6.16E-06	3.11E-05	1.47E-05	0.00E+00	2.98E-06	2.47E-05	7.25E-05
13	MDV	GAS	79455	79455.3	12856	6428	1.08E-03	0.00E+00	4.09E-03	1.35E-03	4.83E-03	1.70E-03	1.53E-03	4.38E-03	0.00E+00	3.45E-04	1.43E-04	0.00E+00	2.39E-05	1.75E-04	1.38E-03	1.55E-04	0.00E+00	2.60E-05	7.01E-04	3.22E-03
14		DSL	2783	2783.4	450	225	4.91E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	1.22E-05	0.00E+00	0.00E+00	6.14E-06	4.83E-05	1.28E-05	0.00E+00	0.00E+00	2.45E-05	1.13E-04
15		ELEC	1129	1129.3	183	91	0.00E+00	0.00E+00	0.00E+00	9.85E-07	0.00E+00	3.35E-07	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-06	1.96E-05	0.00E+00	0.00E+00	0.00E+00	9.96E-06	4.57E-05
16																										
17																										
18	MHDT	DSL	18221	18220.8	58765	29383	2.28E-04	3.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.06E-02	2.58E-01	1.40E-01	1.40E-04	2.15E-04	0.00E+00	6.03E-05	1.12E-03	1.46E-04	2.25E-04	0.00E+00	2.41E-04	2.62E-03
19	HHDT	DSL	18221	18220.8	58765	29383	7.11E-04	8.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.92E-02	1.37E+00	1.68E-01	4.64E-04	1.31E-03	0.00E+00	1.75E-04	5.13E-04	4.85E-04	1.37E-03	0.00E+00	6.98E-04	1.26E-03

Sum of Emissions

tons/yr		ROG	NOx	PM10	PM2.5
LDA	GAS	5.53E-02	2.81E-02	2.25E-02	9.41E-03
	DSL	1.20E-04	3.50E-04	3.27E-04	1.53E-04
	ELEC	3.45E-05	0.00E+00	7.63E-04	3.03E-04
LDT1	GAS	9.04E-03	4.08E-03	2.21E-03	9.31E-04
	DSL	2.16E-06	1.23E-05	2.23E-06	1.80E-06
	ELEC	1.44E-06	0.00E+00	3.23E-05	1.28E-05
LDT2	GAS	2.52E-02	1.30E-02	6.87E-03	2.88E-03
	DSL	4.05E-05	6.85E-05	8.25E-05	3.75E-05
	ELEC	4.49E-06	0.00E+00	9.92E-05	3.93E-05
MCY	GAS	2.36E-02	7.59E-03	1.15E-04	5.38E-05
MDV	GAS	1.46E-02	7.84E-03	4.10E-03	1.72E-03
	DSL	4.91E-05	1.08E-04	1.50E-04	6.67E-05
	ELEC	2.52E-06	0.00E+00	5.57E-05	2.21E-05
Total		0.128	0.061	0.037	0.016
Delivery Trucks					
MHDT	DSL	3.72E-03	4.29E-01	3.23E-03	1.54E-03
HHDT	DSL	8.45E-02	1.62E+00	3.75E-03	2.47E-03
Total		0.088	2.049	0.007	0.004

PPD		ROG	NOx	PM10	PM2.5
LDA	GAS	3.03E-01	1.54E-01	1.23E-01	5.16E-02
	DSL	6.56E-04	1.92E-03	1.79E-03	8.36E-04
	ELEC	1.89E-04	0.00E+00	4.18E-03	1.66E-03
LDT1	GAS	4.95E-02	2.24E-02	1.21E-02	5.10E-03
	DSL	1.18E-05	6.73E-05	1.22E-05	9.86E-06
	ELEC	8.01E-06	0.00E+00	1.77E-04	7.02E-05
LDT2	GAS	1.38E-01	7.14E-02	3.77E-02	1.58E-02
	DSL	2.22E-04	3.75E-04	4.52E-04	2.05E-04
	ELEC	2.46E-05	0.00E+00	5.44E-04	2.16E-04
MCY	GAS	1.29E-01	4.16E-02	6.29E-04	2.95E-04
MDV	GAS	7.98E-02	4.29E-02	2.25E-02	9.43E-03
	DSL	2.69E-04	5.94E-04	8.22E-04	3.65E-04
	ELEC	1.38E-05	0.00E+00	3.05E-04	1.21E-04
Total		0.701	0.335	0.204	0.086
Delivery Trucks					
MHDT	DSL	2.04E-02	2.35E+00	1.77E-02	8.42E-03
HHDT	DSL	4.63E-01	8.87E+00	2.06E-02	1.35E-02
Total		0.484	11.226	0.038	0.022

Delivery Truck Emissions

IDLING
Source: EMFAC2017 (v1.0.3) Emission Rates
Region Type: County
Region: San Francisco
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: g/hour for idling

calendar_year	season_month	sub_area	vehicle_class	process	pollutant	emission_rate (g/hr)
2024	Annual	San Francisco (SF)	MHDT	IDLEX	ROG	1.107605157
2024	Annual	San Francisco (SF)	MHDT	IDLEX	NOx	39.65158474
2024	Annual	San Francisco (SF)	MHDT	IDLEX	PM2.5	0.032958375
2024	Annual	San Francisco (SF)	MHDT	IDLEX	PM10	0.034448606
2024	Annual	San Francisco (SF)	MHDT	IDLEX	CO2	6241.578857
2024	Annual	San Francisco (SF)	HHDT	IDLEX	ROG	2.083640088
2024	Annual	San Francisco (SF)	HHDT	IDLEX	NOx	37.20507784
2024	Annual	San Francisco (SF)	HHDT	IDLEX	PM2.5	0.036175215
2024	Annual	San Francisco (SF)	HHDT	IDLEX	PM10	0.037810898
2024	Annual	San Francisco (SF)	HHDT	IDLEX	CO2	5897.625468

Emissions Calcs

Delivery Truck Trips					
Annual Delivery Trips	2496				
Idling Time per Trip (hours)	0.25				
Fleet Mix		ROG	NOx	PM10	PM2.5
MHDT	DSL	0.5	0.000	0.014	0.00001	0.00001
HHDT	DSL	0.5	0.001	0.013	0.00001	0.00001
Total Annual Truck Idling Emissions (tons)			**0.0011**	**0.0264**	**0.00002**	**0.00002**
Total Daily Truck Idling Emissions (lbs)			**0.0060**	**0.1448**	**0.0001**	**0.0001**

Idling time was assumed to be 15 minutes per trip, consistent with CARB's Airborne Toxic Control Measure to limit diesel-fueled commercial motor vehicle idling per Title 13, California Code of Regulations, chapter 2485, July 2004.

Sum of Delivery Truck On-Road plus Idling Emissions	ROG	NOx	PM10	PM2.5
Tons per Year	0.089	2.075	0.007	0.004
Pounds per Day	0.490	11.371	0.038	0.022

Road Dust	PM10	PM2.5
	0.051	0.008
	0.282	0.042

This page intentionally left blank

A6 EMFAC2017 Output Files

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNI	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_PM	PM10_PM	CO2_RUNI	CO2_IDLE	CO2_STRE	CH4_RUNI
SAN FRAN	2021	LDA	Aggregate	Aggregate	GAS	156525.5687	5485730	737676.7	0.04254	0	0.212041	0.001797	0	0.001859	0.002	0.01575	0.001954	0	0.002022	0.008	0.03675	282.0829	0	56.85632	0.003054
SAN FRAN	2021	LDA	Aggregate	Aggregate	DSL	2150.12764	74995.65	10054.87	0.086469	0	0	0.009162	0	0	0.002	0.01575	0.009577	0	0	0.008	0.03675	233.3727	0	0	0.001148
SAN FRAN	2021	LDA	Aggregate	Aggregate	ELEC	3437.540513	128234.7	17025.82	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2021	LDT1	Aggregate	Aggregate	GAS	16761.84806	522112.2	78069.05	0.079851	0	0.256338	0.002137	0	0.002195	0.002	0.01575	0.002324	0	0.002387	0.008	0.03675	329.3509	0	65.87939	0.005116
SAN FRAN	2021	LDT1	Aggregate	Aggregate	DSL	13.38344571	201.2914	46.50751	1.112001	0	0	0.142811	0	0	0.002	0.01575	0.149268	0	0	0.008	0.03675	485.5739	0	0	0.008982
SAN FRAN	2021	LDT1	Aggregate	Aggregate	ELEC	89.96328653	3347.041	443.3604	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2021	LDT2	Aggregate	Aggregate	GAS	52137.20517	1651684	245279.9	0.072417	0	0.303954	0.001757	0	0.001738	0.002	0.01575	0.001911	0	0.00189	0.008	0.03675	356.8204	0	72.34289	0.004154
SAN FRAN	2021	LDT2	Aggregate	Aggregate	DSL	519.2189144	18224.18	2531.875	0.044856	0	0	0.005151	0	0	0.002	0.01575	0.005384	0	0	0.008	0.03675	326.0688	0	0	0.001148
SAN FRAN	2021	LDT2	Aggregate	Aggregate	ELEC	453.7823347	14192.02	2281.32	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2021	MCY	Aggregate	Aggregate	GAS	10817.92141	76215.42	21635.84	1.19052	0	0.275651	0.002107	0	0.003233	0.001	0.00504	0.002248	0	0.003419	0.004	0.01176	230.1136	0	62.50205	0.408285
SAN FRAN	2021	MDV	Aggregate	Aggregate	GAS	26173.65712	920124.1	123708	0.079952	0	0.325042	0.001893	0	0.001963	0.002	0.01575	0.002058	0	0.002134	0.008	0.03675	420.4815	0	85.48423	0.004763
SAN FRAN	2021	MDV	Aggregate	Aggregate	DSL	800.2633122	30806.18	3907.27	0.04876	0	0	0.005022	0	0	0.002	0.01575	0.005249	0	0	0.008	0.03675	410.7207	0	0	0.000884
SAN FRAN	2021	MDV	Aggregate	Aggregate	ELEC	155.328691	5144.097	795.3181	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2021	MH	Aggregate	Aggregate	GAS	305.8361054	3475.46	30.59584	0.407981	0	0.324779	0.00182	0	0.000449	0.003	0.05586	0.001979	0	0.000488	0.012	0.13034	1723.617	0	25.89836	0.016879
SAN FRAN	2021	MH	Aggregate	Aggregate	DSL	109.697929	1292.808	10.96979	3.264754	0	0	0.056621	0	0	0.004	0.05586	0.059181	0	0	0.016	0.13034	1006.945	0	0	0.004027
SAN FRAN	2021	LHDT1	Aggregate	Aggregate	GAS	4210.778474	152494.6	62734.33	0.199021	0.039684	0.531286	0.001921	0	0.000334	0.002	0.03276	0.002089	0	0.000364	0.008	0.07644	1018.383	121.9388	19.10209	0.009155
SAN FRAN	2021	LHDT1	Aggregate	Aggregate	DSL	1786.7713	77205.19	22475.34	1.025117	1.987842	0	0.016535	0.026699	0	0.003	0.03276	0.017283	0.027907	0	0.012	0.07644	541.8335	131.6679	0	0.006409
SAN FRAN	2021	LHDT2	Aggregate	Aggregate	GAS	508.2105804	18182.08	7571.58	0.239536	0.039075	0.521595	0.001942	0	0.000317	0.002	0.03822	0.002113	0	0.000345	0.008	0.08918	1160.681	140.1257	21.79921	0.008756
SAN FRAN	2021	LHDT2	Aggregate	Aggregate	DSL	780.0375104	31735.11	9811.891	0.929141	2.065048	0	0.018467	0.027342	0	0.003	0.03822	0.019301	0.028579	0	0.012	0.08918	614.5263	213.3974	0	0.006348
SAN FRAN	2021	MHDT	Aggregate	Aggregate	GAS	518.6676677	25320.96	10377.5	0.51547	0.088247	0.391559	0.00111	0	0.000438	0.003	0.05586	0.001208	0	0.000476	0.012	0.13034	1793.54	549.0168	39.80436	0.016253
SAN FRAN	2021	MHDT	Aggregate	Aggregate	DSL	4009.563494	213998.2	35796.06	2.778578	11.17218	1.514085	0.06647	0.02583	0	0.003	0.05586	0.069476	0.026998	0	0.012	0.13034	1060.677	1271.337	0	0.007714
SAN FRAN	2021	HHDT	Aggregate	Aggregate	GAS	1.973460213	105.7956	39.48499	4.774746	0	0.005701	0.002679	0	0.001575	0.005	0.02646	0.002914	0	0.001713	0.02	0.06174	2047.862	0	43.88892	0.212696
SAN FRAN	2021	HHDT	Aggregate	Aggregate	DSL	1101.864373	73603.91	7568.648	5.675493	46.45287	2.051349	0.056957	0.071442	0	0.008694	0.025559	0.059533	0.074673	0	0.034774	0.059638	1864.637	6687.937	0	0.006654
SAN FRAN	2021	HHDT	Aggregate	Aggregate	NG	193.3361249	7880.247	754.0109	1.792134	21.38461	0	0.005043	0.03143	0	0.009	0.02646	0.005271	0.032852	0	0.036	0.06174	3236.262	4143.882	0	3.523578
SAN FRAN	2021	OBUS	Aggregate	Aggregate	GAS	226.6624857	11012.85	4535.063	0.451088	0.064966	0.307042	0.000805	0	0.000224	0.003	0.05586	0.000876	0	0.000243	0.012	0.13034	1822.783	385.425	26.79412	0.014369
SAN FRAN	2021	OBUS	Aggregate	Aggregate	DSL	393.5458219	25390.47	3599.583	3.622038	14.27759	1.550175	0.072135	0.051561	0	0.003	0.05586	0.075396	0.053893	0	0.012	0.13034	1252.2	1913.399	0	0.00934
SAN FRAN	2021	SBUS	Aggregate	Aggregate	GAS	121.7251516	5855.845	486.9006	0.184235	0.925871	0.566845	0.001173	0	0.000515	0.002	0.3192	0.001276	0	0.00056	0.008	0.7448	864.6484	2584.71	46.14382	0.004327
SAN FRAN	2021	SBUS	Aggregate	Aggregate	DSL	112.9750264	3693.648	1303.716	3.811685	35.2098	1.257515	0.023318	0.027721	0	0.003	0.3192	0.024372	0.028975	0	0.012	0.7448	1078.666	3595.015	0	0.002802
SAN FRAN	2021	UBUS	Aggregate	Aggregate	DSL	583.0155953	53687.52	2332.062	1.643839	0	0	0.006444	0	0	0.008597	0.028433	0.006736	0	0	0.034389	0.066344	1698.756	0	0	0.123239
SAN FRAN	2021	UBUS	Aggregate	Aggregate	NG	122.8402498	10604.36	491.361	0.505648	0	0	0.003281	0	0	0.00894	0.026752	0.003429	0	0	0.035762	0.062421	2073.304	0	0	6.68812

CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNE	ROG_IDLEX	ROG_STREX	ROG_HOTSX	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREX	TOG_HOTSX	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
0	0.058007	0.004735	0	0.027218	0.012069	0	0.272396	0.108087	0.234759	0.193458	0.196586	0.017601	0	0.298237	0.108087	0.234759	0.193458	0.196586	0.710436	0	2.435408	0.002791	0	0.0005626
0	0	0.036683	0	0	0.02471	0	0	0	0	0	0	0.02813	0	0	0	0	0	0	0.369709	0	0	0.002206	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.069225	0.006712	0	0.028922	0.022151	0	0.345389	0.155315	0.566106	0.294428	0.314556	0.0323	0	0.378155	0.155315	0.566106	0.294428	0.314556	1.034453	0	2.543035	0.003259	0	0.0006519
0	0	0.076325	0	0	0.193376	0	0	0	0	0	0	0.220146	0	0	0	0	0	0	1.167287	0	0	0.00459	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.07213	0.006299	0	0.033442	0.016779	0	0.342095	0.114656	0.397306	0.251074	0.233138	0.024477	0	0.37455	0.114656	0.397306	0.251074	0.233138	0.882302	0	2.985822	0.003531	0	0.0007159
0	0	0.051253	0	0	0.024713	0	0	0	0	0	0	0.028134	0	0	0	0	0	0	0.229912	0	0	0.003083	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.257552	0.067816	0	0.015506	2.866753	0	2.020873	0.790419	2.54126	1.007213	1.554624	3.519191	0	2.19849	0.790419	2.54126	1.007213	1.554624	21.58416	0	8.998848	0.002277	0	0.0006185
0	0.079512	0.006806	0	0.034392	0.020292	0	0.388343	0.110727	0.373408	0.259903	0.241677	0.029058	0	0.425157	0.110727	0.373408	0.259903	0.241677	0.932044	0	3.262457	0.004161	0	0.0008459
0	0	0.06456	0	0	0.019022	0	0	0	0	0	0	0.021655	0	0	0	0	0	0	0.340328	0	0	0.003883	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.032226	0.024587	0	0.034317	0.077362	0	0.140161	0.088103	2.651167	0.034924	0.088523	0.112887	0	0.153458	0.088103	2.651167	0.034924	0.088523	2.113155	0	3.257368	0.017057	0	0.0002563
0	0	0.158278	0	0	0.086703	0	0	0	0	0	0	0.098706	0	0	0	0	0	0	0.287964	0	0	0.009519	0	0
0.127946	0.023386	0.012637	0.003342	0.042844	0.043351	0.454882	0.11556	0.094465	0.657385	0.020157	0.032515	0.063258	0.663762	0.126524	0.094465	0.657385	0.020157	0.032515	0.788728	3.758479	1.691232	0.010078	0.001207	0.000189
0.005098	0	0.085169	0.020696	0	0.137975	0.10976	0	0	0	0	0	0.157075	0.124954	0	0	0	0	0	0.542763	0.909745	0	0.005122	0.001245	0
0.125468	0.023306	0.015238	0.003176	0.041016	0.039245	0.447766	0.115788	0.10554	0.768259	0.02086	0.035124	0.057266	0.653379	0.126773	0.10554	0.768259	0.02086	0.035124	0.710092	3.754059	1.785693	0.011486	0.001387	0.0002157
0.005098	0	0.096595	0.033543	0	0.136674	0.10976	0	0	0	0	0	0.155595	0.124954	0	0	0	0	0	0.553946	0.909745	0	0.005809	0.002017	0
0.259835	0.040586	0.025131	0.00729	0.029592	0.080741	1.009005	0.220643	0.090094	0.529321	0.021903	0.036233	0.117818	1.472337	0.241576	0.090094	0.529321	0.021903	0.036233	1.863081	15.07398	4.754491	0.017749	0.005433	0.0003939
0.006914	0	0.166724	0.199836	0	0.166079	0.148856	0	0	0	0	0	0.189069	0.169461	0	0	0	0	0	0.480048	3.541604	0	0.010021	0.012011	0
0	0.000251	0.165506	0	0.000278	1.266427	0	0.001312	0.301402	2.725464	0.074287	0.11079	1.847968	0	0.001436	0.301402	2.725464	0.074287	0.11079	57.82393	0	2.363118	0.020265	0	0.0004343
0.116443	0	0.293095	1.051251	0	0.143252	2.506981	0	0	0	0	0	0.163082	2.854007	0	0	0	0	0	0.515492	29.27664	0	0.017616	0.063184	0
1.251518	0	0.659733	0.844757	0	0.159554	0.044951	0	0	0	0	0	3.7205	1.308108	0	0	0	0	0	10.72516	20.53886	0	0	0	0
0.20053	0.030806	0.022936	0.005689	0.025682	0.070494	0.74478	0.160655	0.027399	0.279918	0.018117	0.035755	0.102864	1.086781	0.175897	0.027399	0.279918	0.018117	0.035755	1.623578	5.765801	3.238386	0.018038	0.003814	0.0002651
0.034587	0	0.196828	0.30076	0	0.201092	0.744658	0	0	0	0	0	0.228928	0.847737	0	0	0	0	0	0.603287	8.501748	0	0.01183	0.018077	0
2.486229	0.049503	0.014927	0.092493	0.056418	0.019809	10.63189	0.273544	0.027694	0.193801	0.005742	0.011665	0.028906	15.51402	0.299497	0.027694	0.193801	0.005742	0.011665	0.375378	82.18239	7.137443	0.008556	0.025578	0.0004566
0.013212	0	0.169551	0.565086	0	0.060336	0.284454	0	0	0	0	0	0.068688	0.323829	0	0	0	0	0	0.192249	7.801669	0	0.010191	0.033964	0
0	0	0.267021	0	0	0.001761	0	0	0	0	0	0	0.125775	0	0	0	0	0	0	0.20435	0	0	0.016059	0	0
0	0	0.422657	0	0	0.09556	0	0	0	0	0	0	6.825717	0	0	0	0	0	0	52.15528	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNI	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_PM	PM10_PM	CO2_RUNI	CO2_IDLE	CO2_STRE	CH4_RUNE
SAN FRAN	2022	LDA	Aggregate	Aggregate	GAS	158974.3	5490905	749894.5	0.037515	0	0.198394	0.001711	0	0.001781	0.002	0.01575	0.001861	0	0.001937	0.008	0.03675	274.3049	0	55.30887	0.002683
SAN FRAN	2022	LDA	Aggregate	Aggregate	DSL	2191.865	74466.77	10235.52	0.074493	0	0	0.008121	0	0	0.002	0.01575	0.008488	0	0	0.008	0.03675	227.9665	0	0	0.001053
SAN FRAN	2022	LDA	Aggregate	Aggregate	ELEC	3889.038	146773.6	19210.24	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2022	LDT1	Aggregate	Aggregate	GAS	17225.75	527114.4	80263.75	0.069319	0	0.23874	0.002007	0	0.002069	0.002	0.01575	0.002183	0	0.00225	0.008	0.03675	321.5348	0	64.28644	0.004445
SAN FRAN	2022	LDT1	Aggregate	Aggregate	DSL	12.34088	182.3729	42.65535	1.053244	0	0	0.134635	0	0	0.002	0.01575	0.140722	0	0	0.008	0.03675	479.7393	0	0	0.008518
SAN FRAN	2022	LDT1	Aggregate	Aggregate	ELEC	122.4194	4745.874	607.92	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2022	LDT2	Aggregate	Aggregate	GAS	53507.32	1662243	251569.7	0.063513	0	0.279584	0.001695	0	0.001686	0.002	0.01575	0.001843	0	0.001834	0.008	0.03675	345.4691	0	70.14759	0.003746
SAN FRAN	2022	LDT2	Aggregate	Aggregate	DSL	548.6045	18532.96	2659.233	0.043708	0	0	0.005122	0	0	0.002	0.01575	0.005353	0	0	0.008	0.03675	319.2043	0	0	0.001148
SAN FRAN	2022	LDT2	Aggregate	Aggregate	ELEC	575.2437	17583.47	2886.469	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2022	MCY	Aggregate	Aggregate	GAS	10825.22	74080.45	21650.44	1.189378	0	0.275945	0.002157	0	0.00314	0.001	0.00504	0.002304	0	0.003325	0.004	0.01176	230.0239	0	62.23858	0.406067
SAN FRAN	2022	MDV	Aggregate	Aggregate	GAS	27472.11	949816.6	129915.1	0.067533	0	0.294249	0.001793	0	0.001863	0.002	0.01575	0.00195	0	0.002026	0.008	0.03675	406.6908	0	82.67958	0.004088
SAN FRAN	2022	MDV	Aggregate	Aggregate	DSL	867.6666	32383.44	4220.135	0.04345	0	0	0.004636	0	0	0.002	0.01575	0.004845	0	0	0.008	0.03675	399.5999	0	0	0.00083
SAN FRAN	2022	MDV	Aggregate	Aggregate	ELEC	245.4842	7930.472	1254.07	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2022	MH	Aggregate	Aggregate	GAS	324.6304	3747.273	32.47603	0.331332	0	0.323125	0.001681	0	0.000412	0.003	0.05586	0.001828	0	0.000448	0.012	0.13034	1691.57	0	25.20083	0.013557
SAN FRAN	2022	MH	Aggregate	Aggregate	DSL	120.9635	1409.98	12.09635	3.113389	0	0	0.049814	0	0	0.004	0.05586	0.052066	0	0	0.016	0.13034	990.7831	0	0	0.003856
SAN FRAN	2022	LHDT1	Aggregate	Aggregate	GAS	4226.043	149772.2	62961.75	0.181314	0.038778	0.515711	0.001919	0	0.000327	0.002	0.03276	0.002087	0	0.000356	0.008	0.07644	1009.195	121.1365	18.96497	0.008293
SAN FRAN	2022	LHDT1	Aggregate	Aggregate	DSL	1944.82	82093.08	24463.39	0.874232	1.855818	0	0.015247	0.026606	0	0.003	0.03276	0.015936	0.027809	0	0.012	0.07644	533.9051	129.8915	0	0.006275
SAN FRAN	2022	LHDT2	Aggregate	Aggregate	GAS	518.4497	18273.52	7724.128	0.212203	0.037949	0.5035	0.001922	0	0.000307	0.002	0.03822	0.00209	0	0.000334	0.008	0.08918	1148.249	138.9991	21.59552	0.007667
SAN FRAN	2022	LHDT2	Aggregate	Aggregate	DSL	842.9548	33510.55	10603.31	0.807143	1.936828	0	0.017785	0.02722	0	0.003	0.03822	0.018589	0.02845	0	0.012	0.08918	605.3999	210.7343	0	0.006246
SAN FRAN	2022	MHDT	Aggregate	Aggregate	GAS	516.9835	25017.35	10343.81	0.437197	0.08843	0.382248	0.001103	0	0.000417	0.003	0.05586	0.001199	0	0.000453	0.012	0.13034	1768.036	544.0832	39.0903	0.013659
SAN FRAN	2022	MHDT	Aggregate	Aggregate	DSL	4172.306	227092.9	37001.33	2.109034	10.01387	1.743994	0.036669	0.017382	0	0.003	0.05586	0.038327	0.018168	0	0.012	0.13034	1030.778	1258.642	0	0.004018
SAN FRAN	2022	HHDT	Aggregate	Aggregate	GAS	1.745215	113.7112	34.91827	4.070636	0	0.006622	0.002272	0	0.001488	0.005	0.02646	0.002471	0	0.001619	0.02	0.06174	1975.409	0	44.17797	0.170029
SAN FRAN	2022	HHDT	Aggregate	Aggregate	DSL	1102.42	74477.37	7662.523	4.902116	45.67901	2.278814	0.032131	0.047943	0	0.008693	0.025557	0.033584	0.050111	0	0.034771	0.059632	1802.751	6835.84	0	0.004059
SAN FRAN	2022	HHDT	Aggregate	Aggregate	NG	201.3067	8207.325	785.0963	1.618477	20.99915	0	0.004741	0.028265	0	0.009	0.02646	0.004955	0.029543	0	0.036	0.06174	3203.66	4096.076	0	3.466233
SAN FRAN	2022	OBUS	Aggregate	Aggregate	GAS	220.5656	10251.21	4413.077	0.42795	0.06497	0.306285	0.000841	0	0.000228	0.003	0.05586	0.000915	0	0.000248	0.012	0.13034	1806.853	383.483	26.61998	0.013673
SAN FRAN	2022	OBUS	Aggregate	Aggregate	DSL	386.1201	25208.95	3531.831	2.705138	10.58513	1.851903	0.029317	0.016976	0	0.003	0.05586	0.030643	0.017744	0	0.012	0.13034	1222.479	1869.765	0	0.00393
SAN FRAN	2022	SBUS	Aggregate	Aggregate	GAS	125.2398	5922.467	500.959	0.188057	0.925917	0.583674	0.00118	0	0.000519	0.002	0.3192	0.001283	0	0.000564	0.008	0.7448	861.6785	2576.485	45.90927	0.004269
SAN FRAN	2022	SBUS	Aggregate	Aggregate	DSL	118.7612	3872.086	1370.488	3.63226	34.01286	1.314051	0.022354	0.025374	0	0.003	0.3192	0.023364	0.026521	0	0.012	0.7448	1065.889	3559.031	0	0.002696
SAN FRAN	2022	UBUS	Aggregate	Aggregate	DSL	558.4952	51193.41	2233.981	0.819331	0	0	0.005748	0	0	0.00869	0.027977	0.006008	0	0	0.034761	0.065281	1629.904	0	0	0.079342
SAN FRAN	2022	UBUS	Aggregate	Aggregate	NG	147.6816	13127.71	590.7265	0.490647	0	0	0.003191	0	0	0.008512	0.028851	0.003335	0	0	0.034048	0.067319	2020.868	0	0	6.435607

CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNE	ROG_IDLEX	ROG_STREX	ROG_HOTSX	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREX	TOG_HOTSX	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
0	0.053631	0.004381	0	0.026182	0.01037	0	0.247722	0.100979	0.224816	0.180849	0.181522	0.015126	0	0.271223	0.100979	0.224816	0.180849	0.181522	0.659983	0	2.367301	0.002714	0	0.000547
0	0	0.035833	0	0	0.022662	0	0	0	0	0	0	0.025799	0	0	0	0	0	0	0.357786	0	0	0.002155	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.063619	0.006083	0	0.027828	0.01896	0	0.312258	0.144426	0.530067	0.276656	0.290017	0.027654	0	0.341882	0.144426	0.530067	0.276656	0.290017	0.935017	0	2.464666	0.003182	0	0.000636
0	0	0.075408	0	0	0.183379	0	0	0	0	0	0	0.208764	0	0	0	0	0	0	1.112624	0	0	0.004535	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.067586	0.005747	0	0.031775	0.014932	0	0.317048	0.110467	0.390295	0.248336	0.227553	0.021783	0	0.347127	0.110467	0.390295	0.248336	0.227553	0.822075	0	2.905747	0.003419	0	0.000694
0	0	0.050174	0	0	0.024719	0	0	0	0	0	0	0.028141	0	0	0	0	0	0	0.235348	0	0	0.003018	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.256147	0.067734	0	0.015505	2.842273	0	2.009642	0.789926	2.467735	1.016059	1.567795	3.499527	0	2.186501	0.789926	2.467735	1.016059	1.567795	21.23237	0	9.021583	0.002276	0	0.000616
0	0.073094	0.006083	0	0.03244	0.016532	0	0.351079	0.104676	0.359419	0.252278	0.231761	0.024082	0	0.384382	0.104676	0.359419	0.252278	0.231761	0.838072	0	3.122482	0.004025	0	0.000818
0	0	0.062812	0	0	0.017877	0	0	0	0	0	0	0.020352	0	0	0	0	0	0	0.33421	0	0	0.003778	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.03111	0.021422	0	0.035296	0.060152	0	0.131187	0.073388	2.224047	0.029324	0.073597	0.087773	0	0.143633	0.073388	2.224047	0.029324	0.073597	1.586387	0	3.04735	0.016739	0	0.000249
0	0	0.155737	0	0	0.083009	0	0	0	0	0	0	0.094501	0	0	0	0	0	0	0.271007	0	0	0.009366	0	0
0.125552	0.022131	0.011618	0.003296	0.041812	0.038981	0.44457	0.109045	0.092034	0.636335	0.019967	0.031701	0.056882	0.648715	0.11939	0.092034	0.636335	0.019967	0.031701	0.714638	3.760786	1.654716	0.009987	0.001199	0.000188
0.005098	0	0.083922	0.020417	0	0.135099	0.10976	0	0	0	0	0	0.153801	0.124954	0	0	0	0	0	0.534465	0.909745	0	0.005047	0.001228	0
0.122637	0.021882	0.013714	0.003133	0.040007	0.033947	0.434988	0.108103	0.100357	0.709553	0.020285	0.033398	0.049535	0.634733	0.118359	0.100357	0.709553	0.020285	0.033398	0.617903	3.758078	1.727836	0.011363	0.001376	0.000214
0.005098	0	0.09516	0.033124	0	0.134467	0.10976	0	0	0	0	0	0.153081	0.124954	0	0	0	0	0	0.547882	0.909745	0	0.005723	0.001992	0
0.26248	0.039186	0.022076	0.007457	0.029583	0.067269	1.011759	0.210628	0.086327	0.502602	0.02106	0.033971	0.098159	1.476356	0.230612	0.086327	0.502602	0.02106	0.033971	1.541326	15.10588	4.516023	0.017496	0.005384	0.000387
0.006078	0	0.162024	0.197841	0	0.086515	0.130856	0	0	0	0	0	0.098491	0.14897	0	0	0	0	0	0.300918	3.612596	0	0.009738	0.011891	0
0	0.00029	0.149858	0	0.000323	0.988078	0	0.001514	0.278333	2.48731	0.06832	0.101899	1.441801	0	0.001658	0.278333	2.48731	0.06832	0.101899	49.45713	0	2.957447	0.019548	0	0.000437
0.117399	0	0.283367	1.074499	0	0.087378	2.527564	0	0	0	0	0	0.099474	2.877439	0	0	0	0	0	0.361985	31.41789	0	0.017032	0.064582	0
1.239636	0	0.653087	0.835012	0	0.14607	0.041569	0	0	0	0	0	3.647546	1.292321	0	0	0	0	0	10.78153	20.64815	0	0	0	0
0.199941	0.030435	0.021896	0.005676	0.025556	0.067353	0.744841	0.159065	0.028663	0.298662	0.019074	0.037282	0.098281	1.08687	0.174156	0.028663	0.298662	0.019074	0.037282	1.544051	5.766172	3.201283	0.01788	0.003795	0.000263
0.027488	0	0.192157	0.293901	0	0.084602	0.591803	0	0	0	0	0	0.096313	0.673722	0	0	0	0	0	0.310362	8.39884	0	0.011549	0.017665	0
2.48139	0.049211	0.015132	0.091715	0.057531	0.019637	10.63256	0.272466	0.034151	0.259763	0.007061	0.013886	0.028655	15.515	0.298316	0.034151	0.259763	0.007061	0.013886	0.365607	82.18646	7.064896	0.008527	0.025496	0.000454
0.013077	0	0.167543	0.55943	0	0.058043	0.281543	0	0	0	0	0	0.066078	0.320515	0	0	0	0	0	0.18896	8.020851	0	0.01007	0.033624	0
0	0	0.256198	0	0	0.001134	0	0	0	0	0	0	0.080974	0	0	0	0	0	0	0.134988	0	0	0.015408	0	0
0	0	0.411967	0	0	0.091952	0	0	0	0	0	0	6.568009	0	0	0	0	0	0	49.99241	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Populatior	VMT	Trips	NOx_RUNI	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_PM	PM10_PM	CO2_RUNE	CO2_IDLE	CO2_STRE	CH4_RUNE
SAN FRAN	2023	LDA	Aggregate	Aggregate	GAS	161367.5	5500030	761670.8	0.033455	0	0.186204	0.001635	0	0.00171	0.002	0.01575	0.001778	0	0.001859	0.008	0.03675	266.4943	0	53.76244	0.002374
SAN FRAN	2023	LDA	Aggregate	Aggregate	DSL	2222.455	73903.2	10370.4	0.063947	0	0	0.007083	0	0	0.002	0.01575	0.007403	0	0	0.008	0.03675	222.2335	0	0	0.000958
SAN FRAN	2023	LDA	Aggregate	Aggregate	ELEC	4412.676	169210.7	21756.1	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2023	LDT1	Aggregate	Aggregate	GAS	17686.48	532518.2	82418.29	0.060488	0	0.222938	0.001895	0	0.001957	0.002	0.01575	0.002061	0	0.002129	0.008	0.03675	313.6107	0	62.69368	0.003874
SAN FRAN	2023	LDT1	Aggregate	Aggregate	DSL	11.36427	166.0424	39.12493	0.989139	0	0	0.125924	0	0	0.002	0.01575	0.131618	0	0	0.008	0.03675	472.7711	0	0	0.008005
SAN FRAN	2023	LDT1	Aggregate	Aggregate	ELEC	160.0195	6393.259	797.3853	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2023	LDT2	Aggregate	Aggregate	GAS	54830.8	1673679	257591.6	0.056079	0	0.258131	0.00164	0	0.001642	0.002	0.01575	0.001784	0	0.001786	0.008	0.03675	334.3011	0	67.98991	0.003387
SAN FRAN	2023	LDT2	Aggregate	Aggregate	DSL	574.4447	18775.88	2770.511	0.042138	0	0	0.004901	0	0	0.002	0.01575	0.005123	0	0	0.008	0.03675	311.9311	0	0	0.001136
SAN FRAN	2023	LDT2	Aggregate	Aggregate	ELEC	714.5721	21349.61	3577.617	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2023	MCY	Aggregate	Aggregate	GAS	10819.31	72227.5	21638.62	1.188181	0	0.275935	0.002191	0	0.002951	0.001	0.00504	0.002342	0	0.003129	0.004	0.01176	229.9306	0	61.9332	0.404054
SAN FRAN	2023	MDV	Aggregate	Aggregate	GAS	28726.18	977999.1	135868.7	0.057929	0	0.267394	0.001706	0	0.001772	0.002	0.01575	0.001856	0	0.001927	0.008	0.03675	393.3862	0	79.98292	0.003593
SAN FRAN	2023	MDV	Aggregate	Aggregate	DSL	932.4039	33840.56	4517.466	0.039053	0	0	0.004294	0	0	0.002	0.01575	0.004488	0	0	0.008	0.03675	388.6081	0	0	0.000784
SAN FRAN	2023	MDV	Aggregate	Aggregate	ELEC	349.1603	10983.11	1777.8	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2023	MH	Aggregate	Aggregate	GAS	343.7103	3986.304	34.38478	0.276933	0	0.320392	0.001583	0	0.000384	0.003	0.05586	0.001722	0	0.000417	0.012	0.13034	1666.432	0	24.61466	0.011202
SAN FRAN	2023	MH	Aggregate	Aggregate	DSL	132.1292	1516.642	13.21292	2.995658	0	0	0.044459	0	0	0.004	0.05586	0.046469	0	0	0.016	0.13034	977.7889	0	0	0.003723
SAN FRAN	2023	LHDT1	Aggregate	Aggregate	GAS	4245.007	147426.4	63244.28	0.166281	0.037826	0.499663	0.001926	0	0.000323	0.002	0.03276	0.002095	0	0.000351	0.008	0.07644	998.7258	120.2169	18.81636	0.007662
SAN FRAN	2023	LHDT1	Aggregate	Aggregate	DSL	2100.581	86548.78	26422.67	0.750729	1.737952	0	0.014164	0.026537	0	0.003	0.03276	0.014805	0.027737	0	0.012	0.07644	525.7918	128.0877	0	0.006171
SAN FRAN	2023	LHDT2	Aggregate	Aggregate	GAS	527.9141	18347.36	7865.134	0.18698	0.036814	0.485249	0.001903	0	0.000298	0.002	0.03822	0.002069	0	0.000324	0.008	0.08918	1134.397	137.7271	21.37331	0.006602
SAN FRAN	2023	LHDT2	Aggregate	Aggregate	DSL	905.3433	35148.39	11388.08	0.706085	1.820869	0	0.01729	0.027121	0	0.003	0.03822	0.018072	0.028347	0	0.012	0.08918	596.1432	207.9998	0	0.006165
SAN FRAN	2023	MHDT	Aggregate	Aggregate	GAS	516.058	24788.32	10325.29	0.370845	0.0886	0.374477	0.001103	0	0.000398	0.003	0.05586	0.0012	0	0.000432	0.012	0.13034	1743.862	539.1033	38.42967	0.011421
SAN FRAN	2023	MHDT	Aggregate	Aggregate	DSL	4267.481	240025.9	37523.18	1.52475	8.409483	2.153424	0.006973	0.007901	0	0.003	0.05586	0.007288	0.008258	0	0.012	0.13034	993.9775	1240.563	0	0.000539
SAN FRAN	2023	HHDT	Aggregate	Aggregate	GAS	1.547012	123.1968	30.95262	3.568011	0	0.007622	0.0019	0	0.001331	0.005	0.02646	0.002067	0	0.001447	0.02	0.06174	1918.951	0	44.25198	0.135409
SAN FRAN	2023	HHDT	Aggregate	Aggregate	DSL	1101.652	75402.68	7731.816	4.068075	42.92628	2.551925	0.023079	0.04284	0	0.008692	0.025553	0.024123	0.044777	0	0.034766	0.059624	1718.849	6685.001	0	0.001673
SAN FRAN	2023	HHDT	Aggregate	Aggregate	NG	208.4749	8499.459	813.0521	1.464466	20.65477	0	0.004484	0.02557	0	0.009	0.02646	0.004687	0.026726	0	0.036	0.06174	3171.538	4048.681	0	3.415759
SAN FRAN	2023	OBUS	Aggregate	Aggregate	GAS	214.8367	9579.374	4298.453	0.406583	0.064976	0.3047	0.000879	0	0.000233	0.003	0.05586	0.000955	0	0.000253	0.012	0.13034	1790.472	381.4969	26.44782	0.01301
SAN FRAN	2023	OBUS	Aggregate	Aggregate	DSL	377.0522	25043.24	3447.863	1.971948	8.179599	2.199555	0.009773	0.002553	0	0.003	0.05586	0.010215	0.002668	0	0.012	0.13034	1184.102	1803.691	0	0.000586
SAN FRAN	2023	SBUS	Aggregate	Aggregate	GAS	128.6973	5989.042	514.7894	0.187768	0.92597	0.608664	0.001186	0	0.000523	0.002	0.3192	0.00129	0	0.000569	0.008	0.7448	858.8231	2568.591	45.64224	0.004063
SAN FRAN	2023	SBUS	Aggregate	Aggregate	DSL	124.6669	4054.443	1438.639	3.465401	32.89283	1.366669	0.021476	0.023349	0	0.003	0.3192	0.022447	0.024405	0	0.012	0.7448	1053.841	3523.101	0	0.002595
SAN FRAN	2023	UBUS	Aggregate	Aggregate	DSL	558.7238	51214.23	2234.895	0.81933	0	0	0.005748	0	0	0.00869	0.027978	0.006008	0	0	0.034761	0.065281	1629.869	0	0	0.079341
SAN FRAN	2023	UBUS	Aggregate	Aggregate	NG	147.774	13136.12	591.096	0.490651	0	0	0.003191	0	0	0.008512	0.028851	0.003336	0	0	0.034049	0.067318	2020.88	0	0	6.435661

CH4_IDLE>	CH4_STRE	N2O_RUNI	N2O_IDLE>	N2O_STRE	ROG_RUN	ROG_IDLE>	ROG_STRE	ROG_HOT	ROG_RUN	ROG_REST	ROG_DIUR	TOG_RUNI	TOG_IDLE>	TOG_STRE	TOG_HOT	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNE>	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
0	0.049677	0.004088	0	0.025173	0.008975	0	0.225953	0.09473	0.215899	0.169402	0.168191	0.013093	0	0.24739	0.09473	0.215899	0.169402	0.168191	0.619122	0	2.299337	0.002637	0	0.000532
0	0	0.034932	0	0	0.020633	0	0	0	0	0	0	0.023489	0	0	0	0	0	0	0.345721	0	0	0.002101	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.058554	0.005551	0	0.026775	0.016255	0	0.282787	0.134726	0.49999	0.260597	0.268336	0.023716	0	0.309616	0.134726	0.49999	0.260597	0.268336	0.851253	0	2.389129	0.003103	0	0.0006204
0	0	0.074313	0	0	0.172353	0	0	0	0	0	0	0.196213	0	0	0	0	0	0	1.052113	0	0	0.004469	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.063325	0.005278	0	0.030204	0.013316	0	0.294024	0.106638	0.384405	0.245536	0.222322	0.019429	0	0.321919	0.106638	0.384405	0.245536	0.222322	0.770806	0	2.82713	0.003308	0	0.0006728
0	0	0.049031	0	0	0.024451	0	0	0	0	0	0	0.027836	0	0	0	0	0	0	0.239479	0	0	0.002949	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.25468	0.067655	0	0.015496	2.820041	0	1.997199	0.78314	2.362163	1.019583	1.57507	3.481536	0	2.173197	0.78314	2.362163	1.019583	1.57507	20.9151	0	9.048819	0.002275	0	0.0006129
0	0.06724	0.005488	0	0.030599	0.01424	0	0.318099	0.099463	0.348716	0.245468	0.223037	0.020756	0	0.348276	0.099463	0.348716	0.245468	0.223037	0.773079	0	2.986114	0.003893	0	0.0007915
0	0	0.061084	0	0	0.016881	0	0	0	0	0	0	0.019218	0	0	0	0	0	0	0.328873	0	0	0.003674	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.030137	0.019191	0	0.035849	0.048045	0	0.123766	0.061584	1.870944	0.024868	0.061663	0.070107	0	0.135508	0.061584	1.870944	0.024868	0.061663	1.222045	0	2.875546	0.016491	0	0.0002436
0	0	0.153695	0	0	0.080162	0	0	0	0	0	0	0.091259	0	0	0	0	0	0	0.257747	0	0	0.009244	0	0
0.122935	0.020927	0.010734	0.003242	0.040752	0.035897	0.433704	0.102813	0.090057	0.621055	0.019957	0.031252	0.052381	0.63286	0.112568	0.090057	0.621055	0.019957	0.031252	0.663217	3.762478	1.624374	0.009883	0.00119	0.0001862
0.005098	0	0.082647	0.020134	0	0.132849	0.10976	0	0	0	0	0	0.151239	0.124954	0	0	0	0	0	0.529962	0.909745	0	0.004971	0.001211	0
0.119771	0.020523	0.012318	0.003088	0.038985	0.028639	0.422096	0.100761	0.094839	0.651964	0.019565	0.031487	0.04179	0.615922	0.11032	0.094839	0.651964	0.019565	0.031487	0.525795	3.761899	1.67373	0.011226	0.001363	0.0002115
0.005098	0	0.093705	0.032695	0	0.132733	0.10976	0	0	0	0	0	0.151108	0.124954	0	0	0	0	0	0.544939	0.909745	0	0.005636	0.001966	0
0.264881	0.038015	0.019485	0.007609	0.029609	0.055524	1.014313	0.202266	0.082405	0.475312	0.020061	0.031612	0.08102	1.480083	0.221456	0.082405	0.475312	0.020061	0.031612	1.265402	15.13544	4.309359	0.017257	0.005335	0.0003803
0.005155	0	0.156239	0.194999	0	0.011599	0.110976	0	0	0	0	0	0.013204	0.126338	0	0	0	0	0	0.110891	3.769354	0	0.009391	0.01172	0
0	0.000332	0.138625	0	0.000371	0.759376	0	0.001734	0.24414	2.196597	0.059779	0.089178	1.108079	0	0.001898	0.24414	2.196597	0.059779	0.089178	41.88183	0	3.538629	0.01899	0	0.0004379
0.118436	0	0.270179	1.050789	0	0.036013	2.54989	0	0	0	0	0	0.040999	2.902855	0	0	0	0	0	0.247635	33.83323	0	0.016239	0.063157	0
1.229575	0	0.646539	0.82535	0	0.134049	0.0386	0	0	0	0	0	3.583159	1.278834	0	0	0	0	0	10.83231	20.75571	0	0	0	0
0.199385	0.030046	0.020918	0.005662	0.025412	0.064354	0.744927	0.157373	0.029816	0.316042	0.019988	0.038796	0.093905	1.086996	0.172303	0.029816	0.316042	0.019988	0.038796	1.469217	5.766694	3.167236	0.017718	0.003775	0.0002617
0.02429	0	0.186124	0.283515	0	0.012624	0.522966	0	0	0	0	0	0.014371	0.595357	0	0	0	0	0	0.145667	8.924022	0	0.011187	0.01704	0
2.476999	0.04913	0.01531	0.090669	0.059236	0.01862	10.63333	0.272363	0.040286	0.310288	0.008353	0.015992	0.02717	15.51613	0.298203	0.040286	0.310288	0.008353	0.015992	0.355819	82.19117	6.966868	0.008499	0.025418	0.0004517
0.012978	0	0.165649	0.553782	0	0.055871	0.279413	0	0	0	0	0	0.063604	0.31809	0	0	0	0	0	0.185832	8.226536	0	0.009956	0.033285	0
0	0	0.256193	0	0	0.001134	0	0	0	0	0	0	0.080974	0	0	0	0	0	0	0.134988	0	0	0.015408	0	0
0	0	0.41197	0	0	0.091953	0	0	0	0	0	0	6.568064	0	0	0	0	0	0	49.99287	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SAN FRANCISCO
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNI	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDL	PM10_STR	PM10_PM	PM10_PM	CO2_RUNI	CO2_IDLE	CO2_STRE	CH4_RUNI
SAN FRAN	2024	LDA	Aggregate	Aggregate	GAS	163734.1	5508577	773124.3	0.030195	0	0.175149	0.001568	0	0.001647	0.002	0.01575	0.001705	0	0.001791	0.008	0.03675	258.6925	0	52.20971	0.002114
SAN FRAN	2024	LDA	Aggregate	Aggregate	DSL	2245.9912	73372.39	10478.65	0.054729	0	0	0.006079	0	0	0.002	0.01575	0.006353	0	0	0.008	0.03675	216.2359	0	0	0.000868
SAN FRAN	2024	LDA	Aggregate	Aggregate	ELEC	5004.4543	195338.1	24640.17	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2024	LDT1	Aggregate	Aggregate	GAS	18144.316	537839.9	84533.11	0.053247	0	0.208691	0.001796	0	0.001861	0.002	0.01575	0.001954	0	0.002023	0.008	0.03675	305.6398	0	61.10325	0.003396
SAN FRAN	2024	LDT1	Aggregate	Aggregate	DSL	10.520808	152.5494	36.09847	0.923346	0	0	0.117469	0	0	0.002	0.01575	0.12278	0	0	0.008	0.03675	464.2877	0	0	0.007524
SAN FRAN	2024	LDT1	Aggregate	Aggregate	ELEC	202.31579	8273.533	1009.227	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2024	LDT2	Aggregate	Aggregate	GAS	56108.065	1684641	263352.5	0.049931	0	0.239215	0.001591	0	0.001603	0.002	0.01575	0.001731	0	0.001744	0.008	0.03675	323.336	0	65.86535	0.003073
SAN FRAN	2024	LDT2	Aggregate	Aggregate	DSL	598.21415	18953.02	2869.618	0.041399	0	0	0.004905	0	0	0.002	0.01575	0.005127	0	0	0.008	0.03675	304.3821	0	0	0.001138
SAN FRAN	2024	LDT2	Aggregate	Aggregate	ELEC	869.04077	25403.38	4340.461	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2024	MCY	Aggregate	Aggregate	GAS	10824.881	70626.1	21649.76	1.187093	0	0.275941	0.00223	0	0.00282	0.001	0.00504	0.002385	0	0.002993	0.004	0.01176	229.8481	0	61.65765	0.402255
SAN FRAN	2024	MDV	Aggregate	Aggregate	GAS	29933.213	1003722	141548	0.05005	0	0.243626	0.001629	0	0.00169	0.002	0.01575	0.001771	0	0.001838	0.008	0.03675	380.5041	0	77.35912	0.00317
SAN FRAN	2024	MDV	Aggregate	Aggregate	DSL	994.44534	35161.13	4799.571	0.035347	0	0	0.003985	0	0	0.002	0.01575	0.004165	0	0	0.008	0.03675	377.6928	0	0	0.000743
SAN FRAN	2024	MDV	Aggregate	Aggregate	ELEC	465.61633	14266.46	2361.898	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0
SAN FRAN	2024	MH	Aggregate	Aggregate	GAS	362.57624	4192.615	36.27213	0.239057	0	0.317165	0.001517	0	0.000364	0.003	0.05586	0.00165	0	0.000396	0.012	0.13034	1630.282	0	24.00396	0.009603
SAN FRAN	2024	MH	Aggregate	Aggregate	DSL	143.20543	1614.614	14.32054	2.903647	0	0	0.040234	0	0	0.004	0.05586	0.042053	0	0	0.016	0.13034	960.3763	0	0	0.003623
SAN FRAN	2024	LHDT1	Aggregate	Aggregate	GAS	4255.9584	145205.3	63407.44	0.152121	0.036874	0.483986	0.001933	0	0.000319	0.002	0.03276	0.002102	0	0.000347	0.008	0.07644	987.0763	119.1858	18.6575	0.007017
SAN FRAN	2024	LHDT1	Aggregate	Aggregate	DSL	2253.8408	90672.96	28350.48	0.648784	1.63634	0	0.013264	0.026484	0	0.003	0.03276	0.013863	0.027681	0	0.012	0.07644	517.594	126.2717	0	0.006088
SAN FRAN	2024	LHDT2	Aggregate	Aggregate	GAS	537.9041	18436.23	8013.97	0.166438	0.035744	0.467402	0.001897	0	0.000292	0.002	0.03822	0.002063	0	0.000318	0.008	0.08918	1119.543	136.3428	21.13904	0.005856
SAN FRAN	2024	LHDT2	Aggregate	Aggregate	DSL	965.72011	36643.25	12147.54	0.619873	1.71839	0	0.016935	0.02705	0	0.003	0.03822	0.017701	0.028273	0	0.012	0.08918	586.7815	205.1966	0	0.006099
SAN FRAN	2024	MHDT	Aggregate	Aggregate	GAS	516.75644	24640.8	10339.26	0.316668	0.088744	0.367625	0.001112	0	0.000385	0.003	0.05586	0.001209	0	0.000418	0.012	0.13034	1712.597	532.671	37.71747	0.009685
SAN FRAN	2024	MHDT	Aggregate	Aggregate	DSL	4559.6747	252707.9	40097.35	1.525212	7.975604	2.165185	0.006958	0.006638	0	0.003	0.05586	0.007273	0.006938	0	0.012	0.13034	976.6949	1212.183	0	0.000528
SAN FRAN	2024	HHDT	Aggregate	Aggregate	GAS	1.1286264	129.8816	22.58156	3.316549	0	0.009133	0.001321	0	0.000752	0.005	0.02646	0.001437	0	0.000818	0.02	0.06174	1835.057	0	44.00207	0.084908
SAN FRAN	2024	HHDT	Aggregate	Aggregate	DSL	1104.3656	76354.38	7858.384	3.94352	42.37823	2.590634	0.023107	0.04055	0	0.00869	0.02555	0.024152	0.042383	0	0.034761	0.059616	1675.937	6679.355	0	0.001643
SAN FRAN	2024	HHDT	Aggregate	Aggregate	NG	215.26927	8776.611	839.5501	1.32339	20.33353	0	0.004254	0.023134	0	0.009	0.02646	0.004446	0.02418	0	0.036	0.06174	3133.602	3994.395	0	3.369756
SAN FRAN	2024	SBUS	Aggregate	Aggregate	DSL	130.664	4243.532	1507.844	3.307196	31.8283	1.416478	0.020643	0.021504	0	0.003	0.3192	0.021576	0.022476	0	0.012	0.7448	1040.05	3482.184	0	0.002502
SAN FRAN	2024	UBUS	Aggregate	Aggregate	DSL	558.95239	51235.05	2235.81	0.819329	0	0	0.005748	0	0	0.00869	0.027978	0.006008	0	0	0.034761	0.065281	1629.834	0	0	0.079341
SAN FRAN	2024	UBUS	Aggregate	Aggregate	NG	147.86637	13144.53	591.4655	0.490654	0	0	0.003191	0	0	0.008512	0.02885	0.003336	0	0	0.034049	0.067317	2020.891	0	0	6.435714

CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNE	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
0	0.046035	0.003846	0	0.024168	0.007824	0	0.206509	0.089299	0.208353	0.159252	0.15664	0.011417	0	0.226101	0.089299	0.208353	0.159252	0.15664	0.584914	0	2.22492	0.00256	0	0.00051666
0	0	0.033989	0	0	0.018686	0	0	0	0	0	0	0.021272	0	0	0	0	0	0	0.333959	0	0	0.002044	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.053947	0.005107	0	0.02575	0.014026	0	0.256574	0.126078	0.473441	0.246112	0.2492	0.020466	0	0.280916	0.126078	0.473441	0.246112	0.2492	0.782684	0	2.315038	0.003025	0	0.00060467
0	0	0.07298	0	0	0.161979	0	0	0	0	0	0	0.184402	0	0	0	0	0	0	0.995361	0	0	0.004389	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.059315	0.004884	0	0.02872	0.011924	0	0.272822	0.103075	0.378814	0.24245	0.217231	0.017398	0	0.298706	0.103075	0.378814	0.24245	0.217231	0.728157	0	2.750039	0.0032	0	0.00065179
0	0	0.047845	0	0	0.024493	0	0	0	0	0	0	0.027883	0	0	0	0	0	0	0.243582	0	0	0.002878	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.253375	0.067582	0	0.015486	2.800348	0	1.98657	0.778967	2.28082	1.02295	1.582717	3.465505	0	2.16184	0.778967	2.28082	1.02295	1.582717	20.63186	0	9.073353	0.002275	0	0.00061015
0	0.061867	0.004993	0	0.028864	0.012297	0	0.288416	0.09508	0.340507	0.239761	0.215761	0.017937	0	0.315779	0.09508	0.340507	0.239761	0.215761	0.717751	0	2.854624	0.003765	0	0.00076553
0	0	0.059368	0	0	0.015995	0	0	0	0	0	0	0.01821	0	0	0	0	0	0	0.324069	0	0	0.003571	0	0
0	0	0	0	0	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0.004888	0	0.00333	0.011937	0	0	0	0	0	0
0	0.029307	0.017633	0	0.036118	0.039935	0	0.117732	0.052709	1.587709	0.021566	0.052688	0.058273	0	0.128902	0.052709	1.587709	0.021566	0.052688	0.981478	0	2.740354	0.016133	0	0.00023754
0	0	0.150958	0	0	0.078002	0	0	0	0	0	0	0.0888	0	0	0	0	0	0	0.247473	0	0	0.009079	0	0
0.120316	0.019838	0.009917	0.003188	0.039735	0.032631	0.422834	0.0972	0.088194	0.611531	0.01985	0.030702	0.047615	0.616998	0.106422	0.088194	0.611531	0.01985	0.030702	0.609772	3.764144	1.599007	0.009768	0.001179	0.00018463
0.005098	0	0.081359	0.019848	0	0.131078	0.10976	0	0	0	0	0	0.149223	0.124954	0	0	0	0	0	0.528244	0.909745	0	0.004893	0.001194	0
0.11699	0.019292	0.011171	0.003043	0.037971	0.025066	0.409916	0.094138	0.090127	0.604533	0.019038	0.030007	0.036576	0.598148	0.103069	0.090127	0.604533	0.019038	0.030007	0.464027	3.764897	1.627311	0.011079	0.001349	0.00020919
0.005098	0	0.092234	0.032254	0	0.131317	0.10976	0	0	0	0	0	0.149496	0.124954	0	0	0	0	0	0.543901	0.909745	0	0.005547	0.00194	0
0.266825	0.036947	0.017369	0.007735	0.029626	0.046488	1.016472	0.194668	0.079109	0.451959	0.019401	0.029913	0.067836	1.483234	0.213137	0.079109	0.451959	0.019401	0.029913	1.050365	15.16046	4.12368	0.016948	0.005271	0.00037324
0.00501	0	0.153523	0.190538	0	0.011374	0.107868	0	0	0	0	0	0.012949	0.1228	0	0	0	0	0	0.111506	3.806249	0	0.009227	0.011452	0
0	0.000424	0.132741	0	0.000447	0.41892	0	0.002217	0.137659	0.939305	0.03129	0.048385	0.611287	0	0.002427	0.137659	0.939305	0.03129	0.048385	28.20394	0	4.668896	0.018159	0	0.00043544
0.120222	0	0.263434	1.049902	0	0.035382	2.588336	0	0	0	0	0	0.04028	2.946624	0	0	0	0	0	0.25059	34.66721	0	0.015833	0.063103	0
1.220521	0	0.638805	0.814284	0	0.123038	0.035891	0	0	0	0	0	3.524413	1.266655	0	0	0	0	0	10.87901	20.87434	0	0	0	0
0.012899	0	0.163481	0.547351	0	0.05386	0.277714	0	0	0	0	0	0.061316	0.316157	0	0	0	0	0	0.182949	8.422227	0	0.009826	0.032898	0
0	0	0.256187	0	0	0.001134	0	0	0	0	0	0	0.080974	0	0	0	0	0	0	0.134988	0	0	0.015408	0	0
0	0	0.411972	0	0	0.091954	0	0	0	0	0	0	6.568118	0	0	0	0	0	0	49.99333	0	0	0	0	0

A7 Road Dust Calculations: Proposed Project and Residential Variant

Entrained Road Dust Calculation

Yellow = update cells for project county
Green = use to calculate emissions

Road Dust Equation

E [lb/VMT] = k*(sL)^0.91 * (W)^1.02 * (1-P/4N)

Where:
E = the particulate emission factor in units of pounds of particulate matter per VMT
k = the U.S. EPA AP-42 particle size multiplier (PM_{10} = 0.0022 lb/VMT),[1]
sL = the roadway-specific silt loading in grams/square meter (g/m2),[2,3,4,5]
W = the average weight of vehicles traveling the road (California statewide default
= 2.4 tons),[5]
P = number of "wet" days, when at least one site per county received at least 0.01 inch of precipitation during the annual averaging period,[9] and
N = the number of days in the annual averaging period (default = 365)

Source: California Air Resources Board (CARB), Miscellaneous Process Methodology 7.9 — Entrained Road Travel, Paved Road Dust. Revised and updated March 2018,

Silt Loading Factor

For entry into CalEEMod - Construction onroad and Operation mobile
Source: CARB, 2018.

Table 6: 2008 Roadway Travel Fractions and VMT (1) Estimates for California Entrained Paved Road Dust

	2008 HPMS Travel Fractions			
County	Freeway	Major	Collector	Local
San Francisco	0.36	0.52	0.068	0.053

Table 7: 2008 Silt Loadings and PM10 Emission Factors for California Entrained Paved Road Dust Estimates

	Silt Loadings (g/m2)			
County	Freeway	Major	Collector	Local
San Francisco	0.015	0.032	0.032	0.32

Composite SL **0.041176** *enter into CalEEMod* NOTE: for operational mobile sources run, must do this as a last step immediately before running the model or else it will default to zero

Re-entrained PAVED Road Dust Emission Factors

Methodology

Calculation Methodology: USEPA AP-42, Paved Roads, Section 13.2.1, Revised January 2011:
http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0201.pdf

K-value from CARB, 2018.

Pollutant	Variables					E_{ext} (g/mi)	
	k	sL	W	P	N		
PM10	1.00	0.041176	23	67	365	**1.28200**	← use in off-model spreadsheet as EF
PM2.5	0.15	0.041176	23	67	365	**0.19230**	← use in off-model spreadsheet as EF

Where:
E = particulate emission factor (grams of particulate matter/VMT)
k = particle size multiplier (g/VMT)
sL = local roadway silt loading (g/m2)
W = average weight of vehicles on the road (tons) 46000
lb/ton 2000
P = number of wet days with at least 0.254mm of precipitation
N = number of days in the averaging period

Source
calculation
Table 13.2.1-1 Particle Size Multipliers for Paved Road
Calculated above (silt loading factor)
https://www.worktruckonline.com/147868/calculating-commercial-vehicle-weight-distribution-payload-made-easy
Table 8 of CARB, 2018.
annual days (365)

Table 13.2.1-1. PARTICLE SIZE MULTIPLIERS FOR PAVED ROAD EQUATION

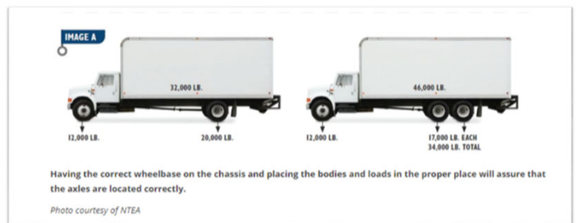
Size range[a]	Particle Size Multiplier k[b]		
	g/VKT	g/VMT	lb/VMT
PM-2.5[c]	0.15	0.25	0.00054
PM-10	0.62	1.00	0.0022
PM-15	0.77	1.23	0.0027
PM-30[d]	3.23	5.24	0.011

[a] Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers

[b] Units shown are grams per vehicle kilometer traveled (g/VKT), grams per vehicle mile traveled (g/VMT), and pounds per vehicle mile traveled (lb/VMT). The multiplier k includes unit conversions to produce emission factors in the units shown for the indicated size range from the mixed units required in Equation 1.

[c] The k-factors for $PM_{2.5}$ were based on the average $PM_{2.5}$:PM_{10} ratio of test runs in Reference 30.

[d] PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.



Having the correct wheelbase on the chassis and placing the bodies and loads in the proper place will assure that the axles are located correctly.

Photo courtesy of NTEA

Table 6
2008 Roadway Travel Fractions and VMT (1) Estimates for California Entrained Paved Road Dust

Air Basin	County	Air District	2012 VMT (million VMT per year)	2008 HPMS Travel Fractions (2)				
				Freeway	Major	Collector	Local, Local Urban (3)	Local Rural
GB	Alpine	GBU	67	0.000	0.775	0.118	0.107	
GB	Inyo	GBU	555	0.002	0.743	0.156	0.099	
GB	Mono	GBU	314	0.000	0.776	0.085	0.139	
LC	Lake	LAK	510	0.000	0.610	0.278	0.113	
LT	El Dorado	ED	387	0.174	0.572	0.130	0.124	
LT	Placer	PLA	312	0.408	0.381	0.113	0.097	
MC	Amador	AMA	443	0.000	0.763	0.139	0.098	
MC	Calaveras	CAL	369	0.000	0.688	0.186	0.126	
MC	El Dorado	ED	1,384	0.174	0.572	0.130	0.124	
MC	Mariposa	MPA	177	0.000	0.488	0.075	0.437	
MC	Nevada	NSI	1,050	0.437	0.261	0.167	0.135	
MC	Placer	PLA	556	0.408	0.381	0.113	0.097	
MC	Plumas	NSI	259	0.000	0.519	0.273	0.209	
MC	Sierra	NSI	90	0.140	0.435	0.153	0.272	
MC	Tuolumne	TUO	387	0.000	0.583	0.246	0.171	
MD	Kern	KER	1,666	0.268	0.562	0.082	0.089	
MD	Los Angeles	AV	3,466	0.453	0.442	0.054	0.051	
MD	Riverside	MOJ	392	0.478	0.333	0.126	0.063	
MD	Riverside	SC	425	0.478	0.333	0.126	0.063	
MD	San Bernardino	MOJ	8,814	0.524	0.340	0.069	0.067	
NC	Del Norte	NCU	224	0.000	0.657	0.227	0.116	
NC	Humboldt	NCU	1,111	0.222	0.497	0.175	0.106	
NC	Mendocino	MEN	1,020	0.062	0.599	0.221	0.118	
NC	Sonoma	NS	716	0.258	0.470	0.185	0.087	
NC	Trinity	NCU	200	0.000	0.712	0.082	0.206	
NCC	Monterey	MBU	3,620	0.164	0.572	0.164	0.101	
NCC	San Benito	MBU	686	0.000	0.853	0.082	0.064	
NCC	Santa Cruz	MBU	1,523	0.271	0.476	0.187	0.066	
NEP	Lassen	LAS	374	0.000	0.587	0.256	0.157	
NEP	Modoc	MOD	134	0.000	0.453	0.224	0.323	
NEP	Siskiyou	SIS	1,000	0.453	0.224	0.121	0.201	
SC	Los Angeles	SC	78,066	0.453	0.442	0.054	0.051	
SC	Orange	SC	27,160	0.483	0.431	0.027	0.059	
SC	Riverside	SC	18,207	0.478	0.333	0.126	0.063	
SC	San Bernardino	SC	14,487	0.524	0.340	0.069	0.067	
SCC	San Luis Obispo	SLO	2,761	0.211	0.611	0.086	0.092	
SCC	Santa Barbara	SB	3,304	0.299	0.505	0.127	0.069	
SCC	Ventura	VEN	7,191	0.370	0.469	0.082	0.079	
SD	San Diego	SD	30,297	0.553	0.319	0.080	0.048	
SF	Alameda	BA	13,732	0.566	0.317	0.064	0.053	
SF	Contra Costa	BA	7,985	0.517	0.334	0.066	0.082	
SF	Marin	BA	2,258	0.497	0.290	0.146	0.067	
SF	Napa	BA	1,101	0.180	0.524	0.204	0.092	
SF	San Francisco	BA	3,159	0.360	0.520	0.068	0.053	
SF	San Mateo	BA	5,595	0.563	0.319	0.063	0.055	
SF	Santa Clara	BA	14,041	0.434	0.449	0.054	0.064	
SF	Solano	BA	2,891	0.627	0.251	0.061	0.062	
SF	Sonoma	BA	3,047	0.258	0.470	0.185	0.087	
SJV	Fresno	SJU	8,641	0.293	0.427	0.126	0.085	0.022
SJV	Kern	SJU	6,872	0.268	0.562	0.082	0.066	0.026
SJV	Kings	SJU	1,408	0.264	0.503	0.144	0.063	0.070
SJV	Madera	SJU	1,854	0.139	0.650	0.100	0.041	0.052
SJV	Merced	SJU	2,575	0.244	0.527	0.125	0.052	0.018
SJV	San Joaquin	SJU	6,485	0.456	0.351	0.117	0.058	0.020
SJV	Stanislaus	SJU	3,769	0.300	0.375	0.229	0.075	0.071
SJV	Tulare	SJU	3,777	0.152	0.545	0.172	0.059	0.022
SS	Imperial	IMP	2,400	0.273	0.453	0.168	0.106	
SS	Riverside	SC	4,714	0.478	0.333	0.126	0.063	
SV	Butte	BUT	1,693	0.080	0.557	0.240	0.124	
SV	Colusa	COL	696	0.609	0.167	0.077	0.147	
SV	Glenn	GLE	527	0.541	0.209	0.121	0.129	
SV	Placer	PLA	3,110	0.408	0.381	0.113	0.097	
SV	Sacramento (4)	SAC	13,027	0.469	0.389	0.075	0.067	
SV	Shasta	SHA	1,923	0.419	0.401	0.090	0.090	
SV	Solano	YS	1,660	0.627	0.251	0.061	0.062	
SV	Sutter	FR	798	0.088	0.628	0.129	0.155	
SV	Tehama	TEH	1,065	0.492	0.264	0.148	0.095	
SV	Yolo	YS	2,167	0.561	0.252	0.086	0.101	
SV	Yuba	FR	658	0.165	0.503	0.220	0.111	
Statewide Total			337,332					
			1	2	3	4	5	6	7	8

Table 7
2008 Silt Loadings and PM_{10} Emission Factors for California Entrained Paved Road Dust Estimates

Air Basin	County	Air District	Silt Loadings (SL, g/m2) and PM10 Emission Factors (EF; lbs PM10/106 VMT)										Avg. Vehicle Weight (tons)
			Freeway		Major (1)		Collector (1)		Local, Local Urban		Local Rural (2)		
			SL	EF	SL	EF	SL	EF	SL	EF	SL	EF	
GB	Alpine	GBU	0.015	111.8	0.032	222.8	0.032	222.8	0.32	1,811.2			2.4
GB	Inyo	GBU	0.015	115.4	0.032	229.9	0.032	229.9	0.32	1,868.6			2.4
GB	Mono	GBU	0.015	114.5	0.032	228.1	0.032	228.1	0.32	1,854.2			2.4
LC	Lake	LAK	0.015	112.1	0.032	223.5	0.032	223.5	0.32	1,816.4			2.4
LT	El Dorado	ED	0.015	112.1	0.032	223.5	0.032	223.5	0.32	1,816.4			2.4
LT	Placer	PLA	0.015	111.4	0.032	222.0	0.032	222.0	0.32	1,804.7			2.4
MC	Amador	AMA	0.015	112.5	0.032	224.1	0.032	224.1	0.32	1,821.6			2.4
MC	Calaveras	CAL	0.015	111.8	0.032	222.8	0.032	222.8	0.32	1,811.2			2.4
MC	El Dorado	ED	0.015	112.3	0.032	223.8	0.032	223.8	0.32	1,819.0			2.4
MC	Mariposa	MPA	0.015	112.1	0.032	223.3	0.032	223.3	0.32	1,815.1			2.4
MC	Nevada	NSI	0.015	110.9	0.032	221.1	0.032	221.1	0.32	1,796.8			2.4
MC	Placer	PLA	0.015	111.7	0.032	222.7	0.032	222.7	0.32	1,809.9			2.4
MC	Plumas	NSI	0.015	111.6	0.032	222.3	0.032	222.3	0.32	1,807.3			2.4
MC	Sierra	NSI	0.015	111.3	0.032	221.7	0.032	221.7	0.32	1,802.0			2.4
MC	Tuolumne	TUO	0.015	112.4	0.032	223.9	0.032	223.9	0.32	1,820.3			2.4
MD	Kern	KER	0.015	115.7	0.032	230.5	0.032	230.5	0.32	1,873.8			2.4
MD	Los Angeles	AV	0.015	115.7	0.032	230.5	0.032	230.5	0.32	1,873.8			2.4
MD	Riverside	MOJ	0.015	116.3	0.08	533.3	0.08	533.3	0.84	4,531.5			2.4
MD	Riverside	SC	0.015	116.3	0.08	533.3	0.08	533.3	0.84	4,531.5			2.4
MD	San Bernardino	MOJ	0.015	115.8	0.08	531.1	0.08	531.1	0.84	4,512.7			2.4
NC	Del Norte	NCU	0.015	108.7	0.032	216.6	0.032	216.6	0.32	1,760.3			2.4
NC	Humboldt	NCU	0.015	107.9	0.032	215.0	0.032	215.0	0.32	1,747.2			2.4
NC	Mendocino	MEN	0.015	108.4	0.032	215.9	0.032	215.9	0.32	1,755.1			2.4
NC	Sonoma	NS	0.015	111.6	0.032	222.3	0.032	222.3	0.32	1,807.3			2.4
NC	Trinity	NCU	0.015	110.9	0.032	220.9	0.032	220.9	0.32	1,795.5			2.4
NCC	Monterey	MBU	0.015	113.2	0.032	225.6	0.032	225.6	0.32	1,833.4			2.4
NCC	San Benito	MBU	0.015	113.5	0.032	226.2	0.032	226.2	0.32	1,838.6			2.4
NCC	Santa Cruz	MBU	0.015	112.4	0.032	223.9	0.032	223.9	0.32	1,820.3			2.4
NEP	Lassen	LAS	0.015	112.9	0.032	224.9	0.032	224.9	0.32	1,828.1			2.4
NEP	Modoc	MOD	0.015	111.5	0.032	222.2	0.032	222.2	0.32	1,806.0			2.4
NEP	Siskiyou	SIS	0.015	109.9	0.032	219.0	0.032	219.0	0.32	1,779.9			2.4
SC	Los Angeles	SC	0.015	114.9	0.013	100.9	0.013	100.9	0.135	848.4			2.4
SC	Orange	SC	0.015	115.0	0.013	100.9	0.013	100.9	0.135	849.0			2.4
SC	Riverside	SC	0.015	114.9	0.08	527.0	0.08	527.0	0.84	4,478.2			2.4
SC	San Bernardino	SC	0.015	114.3	0.08	524.4	0.08	524.4	0.84	4,456.2			2.4
SCC	San Luis Obispo	SLO	0.015	114.2	0.032	227.6	0.032	227.6	0.32	1,850.3			2.4
SCC	Santa Barbara	SB	0.015	113.9	0.032	227.0	0.032	227.0	0.32	1,845.1			2.4
SCC	Ventura	VEN	0.015	115.1	0.032	229.4	0.032	229.4	0.32	1,864.7			2.4
SD	San Diego	SD	0.015	114.2	0.032	227.6	0.032	227.6	0.32	1,850.3			2.4
SF	Alameda	BA	0.015	112.7	0.032	224.6	0.032	224.6	0.32	1,825.5			2.4
SF	Contra Costa	BA	0.015	112.8	0.032	224.8	0.032	224.8	0.32	1,826.8			2.4
SF	Marin	BA	0.015	112.3	0.032	223.8	0.032	223.8	0.32	1,819.0			2.4
SF	Napa	BA	0.015	112.1	0.032	223.5	0.032	223.5	0.32	1,816.4			2.4
SF	San Francisco	BA	0.015	112.2	0.032	223.6	0.032	223.6	0.32	1,817.7			2.4
SF	San Mateo	BA	0.015	112.8	0.032	224.8	0.032	224.8	0.32	1,826.8			2.4
SF	Santa Clara	BA	0.015	112.5	0.032	224.1	0.032	224.1	0.32	1,821.6			2.4
SF	Solano	BA	0.015	113.3	0.032	225.7	0.032	225.7	0.32	1,834.7			2.4
SF	Sonoma	BA	0.015	112.1	0.032	223.3	0.032	223.3	0.32	1,815.1			2.4
SJV	Fresno	SJU	0.015	114.0	0.032	227.2	0.032	227.2	0.32	1846.4	1.6	7987.1	2.4
SJV	Kern	SJU	0.015	114.6	0.032	228.4	0.032	228.4	0.32	1856.8	1.6	8032.3	2.4
SJV	Kings	SJU	0.015	114.6	0.032	228.3	0.032	228.3	0.32	1855.5	1.6	8026.6	2.4
SJV	Madera	SJU	0.015	114.1	0.032	227.3	0.032	227.3	0.32	1847.7	1.6	7992.8	2.4
SJV	Merced	SJU	0.015	113.5	0.032	226.2	0.032	226.2	0.32	1838.6	1.6	7953.3	2.4
SJV	San Joaquin	SJU	0.015	113.2	0.032	225.6	0.032	225.6	0.32	1833.4	1.6	7930.7	2.4
SJV	Stanislaus	SJU	0.015	113.4	0.032	226.0	0.032	226.0	0.32	1837.3	1.6	7947.6	2.4
SJV	Tulare	SJU	0.015	114.4	0.032	228.0	0.032	228.0	0.32	1852.9	1.6	8015.4	2.4
SS	Imperial	IMP	0.015	116.7	0.032	232.6	0.032	232.6	0.32	1890.8			2.4
SS	Riverside	SC	0.015	116.3	0.08	533.3	0.08	533.3	0.84	4,531.5			2.4
SV	Butte	BUT	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4
SV	Colusa	COL	0.015	113.1	0.032	225.4	0.032	225.4	0.32	1,832.1			2.4
SV	Glenn	GLE	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4
SV	Placer	PLA	0.015	112.3	0.032	223.8	0.032	223.8	0.32	1,819.0			2.4
SV	Sacramento (4)	SAC	0.015	113.0	0.032	225.2	0.032	225.2	0.32	1,830.8			2.4
SV	Shasta	SHA	0.015	111.0	0.032	221.2	0.032	221.2	0.32	1,798.1			2.4
SV	Solano	YS	0.015	112.9	0.032	225.1	0.032	225.1	0.32	1,829.4			2.4
SV	Sutter	FR	0.015	111.6	0.032	222.3	0.032	222.3	0.32	1,807.3			2.4
SV	Tehama	TEH	0.015	111.9	0.032	223.0	0.032	223.0	0.32	1,812.5			2.4
SV	Yolo	YS	0.015	112.9	0.032	225.1	0.032	225.1	0.32	1,829.4			2.4
SV	Yuba	FR	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4
			1	2	3	4	5	6	7	8	9	10	11	12	13

Table 7
2008 Silt Loadings and PM_{10} Emission Factors for California Entrained Paved Road Dust Estimates

Air Basin	County	Air District	Annual Rainfall Days (1)
GBV	Alpine	GBU	72
GBV	Inyo	GBU	28
GBV	Mono	GBU	39
LC	Lake	LAK	68
LT	El Dorado	ED	68
LT	Placer	PLA	77
MC	Amador	AMA	64
MC	Calaveras	CAL	72
MC	El Dorado	ED	66
MC	Mariposa	MPA	69
MC	Nevada	NSI	83
MC	Placer	PLA	73
MC	Plumas	NSI	75
MC	Sierra	NSI	79
MC	Tuolumne	TUO	65
MD	Kern	KER	24
MD	Los Angeles	AV	24
MD	Riverside	MOJ	17
MD	Riverside	SC	17
MD	San Bernardino	MOJ	23
NC	Del Norte	NCU	111
NC	Humboldt	NCU	121
NC	Mendocino	MEN	115
NC	Sonoma	NS	75
NC	Trinity	NCU	84
NCC	Monterey	MBU	55
NCC	San Benito	MBU	51
NCC	Santa Cruz	MBU	65
NEP	Lassen	LAS	59
NEP	Modoc	MOD	76
NEP	Siskiyou	SIS	96
SC	Los Angeles	SC	34
SC	Orange	SC	33
SC	Riverside	SC	34
SC	San Bernardino	SC	41
SCC	San Luis Obispo	SLO	42
SCC	Santa Barbara	SB	46
SCC	Ventura	VEN	31
SD	San Diego	SD	42
SF	Alameda	BA	61
SF	Contra Costa	BA	60
SF	Marin	BA	66
SF	Napa	BA	68
SF	San Francisco	BA	67
SF	San Mateo	BA	60
SF	Santa Clara	BA	64
SF	Solano	BA	54
SF	Sonoma	BA	69
SJV	Fresno	SJU	45
SJV	Kern	SJU	37
SJV	Kings	SJU	38
SJV	Madera	SJU	44
SJV	Merced	SJU	51
SJV	San Joaquin	SJU	55
SJV	Stanislaus	SJU	52
SJV	Tulare	SJU	40
SS	Imperial	IMP	11
SS	Riverside	SC	17
SV	Butte	BUT	63
SV	Colusa	COL	56
SV	Glenn	GLE	63
SV	Placer	PLA	66
SV	Sacramento	SAC	57
SV	Shasta	SHA	82
SV	Solano	YS	58
SV	Sutter	FR	75
SV	Tehama	TEH	71
SV	Yolo	YS	58
SV	Yuba	FR	63
		1	2	3

Table 8
Annual Rainfall Days: Average Days per Year that California Counties Receive 0.01 Inch or Greater Precipitation Over Years of Record (1)

Air Basin	County	Air District	Annual Rainfall Days (1)
GBV	Alpine	GBU	72
GBV	Inyo	GBU	28
GBV	Mono	GBU	39
LC	Lake	LAK	68
LT	El Dorado	ED	68
LT	Placer	PLA	77
MC	Amador	AMA	64
MC	Calaveras	CAL	72
MC	El Dorado	ED	66
MC	Mariposa	MPA	69
MC	Nevada	NSI	83
MC	Placer	PLA	73
MC	Plumas	NSI	75
MC	Sierra	NSI	79
MC	Tuolumne	TUO	65
MD	Kern	KER	24
MD	Los Angeles	AV	24
MD	Riverside	MOJ	17
MD	Riverside	SC	17
MD	San Bernardino	MOJ	23
NC	Del Norte	NCU	111
NC	Humboldt	NCU	121
NC	Mendocino	MEN	115
NC	Sonoma	NS	75
NC	Trinity	NCU	84
NCC	Monterey	MBU	55
NCC	San Benito	MBU	51
NCC	Santa Cruz	MBU	65
NEP	Lassen	LAS	59
NEP	Modoc	MOD	76
NEP	Siskiyou	SIS	96
SC	Los Angeles	SC	34
SC	Orange	SC	33
SC	Riverside	SC	34
SC	San Bernardino	SC	41
SCC	San Luis Obispo	SLO	42
SCC	Santa Barbara	SB	46
SCC	Ventura	VEN	31
SD	San Diego	SD	42
SF	Alameda	BA	61
SF	Contra Costa	BA	60
SF	Marin	BA	66
SF	Napa	BA	68
SF	San Francisco	BA	67
SF	San Mateo	BA	60
SF	Santa Clara	BA	64
SF	Solano	BA	54
SF	Sonoma	BA	69
SJV	Fresno	SJU	45
SJV	Kern	SJU	37
SJV	Kings	SJU	38
SJV	Madera	SJU	44
SJV	Merced	SJU	51
SJV	San Joaquin	SJU	55
SJV	Stanislaus	SJU	52
SJV	Tulare	SJU	40
SS	Imperial	IMP	11
SS	Riverside	SC	17
SV	Butte	BUT	63
SV	Colusa	COL	56
SV	Glenn	GLE	63
SV	Placer	PLA	66
SV	Sacramento	SAC	57
SV	Shasta	SHA	82
SV	Solano	YS	58
SV	Sutter	FR	75
SV	Tehama	TEH	71
SV	Yolo	YS	58
SV	Yuba	FR	63

NEP	Modoc	MOD	134	0.000	0.453	0.224	0.323	
NEP	Siskiyou	SIS	1,000	0.453	0.224	0.121	0.201	
SC	Los Angeles	SC	78,066	0.453	0.442	0.054	0.051	
SC	Orange	SC	27,160	0.483	0.431	0.027	0.059	
SC	Riverside	SC	18,207	0.478	0.333	0.126	0.063	
SC	San Bernardino	SC	14,487	0.524	0.340	0.069	0.067	
SCC	San Luis Obispo	SLO	2,761	0.211	0.611	0.086	0.092	
SCC	Santa Barbara	SB	3,304	0.299	0.505	0.127	0.069	
SCC	Ventura	VEN	7,191	0.370	0.469	0.082	0.079	
SD	San Diego	SD	30,297	0.553	0.319	0.080	0.048	
SF	Alameda	BA	13,732	0.566	0.317	0.064	0.053	
SF	Contra Costa	BA	7,985	0.517	0.334	0.066	0.082	
SF	Marin	BA	2,258	0.497	0.290	0.146	0.067	
SF	Napa	BA	1,101	0.180	0.524	0.204	0.092	
SF	San Francisco	BA	3,159	0.360	0.520	0.068	0.053	
SF	San Mateo	BA	5,595	0.563	0.319	0.063	0.055	
SF	Santa Clara	BA	14,041	0.434	0.449	0.054	0.064	
SF	Solano	BA	2,891	0.627	0.251	0.061	0.062	
SF	Sonoma	BA	3,047	0.258	0.470	0.185	0.087	
SJV	Fresno	SJU	8,641	0.293	0.427	0.126	0.085	0.022
SJV	Kern	SJU	6,872	0.268	0.562	0.082	0.066	0.026
SJV	Kings	SJU	1,408	0.264	0.503	0.144	0.063	0.070
SJV	Madera	SJU	1,854	0.139	0.650	0.100	0.041	0.052
SJV	Merced	SJU	2,575	0.244	0.527	0.125	0.052	0.018
SJV	San Joaquin	SJU	6,485	0.456	0.351	0.117	0.058	0.020
SJV	Stanislaus	SJU	3,769	0.300	0.375	0.229	0.075	0.071
SJV	Tulare	SJU	3,777	0.152	0.545	0.172	0.059	0.022
SS	Imperial	IMP	2,400	0.273	0.453	0.168	0.106	
SS	Riverside	SC	4,714	0.478	0.333	0.126	0.063	
SV	Butte	BUT	1,693	0.080	0.557	0.240	0.124	
SV	Colusa	COL	696	0.609	0.167	0.077	0.147	
SV	Glenn	GLE	527	0.541	0.209	0.121	0.129	
SV	Placer	PLA	3,110	0.408	0.381	0.113	0.097	
SV	Sacramento (4)	SAC	13,027	0.469	0.389	0.075	0.067	
SV	Shasta	SHA	1,923	0.419	0.401	0.090	0.090	
SV	Solano	YS	1,660	0.627	0.251	0.061	0.062	
SV	Sutter	FR	798	0.088	0.628	0.129	0.155	
SV	Tehama	TEH	1,065	0.492	0.264	0.148	0.095	
SV	Yolo	YS	2,167	0.561	0.252	0.086	0.101	
SV	Yuba	FR	658	0.165	0.503	0.220	0.111	
Statewide Total			**337,332**					

1 2012 VMT from EMFAC2014 or provided by regional transportation planning agencies. Does not include VMT on unspecified roads, e.g., sand and gravel processing facilities.
2 Sacramento Area Council of Governments (SACOG) provided 2008 travel fractions for Sacramento County.
3 SJU District distributes Local Roads VMT to Local Urban and Local Rural fractions. For all other regions, the Local Roads fraction includes both Local Urban and Local Rural VMT.

SD	San Diego	SD	0.015	114.2	0.032	227.6	0.032	227.6	0.32	1,850.3			2.4
SF	Alameda	BA	0.015	112.7	0.032	224.6	0.032	224.6	0.32	1,825.5			2.4
SF	Contra Costa	BA	0.015	112.8	0.032	224.8	0.032	224.8	0.32	1,826.8			2.4
SF	Marin	BA	0.015	112.3	0.032	223.8	0.032	223.8	0.32	1,819.0			2.4
SF	Napa	BA	0.015	112.1	0.032	223.5	0.032	223.5	0.32	1,816.4			2.4
SF	San Francisco	BA	0.015	112.2	0.032	223.6	0.032	223.6	0.32	1,817.7			2.4
SF	San Mateo	BA	0.015	112.8	0.032	224.8	0.032	224.8	0.32	1,826.8			2.4
SF	Santa Clara	BA	0.015	112.5	0.032	224.1	0.032	224.1	0.32	1,821.6			2.4
SF	Solano	BA	0.015	113.3	0.032	225.7	0.032	225.7	0.32	1,834.7			2.4
SF	Sonoma	BA	0.015	112.1	0.032	223.3	0.032	223.3	0.32	1,815.1			2.4
SJV	Fresno	SJU	0.015	114.0	0.032	227.2	0.032	227.2	0.32	1846.4	1.6	7987.1	2.4
SJV	Kern	SJU	0.015	114.6	0.032	228.4	0.032	228.4	0.32	1856.8	1.6	8032.3	2.4
SJV	Kings	SJU	0.015	114.6	0.032	228.3	0.032	228.3	0.32	1855.5	1.6	8026.6	2.4
SJV	Madera	SJU	0.015	114.1	0.032	227.3	0.032	227.3	0.32	1847.7	1.6	7992.8	2.4
SJV	Merced	SJU	0.015	113.5	0.032	226.2	0.032	226.2	0.32	1838.6	1.6	7953.3	2.4
SJV	San Joaquin	SJU	0.015	113.2	0.032	225.6	0.032	225.6	0.32	1833.4	1.6	7930.7	2.4
SJV	Stanislaus	SJU	0.015	113.4	0.032	226.0	0.032	226.0	0.32	1837.3	1.6	7947.6	2.4
SJV	Tulare	SJU	0.015	114.4	0.032	228.0	0.032	228.0	0.32	1852.9	1.6	8015.4	2.4
SS	Imperial	IMP	0.015	116.7	0.032	232.6	0.032	232.6	0.32	1890.8			2.4
SS	Riverside	SC	0.015	116.3	0.08	533.3	0.08	533.3	0.84	4,531.5			2.4
SV	Butte	BUT	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4
SV	Colusa	COL	0.015	113.1	0.032	225.4	0.032	225.4	0.32	1,832.1			2.4
SV	Glenn	GLE	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4
SV	Placer	PLA	0.015	112.3	0.032	223.8	0.032	223.8	0.32	1,819.0			2.4
SV	Sacramento (4)	SAC	0.015	113.0	0.032	225.2	0.032	225.2	0.32	1,830.8			2.4
SV	Shasta	SHA	0.015	111.0	0.032	221.2	0.032	221.2	0.32	1,798.1			2.4
SV	Solano	YS	0.015	112.9	0.032	225.1	0.032	225.1	0.32	1,829.4			2.4
SV	Sutter	FR	0.015	111.8	0.032	222.3	0.032	222.3	0.32	1,807.3			2.4
SV	Tehama	TEH	0.015	111.9	0.032	223.0	0.032	223.0	0.32	1,812.5			2.4
SV	Yolo	YS	0.015	112.9	0.032	225.1	0.032	225.1	0.32	1,829.4			2.4
SV	Yuba	FR	0.015	112.5	0.032	224.3	0.032	224.3	0.32	1,822.9			2.4

1 For Major, Collector and Local roads, the portion of Los Angeles County in the SC Air District (South Coast Air Quality Management District, SCAQMD) and all portions of Orange, Riverside and San Bernardino counties use silt loading values derived from a subset of measurements collected in the SCAQMD and Riverside County. Silt loading measurements used for this update are presented in Appendix A, Table 1. See Table 3 for more information on how silt loading values were derived.
2 The SJU District (San Joaquin Valley Air Pollution Control District) splits local roads into urban and rural classes and uses separate silt loading values. A higher silt loading value derived from AP-42 data is used to compute emissions for local rural roads due to anticipated higher loading levels.
3 SCAQMD provides ARB with only the total PM_{10} emissions for paved roads at sand and gravel processing facilities.
4 Sacramento Area Council of Governments (SACOG) provided 2008 travel fractions for Sacramento County.

1 Average days per year that counties within air basin receive $\geq$ 0.01 inch precipitation over years of record, Western Regional Climate Center data, http://www.wrcc.dri.edu/

This page intentionally left blank

A8 TRU Emissions Calculations Using OFFROAD-ORION

Conversions

Tons	Pounds	Grams
1	2000	907185

Mile	Feet
1	5280

Years	Days
1	365

TRUs

Number of TRUs	15	TRUs	(hotel & restaurant only)
Hours of Operation per day	0.25	hrs/day/TRU	
Days of Operation per year	365	days/year/TRU	
Hour of Operation per year	91.25	hrs/year/TRU	

NOTES: Assume that operational reefers fun 15 minutes per hour during the 8 hour required rest time.

Table 8: Freight Loading Demand for Proposed Project

Land Use	Amount (ksf)	Daily Freight Loading Rate (per ksf)	Daily Truck Trips	Peak Hour Freight Loading Demand[1] (spaces)
Hotel	147.9	0.09	13	0.75
Gym	36	0.22	8	0.46
Restaurant	10.1	0.22	2	0.12
Office	39.8	0.21	8	0.46
Total	**233.8**	**-**	**31**	**1.79**

Region	Calendar Year	Vehicle Catego	Model Year	Horsepower Bi	Fuel	ROG_tpd	NOx_tpd	PM10_tpd	PM25_tpd	Fuel Consumpt	hr/year Total_Activity_	Total_Populati	Horsepower_Hours_hhpy	hr/day/TRU
San Francisco	2024	TRU - Instate T	Aggregate	Aggregate	Diesel	0.00210771	0.020454734	0.000815578	0.000750332	402.09	206613.56	151.81	2913251.24	3.73

Ton/day/TRU	ROG	NOx	PM10	PM2.5
TRU	0.000014	0.000135	0.000005	0.000005

Ton/Hour/TRU	ROG	NOx	PM10	PM2.5
TRU	0.000004	0.000036	0.000001	0.000001

TPY	ROG	NOx	PM10	PM2.5
TRU	0.0051	0.0495	0.0020	0.0018

PPD	ROG	NOx	PM10	PM2.5
TRU	0.0279	0.2710	0.0108	0.0099

OFFROAD2017 (v1.0.1) Emissions Inventory
Region Type: County
Region: San Francisco
Calendar Year: 2024
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: OFFROAD2017 Equipment Types
Units: Emissions: tons/day, Fuel Consumption: gallons/year, Activity: hours/year, HP-Hours: HP-hours/year

Region	CalYr	VehClass	MdlYr	HP_Bin	Fuel	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	PM10_tpd	PM2_5_tpd	PM_tpd	Fuel_gpy	Total_Activity_	Total_Populati	Horsepower_Hours_hhpy
San Francisco	2024	TRU - Instate T	Aggregated	Aggregated	Diesel	0.00210771	0.002508349	0.017097749	0.020454734	0.000815578	0.000750332	0.000815578	260.5164948	206613.5634	151.8101127	2913251.244

APPENDIX E

Wind Study

REPORT

530 SANSOME STREET

SAN FRANCISCO, CA

PEDESTRIAN WIND STUDY
RWDI # 2001802
February 1, 2021

SUBMITTED TO

Alana Callagy
Senior Environmental Planner
alana.callagy@sfgov.com

San Francisco Planning Department
49 South Van Ness Avenue, Suite 1400
San Francisco, CA, 94103
T: 628.652.7540

SUBMITTED BY

Stefan Gopaul, M.A.Sc., P.Eng.
Project Engineer
Stefan.Gopaul@rwdi.com

Hanqing Wu, Ph.D., P.Eng.
Senior Technical Director / Principal
Stefan.Gopaul@rwdi.com

Raisa Lalui, M.Eng., P.Eng.
Project Manager
Raisa.Lalui@rwdi.com

RWDI
600 Southgate Drive,
Guelph, ON, N1G 4P6
T: 519.823.1311
F: 519.823.1316

EXECUTIVE SUMMARY

RWDI was retained to conduct a pedestrian wind assessment for the proposed 530 Sansome Street in San Francisco, CA (Image 1). The proposed project would demolish three existing buildings (425 and 439-445 Washington Street, San Francisco Fire Station 13 at 530 Sansome Street) and construct a 218-foot-tall (236 feet total, including rooftop mechanical equipment) building and a four-story replacement fire station. The 218-foot-tall building would provide retail/restaurant space, office space, fitness center space, and hotel rooms. The sponsor also proposes a residential variant, which would instead construct 256 residential units in the approximately 218-foot tall building. For purposes of this study, a model of the proposed project (project) was prepared and tested. A qualitative discussion of the residential variant is included as the overall massing of the project and residential variant are sufficiently similar that any effects from wind would not greatly vary from a pedestrian wind comfort or hazard perspective. As such, the wind effects associated with the residential variant are anticipated to be congruent with those reported for the project.

Based on our wind-tunnel testing for the proposed development under the Existing, Existing + Project, and Project + Cumulative configurations (Images 2A through 2C), the potential wind comfort and hazard conditions are predicted as shown on site plans in Figures 1A through 2C, while the associated wind speeds are listed in Tables 1 and 2, respectively. Nearby bike lane test locations are shown in Figure 3 and the associated mean wind speeds are listed in Table 3.

These results can be summarized as follows:

Wind Comfort

Existing wind speeds exceed the 11-mph wind comfort criterion at 53 of 77 test locations. This number is expected to increase to 55 of 77 locations with the addition of the proposed development to the site (i.e., Existing + Project) and 54 of 77 locations with the subsequent addition of future buildings to the surroundings (i.e., Project + Cumulative configuration).

Wind Hazard

Existing wind speeds do not comply with the 1-hour, 36-mph wind hazard criterion at 12 of 77 test locations. This number is anticipated to decrease to 10 of 77 locations with the addition of the proposed development to the site (i.e., Existing + Project) and increase to 14 of 77 locations with the subsequent addition of future buildings to the surroundings (i.e., Project + Cumulative configuration).

Bike Lane Wind Conditions

Bike lane wind conditions are provided for informational and reference purposes. The mean wind speed for the 15 bike lane test locations is 6 mph for all configurations assessed.

Summary Table

CONFIGURATION		WIND COMFORT			WIND HAZARD		
		Average Speed	Average (%)	Total Exceedances	Average Speed	Total Hours	Total Exceedances
A	Existing	14 mph	21%	$\frac{53}{77}$	28 mph	249	$\frac{12}{77}$
B	Existing + Project	14 mph	20%	$\frac{55}{77}$	28 mph	138	$\frac{10}{77}$
C	Project + Cumulative	14 mph	22%	$\frac{54}{77}$	28 mph	263	$\frac{14}{77}$

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1 INTRODUCTION

RWDI was retained to conduct a pedestrian wind assessment for the proposed 530 Sansome Street project in San Francisco, CA. This report presents the project objectives, background and approach, discusses the results from RWDI's assessment, and provides commentary on predicted wind conditions with the residential variant massing.

1.1 Project Description

The project site (shown in Image 1) is located at the southeast corner of Sansome Street and Washington Street. Under either the project or residential variant, the four story replacement fire station would be the same. The proposed project is the commercial version of the building and consists of 19 stories with a series of 2-story canopies along the ground floor. The residential variant would have the same total height (236 feet) as the project but would contain 21 stories due to the different floor to ceiling height for residential configuration. The potential impacts of the residential variant are discussed in Section 3.5 Residential Variant Commentary.

Image 1: Aerial View of the Existing Site and Surroundings (Photo Courtesy of Google™ Earth)

1.2 Objectives

The objective of the study was to assess the effect of the proposed development on local conditions in pedestrian areas on and around the study site and provide recommendations for minimizing adverse effects, if needed. This quantitative assessment was based on wind speed measurements on a scale model of the project and its surroundings in one of RWDI's boundary-layer wind tunnels. These measurements were combined with the local wind records and compared to appropriate criteria for gauging wind comfort and safety in pedestrian areas. The assessment focused on critical pedestrian areas, including main entrances and public sidewalks.

2 BACKGROUND AND APPROACH

2.1 Wind Tunnel Study Model

To assess the wind environment around the proposed project, a 1:300 scale model of the project site and surroundings was constructed for the wind tunnel tests of the following configurations:

A – Existing:	Existing site with existing surroundings, including all projects built or under construction as of December 7, 2020 (Image 2A).
B – Existing + Project:	Proposed project with existing surroundings (Image 2B).
C – Project + Cumulative:	Proposed project with existing and future surroundings (Image 2C).

The wind tunnel model included all relevant surrounding buildings and topography within an approximate 1200-foot radius of the study site. No street trees or other landscaping was included in the wind tunnel model. The wind and turbulence profiles in the atmospheric boundary layer beyond the modelled area were also simulated in RWDI's wind tunnel. The wind tunnel model was instrumented with 80 wind speed sensors to measure mean and gust speeds at a full-scale height of approximately 5 feet above local grade in pedestrian areas throughout the study site. Wind speeds were measured for 16 directions in 22.5° increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model. The placement of wind measurement locations was based on our experience and understanding of the pedestrian usage for this site and reviewed by the design team.

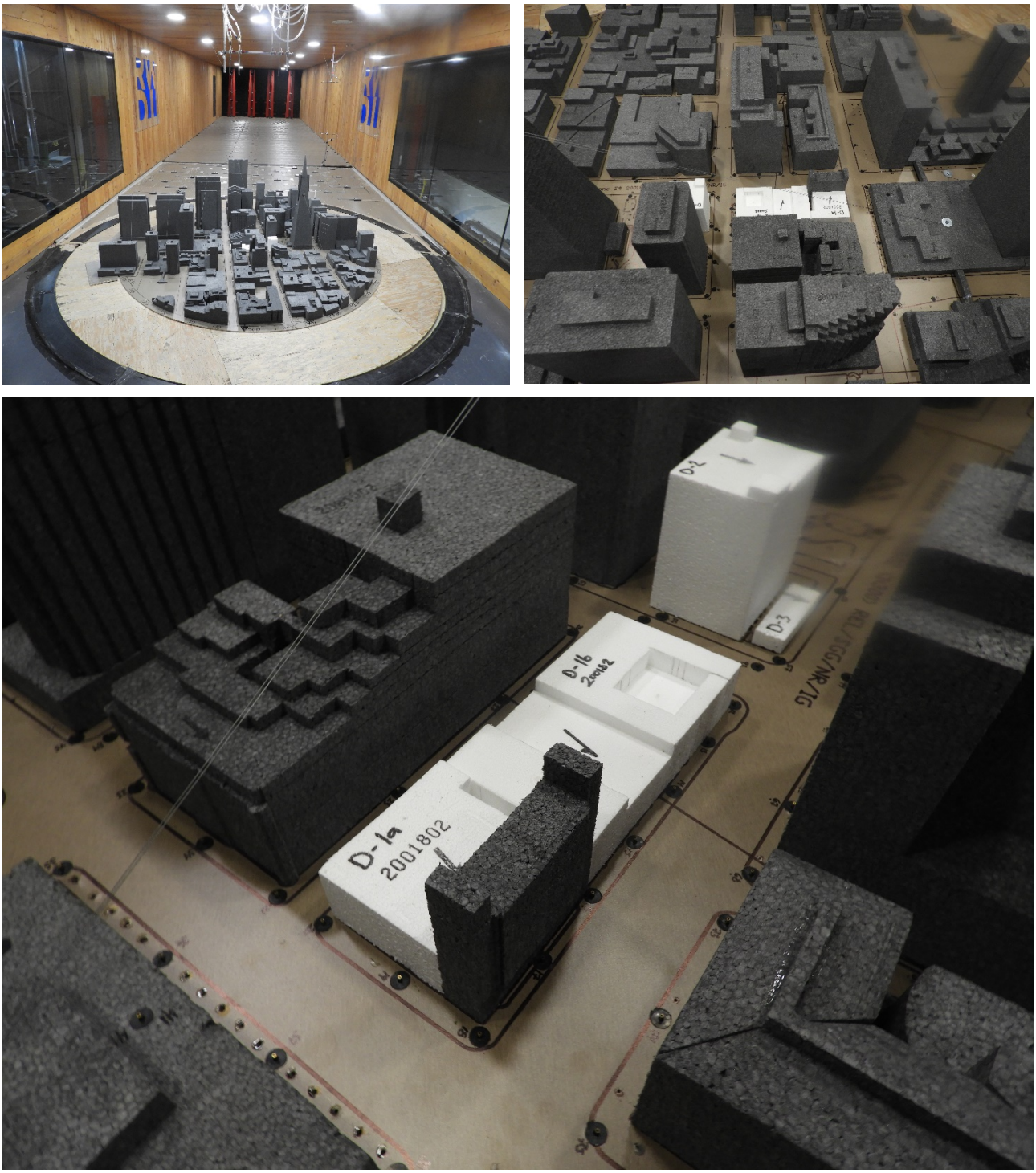


Image 2A: Wind Tunnel Study Model – Existing Configuration

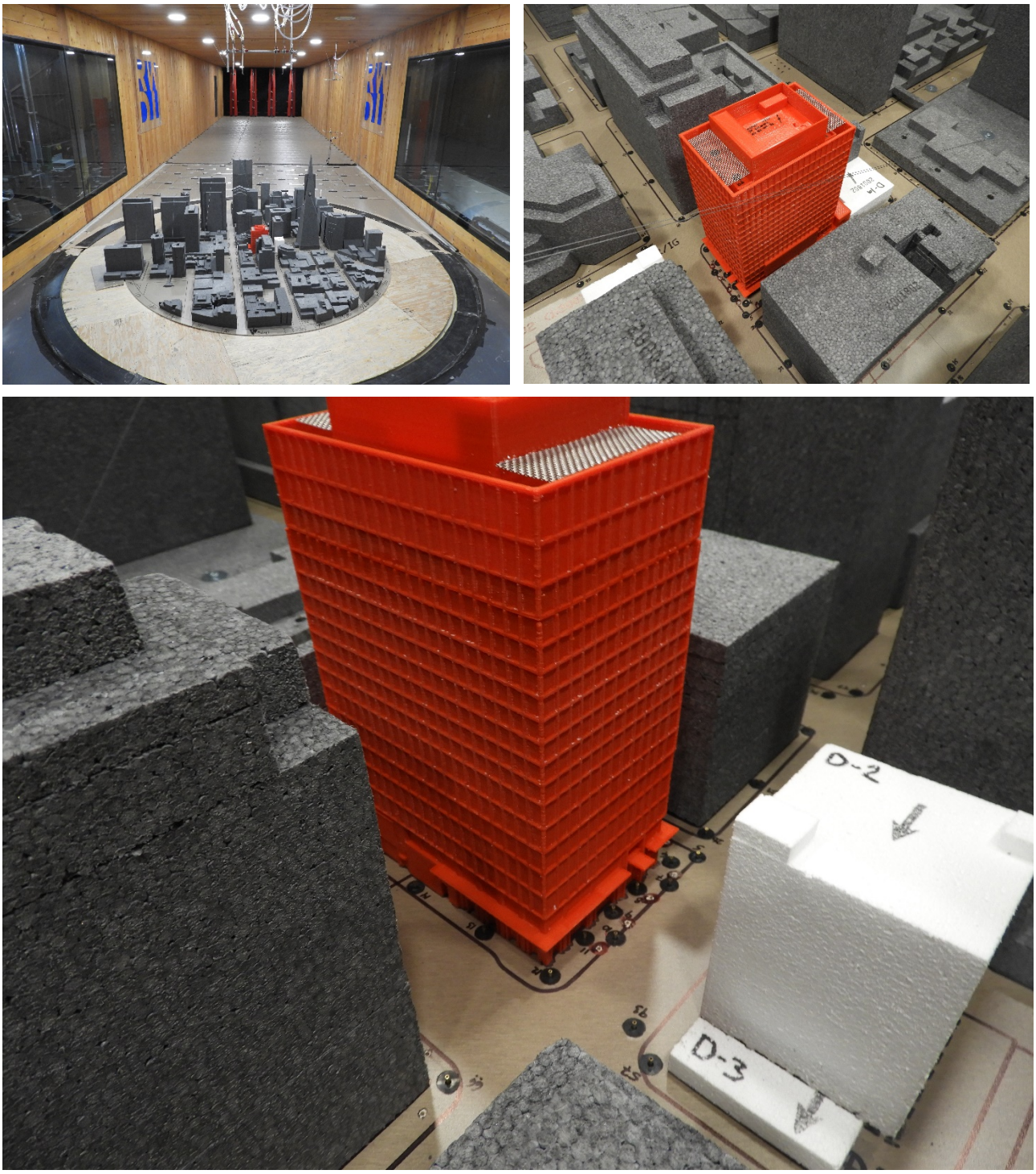


Image 2B: Wind Tunnel Study Model – Existing + Project Configuration

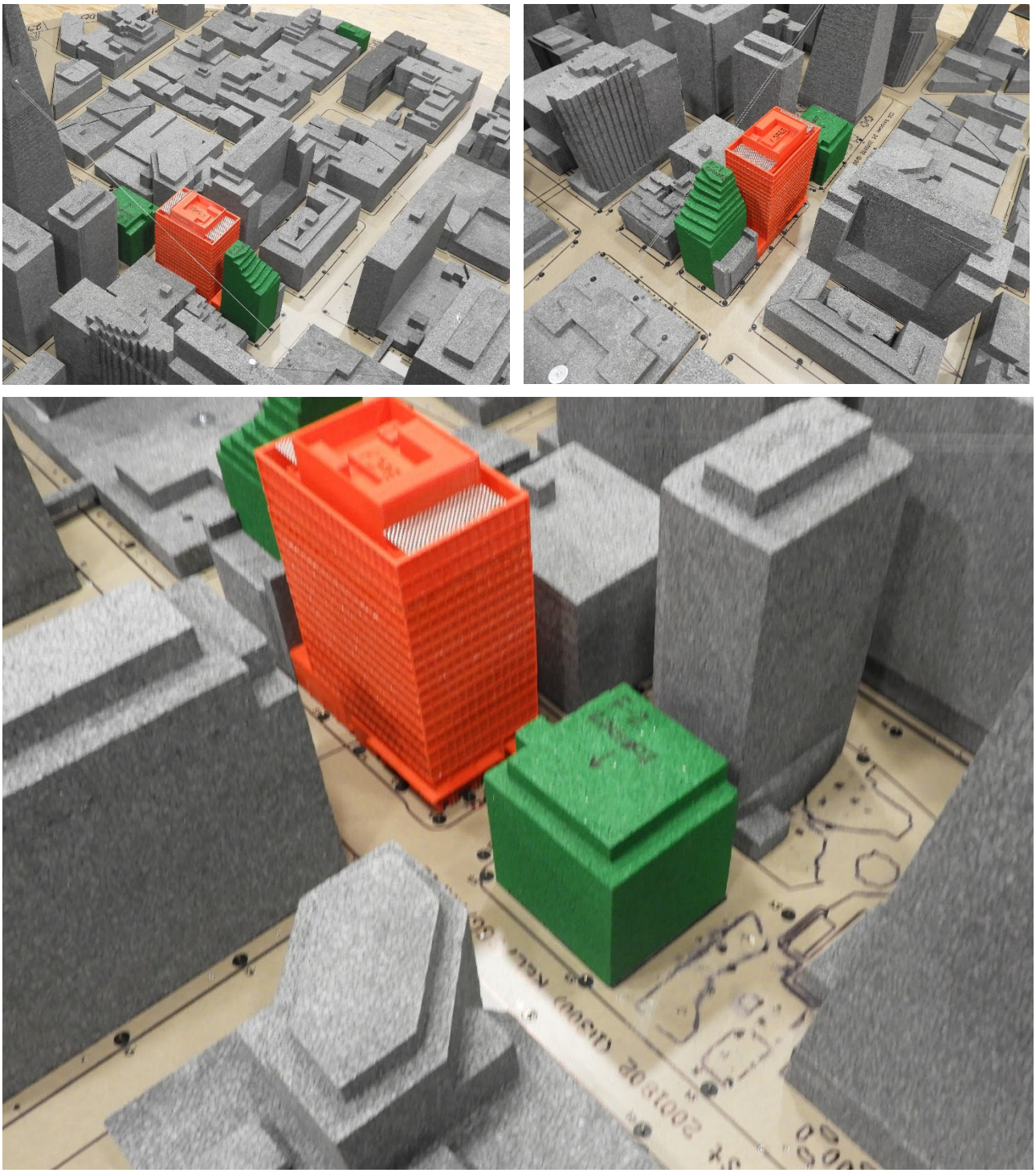


Image 2C: Wind Tunnel Study Model – Project + Cumulative Configuration

2.2 Cumulative Developments

Cumulative developments within 1,200 feet of the project site, as of December 7, 2020, were included in the Project + Cumulative configuration. These are shown in Image 3 and listed in the table below.

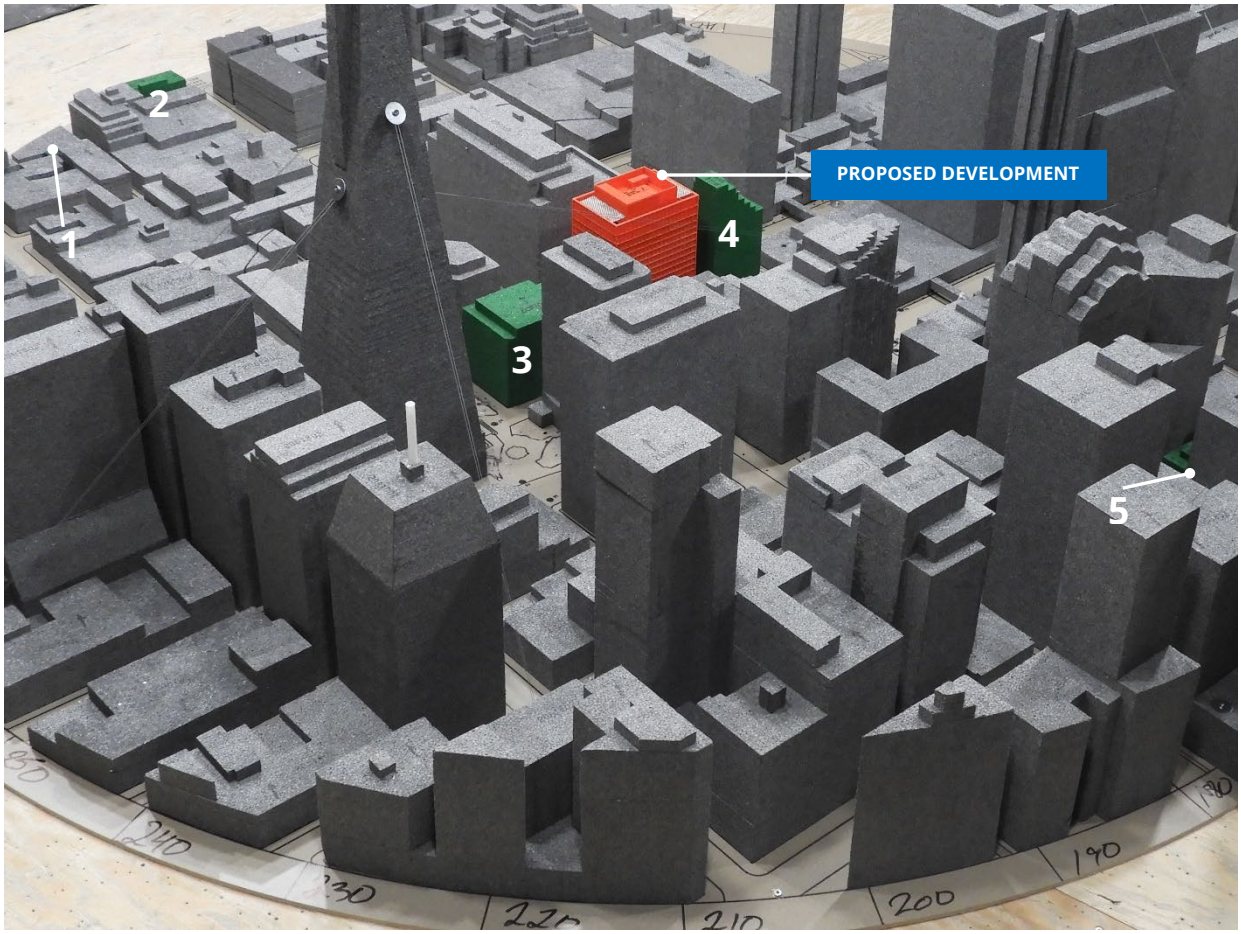


Image 3: Cumulative Developments

LIST OF CUMULATIVE DEVELOPMENTS AND HEIGHTS		
#	**Address**	**Height**
1	17 OSGOOD PLACE	36 ft
2	875 SANSOME STREET	65 ft
3	545 SANSOME STREET	124 ft 6 in
4	447 BATTERY STREET	220 ft
5	220 BATTERY STREET	68 ft 7 in

2.3 Meteorological Data

Data describing the speed, direction and frequency of occurrence of winds were gathered at the old San Francisco Federal Building at 50 United Nations Plaza (at a height of 132 feet) during the six-year period, 1945 to 1951. Average wind speeds in San Francisco are the highest in the summer and lowest in winter. However, the strongest peak winds occur in winter. Throughout the year the highest wind speeds occur in mid-afternoon and the lowest in the early morning. Westerly to northwesterly winds are the most frequent and strongest winds during all seasons. Of the primary wind directions, four have the greatest frequency of occurrence and make up the majority of the strong winds that occur. These winds include the northwest, west-northwest, west and west-southwest.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared against the criteria for wind comfort and hazard as started in the San Francisco Planning Code Section 148 (see *Appendix A)*.

2.4 Planning Code Requirements

This project is located in an area that is subject to the San Francisco Planning Code Section 148, Reduction of Ground-level Wind Currents in C-3 Districts. The Planning Code specifically outlines wind reduction criteria for the C-3 District. This analysis is performed using the wind testing analysis and evaluation methods to determine conformity with the Code. These requirements are described in Planning Code Section 148 (see *Appendix A)*.

Section 148 includes comfort and hazard criteria for wind speeds. The comfort criteria are that equivalent wind speeds (see Notes) will not exceed, more than 10% of the time, 11 mph in substantial pedestrian use areas, and 7 mph in public seating areas. Similarly, the hazard criterion of the Code requires that buildings not cause equivalent wind speeds to reach or exceed the hazard level of 26 mph as averaged from a single full hour of the year.

NOTES:

1. The Planning Code defines wind speeds in terms of equivalent wind speeds, and they are calculated according to the specifications in the San Francisco Planning Code Section 148, whereby the mean hourly wind speed is increased when the turbulence intensity is greater than 15% according to the following formula:

   $$\boldsymbol{EWS} = \boldsymbol{V_m} \times (\mathbf{2} \times \boldsymbol{TI} + \mathbf{0.7})$$

   Where: $\boldsymbol{EWS}$ = equivalent wind speed
   $\boldsymbol{V_m}$ = mean pedestrian – level wind speed
   $\boldsymbol{TI}$ = turbulence intensity.

2. The threshold wind speeds in the Planning Code were established by assuming wind speeds were all averaged for one hour, while the local wind data available from the old San Francisco Federal Building at 50 United Nations Plaza were recorded for one minute on each hour. Therefore, an equivalent wind speed of 36 mph (based on the actual one-minute averaged meteorological data), instead of the Planning Code value of 26 mph (based on the assumed one-hour averaged meteorological data), is commonly used in San Francisco for the assessment against the hazard criteria. The wind tunnel test results presented in this report use the one-minute average of 36 mph as the wind hazard criterion.

3 RESULTS AND DISCUSSION

This section presents the results of the wind tunnel measurements analyzed in terms of equivalent wind speeds as defined by the equation in Section 2.4. The text of the report simply refers to the data as wind speeds.

The comfort and hazard results for the configurations tested are graphically depicted on site plans in Figures 1A through 2C, located in the "*Figures*" sections of this report, where locations have been color-coded according to the applicable comfort and hazard criteria explained in the Planning Code (*Appendix A*). These same data are also numerically depicted in Table 1 for wind comfort and Table 2 for wind hazard, located in the "Tables" section of this report.

For wind comfort at each measurement point, the measured 10% exceeded (90th percentile) equivalent wind speed and the percentage of time that the wind speed exceeds 11 mph are listed. The point is marked as a comfort exceedance if the 11-mph threshold is exceeded. A letter "e" in the last column of each configuration shown in Table 1 indicates a wind comfort exceedance. For wind hazard, the predicted wind speed to be exceeded one hour per year is listed. The predicted number of hours per year that the Section 148 wind hazard criterion (one-minute wind speed of 36 mph) is exceeded is also provided. A letter "e" in the last column of each configuration shown in Table 2 indicates a wind hazard exceedance.

3.1 Existing Configuration

Existing wind speeds exceed the 11-mph comfort criterion at 53 of 77 test locations (Table 1 and Figure 1A). The average 90th percentile wind speed for the 77 test locations is 14 mph, exceeding the applicable criterion on average 21 percent of the time (Table 1).

Wind speeds do not comply with the wind hazard criterion at 12 of 77 test locations (Table 2 and Figure 2A). The average wind speed which is exceeded for 1 hour per year is 28 mph, occurring for a total of 249 hours (Table 2).

3.2 Existing + Project Configuration

With the addition of the proposed project to the site in the Existing + Project configuration, wind speeds at 55 of 77 test locations are expected to exceed the 11-mph comfort criterion (Table 1 and Figure 1B), an increase of two test locations when compared with the Existing configuration. The average 90th percentile wind speed for the 77 test locations is predicted to be 14 mph, exceeding the applicable criterion on average 20 percent of the time (Table 1).

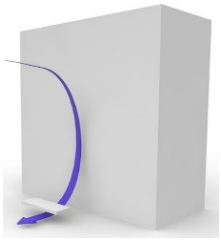
In the presence of the proposed project, wind speeds are not expected to comply with the wind hazard criterion at 10 of 77 test locations (Table 2 and Figure 2B), a reduction of two test locations when compared with the Existing configuration. The average wind speed which is expected to be exceeded for 1 hour per year is 28 mph, occurring for a total of 138 hours (Table 2).

3.3 Project + Cumulative Configuration

With the addition of the cumulative developments to the nearby surroundings in the Project + Cumulative configuration, wind speeds at 54 of 77 test locations are expected to exceed the 11-mph comfort criterion (Table 1 and Figure 1C), a decrease of one location when compared with the Existing + Project configuration. The average 90th percentile wind speed for the 77 test locations is predicted to be 14 mph, exceeding the applicable criterion on average 22 percent of the time (Table 1).

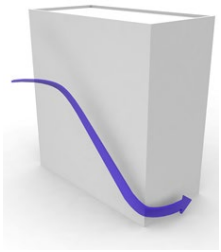
In the presence of the cumulative developments, wind speeds are not predicted to comply with the wind hazard criterion at 14 of 77 locations (Table 2 and Figure 2C), an increase of four test locations when compared with the Existing + Project configuration. The average wind speed which is expected to be exceeded for 1 hour per year is 28 mph, occurring for a total of 263 hours (Table 2).

Note that the expected increase in wind activity in the Project + Cumulative configuration would stem primarily from the presence of the proposed 545 Sansome Street project which lies upwind (i.e. directly to the west) of the proposed project. West-northwesterly prevailing winds would downwash from the north façade of proposed 545 Sansome Street project, accelerate around its northeast corner, and subsequently accelerate further as these winds channel between that proposed building and the 530 Sansome Street proposed project or residential variant (see generalized conceptual wind flows in Image 4 and more project-specific wind flows in Image 5). In addition, prevailing winds flowing over the proposed 545 Sansome Street, toward the 530 Sansome Street proposed project or residential variant, would be redirected down toward Sansome Street by the west façade of the 530 Sansome Street proposed project or residential variant (see Image 5). These wind flow phenomena would increase wind speeds along Sansome Street.



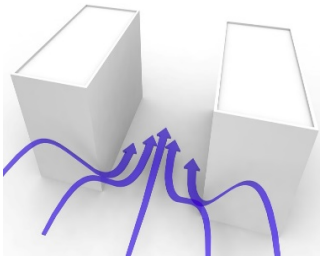
DOWNWASHING

Tall buildings tend to intercept the stronger winds at higher elevations and redirect them to the ground level. This is often the main cause for wind accelerations around large buildings at the pedestrian level.



CORNER ACCELERATION

When winds approach at an oblique angle to a tall façade and are deflected down, a localized increase in the wind activity or corner acceleration can be expected around the exposed building corners at pedestrian level.



CHANNELLING EFFECT

When two buildings are situated side by side, wind flow tends to accelerate through the space between the buildings due to channelling effect caused by the narrow gap.

Image 4: Generalized Wind Flows

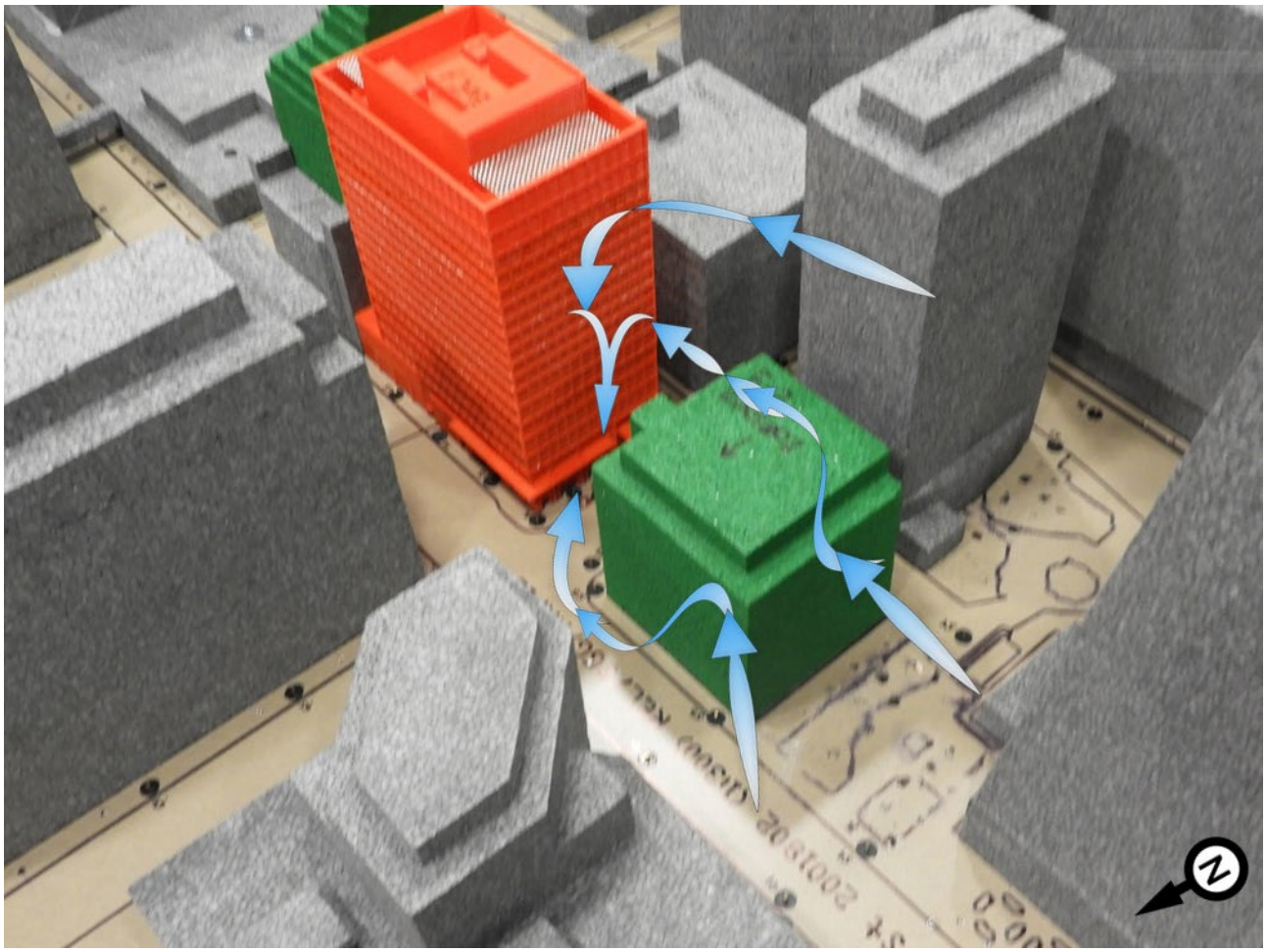


Image 5: Predicted Wind Flows Around the Proposed 530 Sansome Street (Red) and Future 545 Sansome Street (Green) Buildings

3.4 Residential Variant Commentary

The wind-tunnel testing was conducted for the project massing). RWDI has also reviewed the massing and details for the proposed residential variant massing based on the architectural drawings in the combined application received on September 23, 2020 (see details in Section 4). The proposed heights for the project and residential variant are the same (236 ft) and that the two massings are sufficiently similar (see Image 6) that any effects to wind would not vary from a pedestrian wind comfort or hazard perspective. As such, the wind impacts associated with the residential variant are anticipated to be congruent with those reported for the project herein.

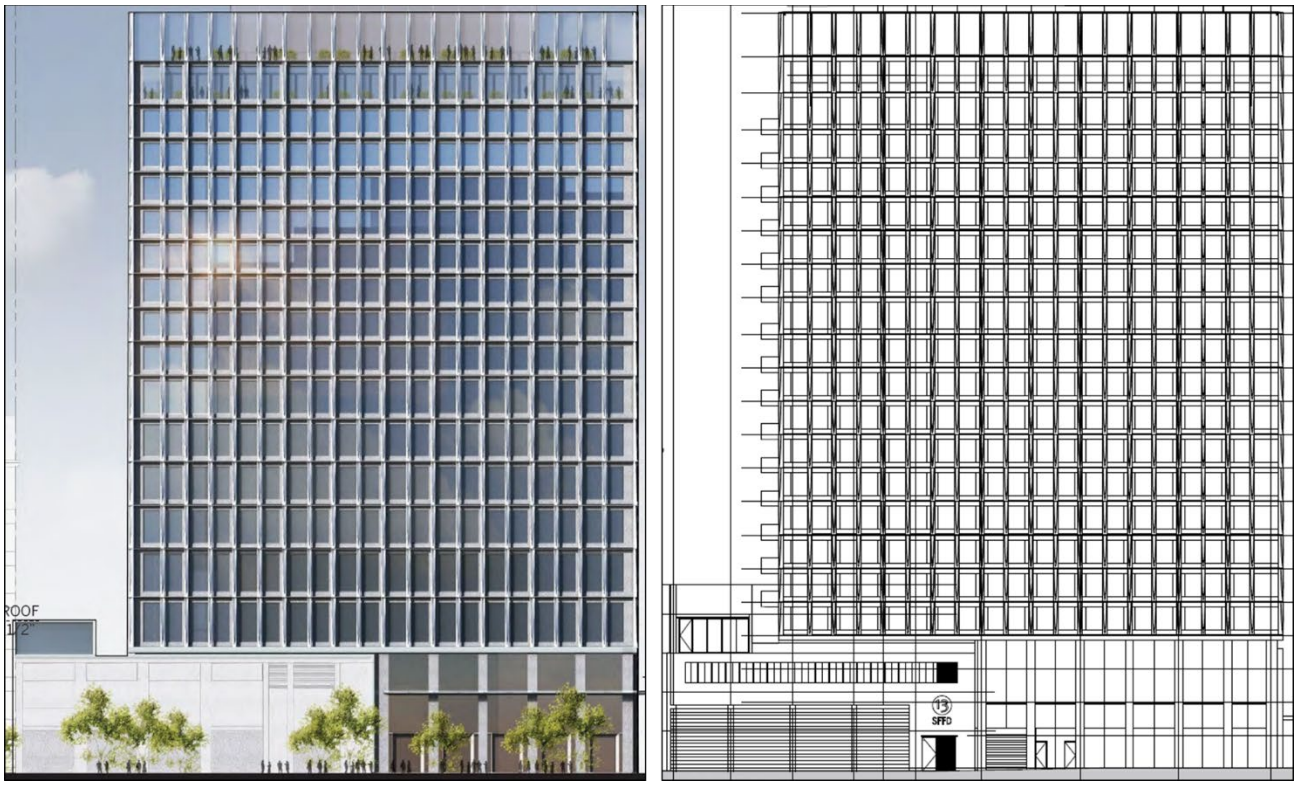


Image 6: North Elevation – Massing Comparison of Proposed Project (Left) and Residential Variant (Right)

3.5 Bike Lane Wind Conditions (Locations 81 to 95)

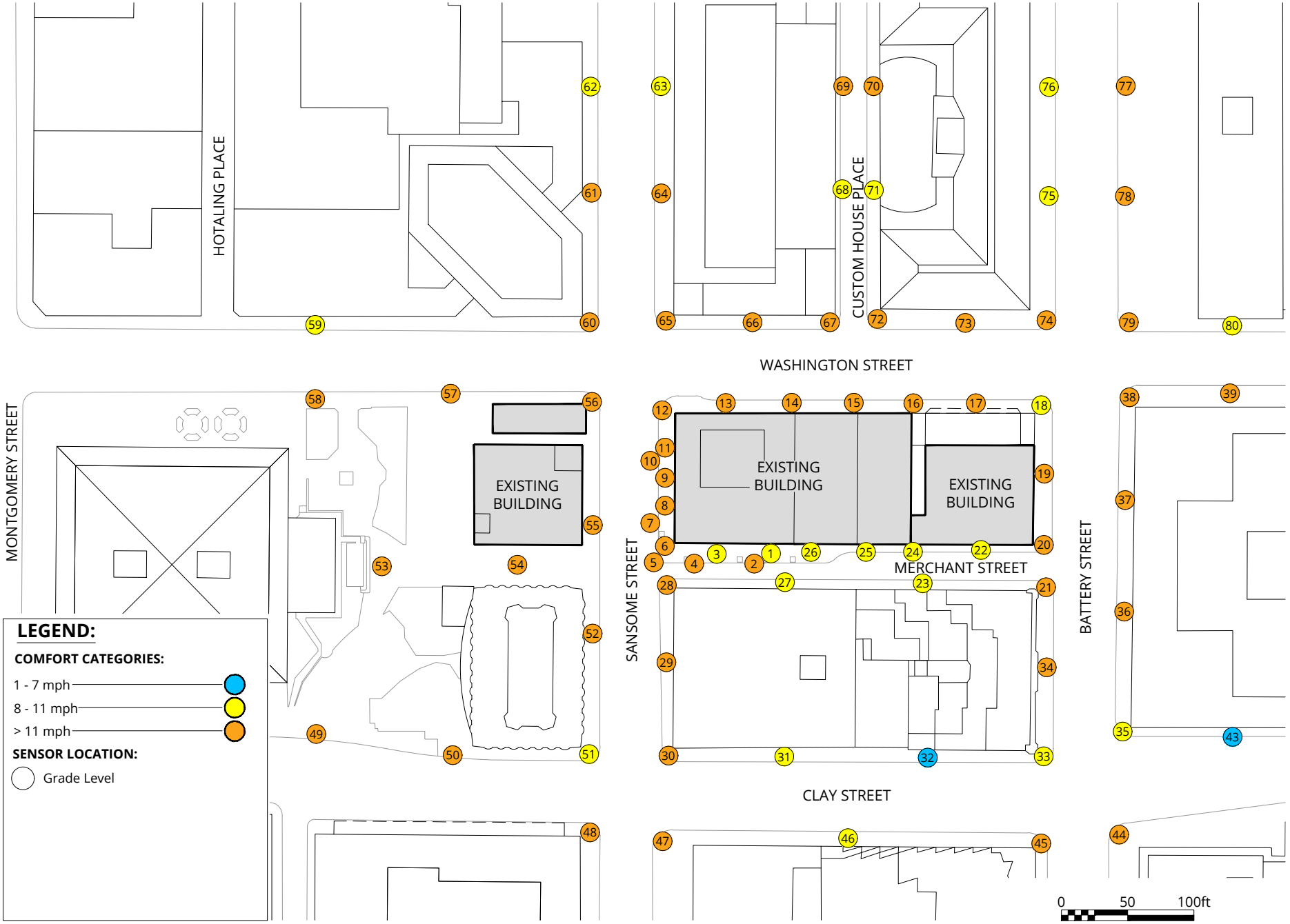
Bike lane wind conditions are provided for informational and reference purposes. The mean wind speed for the 15 bike lane test locations (Figure 3) is 6 mph for each of the Existing, Existing + Project, and Project + Cumulative configurations tested (Table 3).

4 APPLICABILITY OF RESULTS

The wind conditions presented in this report pertain to the model of the proposed 530 Sansome Street, constructed using the drawings and information listed below. Should there be any design changes that deviate from this list of drawings, the predicted wind conditions may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on wind conditions.

File Name	File Type	Date Received (mm/dd/yyyy)
20200922_530 SANSOME COMBINED APPLICATION.pdf	Adobe PDF	09/23/2020
530 S_Commercial Project Model.3dm	Rhinoceros	09/30/2020

FIGURES



Pedestrian Wind Comfort Conditions

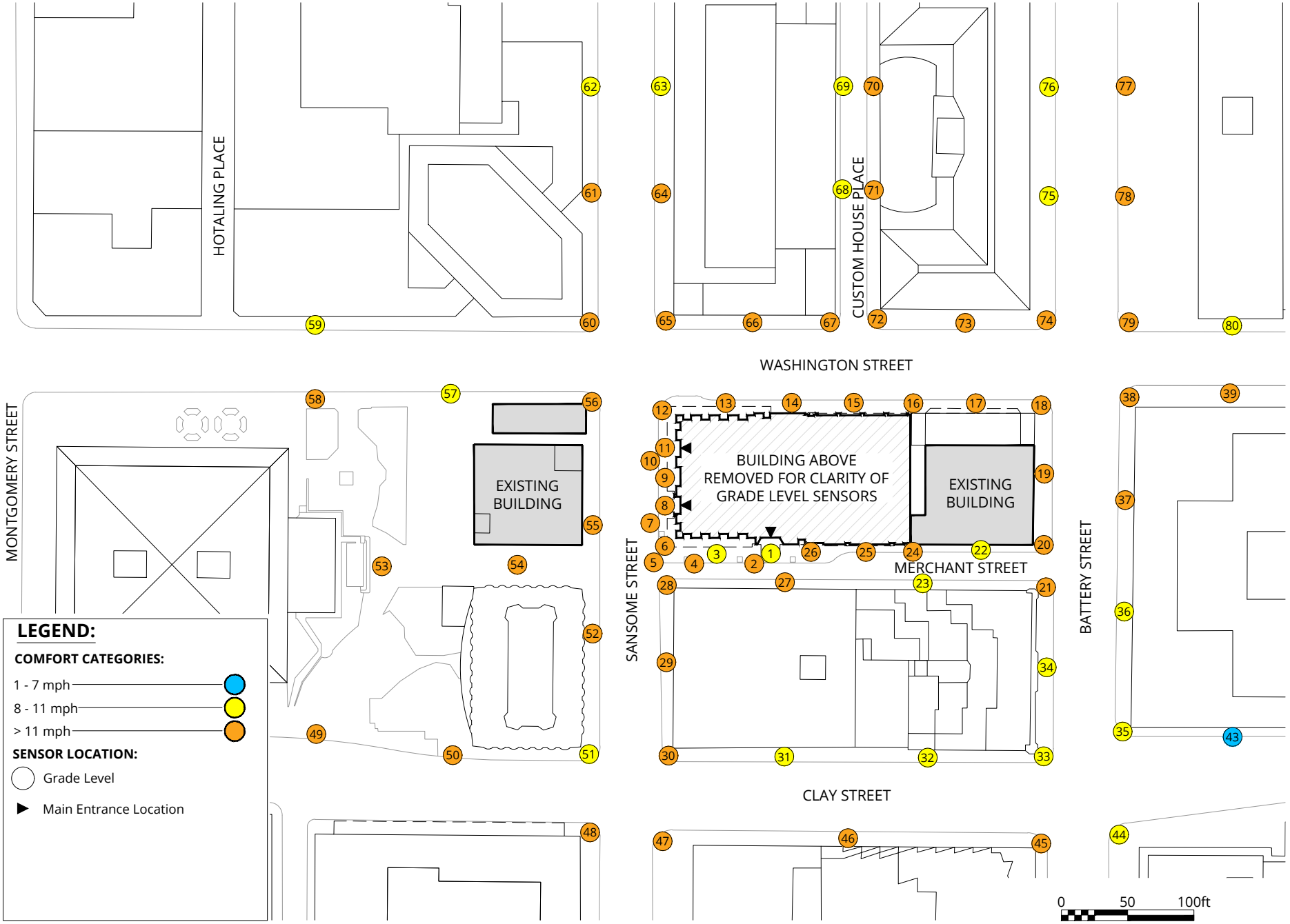
Existing
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 27, 2020



Pedestrian Wind Comfort Conditions

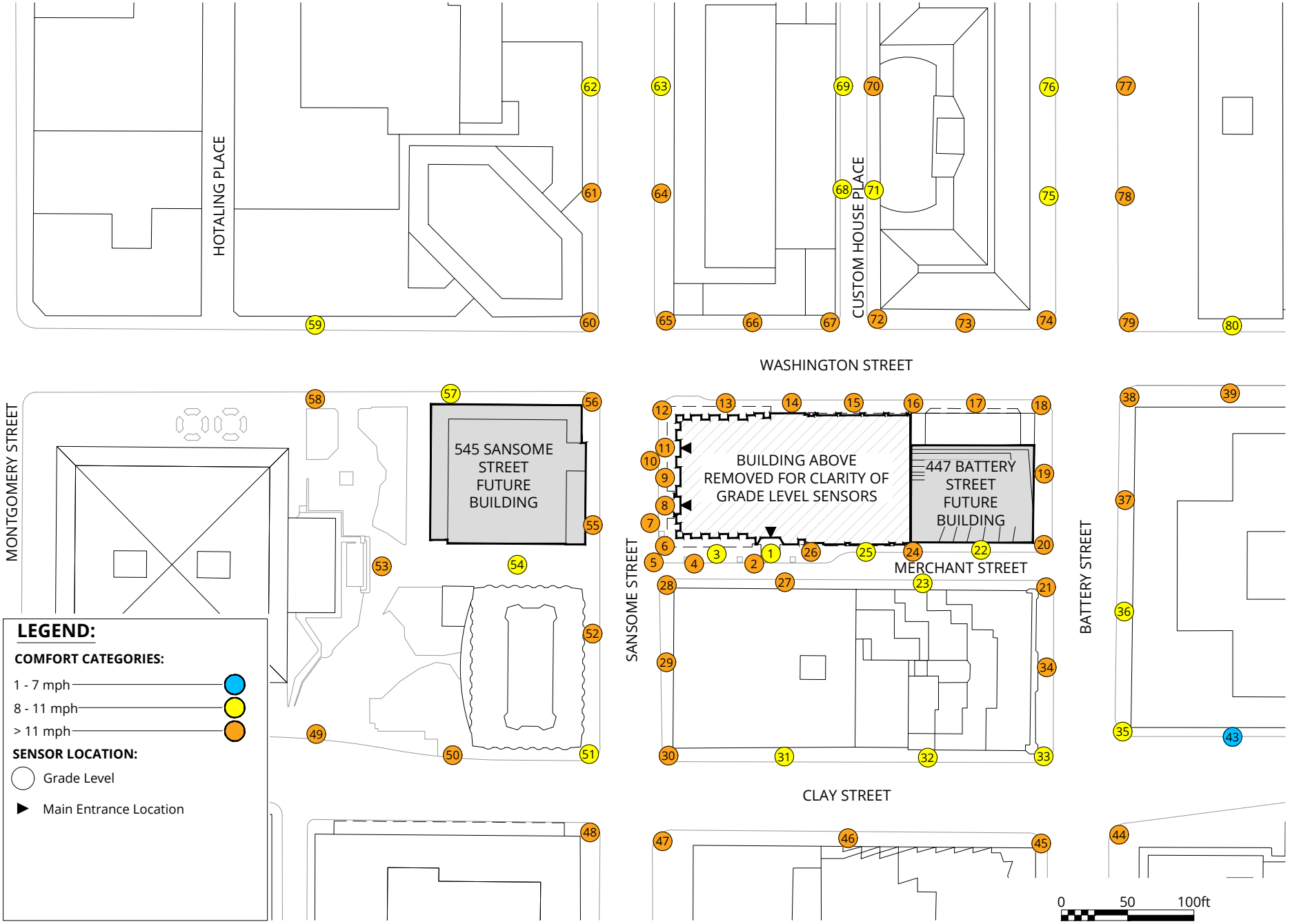
Existing + Project
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 27, 2020



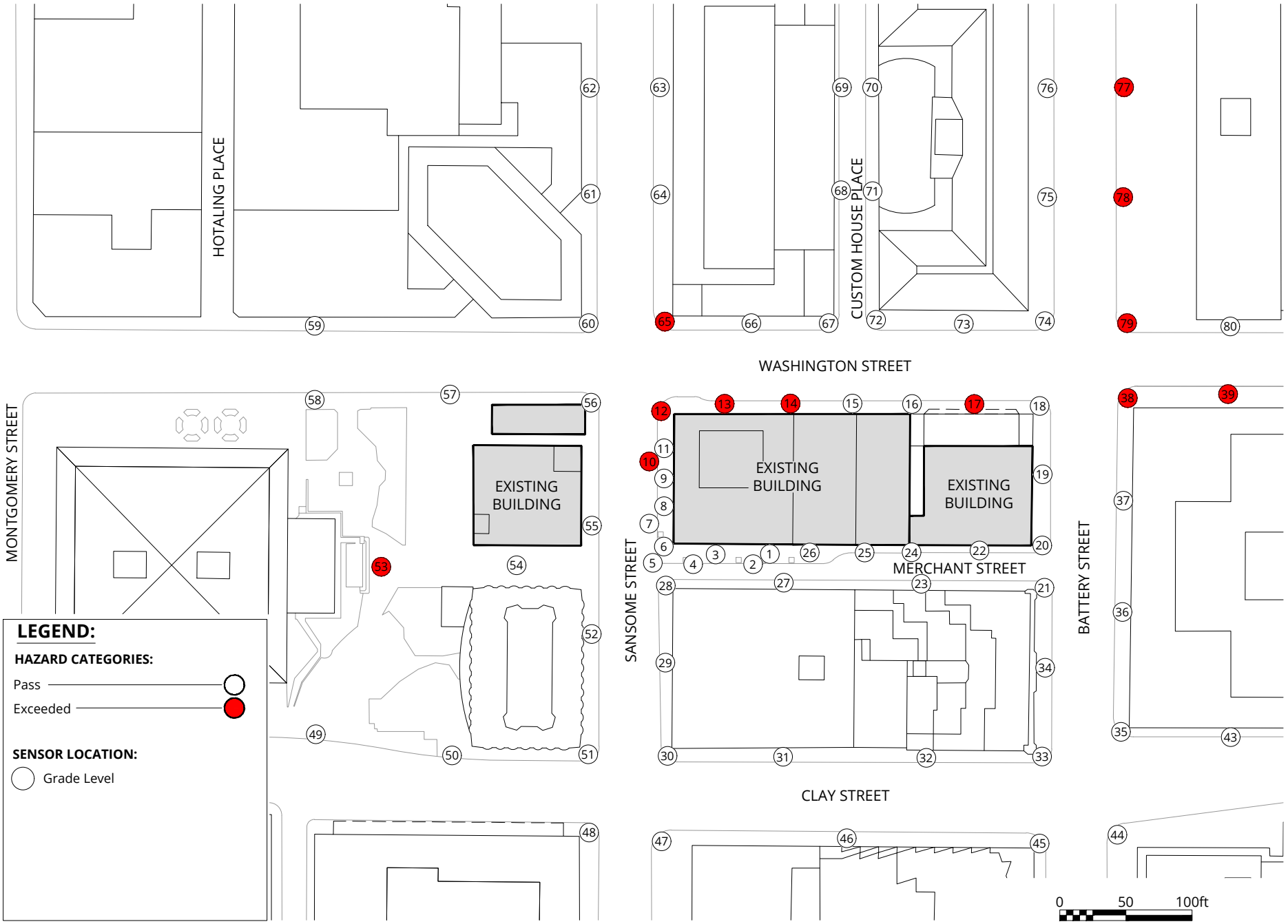
Pedestrian Wind Comfort Conditions
Project + Cumulative
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 29, 2020



Pedestrian Wind Hazard Conditions

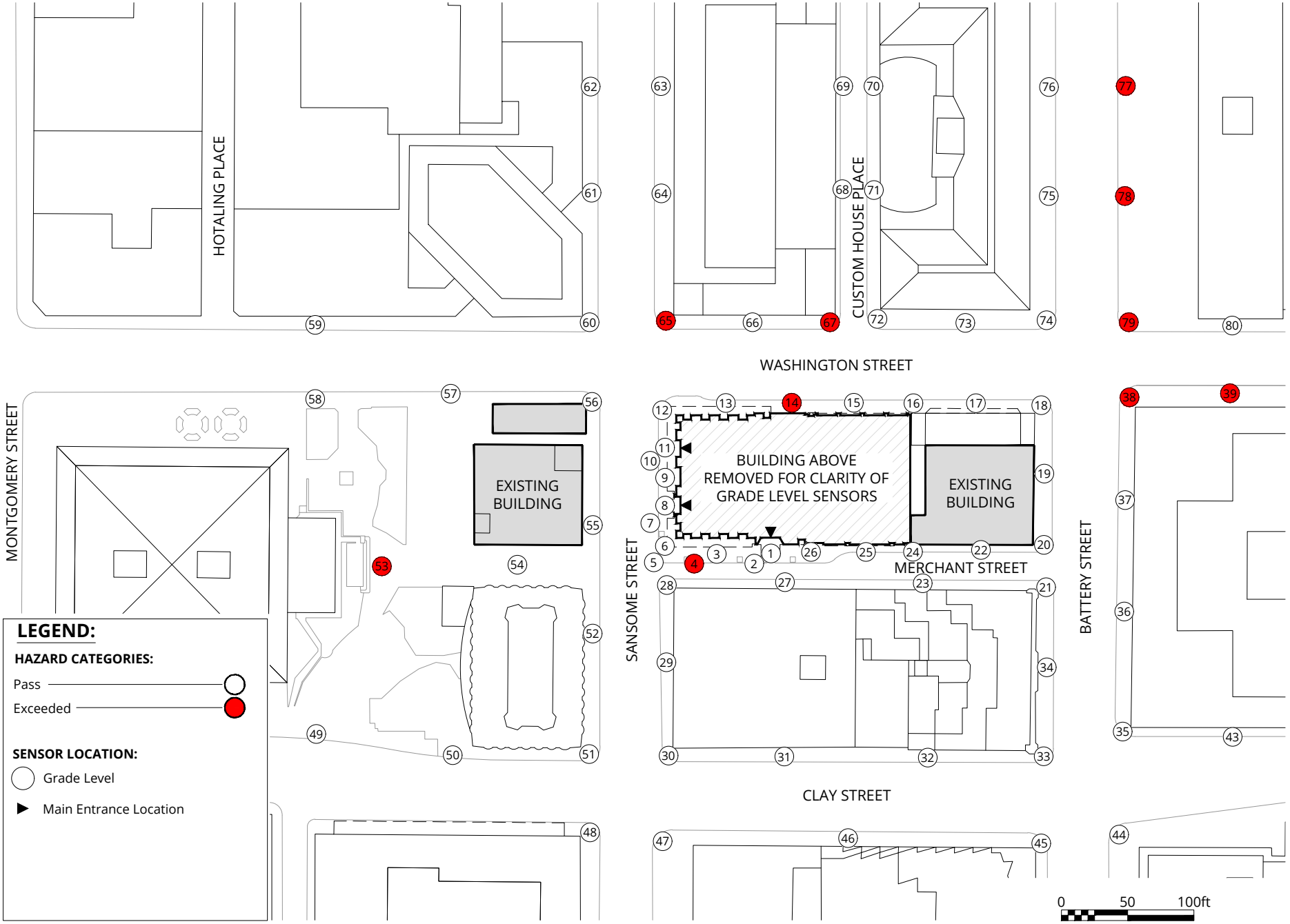
Existing
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 27, 2020



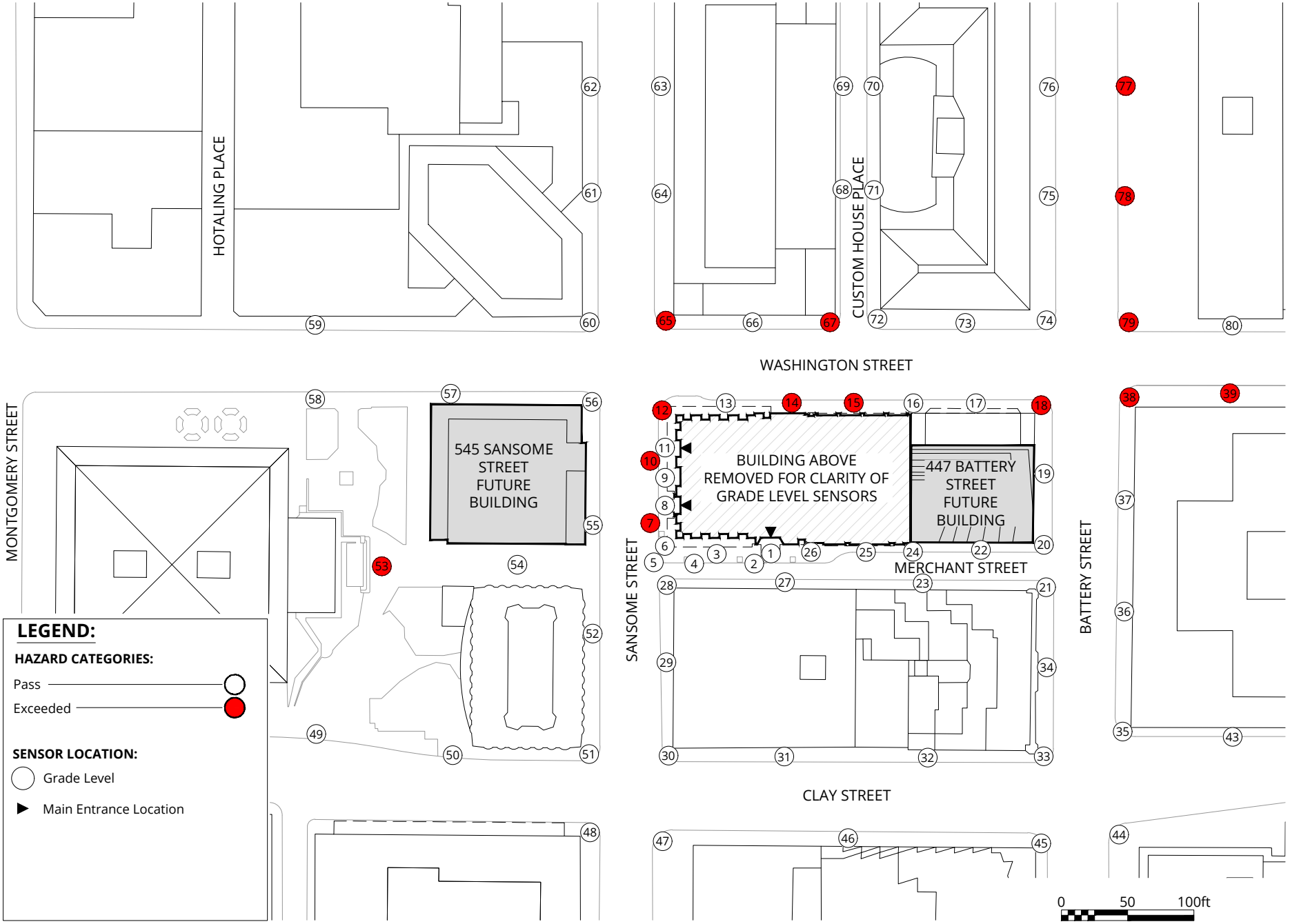
Pedestrian Wind Hazard Conditions
Existing + Project
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 27, 2020



Pedestrian Wind Hazard Conditions

Project + Cumulative

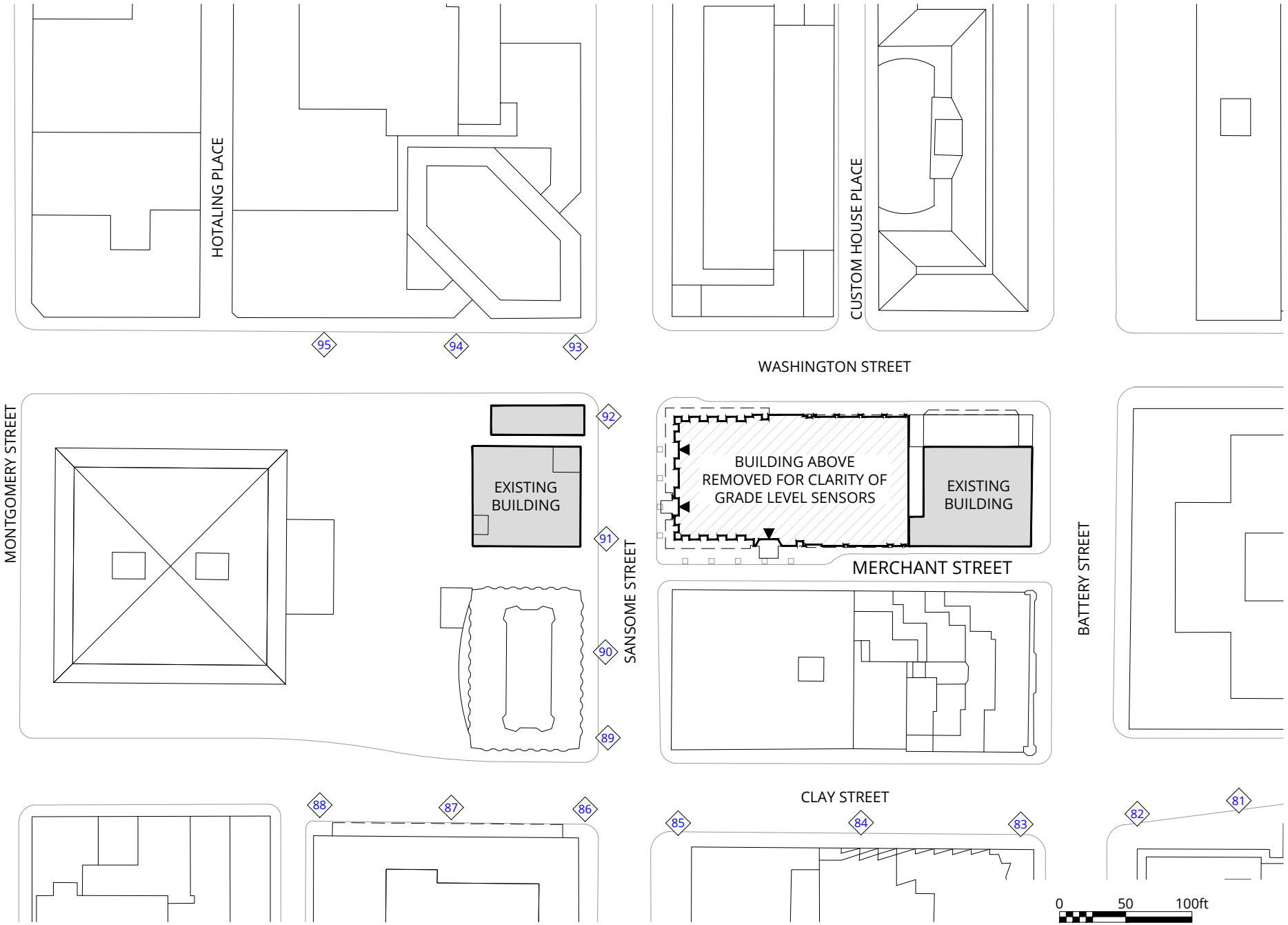
Annual

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: □□
Approx. Scale:	1"=100'
Date Revised:	Oct. 29, 2020



Bike Lane Test Locations

530 Sansome Street - San Francisco, CA

True North

Project #2001802

Drawn by: DF	Figure: 3
Approx. Scale:	1"=100'
Date Revised:	Oct. 27, 2020

TABLES

Table 1: Wind Comfort Conditions

Location	Existing			Existing + Project				Project + Cumulative			
	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Speed Change Relative to Existing (mph)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Speed Change Relative to Existing (mph)	Exceeds
1	8	3		10	7	2		9	3	1	
2	12	15	e	16	31	4	e	15	26	3	e
3	8	1		10	7	2		8	2	0	
4	12	12	e	18	36	6	e	18	35	6	e
5	16	32	e	15	27	-1	e	17	34	1	e
6	14	22	e	17	35	3	e	18	39	4	e
7	18	38	e	18	39	0	e	20	46	2	e
8	12	15	e	14	22	2	e	15	24	3	e
9	14	22	e	14	22	0	e	15	25	1	e
10	22	50	e	19	44	-3	e	20	48	-2	e
11	17	35	e	16	31	-1	e	17	36	0	e
12	21	49	e	19	42	-2	e	20	47	-1	e
13	22	52	e	18	38	-4	e	19	43	-3	e
14	19	42	e	21	49	2	e	23	53	4	e
15	15	26	e	18	38	3	e	19	44	4	e
16	16	30	e	14	24	-2	e	15	28	-1	e
17	20	38	e	13	19	-7	e	14	23	-6	e
18	11	10		16	28	5	e	17	33	6	e
19	15	23	e	12	11	-3	e	13	15	-2	e
20	16	23	e	12	12	-4	e	13	16	-3	e
21	16	26	e	13	13	-3	e	12	12	-4	e
22	9	5		10	7	1		10	5	1	
23	9	4		11	10	2		11	10	2	
24	11	10		12	14	1	e	12	13	1	e
25	11	10		12	12	1	e	11	10	0	
26	11	10		13	17	2	e	12	15	1	e
27	9	6		14	21	5	e	14	22	5	e
28	13	20	e	12	14	-1	e	13	18	0	e
29	13	17	e	16	29	3	e	16	30	3	e
30	12	16	e	15	26	3	e	15	27	3	e
31	9	4		10	8	1		10	6	1	
32	7	1		9	4	2		9	4	2	
33	11	10		11	10	0		11	10	0	
34	13	15	e	10	8	-3		12	11	-1	e
35	10	8		8	4	-2		9	5	-1	
36	12	11	e	10	7	-2		11	10	-1	
37	12	11	e	12	13	0	e	13	20	1	e
38	21	46	e	19	32	-2	e	20	38	-1	e
39	22	50	e	19	35	-3	e	21	45	-1	e
40	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-
43	7	2		7	1	0		7	2	0	
44	13	15	e	11	10	-2		12	12	-1	e
45	13	15	e	12	12	-1	e	12	13	-1	e
46	9	4		13	19	4	e	13	18	4	e
47	13	15	e	15	20	2	e	14	19	1	e

Table 1: Wind Comfort Conditions

Location	Existing			Existing + Project				Project + Cumulative			
	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Speed Change Relative to Existing (mph)	Exceeds	Wind Speed Exceeded 10% of Time (mph)	% of Time Wind Speed Exceeds 11 mph (%)	Speed Change Relative to Existing (mph)	Exceeds
48	15	19	e	16	21	1	e	15	26	0	e
49	14	25	e	14	24	0	e	13	20	-1	e
50	15	25	e	16	28	1	e	14	23	-1	e
51	9	3		8	3	-1		8	2	-1	
52	12	16	e	14	22	2	e	12	15	0	e
53	17	30	e	17	25	0	e	18	35	1	e
54	16	30	e	14	24	-2	e	11	10	-5	
55	13	18	e	12	17	-1	e	12	12	-1	e
56	17	35	e	15	26	-2	e	17	33	0	e
57	12	13	e	11	10	-1		9	6	-3	
58	14	19	e	14	18	0	e	13	17	-1	e
59	10	8		9	6	-1		9	5	-1	
60	18	38	e	16	32	-2	e	16	33	-2	e
61	15	25	e	13	20	-2	e	14	24	-1	e
62	10	7		10	5	0		10	7	0	
63	10	5		9	2	-1		10	5	0	
64	17	34	e	15	27	-2	e	16	33	-1	e
65	25	56	e	24	55	-1	e	26	58	1	e
66	12	13	e	14	22	2	e	13	19	1	e
67	14	24	e	18	37	4	e	18	35	4	e
68	9	5		8	3	-1		9	5	0	
69	12	12	e	9	6	-3		11	10	-1	
70	15	24	e	13	15	-2	e	14	19	-1	e
71	9	5		12	12	3	e	11	10	2	
72	15	24	e	14	21	-1	e	14	22	-1	e
73	15	24	e	14	22	-1	e	14	21	-1	e
74	16	27	e	12	15	-4	e	12	14	-4	e
75	11	10		10	7	-1		11	10	0	
76	11	10		10	6	-1		11	10	0	
77	21	48	e	18	38	-3	e	21	47	0	e
78	21	47	e	18	34	-3	e	20	43	-1	e
79	19	40	e	17	29	-2	e	18	35	-1	e
80	8	2		8	1	0		9	2	1	

Summary	Average (mph)	Average (%)	Total	Average (mph)	Average (%)	Speed Change (mph)	Total	Average (mph)	Average (%)	Speed Change (mph)	Total
	14	**21**	**53 ---- 77**	**14**	**20**	**0**	**55 ---- 77**	**14**	**22**	**0**	**54 ---- 77**

Table 2: Wind Hazard Conditions

Location	Existing			Existing + Project				Project + Cumulative			
	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
1	21	0		21	0	0		18	0	0	
2	27	0		34	0	0		31	0	0	
3	15	0		21	0	0		16	0	0	
4	25	0		36	1	1	e	35	0	0	
5	31	0		28	0	0		32	0	0	
6	28	0		34	0	0		35	0	0	
7	34	0		34	0	0		37	2	2	e
8	24	0		26	0	0		27	0	0	
9	27	0		26	0	0		28	0	0	
10	41	10	e	35	0	-10		38	3	-7	e
11	32	0		31	0	0		32	0	0	
12	40	6	e	35	0	-6		39	4	-2	e
13	40	7	e	33	0	-7		35	0	-7	
14	39	4	e	40	10	6	e	43	24	20	e
15	25	0		34	0	0		36	1	1	e
16	35	0		27	0	0		29	0	0	
17	46	36	e	23	0	-36		28	0	-36	
18	22	0		34	0	0		39	4	4	e
19	33	0		27	0	0		30	0	0	
20	35	0		24	0	0		30	0	0	
21	35	0		30	0	0		30	0	0	
22	20	0		20	0	0		19	0	0	
23	18	0		22	0	0		22	0	0	
24	22	0		26	0	0		25	0	0	
25	22	0		24	0	0		24	0	0	
26	24	0		27	0	0		25	0	0	
27	24	0		31	0	0		31	0	0	
28	26	0		23	0	0		23	0	0	
29	29	0		32	0	0		31	0	0	
30	25	0		31	0	0		31	0	0	
31	20	0		23	0	0		22	0	0	
32	16	0		19	0	0		18	0	0	
33	24	0		22	0	0		26	0	0	
34	32	0		21	0	0		27	0	0	
35	21	0		19	0	0		21	0	0	
36	26	0		21	0	0		22	0	0	
37	26	0		23	0	0		24	0	0	
38	44	33	e	44	28	-5	e	46	48	15	e
39	47	56	e	43	22	-34	e	45	35	-21	e
40	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-
43	16	0		14	0	0		18	0	0	
44	31	0		25	0	0		27	0	0	
45	31	0		26	0	0		28	0	0	
46	17	0		23	0	0		22	0	0	
47	28	0		30	0	0		29	0	0	

Table 2: Wind Hazard Conditions

Location	Existing			Existing + Project				Project + Cumulative			
	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Exceeds	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds	Wind Speed Exceeded 1hr/year (mph)	Hours per Year Wind Speed Exceeds Hazard Criteria	Hours Change Relative to Existing	Exceeds
48	35	0		35	0	0		33	0	0	
49	28	0		26	0	0		24	0	0	
50	28	0		31	0	0		28	0	0	
51	18	0		17	0	0		16	0	0	
52	26	0		29	0	0		23	0	0	
53	36	1	e	38	3	2	e	39	5	4	e
54	35	0		34	0	0		24	0	0	
55	23	0		22	0	0		20	0	0	
56	30	0		27	0	0		31	0	0	
57	23	0		22	0	0		21	0	0	
58	31	0		31	0	0		29	0	0	
59	23	0		22	0	0		21	0	0	
60	32	0		30	0	0		30	0	0	
61	27	0		24	0	0		26	0	0	
62	19	0		18	0	0		19	0	0	
63	17	0		16	0	0		18	0	0	
64	30	0		27	0	0		30	0	0	
65	46	60	e	47	60	0	e	50	101	41	e
66	21	0		27	0	0		24	0	0	
67	27	0		37	1	1	e	36	1	1	e
68	22	0		20	0	0		23	0	0	
69	32	0		29	0	0		32	0	0	
70	32	0		29	0	0		31	0	0	
71	22	0		20	0	0		22	0	0	
72	32	0		28	0	0		28	0	0	
73	35	0		26	0	0		25	0	0	
74	35	0		20	0	0		23	0	0	
75	23	0		21	0	0		22	0	0	
76	22	0		21	0	0		22	0	0	
77	42	20	e	40	7	-13	e	43	21	1	e
78	41	12	e	39	4	-8	e	40	10	-2	e
79	39	4	e	37	2	-2	e	39	4	0	e
80	15	0		13	0	0		15	0	0	

Summary	Average (mph)	Total Hours	Total	Average (mph)	Total Hours	Hours Change	Total	Average (mph)	Total Hours	Hours Change	Total
	28	**249**	**12 ---- 77**	**28**	**138**	**-111**	**10 ---- 77**	**28**	**263**	**14**	**14 ---- 77**

Table 3: Bike Lane Wind Conditions - Informational

	Existing	Existing + Project	Project + Cumulative
Location	Mean Wind Speed (mph)	Mean Wind Speed (mph)	Mean Wind Speed (mph)
81	5	4	5
82	5	5	5
83	4	6	6
84	5	6	6
85	6	7	7
86	7	6	7
87	6	6	6
88	7	7	7
89	5	6	6
90	7	7	7
91	8	8	8
92	10	9	9
93	7	7	7
94	5	4	5
95	6	5	5
SUMMARY	Average (mph)	Average (mph)	Average (mph)
	6	**6**	**6**

APPENDICES

APPENDIX A:

San Francisco Planning Code Section 148
Reduction of Ground-Level Wind Currents In C-3 Districts

a) Requirement and Exception. In C-3 Districts, buildings and additions to existing buildings shall be shaped, or other wind-baffling measures shall be adopted, so that the developments will not cause ground-level wind currents to exceed, more than 10 percent of the time year round, between 7:00 a.m. and 6:00 p.m., the comfort level of 11 m.p.h. equivalent wind speed in areas of substantial pedestrian use and seven m.p.h. equivalent wind speed in public seating areas.

When preexisting ambient wind speeds exceed the comfort level, or when a proposed building or addition may cause ambient wind speeds to exceed the comfort level, the building shall be designed to reduce the ambient wind speeds to meet the requirements. An exception may be granted, in accordance with the provisions of Section 309, allowing the building or addition to add to the amount of time that the comfort level is exceed by the least practical amount if (1) it can be shown that a building or addition cannot be shaped and other wind-baffling measures cannot be adopted to meet the foregoing requirements without creating an unattractive and ungainly building form and without unduly restricting the development potential of the building site in question, and (2) it is concluded that, because of the limited amount by which the comfort level is exceeded, the limited location in which the comfort level is exceeded, or the limited time during which the comfort level is exceeded, the addition is insubstantial.

No exception shall be granted and no building or addition shall be permitted that causes equivalent wind speeds to reach or exceed the hazard level of 26 miles per hour for a single hour of the year.

b) Definition. The term "equivalent wind speed" shall mean an hourly mean wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians.

c) Guidelines. Procedures and Methodologies for implementing this section shall be specified by the Office of Environmental Review of the Department of City Planning. (added by Ord. 414-85, App. 9/17/85)

APPENDIX F

Shadow Report

PREVISION DESIGN

FEBRUARY 5, 2021
FINAL

SHADOW ANALYSIS REPORT FOR THE PROPOSED 530 SANSOME STREET PROJECT PER CEQA AND SAN FRANCISCO PLANNING CODE SECTION 295 STANDARDS

Planning Case Number 2019-017481

FROM:
ADAM PHILLIPS
PRINCIPAL
PREVISION DESIGN

TO:
ALANA CALLAGY, SAN FRANCISCO PLANNING DEPT.
49 SOUTH VAN NESS AVENUE, SUITE 1400
SAN FRANCISCO, CA 94103

CONTENTS

I. INTRODUCTION AND OVERVIEW

This report details the results of an analysis conducted by Prevision Design to identify the shadow effects that would be caused by the proposed construction of an approximately 217'-7" tall (236' total height with parapet), mixed-use project located at 530 Sansome Street ("the proposed project") and a residential variant (similar design with altered massing on the top two floors referred to as the "residential variant") on Maritime Plaza and Sue Bierman Park, publicly-accessible open spaces under the jurisdiction of the San Francisco Recreation and Parks Department (RPD) and subject to review under San Francisco Planning Code section 295, and Transamerica Redwood Park, a privately owned public open space (POPOS) subject to review for shadow impacts under the California Environmental Quality Act (CEQA).

The analysis was conducted according to criteria and methodology as described in (1) the February 3, 1989 memorandum titled "Proposition K – The Sunlight Ordinance" ("the 1989 memorandum") prepared by RPD and the San Francisco Planning Department ("Planning"), (2) the July 2014 memorandum titled "Shadow Analysis Procedures and Scope Requirements" ("the 2014 memorandum") prepared by Planning, and (3) direction from Planning and RPD staff regarding the appropriate approach, deliverables, and scope of analysis appropriate in consideration of the open spaces affected.

This report includes the results and discussion of all criteria factored into the analysis, including discussion of the analysis approach and methodology, a description and depictions of the project as proposed, description of the affected publicly accessible open space, and the results of the study, including: quantitative and qualitative reporting of net new shadow generated by the project, graphical simulations of the location and extent of the project's net new shadow.

This report does not present opinions nor conclusions on the part of Prevision Design about whether the shadows cast by the proposed project could or should be considered significant/less than significant under CEQA. That determination would be made by the San Francisco Planning Department. This report does not present opinions or conclusions about whether the proposed project or residential variant would have an adverse impact on the use or enjoyment of the property under the jurisdiction of the Recreation and Park Commission under Planning Code Section 295. These determinations shall be made by the San Francisco Planning Commission with input from RPD. ■

II. REGULATORY FRAMEWORK AND SIGNIFICANCE CRITERIA

While there are no specific federal nor state regulations which deal with solar access or shadow effects on publicly accessible open spaces, San Francisco has established several provisions, policies, and procedures that provide the framework by which shadow cast by proposed projects is evaluated.

San Francisco General Plan

The Recreation and Open Space Element of the City of San Francisco General Plan (2014) includes Policy 1.9 applicable to potential solar access or shading impacts of new development on public open spaces, excerpted below:

> *Solar access to public open space should be protected. In San Francisco, presence of the sun's warming rays is essential to enjoying open space. Climatic factors, including ambient temperature, humidity, and wind, generally combine to create a comfortable climate only when direct sunlight is present. Therefore, the shadows created by new development nearby can critically diminish the utility and comfort of the open space.*
>
> *Shadows are particularly a problem in downtown districts and in neighborhoods immediately adjacent to the downtown core, where there is a limited amount of open space, where there is pressure for new development, and where zoning controls allow tall buildings. But the problem potentially exists wherever tall buildings near open space are permitted.*
>
> *The City should support more specific protections elsewhere to maintain sunlight in these spaces during the hours of their most intensive use while balancing this with the need for new development to accommodate a growing population in the City.*

The project would be subject to evaluation of potential shadow effects on public spaces under the general plan.

San Francisco Planning Code

San Francisco Planning Code section 295, adopted in 1984 pursuant to voter approval of Proposition K (The Sunlight Ordinance), prohibits the issuance of building permits

for structures over 40 feet in height that would cast net new shadow on property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission between one hour after sunrise to one hour before sunset at any time of year, unless the Planning Commission determines that the net new shadow (1) would not have an adverse impact on the use of the property or (2) the impact would not be significant. Code section 295 provides that:

> *The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant. The City Planning Commission shall not make the determination required by the provisions of this Subsection until the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission has had an opportunity to review and comment to the City Planning Commission upon the proposed project.*

Net new shadow cast by the proposed project and residential variant would affect two open spaces under the jurisdiction of the RPD; therefore provisions of section 295 apply.

Other Local Regulations

Planning Code Section 146:

Added in 1985, this section establishes additional design guidelines for buildings along certain streets in C-3 Downtown Commercial Districts for the purpose of maintaining direct sunlight on public sidewalks during critical periods of use.

The project site is located within the C-3 Downtown Commercial District, however it is not located along a street frontage that is regulated by section 146. Section 146 would not apply to the proposed project or residential variant.

Planning Code Section 147:

Added in 1985, this section establishes additional design guidelines for buildings in C-3 Downtown Commercial, South of Market Mixed Use, and Eastern Neighborhoods Mixed Use districts such that buildings taller than 50 feet be shaped, consistent with the dictates of good design and without unduly restricting the development potential of the site in question, to reduce substantial shadow impacts on public plazas and other publicly accessible spaces other than those protected under section 295.

The project site is located with the C-3 Downtown Commercial District and is taller than 50 feet, so the provisions of Section 147 would apply. However, net new shadow from this project would not reach any public plazas or other publicly accessible spaces other than those reviewed by this report, so additional separate review pursuant to this section is not necessary.

Environmental Impacts under CEQA

A project that adds new shadow to sidewalks or a public open space (whether subject to section 295 or not) does not necessarily result in a significant impact under CEQA. The shadow impact analysis described in the city's Initial Study CEQA Checklist examines whether a project would "create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces The significance determination involves both quantitative and qualitative assessment of a project's net new shadow effects (*i.e.*, not only if the project would result in net new shadow and how much, but also what the actual effect of that shadowing is on the use and enjoyment of the area in question). As stated previously, this report does not present opinions nor conclusions as to whether shadow impacts from the proposed project or residential variant could or should be considered significant/less than significant under CEQA. ■

III. ANALYSIS METHODOLOGY

Technical Standards

The technical standards for evaluation of shadow effects follow the criteria adopted in 1987 and 1989 by the Recreation and Parks Commission and the Planning Commission, as stated below:

> *Shadow is quantitatively measured by multiplying the area of the shadow by the amount of time the shadow is present on the open space, in units called square foot-hours (sfh). Determining the annual net new shadow load generated by a project begins with a calculation of the number of square foot-hours that would theoretically fall on a qualifying publicly accessible open space each day from an hour after sunrise to an hour before sunset summed over the course of a year, ignoring all shadow from any source. This total is referred to as the Theoretical Annual Available Sunlight (TAAS) for that park. The second step is the calculation of the baseline (or current) shading conditions, which factors in the square foot-hours of shadow cast by existing buildings and other structures on the open space. Lastly, the shadow effects of the project are calculated, with the difference between the baseline shadow condition and project shadow condition considered being net new project shadow. The amount of shadow is defined as the shadow in square foot-hours cast by the project divided by the TAAS, expressed as a percentage.*
>
> *Further, in addition to quantitative criteria, the adopted criteria set forth qualitative criteria for evaluation of shadow. Those criteria for assessing net new shadow are based on existing shadow profiles* [graphics]*, important times of day, important seasons in the year, location of the net new shadow, size, and duration of net new shadows and the public good served by buildings casting net new shadow.*

There are no broadly established or accepted methodologies for technical evaluation of shadow effects under CEQA, so for review of shadow impacts on open spaces not subject to section 295, Planning typically adapts these technical standards for use in evaluation of potential CEQA impacts. For this analysis, the San Francisco Planning Department directed Prevision Design to use many of the standards for review of shadow under section 295, as described in Section IV below.

3D Modeling Assumptions

For the purposes of this analysis, Prevision Design built a 3D computer model reflecting representation of the local San Francisco urban context and landform surrounding the project generated by Light Intensity Distance and Ranging [or Laser Imaging Detection and Ranging] (LIDAR). This model reflects actual building massing and articulation from circa 2010, therefore, to show buildings built[1] after that date, Prevision Design generated individual building models using available architectural plans and records. Prevision Design also obtained or generated 3D models of reasonably foreseeable future projects[2] that would have the potential to generate additional net new shadow on the same publicly accessible open spaces that were shown to be affected by the project (cumulative condition projects).

Precise locations, boundaries, and sizes of the affected open spaces were generated using GIS data provided by Planning with input and boundary verification by RPD.

The model for the proposed project was provided to Prevision Design by the project architect on 12/19/2019 and reflects the project design as shown in the drawing set dated December 2019, which has been confirmed by the project sponsor as the most up-to-date project massing. The model for the residential variant was provided to Prevision Design by the project architect on 9/25/2020. ■

1 The final form of buildings currently under construction are included as if they are complete for the purposes of this study.

2 Qualifying cumulative projects are those that are currently in some stage of the planning or permitting process or have been approved but are not yet under construction.

IV. SCOPE OF WORK AND STUDIES PERFORMED

Initial Scoping Study

To establish the scope of review and approach to analysis and deliverables, Prevision Design followed the guidelines as encoded in the 1989 and 2014 memoranda and modified for project-specific considerations via input and direction from Planning and RPD staff.

To determine the area and features that would be affected by net new project or residential variant shadow, Prevision Design used the 3D context model to generate a full-year shadow fan diagram, which depicts all areas that would receive net new shadow (factoring in the presence of current, intervening shadow from existing buildings) between one hour after sunrise through one hour before sunset ("the daily analysis period") throughout the year. These graphics appear as Exhibit A and show the net new shadow for the proposed project and the residential variant.

Prevision Design additionally received and verified a list of qualifying cumulative projects in the vicinity of this project that have the potential to generate net new shadow on one or more of the open spaces affected by the proposed project and residential variant, as listed below in Table 1.

CUMULATIVE PROJECT ADDRESS	PROJECT HEIGHT	DATE OF DESIGN DATA	PROJECT DESCRIPTION
220 Battery Street	Approx. 78'	08/23/2019	Four-story vertical addition to existing building
447 Battery Street	Approx. 220'	03/01/2019	18-story hotel/residential building
545 Sansome Street	Approx. 125'	01/30/2020	Horizontal/penthouse addition to existing 9-story building
425 Broadway	Approx. 86'	08/25/2020	New 6-story mixed-use building with 34 dwelling units

TABLE 1: Cumulative Projects List

Prevision Design generated a draft the scope of work and analysis methodology, which was approved by Planning on 9/22/2020. The approved scope of work for this analysis is discussed below:

Quantitative Calculations

Using the 3D project, residential variant, and urban context model developed as part of the scoping study, Prevision Design performed snapshot shadow measurements for Maritime Plaza and Sue Bierman Park at 15-minute intervals within the daily analysis period, repeating these daily measurements every seven days between the Summer Solstice (June 21st) and Winter Solstice (December 20th), with interim times and dates extrapolated to approximate shadow conditions on other days and times. This half-year

period (between the Summer and Winter solstices) is referred to as a "solar year." As the path of the sun is roughly mirrored over the second half of the year (December 21st through June 20th), analysis of this half-year period allows for a reasonable extrapolation to arrive at a full year estimated calculation of the areas and durations of existing (baseline) shadow that currently falls on the affected open spaces.

In addition to the quantitative analysis of existing shadow conditions, calculations were generated to reflect the addition of the proposed project and the residential variant, with the difference between the baseline conditions and those with the project and residential variant representing the net new shadow effect.

Lastly, 3D models of the approved cumulative projects were added to the model to generate the baseline + project and residential variant + cumulative scenario, depicting the reasonably foreseeable combined shadow effect of all projects in the current development pipeline.

Shadow Profile Graphics

To provide a spatial and contextual understanding of the location, size, and features affected by net new shadow, Prevision Design prepared graphics showing "snapshot" shadow profiles at hourly intervals over the entire area affected by the proposed project and residential variant. Graphics differentiate between existing shadow, net new project and residential variant shadow, and cumulative condition shadow (for both the project and residential variant scenarios) within the daily analysis period on the Summer Solstice (June 21st), the approximate equinoxes (March 22nd / September 20th), and the Winter Solstice (December 20th) and the dates with the greatest quantitative net new shadow for each affected open space and dates with the largest shadow areas (when different from above). These graphics appear as Exhibits B-F.

NOTE: The overall size and location of shadow cast by the project vs. the residential variant are similar. While both shadow profiles have been overlayed on the same graphics using different colors in order to indicate areas where minor shadow profile differences occur, the very subtle shift in shadow profiles may be nearly imperceptible in most cases.

Qualitative Analysis

To gain an understanding of how net new shadow may affect existing patterns of use, Prevision Design conducted six 30-minute site visits to Maritime Plaza and Sue Bierman Park (western portion only) to observe the nature and intensity of uses. Two

site visits (one on a weekday and one on a weekend) were performed in the morning, two at midday, and two late in the day.

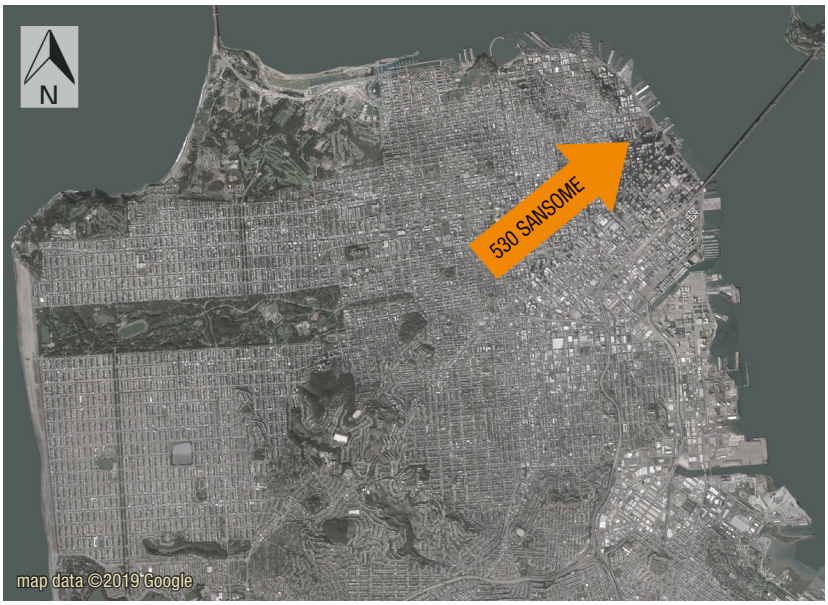
The qualitative effects of net new shadow on the affected open spaces are discussed based on the size, location, timing, and duration of net new shadow and how such shadow might potentially affect observed existing patterns of use in Maritime Plaza and Sue Bierman Park. ■

FIGURE 1: Proposed project rendering

V. PROPOSED PROJECT AND RESIDENTIAL VARIANT

This analysis evaluates both a project as well as a residential variant. The description below details both and identifies, where applicable, the differences between these two proposals. Both the project and the residential variant are substantially similar with respect to height and massing, save for slightly different configurations in the penthouse design.

The proposed project (Figure 1) and residential variant would be located on a 17,773-sf site in the Financial District neighborhood of San Francisco on Assessor's Block 0206, Lots 13, 14, and 17. The site is located within the Downtown Area Plan, C-3-O zoning and a 200-S Height and Bulk District. Figure 2 shows a vicinity map.



530 Sansome Street (Project)

Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park (RPD)
4. Sydney G. Walton Square (RPD)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

FIGURE 2: Vicinity Map

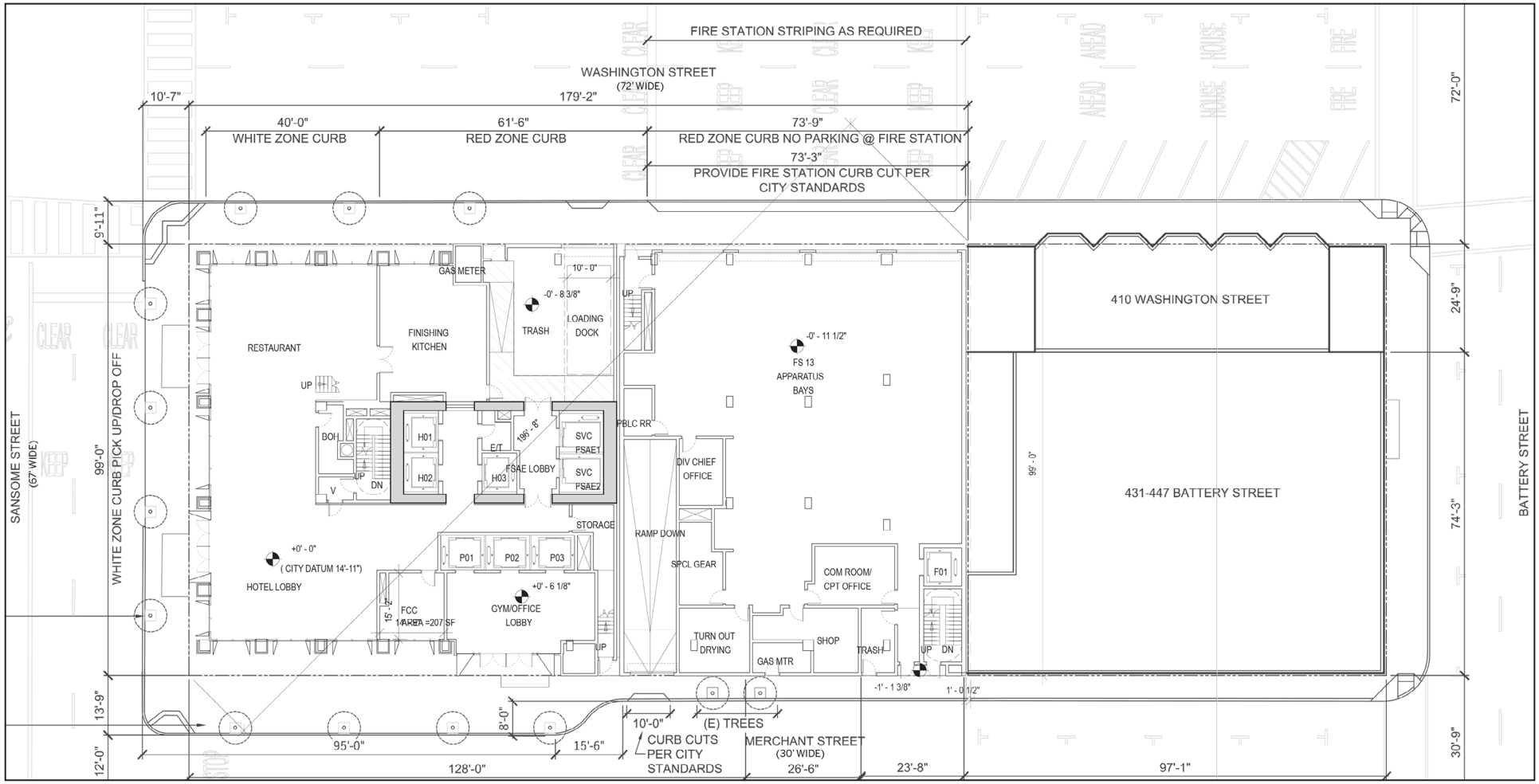


FIGURE 3: Project Site Plan (Residential Variant similar)

The proposed project and residential variant would be located at the intersection of Sansome Street with both Washington and Merchant streets. One lot on the site contains the existing San Francisco Fire Department Station 13, owned by the City and County of San Francisco. The two remaining lots east of the Station 13 are owned by the project co-sponsor, EQX Jackson SQ Holdco LLC (together with San Francisco Fire Department (SFFD) and the City and the County of San Francisco acting in its proprietary capacity through the San Francisco Bureau of Real Estate, the "project sponsors").

FIGURE 4: Project West Elevation

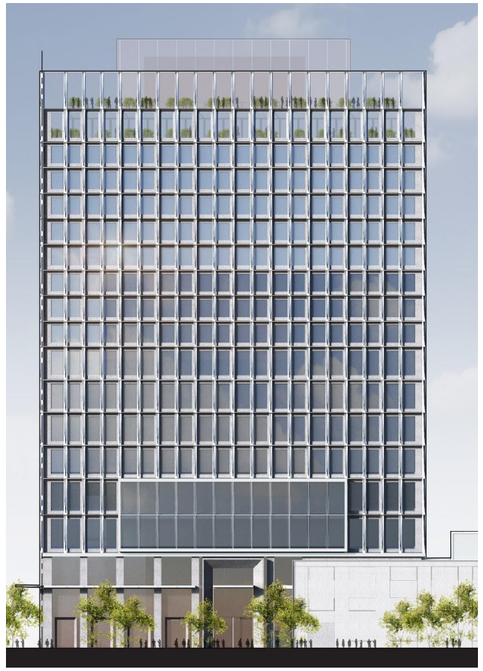


FIGURE 5: Project South Elevation

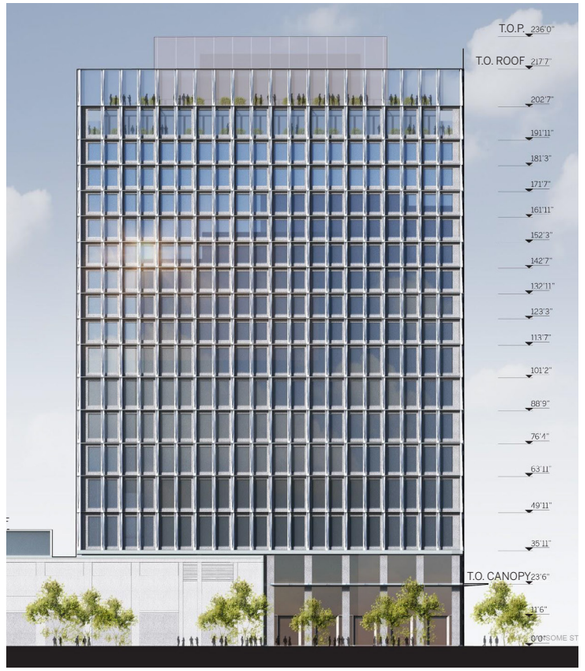


FIGURE 6: Project North Elevation

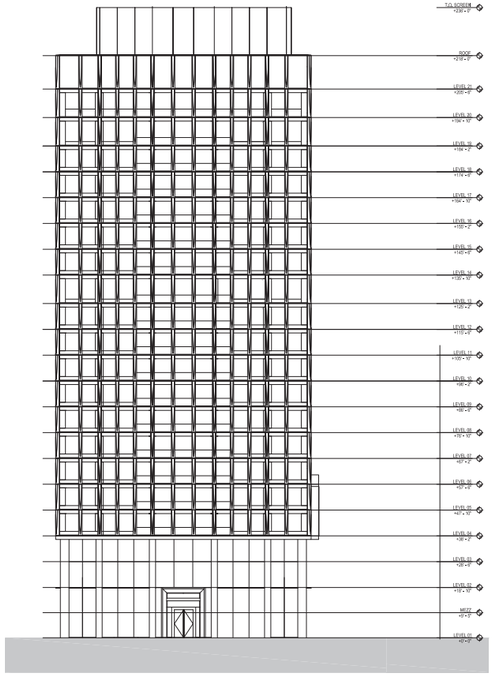


FIGURE 7: Residential Variant West Elevation

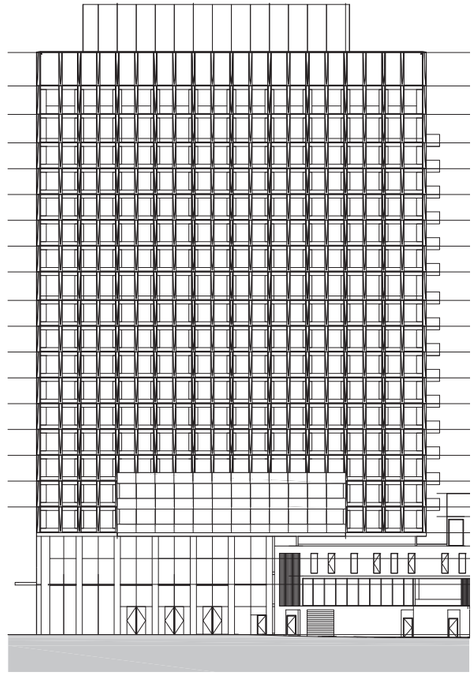


FIGURE 8: Residential Variant South Elevation

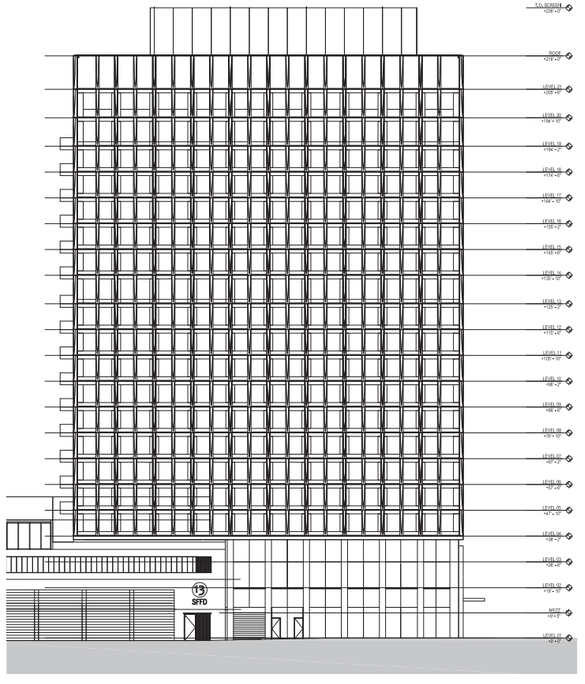


FIGURE 9: Residential Variant North Elevation

In addition to Station 13, the existing site contains two existing 2 to 3 story office buildings.

Development of both the proposed project and residential variant would involve demolishing all existing structures on the site and developing a new four-story Station 13 and approximately 218-foot tower (236 feet with parapet). In the approximately 218-foot-tower, the proposed project would contain ground-floor retail uses, an approximately 36,350 square foot gym, an approximately 39,830 square foot of office space, a 200-key hotel, and approximately 4,830 square feet of POPOS space along Merchant Street. The residential variant would substitute the proposed project's commercial uses (retail, gym, office, and hotel) with residential uses (256 units).

For both the proposed project and residential variant, parking, various back of house operations for the uses in the tower and building utility and service space (including Class 1 bicycle parking, showers and lockers, and various maintenance and mechanical areas) would be provided in three below-grade basement levels. To meet the operational needs of Station 13, the proposed project and residential variant would include a parking garage, with non-accessory SFFD private parking uses located on the third basement level and accessory parking for the other uses in the building provided on the first and second basement levels.

Figure 3 shows the location of the proposed project / residential variant site and Figures 4 through 6 show proposed project elevations, and Figures 7 through 9 show residential variant elevations. ■

FIGURE 10: Maritime Plaza (East Courtyard)

VI. AFFECTED PARKS AND OPEN SPACES

FIGURE 11: West Courtyard

Maritime Plaza

Maritime Plaza is a 1.99 acre (86,676 sf) urban plaza located in the Financial District of San Francisco on Assessor's Block 0204 / Lots 020 and 022 and is under the jurisdiction of RPD. The plaza is elevated above street level above a parking structure and consists of two separated sections of the double-block between Washington and Clay, the west section bordering Battery Street and east section bordering Davis Street. Public access to Maritime Plaza is via public stairwells located at Washington and Clay streets as well as elevated walkways that connect to across Washington and Clay streets to adjacent properties to the north and south. Connection between the two portions of the plaza is via breezeway through the Alcoa building (One Maritime Plaza). The official hours of operation are from 5 a.m. to 12 a.m. (midnight). The official park website is https://sfrecpark.org/facilities/facility/details/maritimeplaza-350.

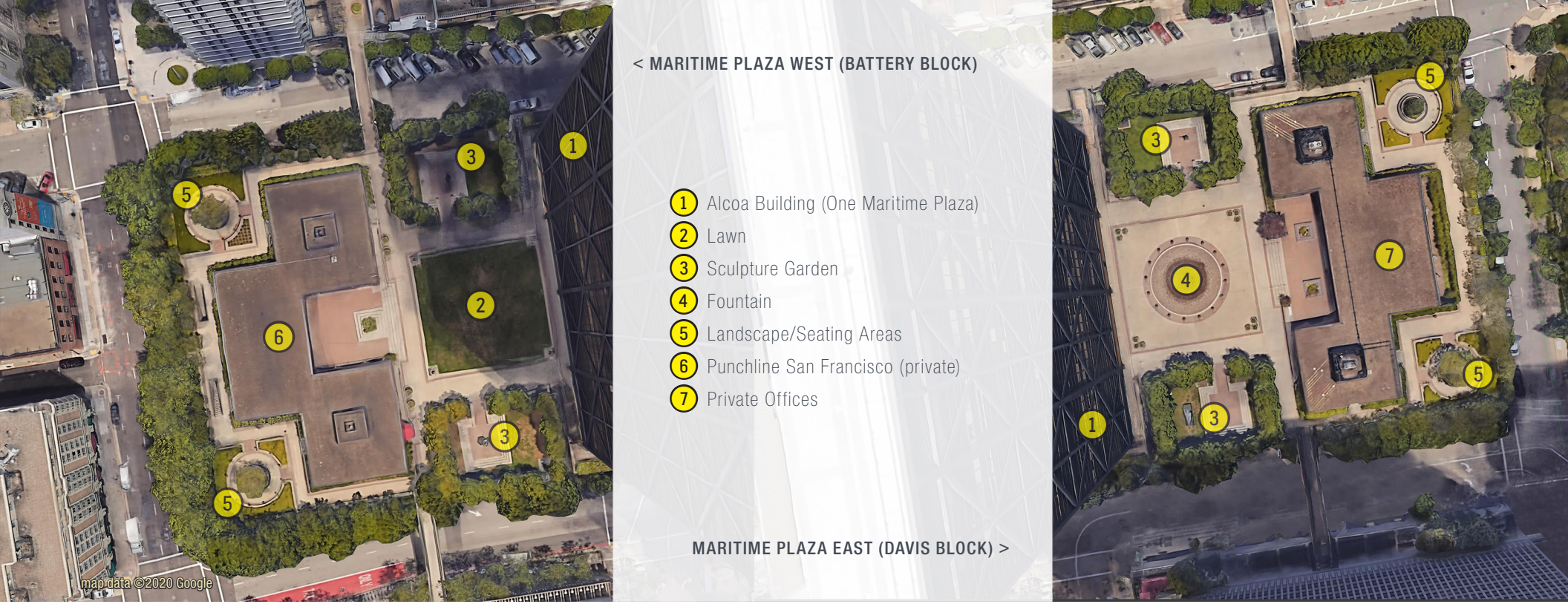


FIGURE 12: Maritime Plaza Map

As shown in Figures 10 and 11, the park contains a large fountain on the eastern side and a wide plaza area with a square lawn on the western portion. Flanking these plaza areas are fenced rectangular sculpture areas with seating which are ringed by small trees. Each side of the plaza includes a one-story building, with the Punchline Comedy club on the western side and private offices in the building on the eastern side. Behind each of these buildings, connected to the main plaza area by walkways are two other landscaped seating areas. Figure 12 shows a diagram of Maritime Plaza.

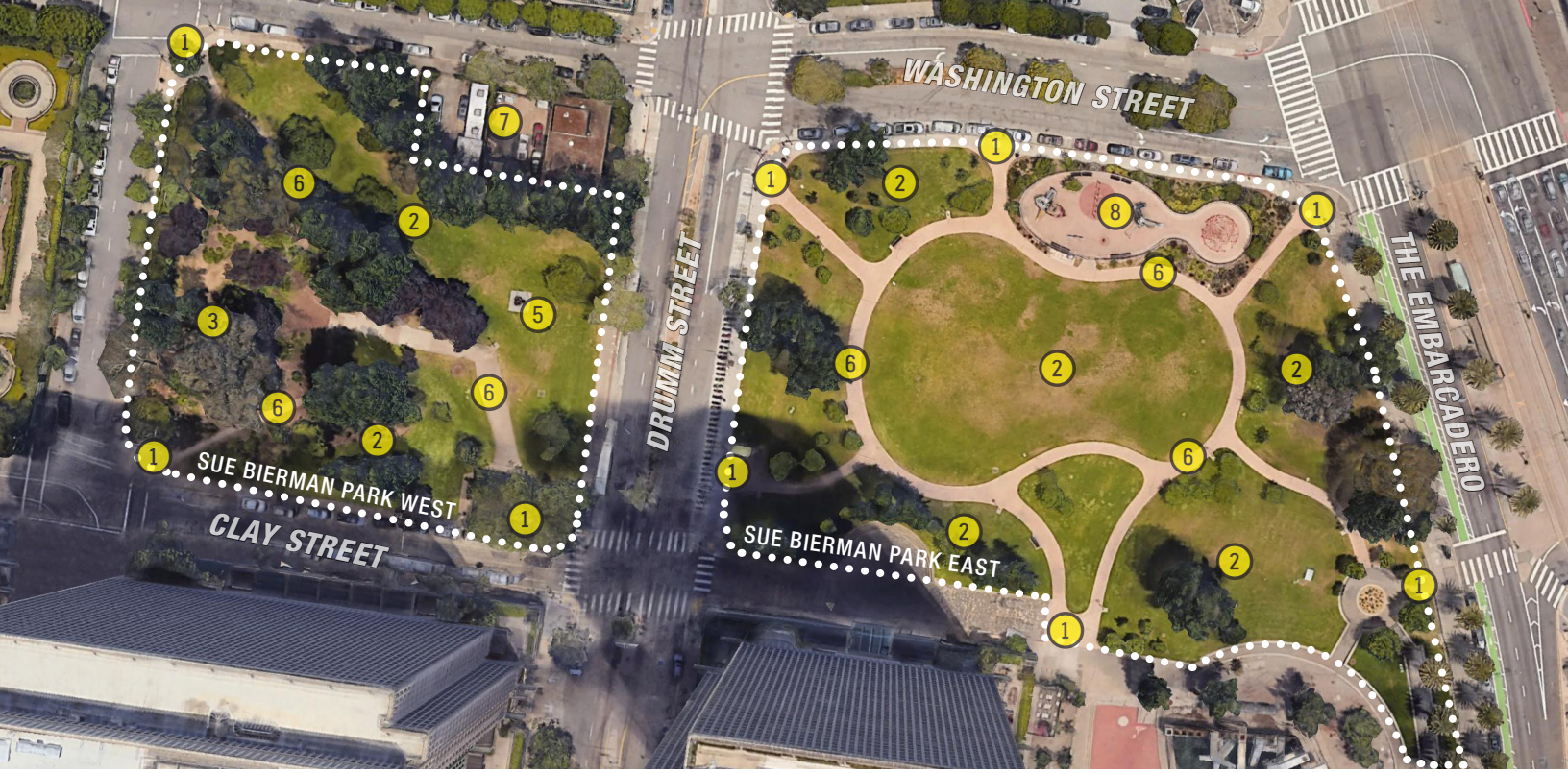
FIGURE 13: Sue Bierman Park (West)

Sue Bierman Park (West)

Sue Bierman Park is a 4.09 acre (178,200 sf) urban park located in the Financial District of San Francisco on Assessor's Block 0203 / Lot 014 and Block 0202 / Lots 006, 015, 018, and 020, and is under RPD jurisdiction. The park is physically divided by Drumm Street into two parts, the western portion is bounded by Washington Street to the north, Clay Street to the south, Drumm Street to the east, and Davis Street to the west, while the eastern portion is bounded by Washington Street to the north, Clay Street to the south, the Embarcadero to the east, and Drumm Street to the west. The park is not fenced, and the official hours of operation are from 5 am to 12 am (midnight). The official park website is https://sfrecpark.org/facilities/facility/details/suebiermanpark-378.

As shadow from project and residential variant only affect the 1.5 acre (65,131 sf) western portion (Block 0203 / Lot 014) of Sue Bierman Park, therefore project description below (and ensuing analysis) only discuss this portion of the park.

As shown by Figure 13, Sue Bierman Park (West) contains grassy and heavily vegetated landscaped areas, divided by three paved walkways connecting the northwest,



1. Park Entries
2. Lawn/Grassy Areas
3. Natural Area
4. Landscape/Grassy Areas
5. Sculpture
6. Pedestrian Pathway
7. SFPUC Property (not part of park)
8. Children's Play Area

FIGURE 14: Sue Bierman Park Map

southwest, and southeast corners of the park. A large sculpture is located in the center of the larger grass area on the eastern side of the park. The southwestern half of the park area is heavily wooded with unpaved trails through this natural area. To the northeast, the park's border features a stand of tall trees surrounding a small utility building complex owned by the San Francisco Public Utilities Commission (SFPUC). Figure 14 above shows a diagram of Sue Bierman Park (including both Sue Bierman Park West as well as Sue Bierman Park East for visual reference and orientation).

FIGURE 15: Transamerica Redwood Park

Transamerica Redwood Park

The Transamerica Redwood Park (Figure 15) is an approximately 1.25 acre (55,880 sf) mid-block privately owned public open space located on Assessor's Block 0207 / Lot 033 between the Transamerica Building (600 Montgomery) to the west, Washington Street to the North, the 500-block of Sansome Street to the east and Clay Street to the south. Public entrances are located on the north and south street frontages along with an east-west pedestrian walkway between buildings connecting to Sansome street. The park is comprised of several dozen mature redwood and other trees along with other landscape plantings, a fountain, numerous fixed benches and points of access to the surrounding buildings.

Other Nearby Parks and Open Spaces

The proposed project would not affect any other public parks or privately owned open spaces in the project vicinity. ■

VII. MARITIME PLAZA ANALYSIS FINDINGS

Table 2 summarizes the existing condition data and quantitative shadow effects of the proposed project on Maritime Plaza. The full quantitative calculations for shadow conditions on all 27 analysis dates are included as Exhibit F.

Existing Conditions

The plaza area is 86,676 square feet and currently experiences 218,954,785 annual square-foot-hours (sfh) of shadow. Based on a theoretical annual available sunlight (TAAS) of 322,556,066 sfh, the plaza's current annual shadow load is 67.88%. Under existing conditions, the plaza is substantially shaded in the mornings and afternoons with some increased areas of sun around midday during the spring, summer, and early fall. The plaza is almost entirely shaded throughout the day during late fall and winter months.

Increase in Annual Shadow from Proposed Project and Residential Variant

The proposed project would result in net new shadow falling on the plaza, adding approximately 2,275,914 net new annual sfh of shadow and increasing the annual shadow load by 0.71% above current levels, which would result in a new annual total shadow load of 68.59%.

The residential variant would result in a similar but slightly lesser amount of net new shadow falling on the plaza, adding approximately 2,219,243 net new annual sfh of shadow and increasing the annual shadow load by 0.69% above current levels, which would result in a new annual total shadow load of 68.57%.

Timing and Location of Shadow from Proposed Project and Residential Variant

Net new shadow from both the proposed project and residential variant would occur for approximately 223 days a year between approximately March 2nd and October 10th. Shadow would fall primarily on the western portion of Maritime Plaza, with only a small band along the northern edge of the eastern portion of the plaza receiving any

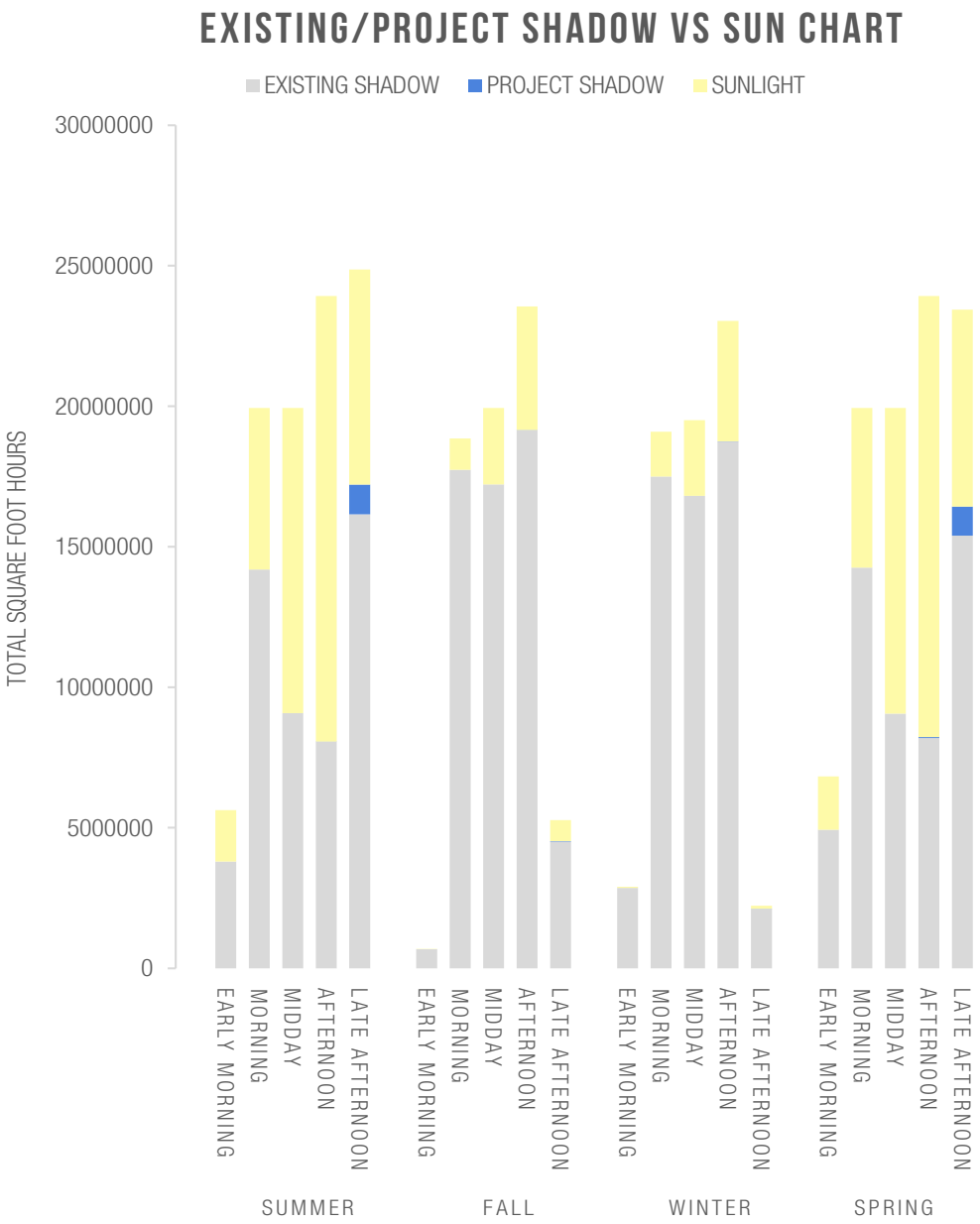
THEORETICAL ANNUAL AVAILABLE SUNLIGHT (TAAS) CALCULATION	MARITIME PLAZA
Total plan area of Maritime Plaza	1.99 acres (86,676 sf)
Total hours of annual sunlight from 1-hr after sunrise through 1-hr before sunset	3721.4 hrs
Theoretical Annual Available Sunlight (plan area x hours of annual sunlight)	322,556,066 sfh

EXISTING SHADOW CONDITIONS SUMMARY	MARITIME PLAZA
Total annual existing shadow load (existing shadow sfh ÷ TAAS sfh)	67.88%
Total annual existing shadow in square-foot-hours (sfh)	218,954,785 sfh
Range in existing shadow area coverage throughout the year	Between 6% - 100%
Time of year / time of day most affected by existing shadow	Fall / Early Morning (before 8:00 AM)

530 SANSOME PROJECT NET NEW SHADOW SCENARIO SUMMARY	MARITIME PLAZA
Annual net new project-only shadow load / total existing + project shadow load	0.71% / 68.59%
Annual net new sfh project shadow / total existing + project sfh	2,275,914 sfh / 221,230,699 sfh
Number of days annually when new shading from project would occur	Up to 223 days a year
Dates when net new shadow from project would be cast annually	March 2 - October 10
Date(s) with most annual sfh net new project shadow (shadow load / net new sfh)	August 16 & April 26
Time of year / time of day most affected by project net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the project (area and time shadow occurs)	Aug 23/Apr 19 (11,524 sf @ 6:00 PM)
Range in project net new shadow percentage coverage (area range)	Between 0% - 10% (0 - 11,524 sf)
Average project net new shadow coverage on affected dates (shadow area)	4.88% (4,229 sf)
Date(s) with the longest duration of net new shadow (duration)	Aug 2/May 10 (2 hr 56 min +/- 7 min)
Range in daily project net new shadow duration (margin of error)	Between zero minutes up to 2 hr 56 min (+/- 7 min)
Average daily project net new shadow duration on affected dates	2 hr 31 min

530 SANSOME VARIANT NET NEW SHADOW SCENARIO SUMMARY	MARITIME PLAZA
Annual net new variant-only shadow load / total existing + variant shadow load	0.69% / 68.57%
Annual net new sfh variant shadow / total existing + variant sfh	2,219,243 sfh / 221,174,027 sfh
Number of days annually when new shading from variant would occur	Up to 223 days a year
Dates when net new shadow from variant would be cast annually	March 2 - October 10
Date(s) with most annual sfh net new variant shadow (shadow load / net new sfh)	August 16 & April 26
Time of year / time of day most affected by variant net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the variant (area and time shadow occurs)	Aug 23/Apr 19 (11,489 sf @ 6:00 PM)
Range in variant net new shadow percentage coverage (area range)	Between 0% - 10% (0 - 11,489 sf)
Average variant net new shadow coverage on affected dates (shadow area)	4.76% (4,124 sf)
Date(s) with the longest duration of net new shadow (duration)	Aug 2/May 10 (2 hr 56 min +/- 7 min)
Range in daily variant net new shadow duration (margin of error)	Between zero minutes up to 2 hr 56 min (+/- 7 min)
Average daily variant net new shadow duration on affected dates	2 hr 31 min

TABLE 2: Quantitative project shadow summary for Maritime Plaza



SUMMER: Jun 21-Sep 20
FALL: Sep 21-Dec 20
WINTER: Dec 21-Mar 20
SPRING: Mar 21-Jun 20

EARLY MORNING: Before 8 a.m.
MORNING: 8 a.m. to 10:30 a.m.
MIDDAY: 10:30 a.m. to 1:30 p.m.
AFTERNOON: 1:30 p.m. to 4 p.m.
LATE AFTERNOON: After 4 p.m.

FIGURE 16: Maritime Plaza Sun/Shadow Levels by Time of Day/Season

net new shadow. Net new shadow would be cast only during afternoon hours, no earlier than 3:30 p.m. As shown in Figure 16, spring and summer after 4 pm would be the times that would experience most net new shadow from the project or residential variant.

The days of maximum net new sfh on the plaza due to the proposed project or variant would occur on or around April 26th and August 16th. During those two dates, the proposed project would shade the northwestern corner of Maritime Plaza starting just after 4 p.m. and expand across the western side affecting landscaped and grassy areas as well as walkways over the course of approximately 3 hours until the end of the daily analysis period at 7:02 p.m.

The dates with the single largest net new project shadow area would occur on April 19th and August 23rd, when a 11,524-sf new shadow would be cast at 6 p.m. (see Figure 17[3]), covering 10% of the total plaza area. The largest shadow from the residential variant would also occur at that date and time and cover nearly the same area as the project (11,489 sf.).

The duration of proposed project/variant-generated net new shadow would also vary throughout the year, with net new shadow lasting between zero minutes up to approximately 2 hours and 31 minutes (occurring on May 10th and August 2nd).

3 Due to similarity of shadow profiles between the project and residential variant, the small differences in shadow profiles may not visible at the scale of this graphic.

1. One Maritime Plaza
2. Lawn
3. Sculpture Garden
4. Fountain
5. Landscape/Seating Areas
6. Punchline San Francisco (private)
7. Private Offices

FIGURE 17: Max net new shadow on Maritime Plaza (4/19 and 8/23 at 6:00 pm)

Increase in Shadow under Cumulative Scenarios

The cumulative scenario net new shadow with the project would result in an increase of 3,786,977 sfh of shadow on Maritime Plaza, or an additional 1,559,662 sfh of shadow as compared to the annual shadow increase from the proposed project alone. This increase in sfh would result in total net new cumulative shadow load of 69.05%, an increase of 0.48% more than the project-only shadow.

The cumulative scenario net new shadow with the residential variant would result in an increase of 3,778,905 sfh of shadow on Maritime Plaza, or an additional 1,559,662 sfh of shadow as compared to the annual shadow increase from the residential variant alone. This increase in sfh would result in total net new cumulative shadow load of 69.05%, an increase of 0.48% more than the residential variant-only shadow load.

Table 3 includes a breakdown of net new shadow for the cumulative shadow scenario for both the project and the residential variant.

Timing and Location of New Shadow Under Cumulative Scenarios

Net new shadow under both proposed project and residential variant plus cumulative conditions would occur for approximately 307 days a year between approximately January 19th and November 21st, an increase of 84 days a year than under the project or residential variant-only scenarios. Net new cumulative shadow would be cast only during afternoon hours, no earlier than 2:15 p.m. Spring and summer after 4 p.m. would be the times that would experience most net new shadow under the project/ variant plus cumulative scenario.

PROJECT CUMULATIVE NET NEW SHADOW SCENARIO SUMMARY	MARITIME PLAZA
Annual net new project cumulative condition shadow load / total existing + project cumulative shadow load	1.17% / 69.05%
Annual net new sfh project cumulative shadow / total existing + project cumulative sfh	3,786,977 sfh / 222,741,761 sfh
Number of days annually when new shading from project cumulative would occur	Up to 307 days a year
Dates when net new shadow from project cumulative would be cast annually	January 19 - November 21
Date(s) with most annual sfh net new project cumulative shadow (shadow load / net new sfh)	August 2 & May 10
Time of year / time of day most affected by project cumulative net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the project cumulative (area and time shadow occurs)	Jul 12/May 31 (14,285 sf @ 6:15 PM)
Range in project cumulative net new shadow percentage coverage (area range)	Between 0% - 16% (0 - 14,285 sf)
Average project cumulative net new shadow coverage on affected dates (shadow area)	4.61% (3,992 sf)
Date(s) with the longest duration of net new shadow (duration)	Jul 26/May 17 (4 hr 17 min +/- 7 min)
Range in daily project cumulative net new shadow duration (margin of error)	Between zero minutes up to 4 hr 17 min (+/- 7 min)
Average daily project cumulative net new shadow duration on affected dates	3 hr 12 min

VARIANT CUMULATIVE NET NEW SHADOW SCENARIO SUMMARY	MARITIME PLAZA
Annual net new variant cumulative shadow load / total existing + variant cumulative shadow load	1.17% / 69.05%
Annual net new sfh variant cumulative shadow / total existing + variant cumulative sfh	3,778,905 sfh / 222,733,690 sfh
Number of days annually when new shading from variant cumulative would occur	Up to 307 days a year
Dates when net new shadow from variant cumulative would be cast annually	January 19 - November 21
Date(s) with most annual sfh net new variant cumulative shadow (shadow load / net new sfh)	August 2 & May 10
Time of year / time of day most affected by variant cumulative net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the variant cumulative (area and time shadow occurs)	Jul 12/May 31 (14,310 sf @ 6:15 PM)
Range in variant cumulative net new shadow percentage coverage (area range)	Between 0% - 17% (0 - 14,310 sf)
Average variant cumulative net new shadow coverage on affected dates (shadow area)	4.60% (3,983 sf)
Date(s) with the longest duration of net new shadow (duration)	Jul 26/May 17 (4 hr 17 min +/- 7 min)
Range in daily variant cumulative net new shadow duration (margin of error)	Between zero minutes up to 4 hr 17 min (+/- 7 min)
Average daily variant cumulative net new shadow duration on affected dates	3 hr 12 min

TABLE 3: Cumulative quantitative project shadow summary for Maritime Plaza

The days of maximum net new square foot hours of shadow on the plaza due to the proposed project would occur on May 10th and August 2nd, when the cumulative shadow reach the western portion of Maritime Plaza starting just prior to 3:15 p.m., expanding eastward across that portion of the park, affecting landscaped and grassy areas as well as walkways over the course of approximately four hours until the end of the daily analysis period at 7:18 p.m.

The dates with the single largest net new shadow area in the cumulative scenarios would occur on or around May 31st and July 12th, when, at 6:15 p.m., a 14,285-sf new shadow would be cast under the project cumulative scenario and a 14,310-sf shadow would be cast under the residential variant cumulative scenario.

The duration of cumulative net new shadow under either the project or residential variant would vary throughout the year, with net new shadow lasting between zero and up to approximately 4 hours and 17 minutes (occurring on May 17th and July 26th).

Observed Uses

Within the six 30-minute observation periods conducted by Prevision Design on October 21st and 24th, 2020, the number of users present in the plaza over the course of half an hour ranged from 14 to 35 people. Many of the observed users of the plaza passed through without stopping, and of those who remained many were observed dog walking (a majority of midday visitors) while other users occupied the seating or grassy areas for eating or socializing. See Table 4 for an observation summary.

OBSERVATION TIME	DATE OF VISIT	PLAZA USERS	TEMP - WEATHER
Weekday Morning	10/21/2020	26	65° F – Sunny
Weekday Midday	10/21/2020	32	72° F – Sunny
Weekday Afternoon	10/21/2020	35	78° F – Sunny
Weekend Morning	10/24/2020	14	58° F – Mostly Cloudy
Weekend Midday	10/24/2020	28	66° F – Partly Cloudy
Weekend Afternoon	10/24/2020	12	67° F – Sunny

TABLE 4: Maritime Plaza Use Observations

Overall, observed peak use at Maritime Plaza occurred during weekday midday and afternoon hours. The observed intensity of use varied between the observation times but could be characterized as low to moderate. Observed peak use on October 21st corresponded to a ratio of 3,353 sf of plaza area per user.

It should be noted that due to the global Covid-19 pandemic, patterns of use observed by Prevision Design during this period may not be representative of typical use conditions at Maritime Plaza. A prior field analysis conducted in 2019 suggested that the weekday midday and afternoon observations done by Prevision Design in 2020 reflect an approximate 50% reduction in levels of activity relative to observations performed prior to the pandemic.[4] The 2019 use observation data is included as Exhibit J.

4 The observations performed by Fastcast for the 447 Battery Street shadow study in 2019 (Exhibit J) recorded weekday usage only after midday and additionally looked at use patterns over the course of several hours instead of 30 minutes. The characterization comparing the relative change in use levels represents factoring in and interpolating between these different observation methodologies.

The Value of Sunlight

The portions of Maritime Plaza that would likely be the most sensitive to the addition of new shadow would be those elements that are fixed in location, conducive to more stationary activities (i.e., users remain in one area rather than pass through) and are observed to be well used by the public. Based on the use observations performed landscape/seating areas would likely qualify as the most sensitive areas per the criteria established above. These features would receive additional new shadow from the project as further discussed below.

Project Shadow Characteristics

Throughout the year, net new shadow due to the proposed project or residential variant would occur primarily on the western portion of Maritime Plaza (see Exhibit A), with net new shadow (when occurring) present for approximately 2 hours and 32 minutes on average, up to a maximum duration of 2 hours and 56 minutes. The largest net new shadow profile would cover approximately 10% of the total Maritime Plaza area.

The landscape/seating areas would receive shadow from the project or residential variant only within the last three hours of the daily analysis period[5] (i.e., one to four hours before sunset). While many of the observed uses of Maritime Plaza were transitory in nature for those whom Maritime Plaza is a destination would find fewer unshaded areas at these times.

Exhibits B through F graphically illustrate shadow conditions at hourly intervals within the daily analysis period on the summer solstice (June 21st), approximate vernal and autumnal equinoxes (March 22nd / September 20th), the winter solstice (December 20th), the day(s) of maximum net new SFH of shadow (April 26th / August 16th), and dates where the largest shadows are cast (April 19th / August 23rd).

Cumulative Scenario Shadow Characteristics

Throughout the year, net new shadow under the cumulative scenarios for either the proposed project or residential variant would also occur primarily on the western portion of Maritime Plaza, with net new shadow (when occurring) being present for approximately 3 hours and 14 minutes on average, up to a maximum duration of 4 hours and 17 minutes. The largest net new shadow profile under the cumulative scenarios for either the proposed project or residential variant would cover approximately 11% of Maritime Plaza's area, affecting substantially similar areas of Maritime Plaza.

---

5 The daily analysis period is between one hour after sunrise through one hour before sunset.

As with the proposed project or residential variant, under the cumulative scenarios landscape/seating areas would receive shadow within the last four hours of the daily analysis periods. The overall effect and pattern of shading would be similar to the proposed project or residential variant scenarios except that shadows would arrive on these features approximately 30 minutes earlier relative to the project and residential variant scenarios.

Other Factors Affecting Sunlight

Per Planning Department direction, shadow cast by trees is considered "impermanent" and was not accounted for in the quantitative shadow analysis. On a practical basis, the dense planting of small trees along the western edge of the plaza does contribute to the user experience of the plaza and its shadow conditions. As these trees are located between the project and the affected areas of the plaza, the shadows cast by the proposed project would likely have a diminished net new shading effect in particular on affected plaza features near the planting as these areas would already be cast in (at least partial) shadow due to vegetation shading during the affected periods. ■

VIII. SUE BIERMAN PARK ANALYSIS FINDINGS

Table 5 summarizes the existing condition data and quantitative shadow effects of the proposed project on Sue Bierman Park. The full quantitative calculations for shadow conditions on all 27 analysis dates are included as Exhibit G.

Existing Conditions

The park area is 117,577 square feet and currently experiences 2,281,550,861 annual square-foot-hours (sfh) of shadow. Based on a theoretical annual available sunlight (TAAS) of 660,834,406 sfh, the park's current annual shadow load is 42.6054%. Under existing conditions, the park is predominantly unshaded during the morning hours, with shadow levels generally growing toward the afternoon. The park is almost entirely shaded throughout the afternoon during late fall and winter months.

Increase in Annual Shadow from Proposed Project and Residential Variant

The proposed project would result in net new shadow falling on the park, adding approximately 976 net new annual sfh of shadow and increasing the annual shadow load by 0.0001%, which would result in a new annual total shadow load of 42.6055%.

The residential variant would result in a similar but slightly lesser amount of net new shadow, adding approximately 892 net new annual sfh of shadow to also increase the annual shadow load by 0.0001% for a new annual total shadow load of 42.6055%.

Timing and Location of Shadow from Proposed Project and Residential Variant

Net new shadow from both the proposed project and residential variant would occur for approximately 26 days a year between approximately March 16th-28th and again between September 14th-26th. Shadow would fall a small area of the western portion of Sue Bierman Park. Net new shadow would be cast between 5:45 and 6:09 p.m.

The days of maximum net new sfh on the park due to the proposed project or variant would occur on or around September 20th and March 22nd. During those two dates, the proposed project would shade a small area close to the northern edge of Sue Bierman

THEORETICAL ANNUAL AVAILABLE SUNLIGHT (TAAS) CALCULATION	SUE BIERMAN PARK (WEST)
Total plan area of Sue Bierman Park (West)	4.08 acres (177,577 sf)
Total hours of annual sunlight from 1-hr after sunrise through 1-hr before sunset	3721.4 hrs
Theoretical Annual Available Sunlight (plan area x hours of annual sunlight)	660,834,406 sfh

EXISTING SHADOW CONDITIONS SUMMARY	SUE BIERMAN PARK (WEST)
Total annual existing shadow load (existing shadow sfh ÷ TAAS sfh)	42.6054%
Total annual existing shadow in square-foot-hours (sfh)	281,550,861 sfh
Range in existing shadow area coverage throughout the year	Between 0% - 100%
Time of year / time of day most affected by existing shadow	Winter / Afternoon (1:00-4:00 PM)

530 SANSOME PROJECT NET NEW SHADOW SCENARIO SUMMARY	SUE BIERMAN PARK (WEST)
Annual net new project-only shadow load / total existing + project shadow load	0.0001% / 42.6055%
Annual net new sfh project shadow / total existing + project sfh	976 sfh / 281,551,837 sfh
Number of days annually when new shading from project would occur	Up to 26 days a year
Dates when net new shadow from project would be cast annually	3/16 - 3/28 & 9/14 - 9/26
Date(s) with most annual sfh net new project shadow (shadow load / net new sfh)	September 20 & March 22
Time of year / time of day most affected by project net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the project (area and time shadow occurs)	Sep 20/Mar 22 (344 sf @ 6:00 PM)
Range in project net new shadow percentage coverage (area range)	Between 0.0% - 0.2% (0 - 344 sf)
Average project net new shadow coverage on affected dates (shadow area)	0.23% (410 sf)
Date(s) with the longest duration of net new shadow (duration)	Sep 20/Mar 22 (12 min +/- 11 min)
Range in daily project net new shadow duration (margin of error)	Between zero minutes up to 12 min (+/- 11 min)
Average daily project net new shadow duration on affected dates	12.3 minutes

530 SANSOME VARIANT NET NEW SHADOW SCENARIO SUMMARY	SUE BIERMAN PARK (WEST)
Annual net new variant-only shadow load / total existing + variant shadow load	0.0001% / 42.6055%
Annual net new sfh variant shadow / total existing + variant sfh	892 sfh / 281,551,753 sfh
Number of days annually when new shading from variant would occur	Up to 26 days a year
Dates when net new shadow from variant would be cast annually	3/16 - 3/28 & 9/14 - 9/26
Date(s) with most annual sfh net new variant shadow (shadow load / net new sfh)	September 20 & March 22
Time of year / time of day most affected by variant net new shadow overall	Spring / Late Afternoon (after 4:00 PM)
Date(s) with largest shadow area from the variant (area and time shadow occurs)	Sep 20/Mar 22 (315 sf @ 6:00 PM)
Range in variant net new shadow percentage coverage (area range)	Between 0.0% - 0.2% (0 - 315 sf)
Average variant net new shadow coverage on affected dates (shadow area)	0.21% (375 sf)
Date(s) with the longest duration of net new shadow (duration)	Sep 20/Mar 22 (12 min +/- 11 min)
Range in daily variant net new shadow duration (margin of error)	Between zero minutes up to 12 min (+/- 11 min)
Average daily variant net new shadow duration on affected dates	12.3 minutes

TABLE 5: Quantitative project shadow summary for Sue Bierman Park

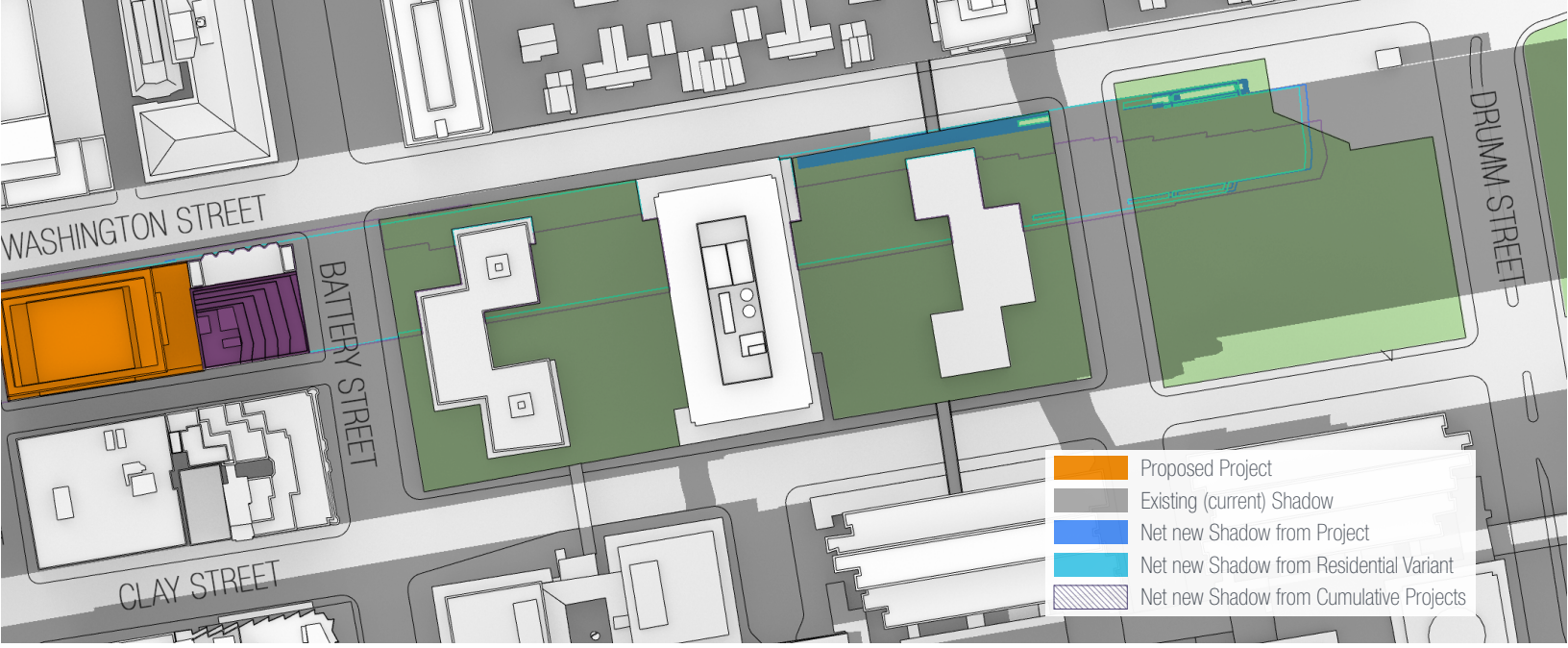


FIGURE 18: Max net new shadow on Sue Bierman Plaza (3/22 and 9/20 at 6:00 pm)

Park starting just after 5:45 p.m. and be present for approximately 15 minutes until shortly after 6 p.m.

The dates with the single largest net new project shadow area would also occur on September 20th and March 22nd, when a 344-sf new shadow would be cast at 6 p.m. (see Figure 18) and would cover 0.02% of the total park area. The largest shadow from the residential variant would also occur at that date and time, but be slightly smaller at 315 sf.

The duration of proposed project/variant-generated net new shadow would also vary throughout the year, with net new shadow lasting between zero minutes up to approximately 20 minutes (occurring on September 20th and March 22nd).

Increase in Shadow in Cumulative Scenarios

Cumulative net new shadow would be identical to the conditions under the project/variant as none of the other cumulative scenario projects would cast any net new shadow on Sue Bierman Park.

Observed Uses

Within the six 30-minute observation periods conducted by Prevision Design on October 21st and 24th, 2020, the number of users present in the park over the course of half an hour ranged from 19 to 37 people[6]. Most of the observed users of the park

6 These observations took place during the Covid-19 pandemic which may have altered typical patterns of park use, however no prior use observation data was available.

passed through without stopping, and those who remained occupied the landscaped/ grassy areas for resting or conversation. See Table 6 for an observation summary.

OBSERVATION TIME	DATE OF VISIT	PARK USERS	TEMP - WEATHER
Weekday Morning	10/21/2020	21	65° F – Sunny
Weekday Midday	10/21/2020	19	72° F – Sunny
Weekday Afternoon	10/21/2020	27	78° F – Sunny
Weekend Morning	10/24/2020	22	58° F – Mostly Cloudy
Weekend Midday	10/24/2020	30	66° F – Partly Cloudy
Weekend Afternoon	10/24/2020	37	67° F – Sunny

TABLE 6: Sue Bierman Park Use Observations

Overall, observed peak use at the park occurred during weekend midday and afternoon hours. The observed intensity of use varied between the observation times but could be characterized as low to moderate due to the fact a high percentage of park users were transitory in nature. Observed peak use on October 24th during the afternoon corresponded to a ratio of 4,799 sf of park area per user.

The Value of Sunlight

The portions of Sue Bierman Park that would likely be sensitive to the addition of new shadow would be those elements that are fixed in location, conducive to more stationary activities (users remain in one area rather than pass through) and are observed to be well used by the public. Based on the use observations performed the landscaped/ grassy areas would likely qualify as the most sensitive areas. This feature would receive additional new shadow from the project and residential variant as further discussed below.

Project Shadow Characteristics

Throughout the year, net new shadow due to the proposed project/variant would occur only over a small area of the northern portion of the park (see Exhibit A), with net new shadow (when occurring) present for about 20 minutes. The largest net new shadow profile would be very small and cover approximately 0.2% of the total park area. The new shadow would fall on grassy areas adjacent the public sidewalk.

As many of the observed uses of the park were transitory in nature and would not likely be affected by the presence of new shadow, and even for those for whom the park is a destination would likely not find the small additional area of shadow noticeable and even if it were it would be relatively easy to relocate to a similar nearby unshaded area.

Exhibits B through D graphically illustrate shadow conditions at hourly intervals within the daily analysis period (one hour after sunrise through one hour before sunset) on the summer solstice (June 21st), approximate vernal and autumnal equinoxes (March 22nd / September 20th, also the date of max shadow on Sue Bierman Park West), the winter solstice (December 20th)

Other Factors Affecting Sunlight

Per Planning Department direction, shadow cast by trees is considered "impermanent" and was not accounted for in the quantitative shadow analysis. On a practical basis, the dense planting of many large trees along the western half of the park contributes to the user experience of the park and its shadow conditions. As these trees are located between the project and the affected area of the park, the shadows cast by the proposed project and residential variant would likely have a diminished net new shading effect as these areas would already be cast in (at least partial) shadow due to tree shading during the affected periods. ■

IX. TRANSAMERICA REDWOOD PARK ANALYSIS FINDINGS

Existing Conditions

Under existing conditions, the park is predominantly shaded throughout the day due to shadows cast by existing buildings as well as substantial tree canopy cover.

Increase in Annual Shadow from Proposed Project and Residential Variant

Setting aside presence of shadow from existing trees, the project and residential variant would generate small amounts net new shadow on Redwood Park from approximately early April through early September, with the largest amount of shadow occurring on or near the summer solstice (June 21st).

Increase in Annual Shadow from Cumulative Scenarios

In addition to the shadow cast by the project, the cumulative condition project at 545 Sansome street would generate net new shadow on the northern portion of Redwood Park during morning hours from spring through fall, with the largest amount of shadow occurring mid-morning on or near the summer solstice (June 21st).

Timing and Location of Shadow from Proposed Project and Residential Variant

Net new shadow from the project/variant would be cast in the morning lasting from between a few minutes in the spring and fall up to about 4 hours on the summer solstice. The amount of area affected by such shadow would cover 5% or less of the park area (under 3,000 sf) at any given time. The portions of the park that would be affected include the northern quarter of the park along Washington Street and a narrow section in the middle of the space.

The Value of Sunlight

Features of the open space that would be considered to be more sensitive to the addition of new shadow would be some areas of fixed seating, some of which are in areas

affected by net new project shadow, however while shadow analysis methodology does not take into account the presence of trees, the dense redwood canopy is both a defining feature of this open space and would also serve to capture a substantial amount of the shadow cast by the project, making the change in shading conditions less noticeable by users of this open space and therefore reducing the importance of sunlight on these affected features. ■

EXHIBIT A: NET NEW SHADOWFAN DIAGRAMS

A1.1 - Annual net new shadow locations from the proposed project

A1.2 - Annual net new shadow locations from the residential variant

Diagrams showing extents of all areas receiving net new shadow from the proposed project/project variant at *some* point during the year.

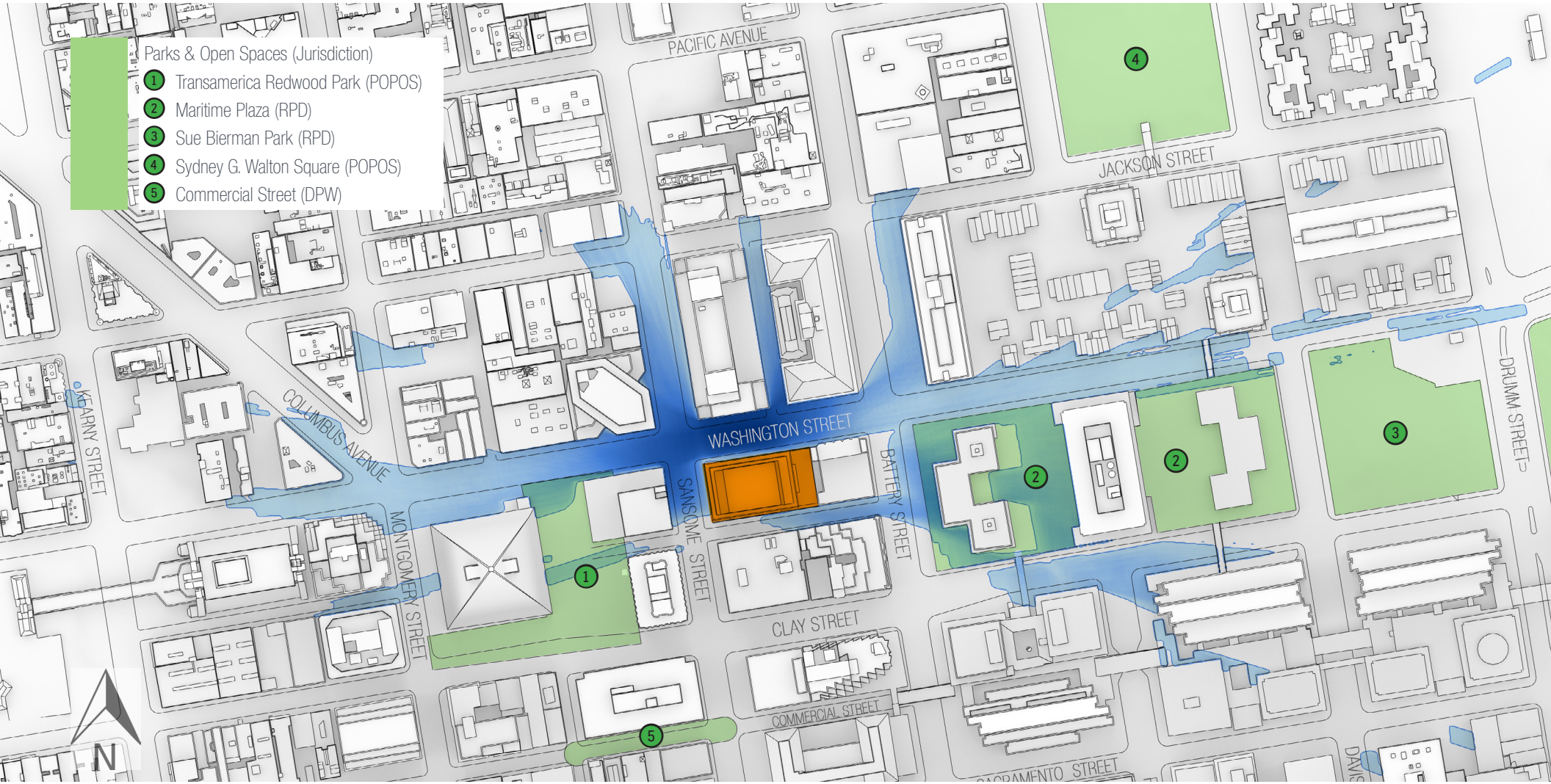
NOTE: Due to the similarity in massing between the project and the residential variant, the differences in the shadowfans for these two proposals are very slight.

A1.1

530 SANSOME STREET PROJECT SHADOW FAN

Full year net new shadow fan diagram factoring in the presence of existing shadows

PREVISION DESIGN



Proposed Project

Refined Shadow Fan of Proposed Project

occasional shadow — frequent shadow

SHADOW FAN DIAGRAM
AFFECTED AREAS DURING SECTION 295 TIMES

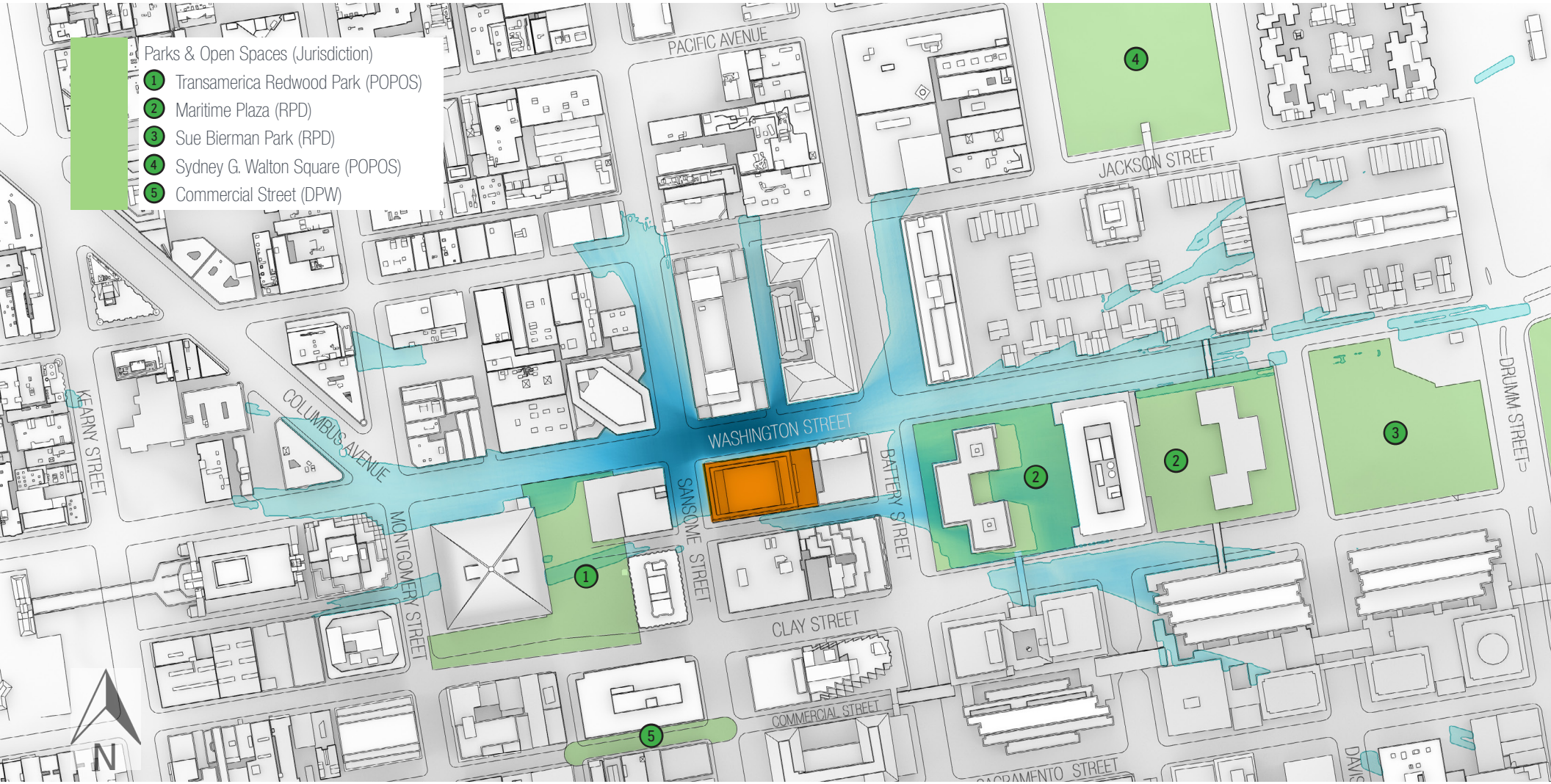
FULL YEAR

A1.2

530 SANSOME STREET RESIDENTIAL VARIANT SHADOW FAN

Full year net new shadow fan diagram factoring in the presence of existing shadows

PREVISION DESIGN



Residential Variant

Refined Shadow Fan of Residential Variant

occasional shadow — frequent shadow

SHADOW FAN DIAGRAM
AFFECTED AREAS DURING SECTION 295 TIMES

FULL YEAR

EXHIBIT B: SHADOW DIAGRAMS ON SUMMER SOLSTICE

B1 - June 21st

Diagrams at one hour intervals starting one hour after sunrise to one hour prior to sunset.

PREVISION DESIGN

B1.1 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

6:46 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.2 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE JUNE 21

7:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.3 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE JUNE 21

8:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

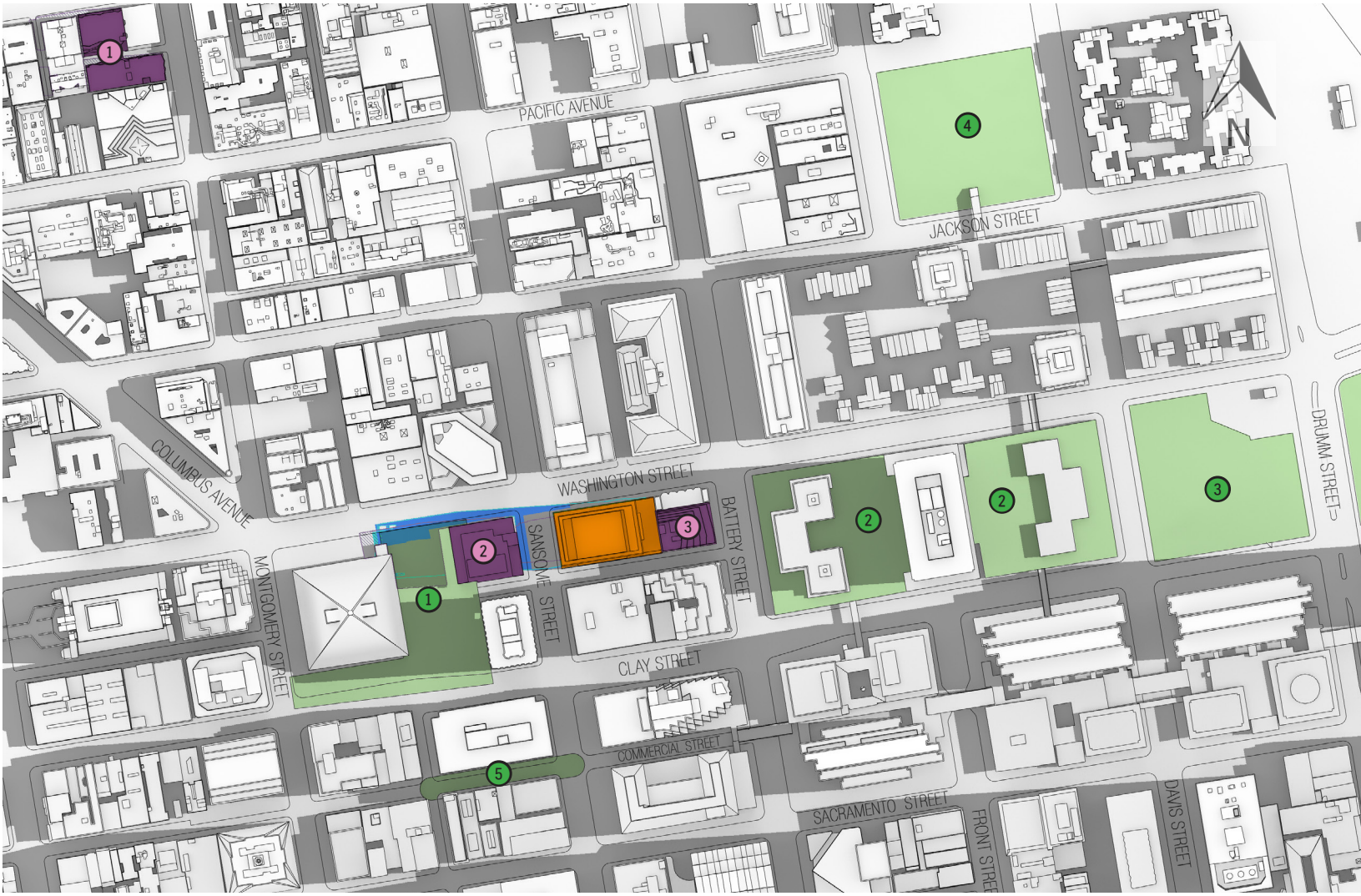
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.4 530 SANSOME STREET

Shadow diagrams on the Summer Solstice



SUMMER SOLSTICE JUNE 21

9:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

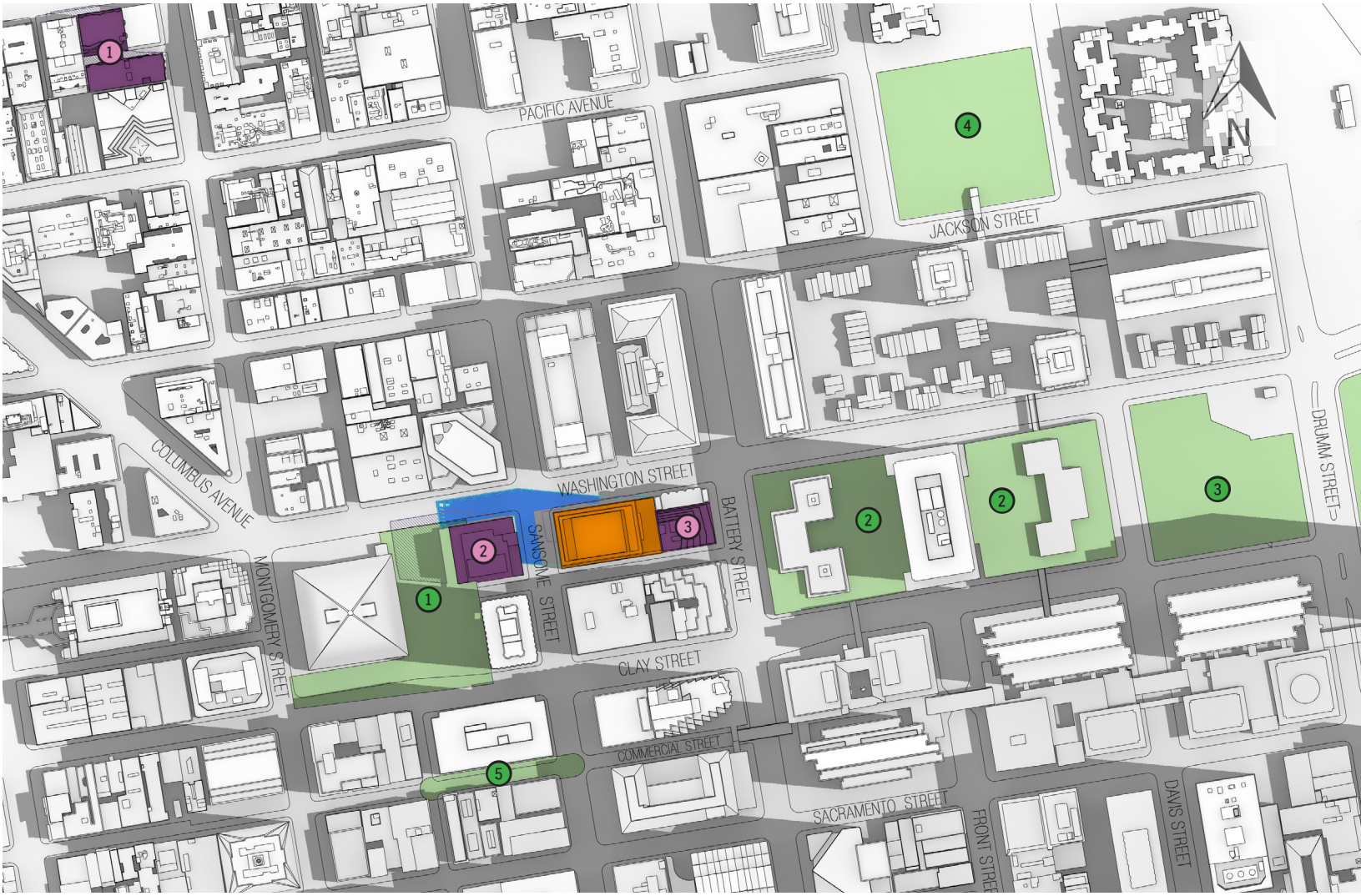
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.5

530 SANSOME STREET

Shadow diagrams on the Summer Solstice



SUMMER SOLSTICE
JUNE 21

10:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

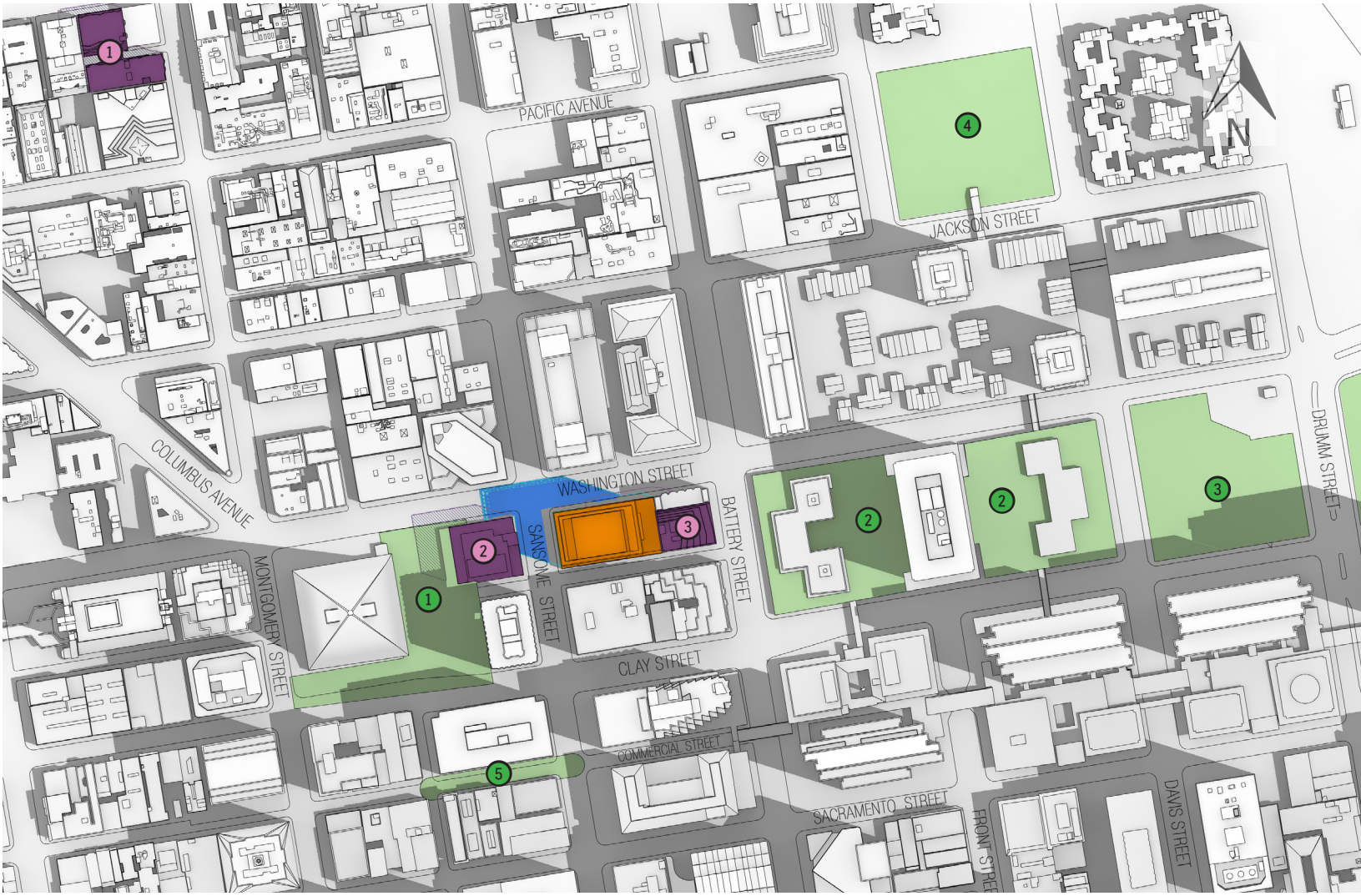
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.6 530 SANSOME STREET

Shadow diagrams on the Summer Solstice



SUMMER SOLSTICE JUNE 21

11:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

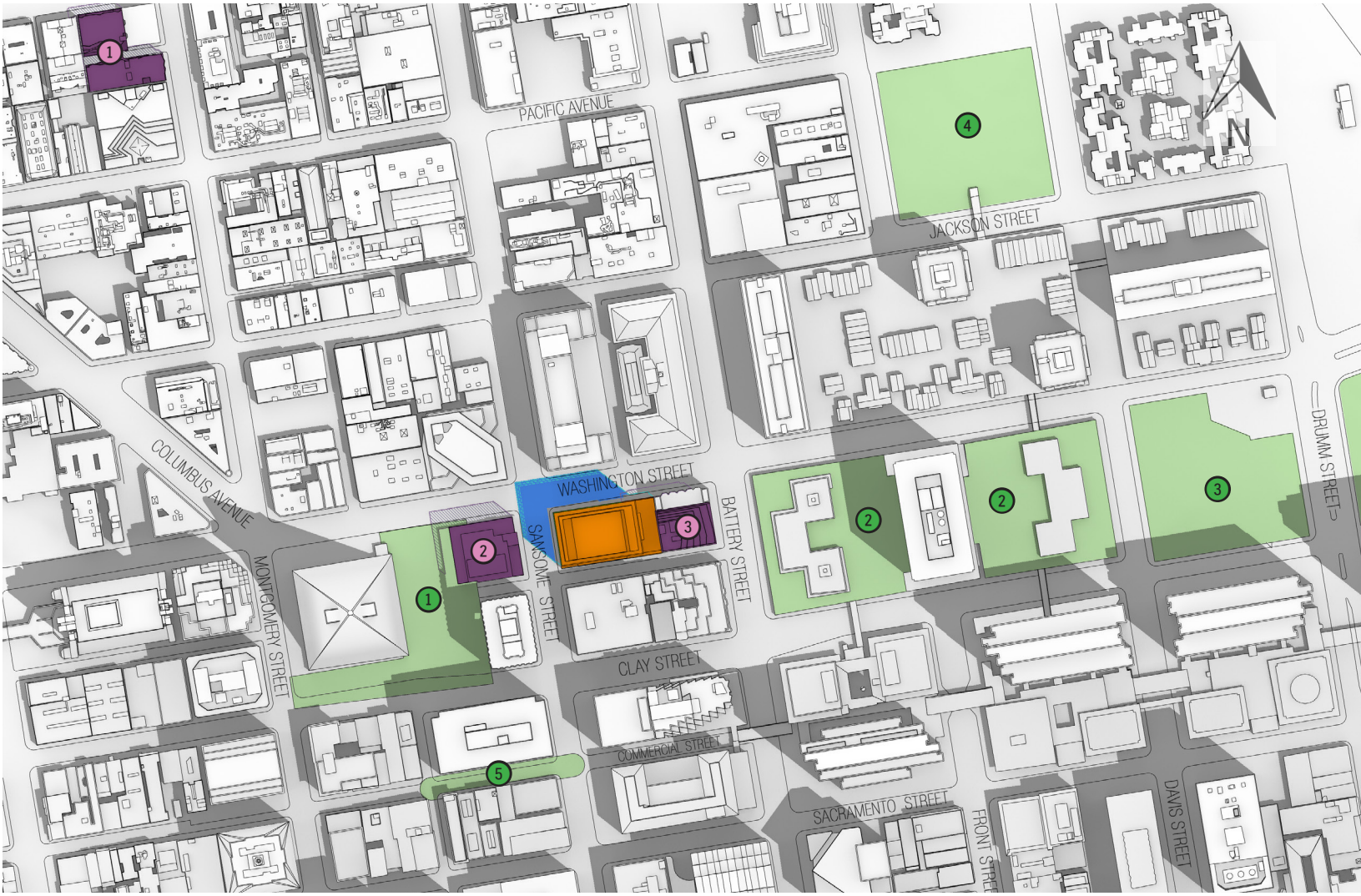
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.7 530 SANSOME STREET

Shadow diagrams on the Summer Solstice



SUMMER SOLSTICE JUNE 21

12:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.8 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

1:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.9 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE JUNE 21

2:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.10 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.11 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE JUNE 21

4:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.12 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

5:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.13 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE JUNE 21

6:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.14 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

7:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

B1.15 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

7:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

EXHIBIT C: SHADOW DIAGRAMS NEAR EQUINOXES

C1 - September 20th (Autumnal), March 22nd (Vernal) similar

Diagrams at one hour intervals starting one hour after sunrise to one hour prior to sunset.

PREVISION DESIGN

B1.16 530 SANSOME STREET

Shadow diagrams on the Summer Solstice

SUMMER SOLSTICE
JUNE 21

7:36 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.1 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

7:57 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.2

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

8:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

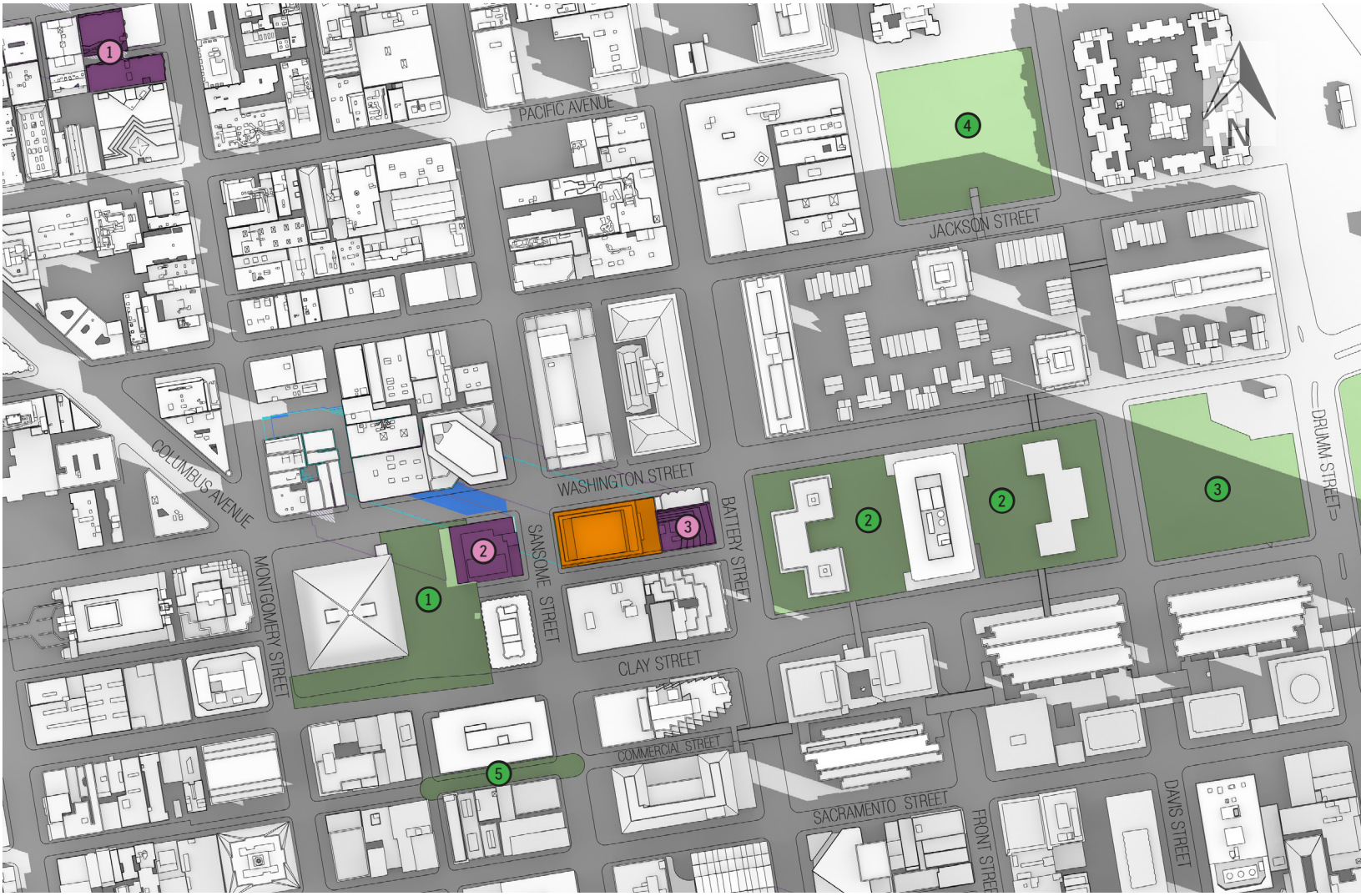
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.3

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)



FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

9:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

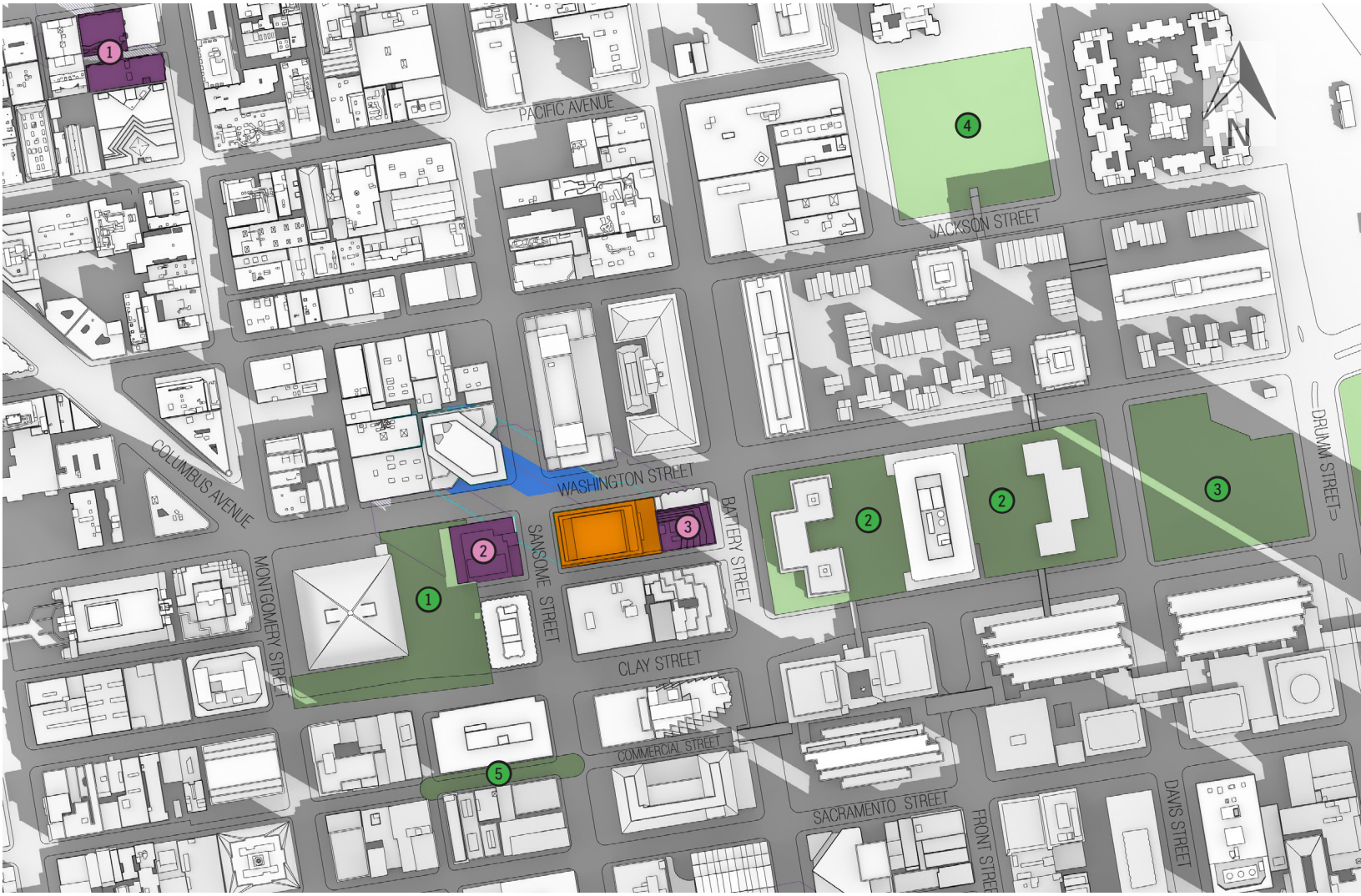
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.4 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)



FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

10:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

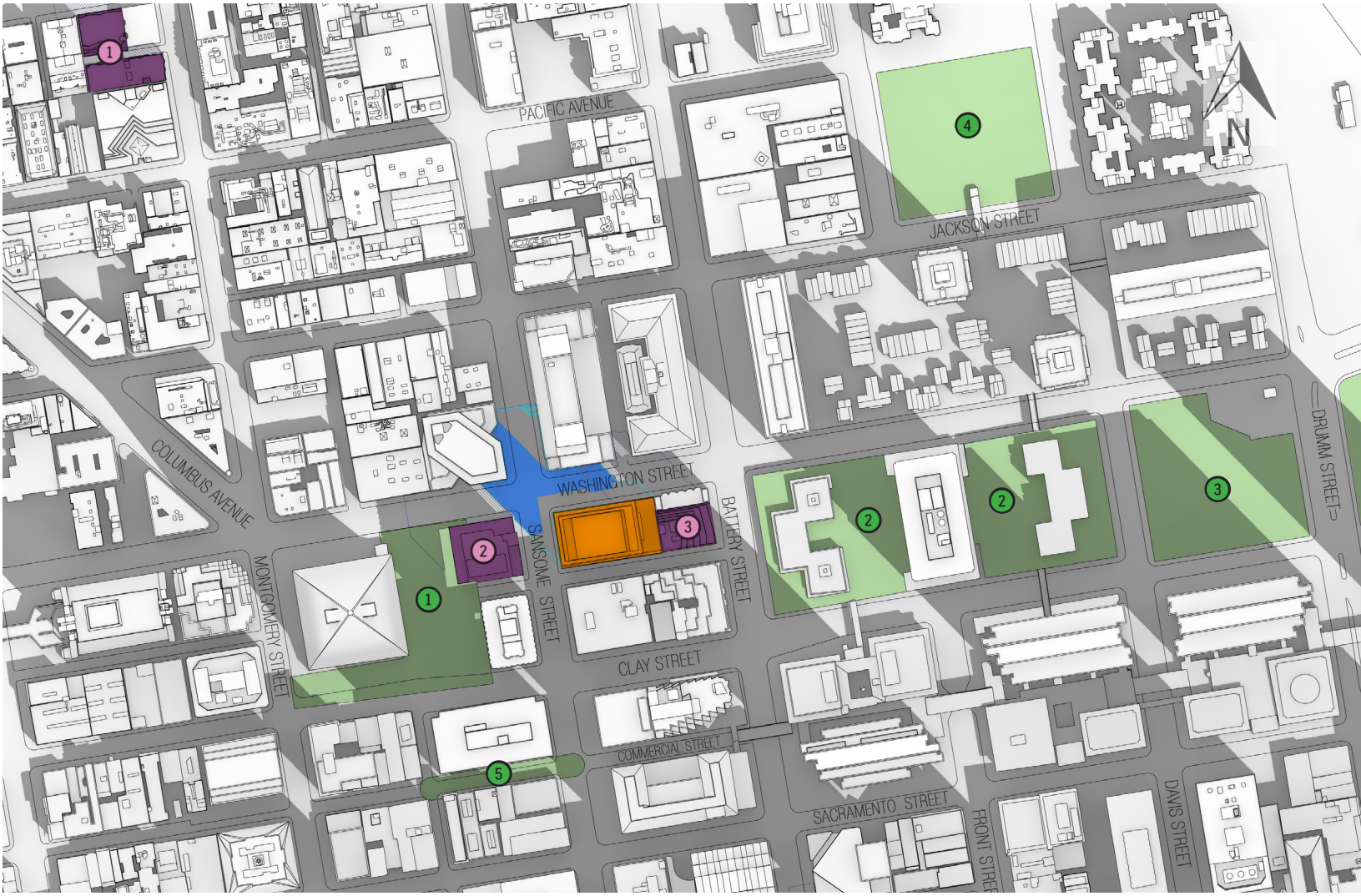
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.5

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)



FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

11:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.6

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

12:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.7

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

1:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.8

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

2:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.9

530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.10 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

4:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.11 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

5:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.12 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM) SEPTEMBER 20 & MARCH 22

6:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

C1.13 530 SANSOME STREET

Shadow diagrams on the Fall Equinox (Spring sim)

FALL EQUINOX (SPRING SIM)
SEPTEMBER 20 & MARCH 22

6:09 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

EXHIBIT D: SHADOW DIAGRAMS ON WINTER SOLSTICE

D1 - December 20th

Diagrams at one hour intervals starting one hour after sunrise to one hour prior to sunset.

PREVISION DESIGN

D1.1 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

8:19 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.2 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

9:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.3 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

10:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.4

530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

11:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.5

530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

12:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.6

530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

1:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.7 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

2:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.8 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.8 530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

D1.9

530 SANSOME STREET

Shadow diagrams on the Winter Solstice

WINTER SOLSTICE
DECEMBER 20 & DECEMBER 21

3:54 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

EXHIBIT E: DAYS OF MAXIMUM SFH NET NEW SHADOW

E1 - April 26th and August 16th

Diagrams at one hour intervals starting one hour after sunrise to one hour prior to sunset, and at 15-minute intervals when net new shadow is present.

PREVISION DESIGN

E1.1 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

7:25 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.2 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

8:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

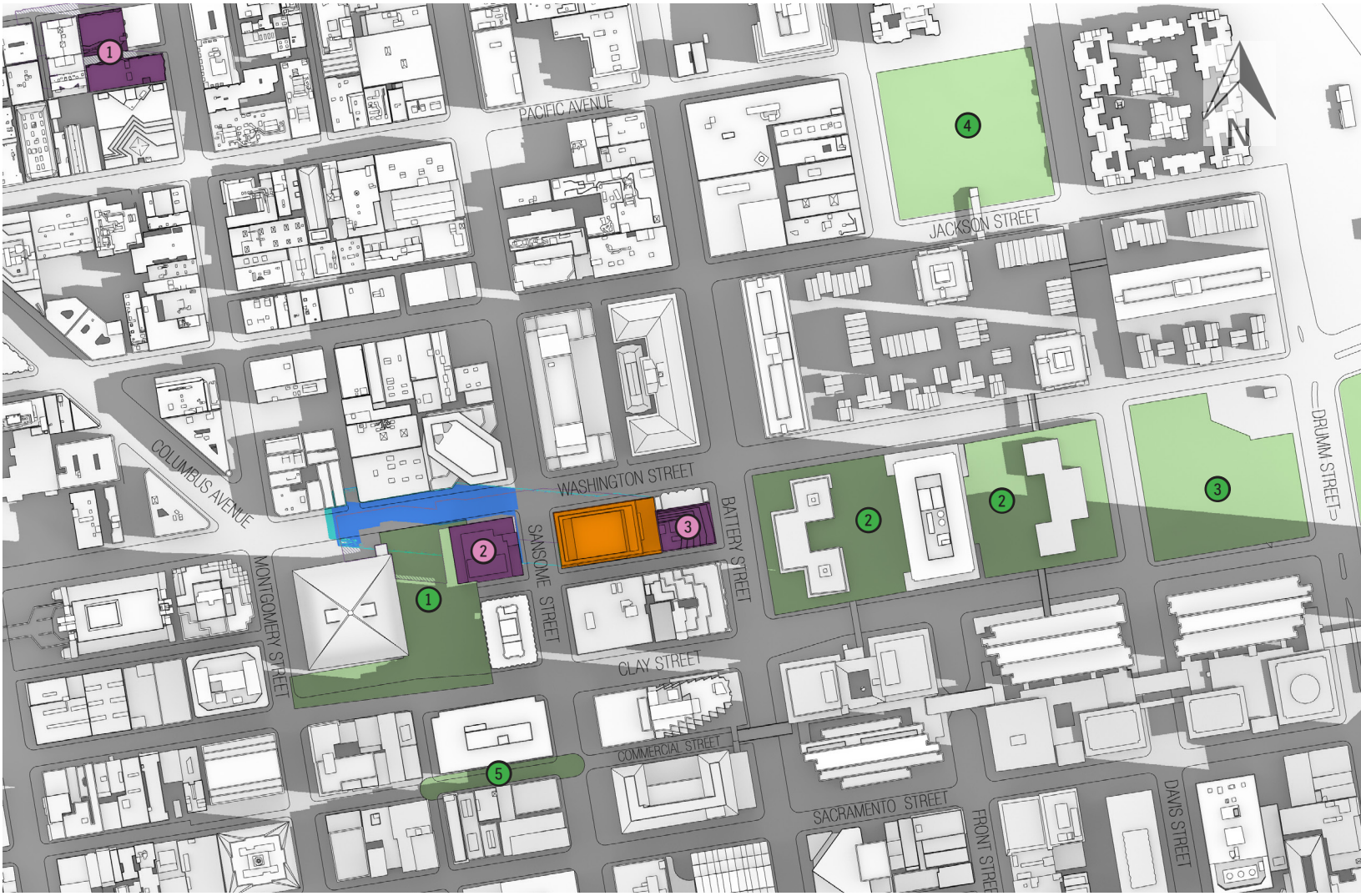
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.3

530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza



DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

9:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

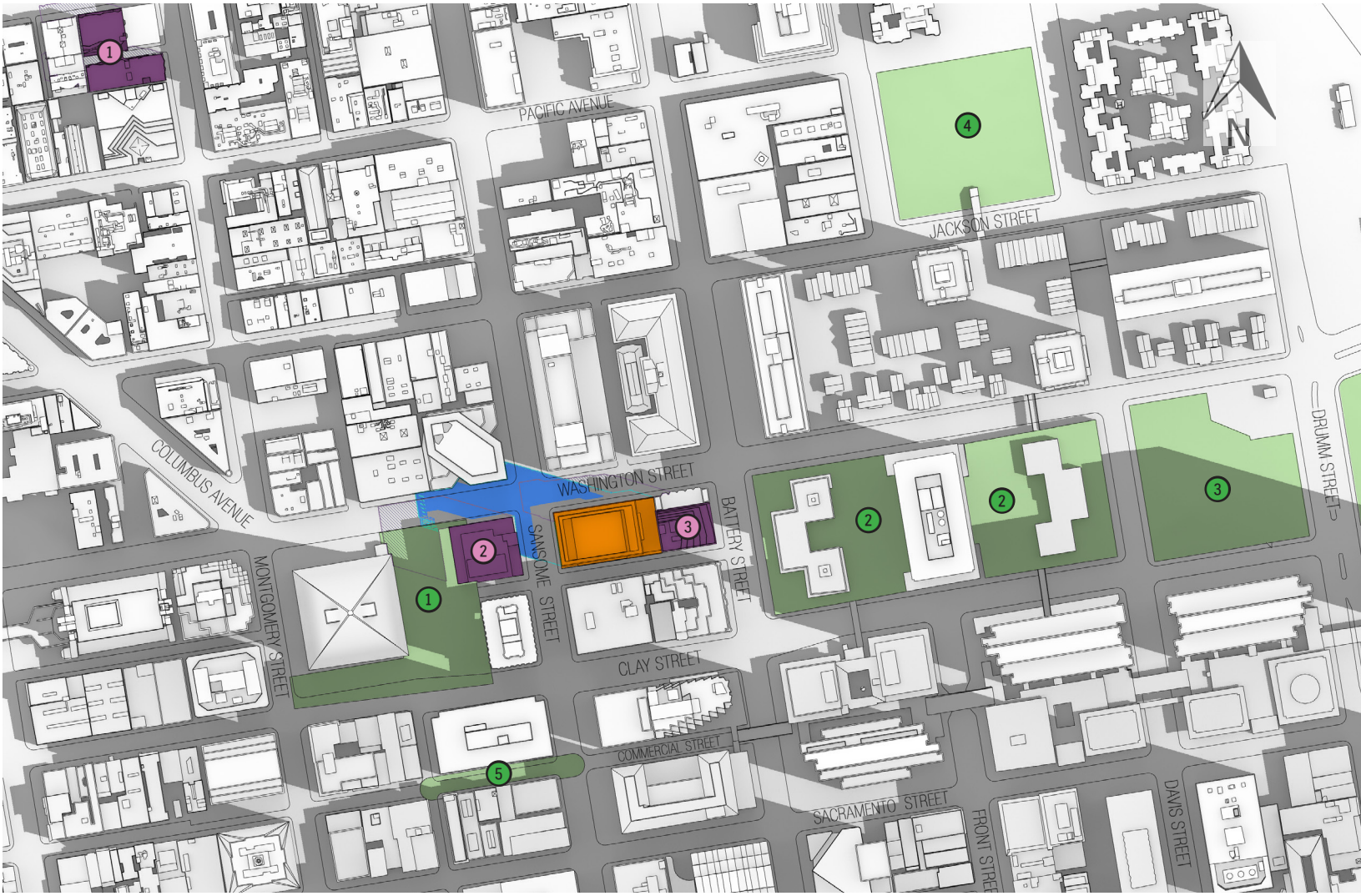
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.4

530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza



DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

10:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

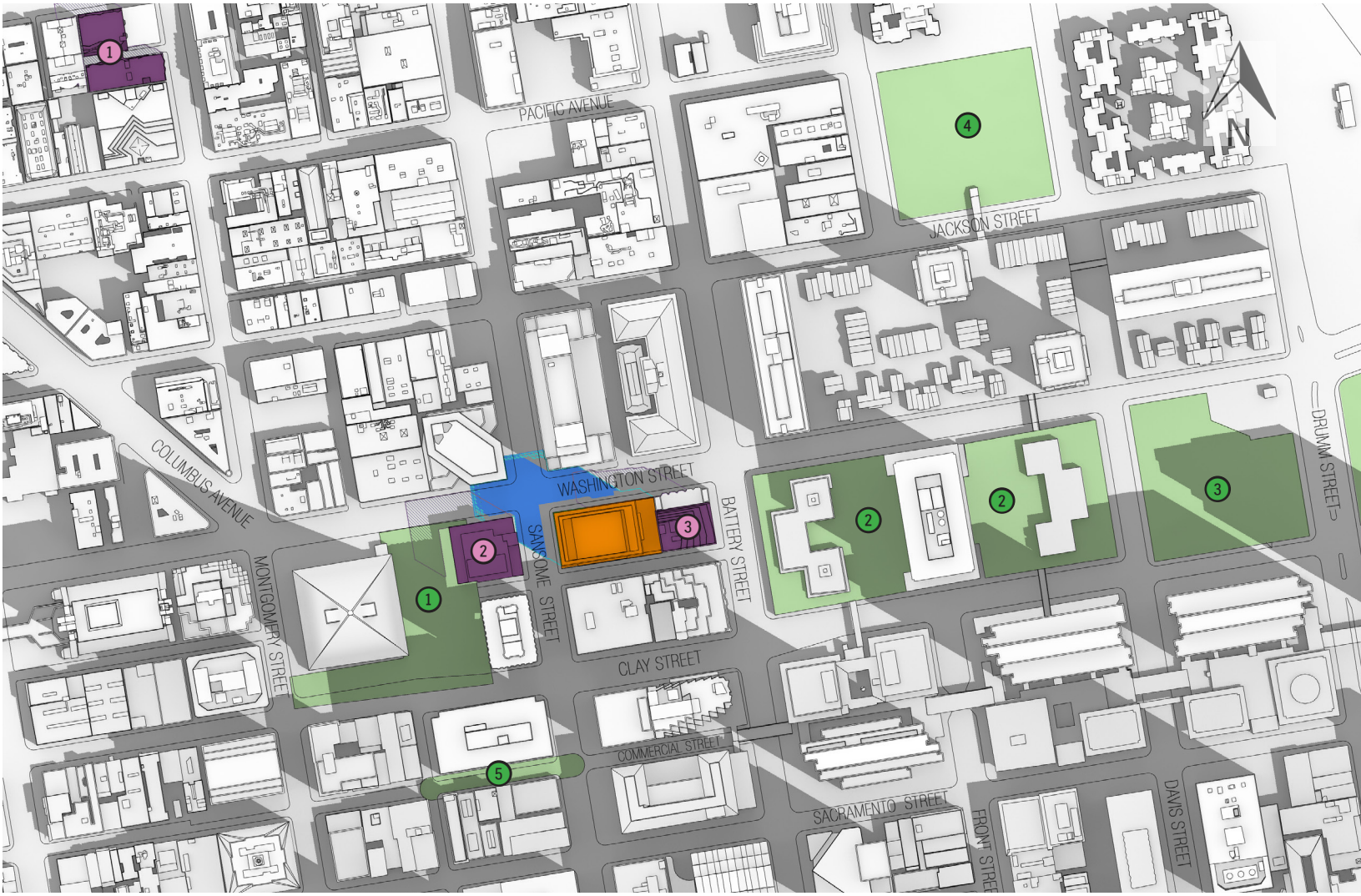
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.5

530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza



DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

11:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

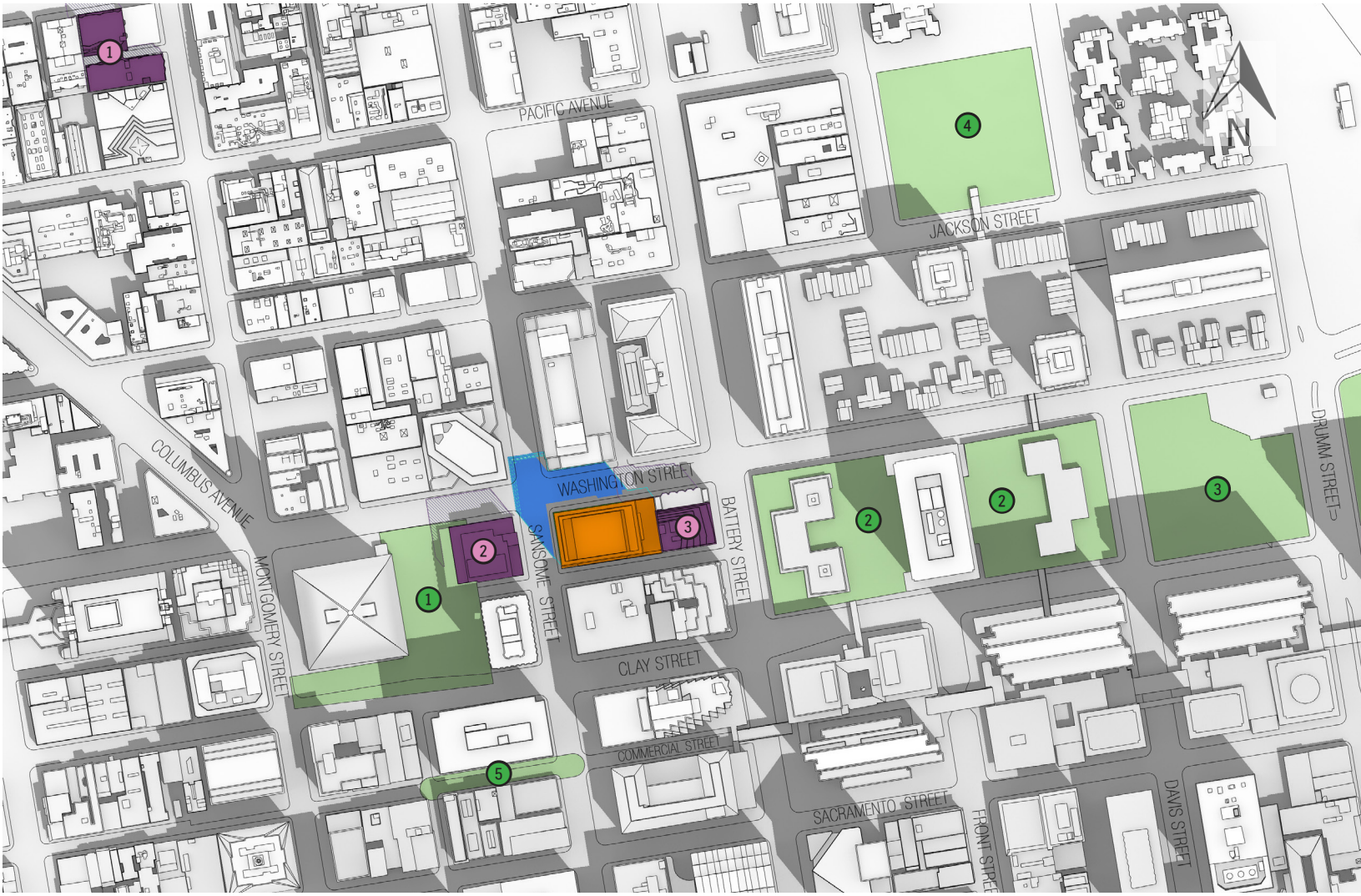
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.6

530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza



DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

12:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.7

530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

1:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.8 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

2:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.9 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.10 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

4:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.11 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

4:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.12 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

4:30 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.13 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

4:45 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

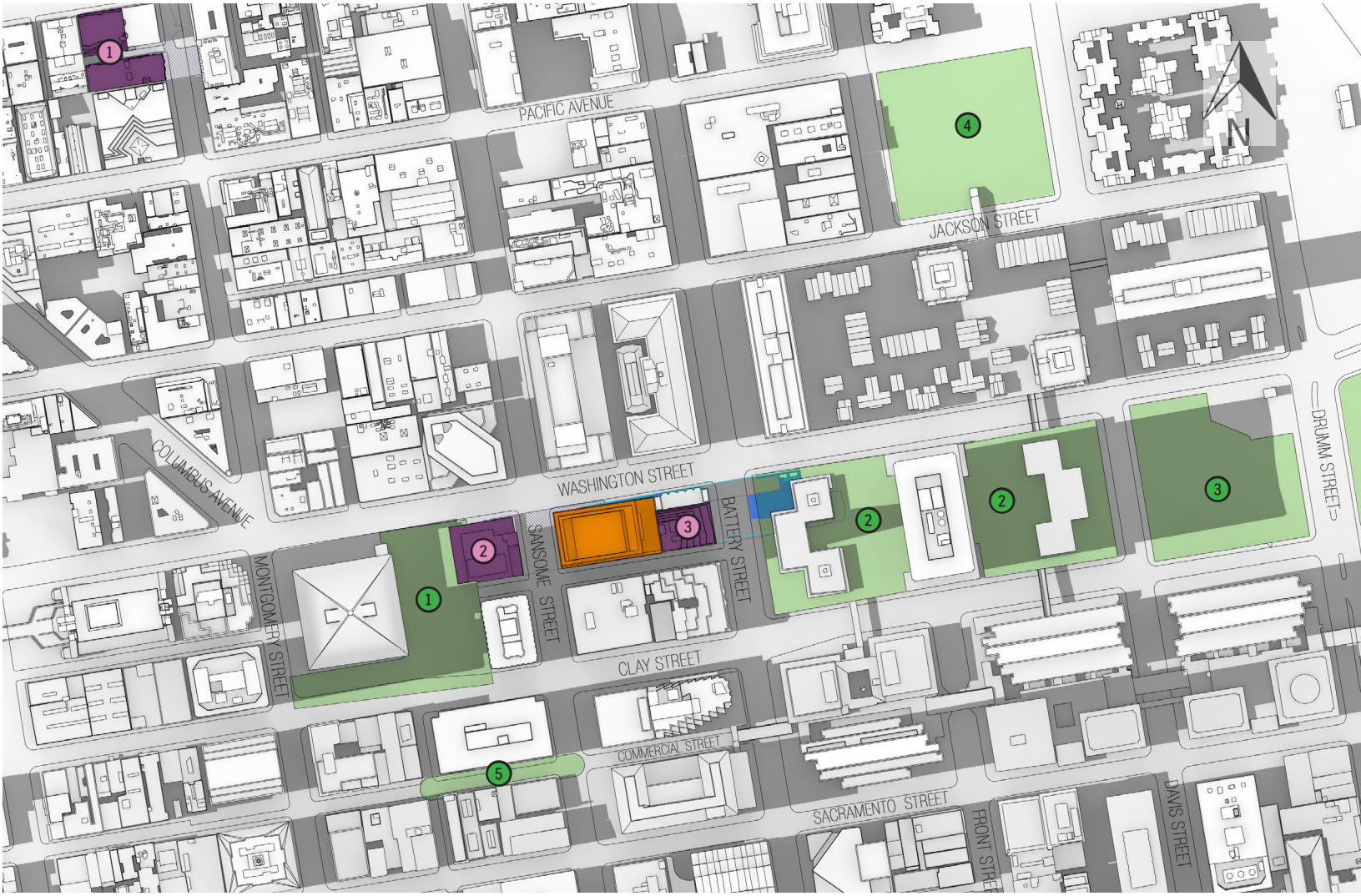
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.14 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza



DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

5:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.15 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

5:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.16 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

5:30 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.17 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

5:45 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.18 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

6:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.19 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

6:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.20 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

6:30 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.21 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

6:45 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

E1.22 530 SANSOME STREET

Shadow diagrams on date of max SFH shadow on Maritime Plaza

DATE OF MAXIMUM SFH NET NEW SHADOW
APRIL 26 & AUGUST 16

7:02 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

EXHIBIT F: DAYS OF LARGEST NET NEW SHADOW

E1 - April 19th and August 23rd

Diagrams at one hour intervals starting one hour after sunrise to one hour prior to sunset, and at 15-minute intervals when net new shadow is present.

PREVISION DESIGN

F1.1 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

7:31 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.2 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

8:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.3

530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

9:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

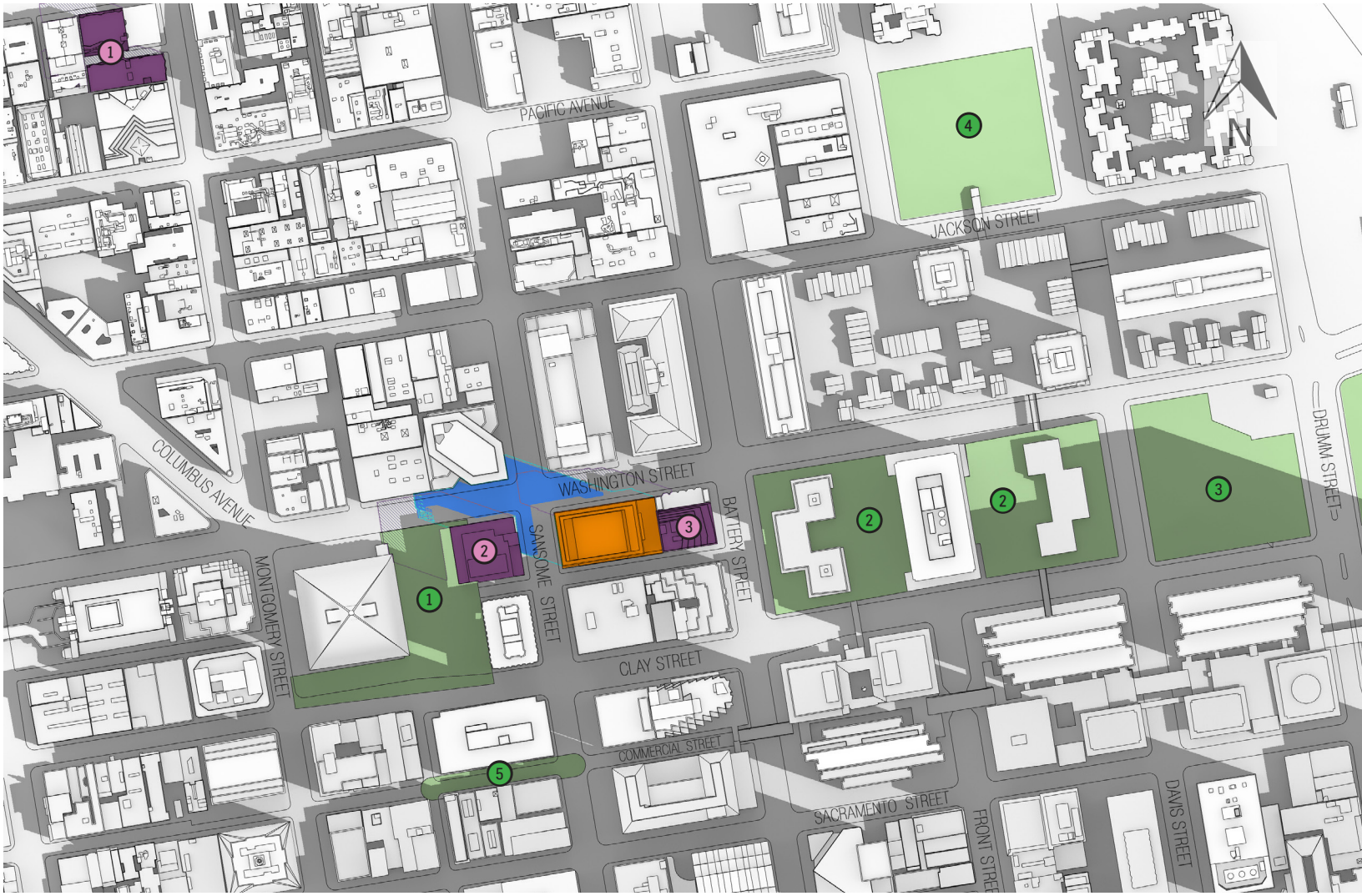
Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.4 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza



DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

10:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

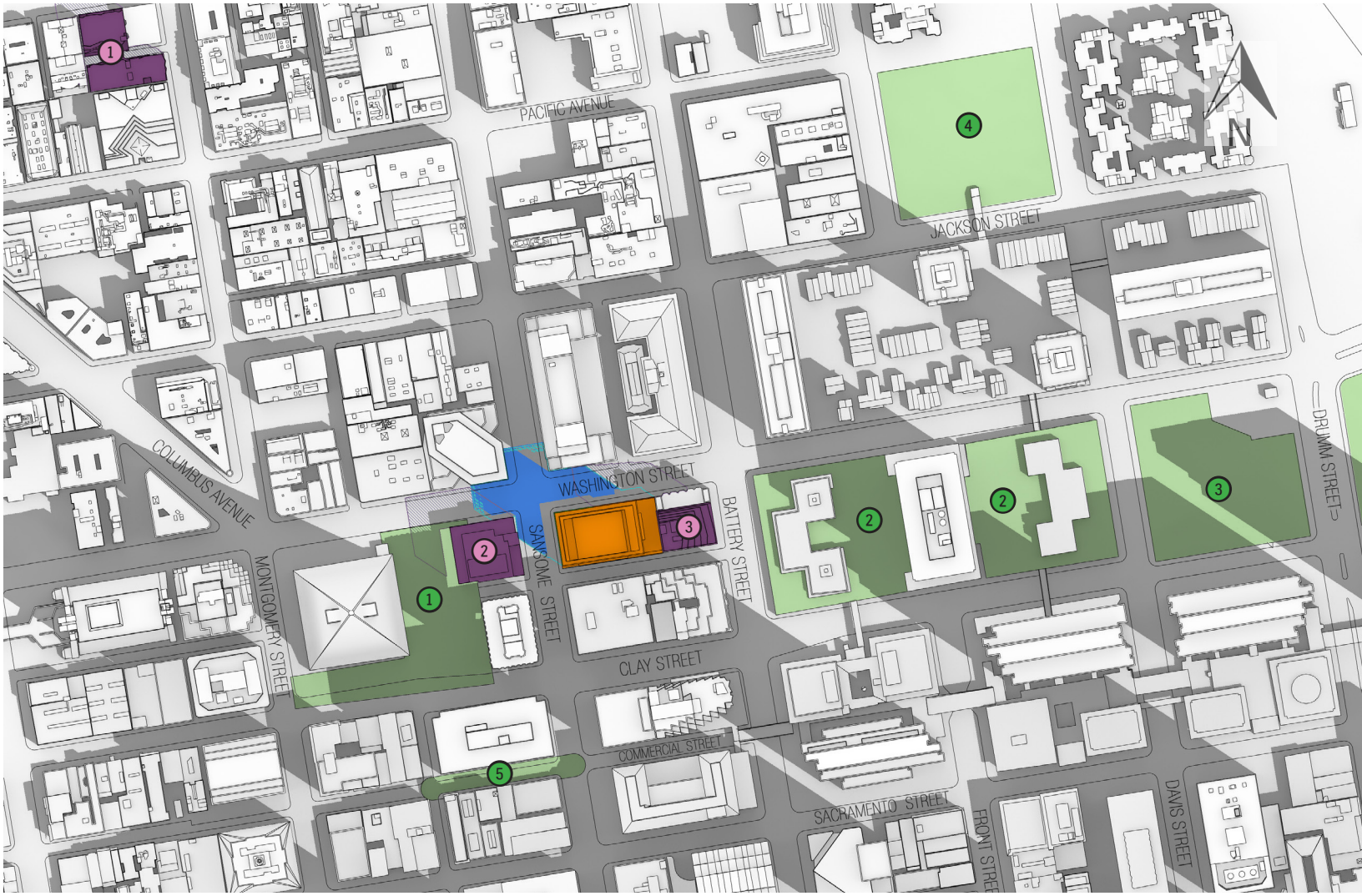
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.5

530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza



DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

11:00 AM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

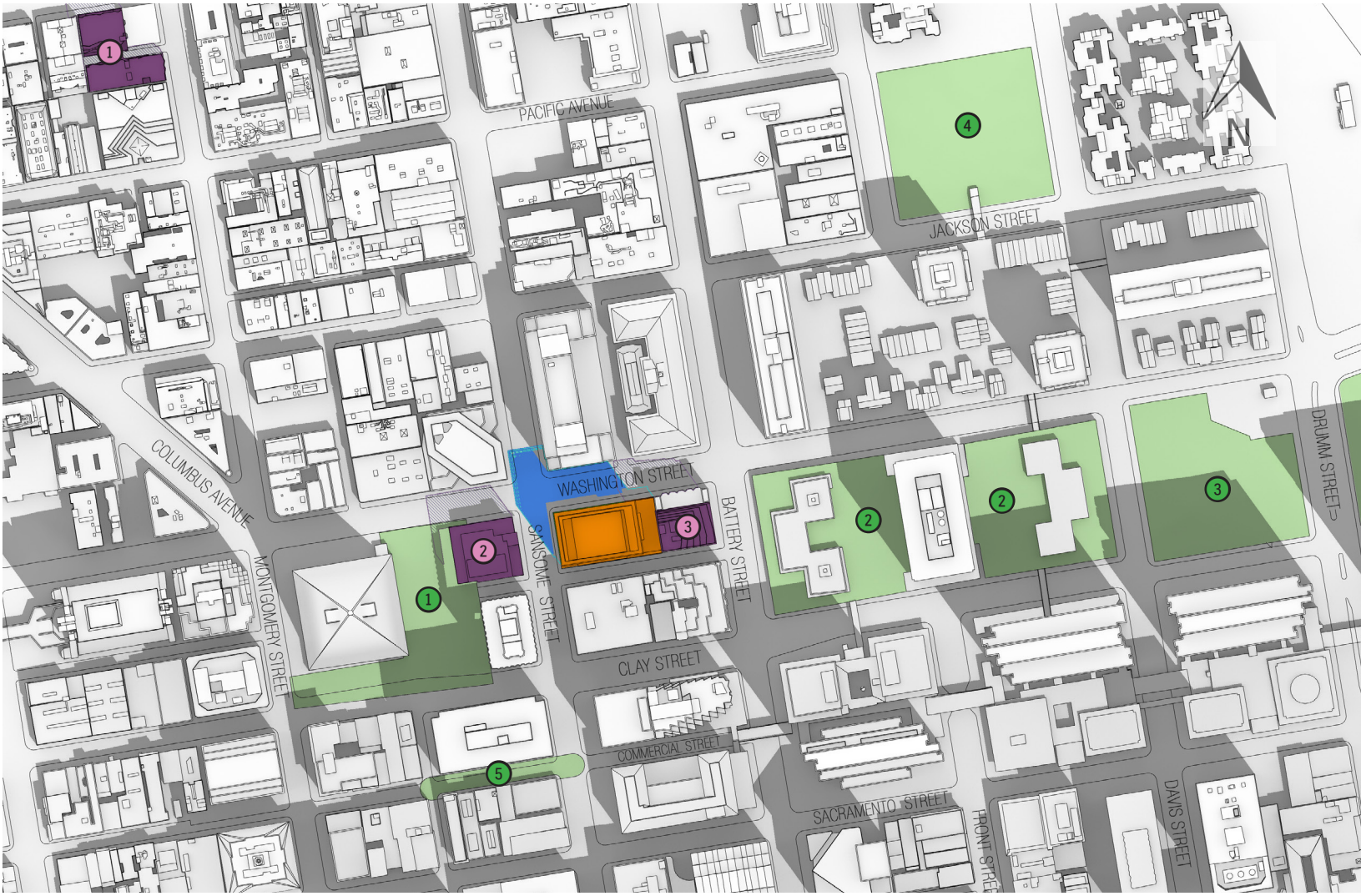
1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.6

530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza



DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

12:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.7 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

1:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.8 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

2:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.9

530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

3:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.10 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

4:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.11 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

4:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.12 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

4:30 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.13 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

4:45 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.14 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

5:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.15 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

5:15 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.16 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

5:30 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.17 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

5:45 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.18 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

6:00 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

PREVISION DESIGN

F1.19 530 SANSOME STREET

Shadow diagrams on date of max shadow size on Maritime Plaza

DATE OF MAXIMUM NET NEW SHADOW SIZE
APRIL 19 & AUGUST 23

6:52 PM

- Proposed Project
- Existing (current) Shadow
- Net new Shadow from Project
- Net new Shadow from Residential Variant
- Net new Shadow from Cumulative Projects

** Project and Residential Variant are very similar in form so distinctions between their shadows may be imperceptable at this scale.*

Parks & Open Spaces (Jurisdiction)

1. Transamerica Redwood Park (POPOS)
2. Maritime Plaza (RPD)
3. Sue Bierman Park West (RPD)
4. Sydney G. Walton Square (POPOS)
5. Commercial Street OS (DPW)

Cumulative Projects

1. 425 Broadway
2. 545 Sansome Street
3. 447 Battery Street

EXHIBIT G: QUANTITATIVE SHADOW DATA

Quantitative Shadow Data for Maritime Plaza

Shadow data for existing conditions, net new shadow from project, and cumulative condition shadow

PREVISION DESIGN

JUNE 21

Summer solstice

Analysis hours: 6:46 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:46 AM	72,578.13	7,983.59	83.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	66,802.85	15,364.66	77.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	59,805.09	14,951.27	69.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	53,843.69	13,460.92	62.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	50,687.23	12,671.81	58.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,005.26	12,001.31	55.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	45,330.99	11,332.75	52.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	44,259.06	11,064.76	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	44,591.63	11,147.91	51.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	43,737.86	10,934.46	50.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	44,092.07	11,023.02	50.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	43,550.44	10,887.61	50.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	42,220.23	10,555.06	48.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	40,825.74	10,206.44	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	40,823.33	10,205.83	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	40,431.59	10,107.90	46.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	37,703.93	9,425.98	43.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	34,509.20	8,627.30	39.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	32,526.65	8,131.66	37.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	30,186.36	7,546.59	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	27,899.46	6,974.87	32.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	23,034.61	5,758.65	26.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	18,497.69	4,624.42	21.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	14,036.10	3,509.02	16.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	9,858.87	2,464.72	11.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	4,942.48	1,235.62	5.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	6,751.08	1,687.77	7.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	9,420.70	2,355.18	10.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	13,419.24	3,354.81	15.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	18,149.70	4,537.43	20.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	22,958.27	5,739.57	26.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	26,014.80	6,503.70	30.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	27,615.18	6,903.79	31.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	29,193.36	7,298.34	33.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,640.09	7,910.02	36.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	36,147.20	9,036.80	41.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	380.50	95.12	0.4%	380.50	95.12	0.4%
3:45 PM	40,778.84	10,194.71	47.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	984.45	246.11	1.1%	984.45	246.11	1.1%
4:00 PM	39,577.26	9,894.31	45.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,620.63	405.16	1.9%	1,620.63	405.16	1.9%
4:15 PM	41,207.36	10,301.84	47.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,001.31	500.33	2.3%	2,001.31	500.33	2.3%
4:30 PM	42,590.23	10,647.56	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,353.76	588.44	2.7%	2,353.76	588.44	2.7%
4:45 PM	45,001.95	11,250.49	51.9%	315.77	78.94	0.4%	165.78	41.44	0.2%	2,627.83	656.96	3.0%	2,623.19	655.80	3.0%
5:00 PM	42,187.54	10,546.88	48.7%	1,800.43	450.11	2.1%	1,475.47	368.87	1.7%	2,735.56	683.89	3.2%	2,715.97	678.99	3.1%
5:15 PM	41,478.27	10,369.57	47.9%	2,404.19	601.05	2.8%	2,372.99	593.25	2.7%	2,722.47	680.62	3.1%	2,711.04	677.76	3.1%
5:30 PM	42,311.52	10,577.88	48.8%	2,540.71	635.18	2.9%	2,516.29	629.07	2.9%	3,044.55	761.14	3.5%	3,019.10	754.78	3.5%
5:45 PM	45,280.75	11,320.19	52.2%	3,473.81	868.45	4.0%	3,448.64	862.16	4.0%	5,425.15	1,356.29	6.3%	5,400.54	1,350.13	6.2%
6:00 PM	51,120.76	12,780.19	59.0%	4,583.73	1,145.93	5.3%	4,560.04	1,140.01	5.3%	9,647.32	2,411.83	11.1%	9,692.74	2,423.18	11.2%
6:15 PM	56,033.44	14,008.36	64.6%	8,699.65	2,174.91	10.0%	8,273.65	2,068.41	9.5%	13,416.00	3,354.00	15.5%	13,477.11	3,369.28	15.5%
6:30 PM	63,972.84	15,993.21	73.8%	8,252.38	2,063.09	9.5%	8,169.16	2,042.29	9.4%	11,578.70	2,894.68	13.4%	11,578.70	2,894.68	13.4%
6:45 PM	76,433.27	19,108.32	88.2%	5,973.28	1,493.32	6.9%	5,974.40	1,493.60	6.9%	8,649.04	2,162.26	10.0%	8,649.04	2,162.26	10.0%
7:00 PM	82,291.49	20,572.87	94.9%	3,523.86	880.97	4.1%	3,521.91	880.48	4.1%	4,384.51	1,096.13	5.1%	4,384.51	1,096.13	5.1%
7:15 PM	84,704.32	25,411.29	97.7%	1,971.68	591.51	2.3%	1,971.68	591.51	2.3%	1,971.68	591.51	2.3%	1,971.68	591.51	2.3%
7:36 PM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JUNE 28

Mirror date: June 14
Analysis hours: 6:48 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:48 AM	71,794.10	7,179.41	82.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	67,562.92	14,863.84	77.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	60,497.55	15,124.39	69.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	54,287.81	13,571.95	62.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	50,997.05	12,749.26	58.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,277.10	12,069.27	55.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	45,537.82	11,384.45	52.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	44,377.28	11,094.32	51.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	44,702.90	11,175.72	51.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	43,861.38	10,965.34	50.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	44,339.95	11,084.99	51.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	43,841.04	10,960.26	50.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	42,657.66	10,664.41	49.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	41,442.23	10,360.56	47.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	41,389.85	10,347.46	47.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	40,861.50	10,215.38	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	38,339.27	9,584.82	44.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	35,103.87	8,775.97	40.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	32,968.35	8,242.09	38.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	30,624.44	7,656.11	35.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	28,358.53	7,089.63	32.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	23,635.03	5,908.76	27.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	19,074.99	4,768.75	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	14,646.08	3,661.52	16.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	10,497.00	2,624.25	12.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	5,572.90	1,393.22	6.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	6,728.14	1,682.04	7.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	9,292.63	2,323.16	10.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	13,182.13	3,295.53	15.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	17,693.33	4,423.33	20.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	22,500.78	5,625.20	26.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	25,830.91	6,457.73	29.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	27,424.14	6,856.04	31.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	29,021.18	7,255.29	33.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,350.33	7,837.58	36.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	35,557.83	8,889.46	41.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	327.75	81.94	0.4%	327.75	81.94	0.4%
3:45 PM	40,779.03	10,194.76	47.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	939.96	234.99	1.1%	939.96	234.99	1.1%
4:00 PM	39,745.17	9,936.29	45.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,587.75	396.94	1.8%	1,587.75	396.94	1.8%
4:15 PM	40,855.93	10,213.98	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,971.78	492.94	2.3%	1,971.78	492.94	2.3%
4:30 PM	42,576.02	10,644.01	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,350.88	587.72	2.7%	2,350.88	587.72	2.7%
4:45 PM	44,654.14	11,163.53	51.5%	225.68	56.42	0.3%	143.95	35.99	0.2%	2,621.14	655.29	3.0%	2,616.68	654.17	3.0%
5:00 PM	42,707.16	10,676.79	49.3%	1,671.52	417.88	1.9%	1,350.83	337.71	1.6%	2,732.13	683.03	3.2%	2,713.55	678.39	3.1%
5:15 PM	41,562.32	10,390.58	48.0%	2,379.40	594.85	2.7%	2,346.33	586.58	2.7%	2,770.30	692.57	3.2%	2,758.04	689.51	3.2%
5:30 PM	42,220.97	10,555.24	48.7%	2,524.55	631.14	2.9%	2,506.35	626.59	2.9%	2,986.87	746.72	3.4%	2,968.21	742.05	3.4%
5:45 PM	44,953.84	11,238.46	51.9%	3,348.80	837.20	3.9%	3,308.77	827.19	3.8%	5,173.56	1,293.39	6.0%	5,133.72	1,283.43	5.9%
6:00 PM	50,645.25	12,661.31	58.4%	4,481.75	1,120.44	5.2%	4,438.94	1,109.73	5.1%	9,316.98	2,329.24	10.7%	9,351.80	2,337.95	10.8%
6:15 PM	55,683.96	13,920.99	64.2%	8,730.76	2,182.69	10.1%	8,266.22	2,066.55	9.5%	13,633.41	3,408.35	15.7%	13,690.72	3,422.68	15.8%
6:30 PM	63,128.63	15,782.16	72.8%	8,528.02	2,132.01	9.8%	8,446.39	2,111.60	9.7%	11,902.83	2,975.71	13.7%	11,902.83	2,975.71	13.7%
6:45 PM	75,715.27	18,928.82	87.4%	6,266.76	1,566.69	7.2%	6,266.76	1,566.69	7.2%	9,038.54	2,259.64	10.4%	9,038.54	2,259.64	10.4%
7:00 PM	81,912.84	20,478.21	94.5%	3,763.57	940.89	4.3%	3,763.75	940.94	4.3%	4,763.16	1,190.79	5.5%	4,763.16	1,190.79	5.5%
7:15 PM	84,676.08	25,402.82	97.7%	1,999.92	599.98	2.3%	1,999.92	599.98	2.3%	1,999.92	599.98	2.3%	1,999.92	599.98	2.3%
7:36 PM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JULY 5

Mirror date: June 7
Analysis hours: 6:52 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:52 AM	71,227.67	4,273.66	82.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	68,295.96	12,976.23	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	60,961.91	15,240.48	70.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	54,717.34	13,679.34	63.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	51,430.03	12,857.51	59.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,383.25	12,095.81	55.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	45,671.74	11,417.94	52.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	44,781.65	11,195.41	51.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	44,977.89	11,244.47	51.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	43,973.10	10,993.28	50.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	45,307.12	11,326.78	52.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	44,775.89	11,193.97	51.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	43,920.26	10,980.06	50.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	43,400.45	10,850.11	50.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	43,101.03	10,775.26	49.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	42,148.53	10,537.13	48.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	39,741.55	9,935.39	45.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	36,283.35	9,070.84	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	33,878.32	8,469.58	39.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	31,504.87	7,876.22	36.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	29,081.64	7,270.41	33.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	24,442.37	6,110.59	28.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	19,724.45	4,931.11	22.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	15,571.28	3,892.82	18.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	11,502.72	2,875.68	13.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	6,690.53	1,672.63	7.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	7,294.48	1,823.62	8.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	9,789.13	2,447.28	11.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	13,512.85	3,378.21	15.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	17,411.18	4,352.79	20.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	22,152.69	5,538.17	25.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	25,599.10	6,399.78	29.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	27,239.14	6,809.78	31.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	28,859.67	7,214.92	33.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,112.39	7,778.10	35.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	35,233.70	8,808.43	40.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	323.75	80.94	0.4%	323.75	80.94	0.4%
3:45 PM	40,570.44	10,142.61	46.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	941.08	235.27	1.1%	941.08	235.27	1.1%
4:00 PM	40,105.33	10,026.33	46.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,599.54	399.89	1.8%	1,599.54	399.89	1.8%
4:15 PM	40,434.38	10,108.59	46.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,978.65	494.66	2.3%	1,978.65	494.66	2.3%
4:30 PM	42,597.57	10,649.39	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,366.67	591.67	2.7%	2,366.67	591.67	2.7%
4:45 PM	43,876.79	10,969.20	50.6%	239.24	59.81	0.3%	143.40	35.85	0.2%	2,652.25	663.06	3.1%	2,650.68	662.67	3.1%
5:00 PM	44,175.57	11,043.89	51.0%	1,691.02	422.76	2.0%	1,373.96	343.49	1.6%	2,765.65	691.41	3.2%	2,751.54	687.88	3.2%
5:15 PM	42,103.76	10,525.94	48.6%	2,389.70	597.43	2.8%	2,353.58	588.39	2.7%	2,842.36	710.59	3.3%	2,828.71	707.18	3.3%
5:30 PM	42,294.71	10,573.68	48.8%	2,605.91	651.48	3.0%	2,592.91	648.23	3.0%	3,058.94	764.74	3.5%	3,046.50	761.62	3.5%
5:45 PM	44,922.35	11,230.59	51.8%	3,169.18	792.30	3.7%	3,126.83	781.71	3.6%	5,172.54	1,293.13	6.0%	5,130.19	1,282.55	5.9%
6:00 PM	50,462.11	12,615.53	58.2%	4,403.55	1,100.89	5.1%	4,315.51	1,078.88	5.0%	9,300.91	2,325.23	10.7%	9,329.14	2,332.29	10.8%
6:15 PM	55,675.51	13,918.88	64.2%	9,105.13	2,276.28	10.5%	8,630.18	2,157.55	10.0%	13,960.42	3,490.10	16.1%	14,031.37	3,507.84	16.2%
6:30 PM	63,258.55	15,814.64	73.0%	9,107.27	2,276.82	10.5%	9,036.69	2,259.17	10.4%	12,310.35	3,077.59	14.2%	12,310.35	3,077.59	14.2%
6:45 PM	75,205.31	18,801.33	86.8%	6,588.29	1,647.07	7.6%	6,588.10	1,647.03	7.6%	9,410.50	2,352.62	10.9%	9,410.50	2,352.62	10.9%
7:00 PM	81,646.86	20,411.71	94.2%	3,995.93	998.98	4.6%	3,993.71	998.43	4.6%	5,029.14	1,257.29	5.8%	5,029.14	1,257.29	5.8%
7:15 PM	84,602.43	25,380.73	97.6%	2,066.60	619.98	2.4%	2,067.44	620.23	2.4%	2,073.57	622.07	2.4%	2,073.57	622.07	2.4%
7:36 PM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JULY 12

Mirror date: May 31
Analysis hours: 6:56 AM-7:33 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:56 AM	70,278.88	2,108.37	81.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	68,851.62	10,327.74	79.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	61,379.93	15,344.98	70.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	55,331.60	13,832.90	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	51,947.61	12,986.90	59.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,445.75	12,111.44	55.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	45,716.51	11,429.13	52.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	45,498.63	11,374.66	52.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	45,285.58	11,321.39	52.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	45,853.59	11,463.40	52.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	47,050.34	11,762.59	54.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	46,606.50	11,651.63	53.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	47,041.24	11,760.31	54.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	46,683.12	11,670.78	53.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	46,058.09	11,514.52	53.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	44,181.42	11,045.35	51.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	41,851.34	10,462.83	48.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	37,973.44	9,493.36	43.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	35,378.12	8,844.53	40.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	32,879.29	8,219.82	37.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	30,175.30	7,543.83	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	25,418.56	6,354.64	29.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	20,539.68	5,134.92	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	16,434.25	4,108.56	19.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	12,511.59	3,127.90	14.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	8,156.52	2,039.13	9.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	8,498.38	2,124.60	9.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	10,868.68	2,717.17	12.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	14,418.36	3,604.59	16.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	17,645.77	4,411.44	20.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	21,953.58	5,488.39	25.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	25,387.17	6,346.79	29.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	27,060.64	6,765.16	31.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	28,716.28	7,179.07	33.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	30,995.28	7,748.82	35.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	35,163.21	8,790.80	40.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	362.39	90.60	0.4%	362.39	90.60	0.4%
3:45 PM	40,139.79	10,034.95	46.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	991.41	247.85	1.1%	991.41	247.85	1.1%
4:00 PM	40,943.04	10,235.76	47.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,652.48	413.12	1.9%	1,652.48	413.12	1.9%
4:15 PM	39,996.02	9,999.01	46.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,024.71	506.18	2.3%	2,024.71	506.18	2.3%
4:30 PM	42,142.58	10,535.65	48.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,407.16	601.79	2.8%	2,407.16	601.79	2.8%
4:45 PM	44,343.01	11,085.75	51.2%	360.81	90.20	0.4%	165.87	41.47	0.2%	2,736.68	684.17	3.2%	2,736.21	684.05	3.2%
5:00 PM	46,854.01	11,713.50	54.1%	1,845.47	461.37	2.1%	1,534.16	383.54	1.8%	2,859.64	714.91	3.3%	2,844.59	711.15	3.3%
5:15 PM	43,621.86	10,905.46	50.3%	2,464.00	616.00	2.8%	2,385.43	596.36	2.8%	2,912.20	728.05	3.4%	2,892.52	723.13	3.3%
5:30 PM	42,545.37	10,636.34	49.1%	2,763.33	690.83	3.2%	2,742.99	685.75	3.2%	3,276.73	819.18	3.8%	3,265.31	816.33	3.8%
5:45 PM	45,117.48	11,279.37	52.1%	2,985.30	746.32	3.4%	2,947.68	736.92	3.4%	5,424.96	1,356.24	6.3%	5,387.44	1,346.86	6.2%
6:00 PM	50,554.15	12,638.54	58.3%	4,426.96	1,106.74	5.1%	4,261.92	1,065.48	4.9%	9,578.60	2,394.65	11.1%	9,592.25	2,398.06	11.1%
6:15 PM	56,048.49	14,012.12	64.7%	9,923.06	2,480.77	11.4%	9,380.31	2,345.08	10.8%	14,285.29	3,571.32	16.5%	14,309.80	3,577.45	16.5%
6:30 PM	64,304.49	16,076.12	74.2%	9,968.76	2,492.19	11.5%	9,908.20	2,477.05	11.4%	12,788.27	3,197.07	14.8%	12,788.27	3,197.07	14.8%
6:45 PM	74,926.41	18,731.60	86.4%	6,922.72	1,730.68	8.0%	6,922.63	1,730.66	8.0%	9,765.27	2,441.32	11.3%	9,765.27	2,441.32	11.3%
7:00 PM	81,490.00	20,372.50	94.0%	4,166.36	1,041.59	4.8%	4,166.82	1,041.71	4.8%	5,186.00	1,296.50	6.0%	5,186.00	1,296.50	6.0%
7:15 PM	84,410.19	23,634.85	97.4%	2,219.10	621.35	2.6%	2,218.63	621.22	2.6%	2,265.81	634.43	2.6%	2,265.81	634.43	2.6%
7:33 PM	86,618.05	12,992.71	99.9%	57.95	8.69	0.1%	57.95	8.69	0.1%	57.95	8.69	0.1%	57.95	8.69	0.1%

PREVISION DESIGN

JULY 19

Mirror date: May 24

Analysis hours: 7:01 AM-7:30 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:01 AM	68,847.81	8,950.22	79.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:16 AM	61,276.75	14,706.42	70.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	56,262.37	13,502.97	64.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	52,239.69	13,059.92	60.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,500.92	12,125.23	56.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	46,549.85	11,637.46	53.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	46,551.90	11,637.97	53.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	45,875.69	11,468.92	52.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	48,783.34	12,195.84	56.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	49,718.20	12,429.55	57.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	50,783.26	12,695.82	58.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	51,289.88	12,822.47	59.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	51,062.81	12,765.70	58.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	49,457.69	12,364.42	57.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	46,775.53	11,693.88	54.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	44,860.22	11,215.06	51.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	40,348.29	10,087.07	46.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	37,452.80	9,363.20	43.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	34,813.73	8,703.43	40.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	31,685.04	7,921.26	36.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	26,558.01	6,639.50	30.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	21,469.52	5,367.38	24.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	17,404.12	4,351.03	20.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	13,678.44	3,419.61	15.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	9,486.92	2,371.73	10.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	9,859.15	2,464.79	11.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	12,416.68	3,104.17	14.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	15,889.55	3,972.39	18.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	18,935.22	4,733.80	21.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	22,817.10	5,704.28	26.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	25,167.34	6,291.83	29.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	26,915.94	6,728.99	31.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	28,597.68	7,149.42	33.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,001.22	7,750.31	35.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	35,399.94	8,849.99	40.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	449.78	112.45	0.5%	449.78	112.45	0.5%
3:45 PM	39,624.90	9,906.23	45.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,099.05	274.76	1.3%	1,099.05	274.76	1.3%
4:00 PM	40,982.61	10,245.65	47.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,759.66	439.91	2.0%	1,759.66	439.91	2.0%
4:15 PM	40,750.05	10,187.51	47.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,040.13	510.03	2.4%	2,040.13	510.03	2.4%
4:30 PM	41,540.77	10,385.19	47.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,543.69	635.92	2.9%	2,543.69	635.92	2.9%
4:45 PM	44,462.82	11,115.70	51.3%	600.24	150.06	0.7%	319.85	79.96	0.4%	2,912.86	728.21	3.4%	2,902.64	725.66	3.3%
5:00 PM	48,577.72	12,144.43	56.0%	1,998.99	499.75	2.3%	1,750.93	437.73	2.0%	2,937.19	734.30	3.4%	2,922.33	730.58	3.4%
5:15 PM	46,764.57	11,691.14	54.0%	2,644.55	661.14	3.1%	2,544.15	636.04	2.9%	2,975.54	743.89	3.4%	2,954.37	738.59	3.4%
5:30 PM	43,924.81	10,981.20	50.7%	2,927.44	731.86	3.4%	2,905.33	726.33	3.4%	3,829.14	957.28	4.4%	3,817.62	954.40	4.4%
5:45 PM	45,406.31	11,351.58	52.4%	2,894.28	723.57	3.3%	2,860.01	715.00	3.3%	5,970.31	1,492.58	6.9%	5,935.58	1,483.89	6.8%
6:00 PM	50,951.27	12,737.82	58.8%	4,995.15	1,248.79	5.8%	4,442.74	1,110.69	5.1%	10,211.25	2,552.81	11.8%	10,182.92	2,545.73	11.7%
6:15 PM	56,986.03	14,246.51	65.7%	10,895.72	2,723.93	12.6%	10,243.57	2,560.89	11.8%	14,029.52	3,507.38	16.2%	13,951.04	3,487.76	16.1%
6:30 PM	67,083.88	16,770.97	77.4%	10,924.60	2,731.15	12.6%	10,908.81	2,727.20	12.6%	13,188.46	3,297.12	15.2%	13,188.46	3,297.12	15.2%
6:45 PM	74,987.99	18,747.00	86.5%	7,310.37	1,827.59	8.4%	7,309.35	1,827.34	8.4%	10,061.91	2,515.48	11.6%	10,061.91	2,515.48	11.6%
7:00 PM	81,106.43	20,276.61	93.6%	4,204.62	1,051.15	4.9%	4,205.18	1,051.29	4.9%	5,569.57	1,392.39	6.4%	5,569.57	1,392.39	6.4%
7:15 PM	84,304.41	21,076.10	97.3%	2,233.68	558.42	2.6%	2,236.00	559.00	2.6%	2,371.59	592.90	2.7%	2,371.59	592.90	2.7%
7:30 PM	86,335.53	11,223.62	99.6%	340.47	44.26	0.4%	340.47	44.26	0.4%	340.47	44.26	0.4%	340.47	44.26	0.4%

PREVISION DESIGN

JULY 26

Mirror date: May 17
Analysis hours: 7:07 AM-7:25 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:07 AM	65,949.82	3,956.99	76.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	62,994.52	11,968.96	72.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	57,284.34	14,321.09	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	52,212.48	13,053.12	60.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	48,635.12	12,158.78	56.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	47,947.96	11,986.99	55.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	48,125.44	12,031.36	55.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	50,821.43	12,705.36	58.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	53,242.43	13,310.61	61.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	55,620.62	13,905.16	64.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	56,597.73	14,149.43	65.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	55,991.74	13,997.94	64.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	55,326.77	13,831.69	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	53,537.12	13,384.28	61.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	49,925.68	12,481.42	57.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	48,175.21	12,043.80	55.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	43,293.09	10,823.27	49.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	40,004.01	10,001.00	46.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	37,056.51	9,264.13	42.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	33,515.93	8,378.98	38.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	27,896.03	6,974.01	32.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	22,533.56	5,633.39	26.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	18,660.31	4,665.08	21.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	15,157.90	3,789.48	17.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	11,111.08	2,777.77	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	11,712.80	2,928.20	13.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	14,106.31	3,526.58	16.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	17,381.83	4,345.46	20.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	20,579.99	5,145.00	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	24,306.04	6,076.51	28.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	25,892.77	6,473.19	29.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	26,988.85	6,747.21	31.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	28,520.69	7,130.17	32.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,179.16	7,794.79	36.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	6.78	1.69	0.0%	6.78	1.69	0.0%
3:30 PM	35,877.22	8,969.30	41.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	585.65	146.41	0.7%	585.65	146.41	0.7%
3:45 PM	39,040.36	9,760.09	45.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,269.57	317.39	1.5%	1,269.57	317.39	1.5%
4:00 PM	40,516.20	10,129.05	46.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,926.46	481.61	2.2%	1,926.46	481.61	2.2%
4:15 PM	41,815.02	10,453.76	48.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,077.09	519.27	2.4%	2,077.09	519.27	2.4%
4:30 PM	41,270.23	10,317.56	47.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,710.49	677.62	3.1%	2,710.49	677.62	3.1%
4:45 PM	44,013.13	11,003.28	50.8%	941.73	235.43	1.1%	656.05	164.01	0.8%	3,146.52	786.63	3.6%	3,108.44	777.11	3.6%
5:00 PM	48,366.53	12,091.63	55.8%	2,224.67	556.17	2.6%	2,070.32	517.58	2.4%	3,064.89	766.22	3.5%	3,049.93	762.48	3.5%
5:15 PM	51,073.40	12,768.35	58.9%	2,969.51	742.38	3.4%	2,861.13	715.28	3.3%	3,132.96	783.24	3.6%	3,109.09	777.27	3.6%
5:30 PM	47,286.05	11,821.51	54.6%	3,070.00	767.50	3.5%	3,044.64	761.16	3.5%	4,625.24	1,156.31	5.3%	4,613.54	1,153.38	5.3%
5:45 PM	46,339.50	11,584.87	53.5%	3,091.08	772.77	3.6%	2,933.94	733.48	3.4%	6,835.79	1,708.95	7.9%	6,827.34	1,706.84	7.9%
6:00 PM	51,562.83	12,890.71	59.5%	6,367.62	1,591.91	7.3%	5,721.60	1,430.40	6.6%	11,060.84	2,765.21	12.8%	11,016.08	2,754.02	12.7%
6:15 PM	58,491.68	14,622.92	67.5%	12,247.75	3,061.94	14.1%	11,905.06	2,976.26	13.7%	13,672.42	3,418.11	15.8%	13,611.96	3,402.99	15.7%
6:30 PM	68,820.14	17,205.03	79.4%	11,685.78	2,921.45	13.5%	11,690.61	2,922.65	13.5%	13,433.64	3,358.41	15.5%	13,433.27	3,358.32	15.5%
6:45 PM	75,191.29	18,797.82	86.7%	7,835.75	1,958.94	9.0%	7,832.41	1,958.10	9.0%	10,184.87	2,546.22	11.8%	10,184.87	2,546.22	11.8%
7:00 PM	80,737.54	20,184.39	93.1%	4,083.51	1,020.88	4.7%	4,082.96	1,020.74	4.7%	5,938.46	1,484.61	6.9%	5,938.46	1,484.61	6.9%
7:15 PM	84,495.26	17,744.00	97.5%	2,006.60	421.39	2.3%	2,007.90	421.66	2.3%	2,180.74	457.96	2.5%	2,180.74	457.96	2.5%
7:25 PM	85,569.89	7,701.29	98.7%	1,106.11	99.55	1.3%	1,106.11	99.55	1.3%	1,106.11	99.55	1.3%	1,106.11	99.55	1.3%

PREVISION DESIGN

AUGUST 2

Mirror date: May 10
Analysis hours: 7:12 AM-7:18 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:12 AM	64,697.06	1,293.94	74.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	63,920.74	9,588.11	73.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	57,847.24	14,461.81	66.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	52,464.44	13,116.11	60.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	50,246.64	12,561.66	58.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	50,822.92	12,705.73	58.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	54,828.61	13,707.15	63.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	57,705.89	14,426.47	66.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	59,868.89	14,967.22	69.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	61,580.72	15,395.18	71.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	62,264.82	15,566.20	71.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	60,623.39	15,155.85	69.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	59,382.05	14,845.51	68.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	57,742.76	14,435.69	66.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	52,960.29	13,240.07	61.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	50,821.62	12,705.40	58.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	46,244.67	11,561.17	53.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	42,775.14	10,693.78	49.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	39,431.82	9,857.96	45.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	35,326.67	8,831.67	40.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	29,210.73	7,302.68	33.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	23,672.18	5,918.05	27.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	20,070.86	5,017.72	23.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	16,876.60	4,219.15	19.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	13,053.23	3,263.31	15.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	14,101.20	3,525.30	16.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	16,269.03	4,067.26	18.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	19,217.09	4,804.27	22.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	22,097.71	5,524.43	25.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	25,688.35	6,422.09	29.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	27,117.85	6,779.46	31.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	27,974.23	6,993.56	32.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	28,787.51	7,196.88	33.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	31,582.70	7,895.67	36.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	106.34	26.58	0.1%	106.34	26.58	0.1%
3:30 PM	36,644.53	9,161.13	42.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	791.92	197.98	0.9%	791.92	197.98	0.9%
3:45 PM	38,443.10	9,610.77	44.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,533.70	383.42	1.8%	1,533.70	383.42	1.8%
4:00 PM	39,990.82	9,997.71	46.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,196.81	549.20	2.5%	2,196.81	549.20	2.5%
4:15 PM	42,240.01	10,560.00	48.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,990.17	497.54	2.3%	1,990.17	497.54	2.3%
4:30 PM	42,597.20	10,649.30	49.1%	86.09	21.52	0.1%	71.98	17.99	0.1%	2,682.62	670.66	3.1%	2,680.49	670.12	3.1%
4:45 PM	44,658.32	11,164.58	51.5%	1,353.15	338.29	1.6%	1,057.35	264.34	1.2%	3,216.46	804.11	3.7%	3,163.43	790.86	3.6%
5:00 PM	48,361.80	12,090.45	55.8%	2,638.05	659.51	3.0%	2,441.90	610.47	2.8%	3,297.53	824.38	3.8%	3,252.58	813.15	3.8%
5:15 PM	52,490.17	13,122.54	60.6%	3,253.05	813.26	3.8%	3,232.24	808.06	3.7%	3,626.21	906.55	4.2%	3,612.84	903.21	4.2%
5:30 PM	51,887.15	12,971.79	59.9%	3,226.95	806.74	3.7%	3,218.41	804.60	3.7%	5,571.05	1,392.76	6.4%	5,562.51	1,390.63	6.4%
5:45 PM	49,413.76	12,353.44	57.0%	4,130.23	1,032.56	4.8%	3,796.44	949.11	4.4%	8,195.07	2,048.77	9.5%	8,186.81	2,046.70	9.4%
6:00 PM	52,449.49	13,112.37	60.5%	8,554.96	2,138.74	9.9%	7,861.38	1,965.35	9.1%	11,426.95	2,856.74	13.2%	11,350.42	2,837.61	13.1%
6:15 PM	60,463.74	15,115.94	69.8%	12,532.50	3,133.13	14.5%	12,414.46	3,103.62	14.3%	13,293.96	3,323.49	15.3%	13,262.02	3,315.50	15.3%
6:30 PM	69,822.97	17,455.74	80.6%	11,834.94	2,958.73	13.7%	11,838.74	2,959.69	13.7%	12,989.25	3,247.31	15.0%	12,992.31	3,248.08	15.0%
6:45 PM	75,706.45	18,926.61	87.3%	8,086.14	2,021.53	9.3%	8,086.41	2,021.60	9.3%	9,980.74	2,495.18	11.5%	9,980.74	2,495.18	11.5%
7:00 PM	80,475.92	20,118.98	92.8%	4,194.03	1,048.51	4.8%	4,194.96	1,048.74	4.8%	6,200.08	1,550.02	7.2%	6,200.08	1,550.02	7.2%
7:15 PM	85,521.69	12,828.25	98.7%	1,154.31	173.15	1.3%	1,154.31	173.15	1.3%	1,154.31	173.15	1.3%	1,154.31	173.15	1.3%
7:18 PM	85,697.87	2,570.94	98.9%	978.13	29.34	1.1%	978.13	29.34	1.1%	978.13	29.34	1.1%	978.13	29.34	1.1%

PREVISION DESIGN

AUGUST 9

Mirror date: May 3
Analysis hours: 7:19 AM-7:10 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:19 AM	62,872.86	5,658.56	72.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	58,574.71	12,300.69	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	54,128.62	13,532.16	62.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	52,990.29	13,247.57	61.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	57,100.73	14,275.18	65.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	60,470.98	15,117.75	69.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	63,203.20	15,800.80	72.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	65,759.24	16,439.81	75.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	67,692.20	16,923.05	78.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	68,339.52	17,084.88	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	66,240.51	16,560.13	76.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	63,663.29	15,915.82	73.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	61,658.64	15,414.66	71.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	55,942.15	13,985.54	64.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	53,446.66	13,361.67	61.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	49,219.94	12,304.98	56.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	45,171.34	11,292.84	52.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	41,652.03	10,413.01	48.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	36,846.62	9,211.65	42.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	30,474.17	7,618.54	35.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	24,929.77	6,232.44	28.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	21,709.51	5,427.38	25.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	18,843.27	4,710.82	21.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	15,389.44	3,847.36	17.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	16,958.15	4,239.54	19.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	18,809.93	4,702.48	21.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	21,395.50	5,348.88	24.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	23,908.73	5,977.18	27.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	26,798.74	6,699.68	30.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	28,098.30	7,024.58	32.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	29,149.25	7,287.31	33.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	30,128.50	7,532.12	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	32,667.91	8,166.98	37.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	323.10	80.78	0.4%	323.10	80.78	0.4%
3:30 PM	36,524.17	9,131.04	42.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,064.23	266.06	1.2%	1,064.23	266.06	1.2%
3:45 PM	37,900.26	9,475.06	43.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,894.41	473.60	2.2%	1,894.41	473.60	2.2%
4:00 PM	39,464.14	9,866.03	45.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,596.90	649.23	3.0%	2,596.90	649.23	3.0%
4:15 PM	42,790.46	10,697.62	49.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,386.45	596.61	2.8%	2,386.45	596.61	2.8%
4:30 PM	44,905.54	11,226.39	51.8%	198.19	49.55	0.2%	118.04	29.51	0.1%	1,755.38	438.85	2.0%	1,754.08	438.52	2.0%
4:45 PM	46,021.96	11,505.49	53.1%	1,707.00	426.75	2.0%	1,415.38	353.84	1.6%	3,155.16	788.79	3.6%	3,063.31	765.83	3.5%
5:00 PM	48,386.22	12,096.56	55.8%	3,198.72	799.68	3.7%	2,986.04	746.51	3.4%	3,480.31	870.08	4.0%	3,414.46	853.61	3.9%
5:15 PM	52,202.08	13,050.52	60.2%	3,429.97	857.49	4.0%	3,429.51	857.38	4.0%	4,186.51	1,046.63	4.8%	4,186.05	1,046.51	4.8%
5:30 PM	56,666.83	14,166.71	65.4%	3,266.14	816.54	3.8%	3,259.08	814.77	3.8%	6,518.26	1,629.57	7.5%	6,511.20	1,627.80	7.5%
5:45 PM	53,813.51	13,453.38	62.1%	6,055.76	1,513.94	7.0%	5,506.51	1,376.63	6.4%	10,074.17	2,518.54	11.6%	10,049.65	2,512.41	11.6%
6:00 PM	54,962.71	13,740.68	63.4%	11,421.00	2,855.25	13.2%	10,700.59	2,675.15	12.3%	11,826.95	2,956.74	13.6%	11,730.45	2,932.61	13.5%
6:15 PM	62,868.40	15,717.10	72.5%	12,476.96	3,119.24	14.4%	12,473.25	3,118.31	14.4%	12,660.29	3,165.07	14.6%	12,657.51	3,164.38	14.6%
6:30 PM	71,035.52	17,758.88	82.0%	11,546.94	2,886.73	13.3%	11,547.22	2,886.80	13.3%	12,043.34	3,010.84	13.9%	12,045.20	3,011.30	13.9%
6:45 PM	76,536.17	26,022.30	88.3%	8,208.45	2,790.87	9.5%	8,209.75	2,791.31	9.5%	9,447.46	3,212.14	10.9%	9,447.46	3,212.14	10.9%
7:10 PM	85,911.47	18,041.41	99.1%	764.53	160.55	0.9%	764.53	160.55	0.9%	764.53	160.55	0.9%	764.53	160.55	0.9%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

AUGUST 16

Mirror date: April 26
Analysis hours: 7:25 AM-7:02 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:25 AM	61,325.88	2,453.04	70.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	60,554.66	10,294.29	69.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	57,460.80	14,365.20	66.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	60,239.73	15,059.93	69.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	62,761.32	15,690.33	72.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	64,574.00	16,143.50	74.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	67,850.64	16,962.66	78.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	71,375.34	17,843.83	82.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	73,613.38	18,403.35	84.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	74,419.05	18,604.76	85.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	71,754.72	17,938.68	82.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	67,422.77	16,855.69	77.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	65,088.42	16,272.11	75.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	58,881.94	14,720.48	67.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	56,106.07	14,026.52	64.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	51,717.00	12,929.25	59.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	47,444.49	11,861.12	54.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	44,035.51	11,008.88	50.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	39,439.99	9,860.00	45.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	33,500.42	8,375.11	38.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	28,387.04	7,096.76	32.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	24,926.33	6,231.58	28.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	22,298.60	5,574.65	25.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	18,522.03	4,630.51	21.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	20,104.39	5,026.10	23.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	21,594.62	5,398.66	24.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	23,749.08	5,937.27	27.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	25,837.88	6,459.47	29.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	27,962.34	6,990.58	32.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	29,216.40	7,304.10	33.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	30,364.76	7,591.19	35.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	31,814.69	7,953.67	36.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	34,443.17	8,610.79	39.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	570.42	142.61	0.7%	570.42	142.61	0.7%
3:30 PM	36,274.06	9,068.52	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,369.50	342.37	1.6%	1,369.50	342.37	1.6%
3:45 PM	37,502.02	9,375.51	43.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,345.40	586.35	2.7%	2,345.40	586.35	2.7%
4:00 PM	38,999.68	9,749.92	45.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,173.18	793.29	3.7%	3,173.18	793.29	3.7%
4:15 PM	40,986.51	10,246.63	47.3%	65.01	16.25	0.1%	11.24	2.81	0.0%	4,003.64	1,000.91	4.6%	4,003.64	1,000.91	4.6%
4:30 PM	47,244.35	11,811.09	54.5%	213.89	53.47	0.2%	144.14	36.03	0.2%	1,410.08	352.52	1.6%	1,375.63	343.91	1.6%
4:45 PM	48,802.85	12,200.71	56.3%	1,478.90	369.73	1.7%	1,255.64	313.91	1.4%	1,961.65	490.41	2.3%	1,847.14	461.79	2.1%
5:00 PM	49,556.88	12,389.22	57.2%	3,595.10	898.77	4.1%	3,542.35	885.59	4.1%	3,595.10	898.77	4.1%	3,542.35	885.59	4.1%
5:15 PM	52,514.59	13,128.65	60.6%	3,469.44	867.36	4.0%	3,463.68	865.92	4.0%	4,993.76	1,248.44	5.8%	4,988.00	1,247.00	5.8%
5:30 PM	56,383.01	14,095.75	65.1%	3,887.65	971.91	4.5%	3,695.86	923.97	4.3%	7,775.29	1,943.82	9.0%	7,771.30	1,942.82	9.0%
5:45 PM	58,237.86	14,559.47	67.2%	8,899.70	2,224.92	10.3%	8,280.52	2,070.13	9.6%	10,950.88	2,737.72	12.6%	10,834.61	2,708.65	12.5%
6:00 PM	57,725.49	14,431.37	66.6%	12,065.54	3,016.38	13.9%	11,954.56	2,988.64	13.8%	12,196.02	3,049.01	14.1%	12,134.91	3,033.73	14.0%
6:15 PM	64,956.45	16,239.11	74.9%	12,077.98	3,019.50	13.9%	12,037.58	3,009.40	13.9%	12,077.98	3,019.50	13.9%	12,037.58	3,009.40	13.9%
6:30 PM	71,710.33	17,927.58	82.7%	11,135.88	2,783.97	12.8%	11,137.83	2,784.46	12.8%	11,315.96	2,828.99	13.1%	11,317.17	2,829.29	13.1%
6:45 PM	78,499.50	21,194.86	90.6%	7,720.31	2,084.48	8.9%	7,717.90	2,083.83	8.9%	8,166.66	2,205.00	9.4%	8,166.66	2,205.00	9.4%
7:02 PM	85,238.15	11,933.34	98.3%	1,437.85	201.30	1.7%	1,437.85	201.30	1.7%	1,437.85	201.30	1.7%	1,437.85	201.30	1.7%

PREVISION DESIGN

AUGUST 23

Mirror date: April 19
Analysis hours: 7:31 AM-6:52 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:31 AM	64,230.93	7,065.40	74.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	65,947.96	15,168.03	76.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	66,516.06	16,629.01	76.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	67,053.23	16,763.31	77.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	69,369.01	17,342.25	80.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	72,643.14	18,160.79	83.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	76,686.63	19,171.66	88.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	78,719.89	19,679.97	90.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	80,618.94	20,154.74	93.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	77,842.05	19,460.51	89.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	72,429.63	18,107.41	83.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	68,931.03	17,232.76	79.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	62,198.69	15,549.67	71.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	58,616.51	14,654.13	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	53,741.81	13,435.45	62.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	49,511.65	12,377.91	57.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	46,614.03	11,653.51	53.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	43,250.28	10,812.57	49.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	37,345.16	9,336.29	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	32,617.85	8,154.46	37.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	30,370.06	7,592.51	35.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	29,210.73	7,302.68	33.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	26,817.13	6,704.28	30.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	26,963.68	6,740.92	31.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	26,058.36	6,514.59	30.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	26,824.65	6,706.16	30.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	27,853.96	6,963.49	32.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	29,369.36	7,342.34	33.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	30,524.04	7,631.01	35.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	31,896.79	7,974.20	36.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	33,778.95	8,444.74	39.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	176.74	44.18	0.2%	176.74	44.18	0.2%
3:15 PM	35,920.22	8,980.05	41.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	833.07	208.27	1.0%	833.07	208.27	1.0%
3:30 PM	36,338.05	9,084.51	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,684.52	421.13	1.9%	1,684.52	421.13	1.9%
3:45 PM	37,357.79	9,339.45	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,689.22	672.30	3.1%	2,689.22	672.30	3.1%
4:00 PM	38,730.26	9,682.57	44.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,894.70	973.68	4.5%	3,894.70	973.68	4.5%
4:15 PM	40,272.97	10,068.24	46.5%	378.92	94.73	0.4%	235.80	58.95	0.3%	4,845.07	1,211.27	5.6%	4,845.07	1,211.27	5.6%
4:30 PM	45,358.67	11,339.67	52.3%	784.96	196.24	0.9%	660.51	165.13	0.8%	2,737.70	684.42	3.2%	2,737.70	684.42	3.2%
4:45 PM	51,599.98	12,900.00	59.5%	483.31	120.83	0.6%	423.31	105.83	0.5%	772.51	193.13	0.9%	712.52	178.13	0.8%
5:00 PM	52,430.36	13,107.59	60.5%	2,712.71	678.18	3.1%	2,597.37	649.34	3.0%	2,780.23	695.06	3.2%	2,664.89	666.22	3.1%
5:15 PM	53,698.72	13,424.68	62.0%	3,721.96	930.49	4.3%	3,673.39	918.35	4.2%	5,346.95	1,336.74	6.2%	5,298.38	1,324.59	6.1%
5:30 PM	58,047.29	14,511.82	67.0%	5,771.66	1,442.91	6.7%	5,204.67	1,301.17	6.0%	9,130.86	2,282.71	10.5%	9,020.53	2,255.13	10.4%
5:45 PM	62,012.48	15,503.12	71.5%	11,309.37	2,827.34	13.0%	11,217.24	2,804.31	12.9%	11,395.37	2,848.84	13.1%	11,331.94	2,832.98	13.1%
6:00 PM	60,452.69	15,113.17	69.7%	12,256.30	3,064.07	14.1%	12,217.39	3,054.35	14.1%	12,256.30	3,064.07	14.1%	12,217.39	3,054.35	14.1%
6:15 PM	65,356.27	16,339.07	75.4%	11,524.93	2,881.23	13.3%	11,526.79	2,881.70	13.3%	11,524.93	2,881.23	13.3%	11,526.79	2,881.70	13.3%
6:30 PM	74,077.37	18,519.34	85.5%	9,677.23	2,419.31	11.2%	9,682.06	2,420.51	11.2%	9,686.79	2,421.70	11.2%	9,690.42	2,422.60	11.2%
6:45 PM	81,151.10	15,418.71	93.6%	5,172.63	982.80	6.0%	5,174.58	983.17	6.0%	5,252.04	997.89	6.1%	5,252.04	997.89	6.1%
6:52 PM	84,234.47	5,054.07	97.2%	2,441.53	146.49	2.8%	2,441.53	146.49	2.8%	2,441.53	146.49	2.8%	2,441.53	146.49	2.8%

PREVISION DESIGN

AUGUST 30

Mirror date: April 12
Analysis hours: 7:37 AM-6:42 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:37 AM	73,807.58	4,428.45	85.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	72,700.91	13,813.17	83.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	70,839.46	17,709.87	81.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	71,808.59	17,952.15	82.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	74,096.88	18,524.22	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	77,628.82	19,407.20	89.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	80,726.77	20,181.69	93.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	83,720.42	20,930.11	96.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	86,377.88	21,594.47	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	83,219.47	20,804.87	96.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	77,565.67	19,391.42	89.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	72,449.04	18,112.26	83.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	65,666.46	16,416.62	75.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	60,517.33	15,129.33	69.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	55,413.89	13,853.47	63.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	51,712.45	12,928.11	59.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	49,681.89	12,420.47	57.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	47,208.97	11,802.24	54.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	41,120.62	10,280.15	47.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	37,497.66	9,374.41	43.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	36,577.66	9,144.42	42.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	37,152.08	9,288.02	42.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	34,859.05	8,714.76	40.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	33,446.28	8,361.57	38.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	32,083.84	8,020.96	37.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	32,324.47	8,081.12	37.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	32,354.65	8,088.66	37.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	32,479.75	8,119.94	37.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	32,648.32	8,162.08	37.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	34,321.32	8,580.33	39.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	36,278.89	9,069.72	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	423.78	105.94	0.5%	423.78	105.94	0.5%
3:15 PM	36,959.65	9,239.91	42.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,104.07	276.02	1.3%	1,104.07	276.02	1.3%
3:30 PM	36,813.28	9,203.32	42.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,964.81	491.20	2.3%	1,964.81	491.20	2.3%
3:45 PM	37,374.14	9,343.53	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,032.66	758.17	3.5%	3,032.66	758.17	3.5%
4:00 PM	38,627.36	9,656.84	44.6%	61.48	15.37	0.1%	46.99	11.75	0.1%	4,479.80	1,119.95	5.2%	4,479.80	1,119.95	5.2%
4:15 PM	40,116.38	10,029.10	46.3%	863.16	215.79	1.0%	677.32	169.33	0.8%	5,212.66	1,303.16	6.0%	5,212.66	1,303.16	6.0%
4:30 PM	42,264.53	10,566.13	48.8%	1,994.35	498.59	2.3%	1,795.23	448.81	2.1%	5,051.06	1,262.77	5.8%	5,051.06	1,262.77	5.8%
4:45 PM	50,114.67	12,528.67	57.8%	706.30	176.57	0.8%	674.35	168.59	0.8%	1,367.73	341.93	1.6%	1,367.73	341.93	1.6%
5:00 PM	55,387.98	13,846.99	63.9%	1,167.50	291.88	1.3%	1,074.54	268.63	1.2%	1,174.75	293.69	1.4%	1,085.96	271.49	1.3%
5:15 PM	57,359.75	14,339.94	66.2%	3,769.70	942.42	4.3%	3,442.04	860.51	4.0%	4,782.75	1,195.69	5.5%	4,631.00	1,157.75	5.3%
5:30 PM	61,411.23	15,352.81	70.9%	8,160.53	2,040.13	9.4%	7,671.46	1,917.86	8.9%	8,484.00	2,121.00	9.8%	8,289.80	2,072.45	9.6%
5:45 PM	64,857.82	16,214.46	74.8%	9,858.05	2,464.51	11.4%	9,859.17	2,464.79	11.4%	9,880.34	2,470.09	11.4%	9,890.74	2,472.69	11.4%
6:00 PM	64,083.54	16,020.89	73.9%	11,606.93	2,901.73	13.4%	11,596.63	2,899.16	13.4%	11,606.93	2,901.73	13.4%	11,596.63	2,899.16	13.4%
6:15 PM	65,382.74	16,345.68	75.4%	10,170.94	2,542.73	11.7%	10,170.94	2,542.73	11.7%	10,170.94	2,542.73	11.7%	10,170.94	2,542.73	11.7%
6:30 PM	76,098.84	17,502.73	87.8%	7,427.85	1,708.41	8.6%	7,431.11	1,709.15	8.6%	7,427.85	1,708.41	8.6%	7,431.11	1,709.15	8.6%
6:42 PM	83,414.32	9,175.57	96.2%	3,216.08	353.77	3.7%	3,216.08	353.77	3.7%	3,216.08	353.77	3.7%	3,216.08	353.77	3.7%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

SEPTEMBER 6

Mirror date: April 5
Analysis hours: 7:44 AM-6:31 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:44 AM	76,498.19	9,944.76	88.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	75,356.97	18,839.24	86.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	76,300.00	19,075.00	88.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	78,810.99	19,702.75	90.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	81,467.15	20,366.79	94.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,816.36	20,954.09	96.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	86,435.92	21,608.98	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	86,396.55	21,599.14	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	82,352.69	20,588.17	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	78,797.62	19,699.41	90.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	73,215.61	18,303.90	84.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	68,184.14	17,046.04	78.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	62,326.21	15,581.55	71.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	57,208.56	14,302.14	66.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	54,293.85	13,573.46	62.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	53,812.12	13,453.03	62.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	50,292.90	12,573.22	58.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	43,782.90	10,945.72	50.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	42,162.55	10,540.64	48.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	43,208.02	10,802.00	49.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	45,859.34	11,464.84	52.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	42,610.85	10,652.71	49.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	39,997.69	9,999.42	46.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	38,090.09	9,522.52	43.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	38,628.84	9,657.21	44.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	37,812.12	9,453.03	43.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	37,366.15	9,341.54	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	37,306.15	9,326.54	43.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	39,860.61	9,965.15	46.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	119.43	29.86	0.1%	119.43	29.86	0.1%
3:00 PM	40,984.93	10,246.23	47.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	642.12	160.53	0.7%	642.12	160.53	0.7%
3:15 PM	39,968.25	9,992.06	46.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,345.26	336.31	1.6%	1,345.26	336.31	1.6%
3:30 PM	38,800.66	9,700.16	44.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,228.11	557.03	2.6%	2,228.11	557.03	2.6%
3:45 PM	38,977.21	9,744.30	45.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,335.89	833.97	3.8%	3,335.89	833.97	3.8%
4:00 PM	39,032.47	9,758.12	45.0%	297.01	74.25	0.3%	231.62	57.91	0.3%	4,691.64	1,172.91	5.4%	4,691.64	1,172.91	5.4%
4:15 PM	39,977.73	9,994.43	46.1%	1,275.51	318.88	1.5%	1,142.98	285.75	1.3%	5,452.83	1,363.21	6.3%	5,452.83	1,363.21	6.3%
4:30 PM	41,726.89	10,431.72	48.1%	2,811.90	702.98	3.2%	2,676.22	669.05	3.1%	5,893.14	1,473.28	6.8%	5,893.14	1,473.28	6.8%
4:45 PM	46,722.50	11,680.63	53.9%	1,622.39	405.60	1.9%	1,616.45	404.11	1.9%	3,902.13	975.53	4.5%	3,902.13	975.53	4.5%
5:00 PM	55,807.67	13,951.92	64.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,239.94	309.99	1.4%	1,239.94	309.99	1.4%
5:15 PM	62,395.77	15,598.94	72.0%	1,916.33	479.08	2.2%	1,833.49	458.37	2.1%	1,916.33	479.08	2.2%	1,833.49	458.37	2.1%
5:30 PM	66,124.97	16,531.24	76.3%	6,281.16	1,570.29	7.2%	6,284.04	1,571.01	7.3%	6,281.16	1,570.29	7.2%	6,284.04	1,571.01	7.3%
5:45 PM	70,090.26	17,522.57	80.9%	7,398.04	1,849.51	8.5%	7,398.41	1,849.60	8.5%	7,398.04	1,849.51	8.5%	7,398.41	1,849.60	8.5%
6:00 PM	70,176.63	17,544.16	81.0%	7,445.87	1,861.47	8.6%	7,446.06	1,861.51	8.6%	7,445.87	1,861.47	8.6%	7,446.06	1,861.51	8.6%
6:15 PM	72,443.56	19,559.76	83.6%	4,313.00	1,164.51	5.0%	4,313.00	1,164.51	5.0%	4,313.00	1,164.51	5.0%	4,313.00	1,164.51	5.0%
6:31 PM	79,021.44	11,063.00	91.2%	3,601.97	504.28	4.2%	3,601.97	504.28	4.2%	3,601.97	504.28	4.2%	3,601.97	504.28	4.2%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

SEPTEMBER 13

Mirror date: March 29
Analysis hours: 7:50 AM-6:21 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:50 AM	79,062.68	6,325.01	91.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	79,032.77	16,596.88	91.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	80,128.02	20,032.00	92.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	81,949.72	20,487.43	94.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	84,084.21	21,021.05	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,459.79	21,614.95	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	86,464.90	21,616.23	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	85,882.13	21,470.53	99.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	82,653.41	20,663.35	95.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	79,754.02	19,938.51	92.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	76,423.52	19,105.88	88.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	71,910.84	17,977.71	83.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	65,118.89	16,279.72	75.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	60,097.82	15,024.46	69.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	58,354.79	14,588.70	67.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	57,930.55	14,482.64	66.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	53,617.08	13,404.27	61.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	47,261.26	11,815.31	54.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	48,134.17	12,033.54	55.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	51,391.11	12,847.78	59.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	54,852.57	13,713.14	63.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	49,997.19	12,499.30	57.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	46,835.90	11,708.97	54.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	44,298.62	11,074.66	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	44,885.39	11,221.35	51.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	43,122.02	10,780.50	49.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	42,141.28	10,535.32	48.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	42,032.44	10,508.11	48.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	44,453.25	11,113.31	51.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	282.98	70.75	0.3%	282.98	70.75	0.3%
3:00 PM	45,927.33	11,481.83	53.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	812.82	203.21	0.9%	812.82	203.21	0.9%
3:15 PM	44,813.79	11,203.45	51.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,509.74	377.43	1.7%	1,509.74	377.43	1.7%
3:30 PM	43,136.14	10,784.03	49.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,425.46	606.36	2.8%	2,425.46	606.36	2.8%
3:45 PM	42,405.79	10,601.45	48.9%	20.06	5.02	0.0%	25.82	6.45	0.0%	3,527.02	881.76	4.1%	3,527.02	881.76	4.1%
4:00 PM	42,073.95	10,518.49	48.5%	359.88	89.97	0.4%	343.63	85.91	0.4%	4,633.97	1,158.49	5.3%	4,633.97	1,158.49	5.3%
4:15 PM	42,338.64	10,584.66	48.8%	1,294.09	323.52	1.5%	1,249.14	312.28	1.4%	5,546.72	1,386.68	6.4%	5,546.72	1,386.68	6.4%
4:30 PM	42,142.40	10,535.60	48.6%	2,855.55	713.89	3.3%	2,748.19	687.05	3.2%	6,257.57	1,564.39	7.2%	6,257.57	1,564.39	7.2%
4:45 PM	45,148.13	11,287.03	52.1%	3,790.41	947.60	4.4%	3,697.44	924.36	4.3%	7,360.34	1,840.08	8.5%	7,360.34	1,840.08	8.5%
5:00 PM	55,459.86	13,864.97	64.0%	751.52	187.88	0.9%	658.84	164.71	0.8%	3,579.59	894.90	4.1%	3,579.59	894.90	4.1%
5:15 PM	63,411.14	15,852.79	73.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	359.97	89.99	0.4%	359.97	89.99	0.4%
5:30 PM	71,154.49	17,788.62	82.1%	1,675.98	418.99	1.9%	1,675.98	418.99	1.9%	1,675.98	418.99	1.9%	1,675.98	418.99	1.9%
5:45 PM	76,574.99	19,143.75	88.3%	4,432.62	1,108.16	5.1%	4,334.83	1,083.71	5.0%	4,432.62	1,108.16	5.1%	4,334.83	1,083.71	5.0%
6:00 PM	78,276.98	19,569.24	90.3%	1,235.67	308.92	1.4%	1,235.67	308.92	1.4%	1,235.67	308.92	1.4%	1,235.67	308.92	1.4%
6:15 PM	77,575.97	13,963.68	89.5%	719.58	129.52	0.8%	719.58	129.52	0.8%	719.58	129.52	0.8%	719.58	129.52	0.8%
6:21 PM	77,401.56	3,870.08	89.3%	720.97	36.05	0.8%	720.97	36.05	0.8%	720.97	36.05	0.8%	720.97	36.05	0.8%

PREVISION DESIGN

SEPTEMBER 20

Fall equinox (Spring equinox on March 22 similar)
Analysis hours: 7:57 AM-6:09 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:57 AM	81,367.68	1,627.35	93.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	81,439.94	12,215.99	94.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	82,410.73	20,602.68	95.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	84,357.16	21,089.29	97.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,537.99	21,634.50	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,472.42	21,618.11	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	82,632.79	20,658.20	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	79,910.70	19,977.67	92.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	79,003.70	19,750.93	91.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	75,281.56	18,820.39	86.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	68,958.05	17,239.51	79.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	63,567.54	15,891.89	73.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	63,757.56	15,939.39	73.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	62,179.28	15,544.82	71.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	58,028.44	14,507.11	66.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	52,328.10	13,082.03	60.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	56,174.05	14,043.51	64.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	61,932.80	15,483.20	71.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	63,629.21	15,907.30	73.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	57,947.73	14,486.93	66.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	54,130.48	13,532.62	62.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	50,884.59	12,721.15	58.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	50,861.28	12,715.32	58.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	48,111.50	12,027.88	55.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	46,101.00	11,525.25	53.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	45,771.58	11,442.90	52.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	50.62	12.65	0.1%	50.62	12.65	0.1%
2:45 PM	47,563.00	11,890.75	54.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	367.31	91.83	0.4%	367.31	91.83	0.4%
3:00 PM	49,524.56	12,381.14	57.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	901.79	225.45	1.0%	901.79	225.45	1.0%
3:15 PM	49,752.19	12,438.05	57.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,592.95	398.24	1.8%	1,592.95	398.24	1.8%
3:30 PM	47,566.25	11,891.56	54.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,500.69	625.17	2.9%	2,500.69	625.17	2.9%
3:45 PM	47,155.38	11,788.85	54.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,511.14	877.79	4.1%	3,511.14	877.79	4.1%
4:00 PM	45,674.34	11,418.59	52.7%	210.73	52.68	0.2%	211.38	52.84	0.2%	4,400.30	1,100.08	5.1%	4,400.30	1,100.08	5.1%
4:15 PM	46,749.34	11,687.34	53.9%	981.94	245.49	1.1%	988.26	247.06	1.1%	5,288.91	1,322.23	6.1%	5,288.91	1,322.23	6.1%
4:30 PM	47,317.54	11,829.38	54.6%	2,517.31	629.33	2.9%	2,523.35	630.84	2.9%	6,298.71	1,574.68	7.3%	6,298.71	1,574.68	7.3%
4:45 PM	50,285.47	12,571.37	58.0%	3,823.38	955.84	4.4%	3,776.20	944.05	4.4%	7,446.06	1,861.51	8.6%	7,446.06	1,861.51	8.6%
5:00 PM	57,299.67	14,324.92	66.1%	2,238.60	559.65	2.6%	2,117.49	529.37	2.4%	4,485.19	1,121.30	5.2%	4,485.19	1,121.30	5.2%
5:15 PM	66,704.50	16,676.12	77.0%	13.37	3.34	0.0%	13.56	3.39	0.0%	1,499.89	374.97	1.7%	1,499.89	374.97	1.7%
5:30 PM	77,156.56	19,289.14	89.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	80,203.25	20,050.81	92.5%	630.88	157.72	0.7%	630.88	157.72	0.7%	630.88	157.72	0.7%	630.88	157.72	0.7%
6:00 PM	83,992.26	17,638.37	96.9%	2,529.57	531.21	2.9%	2,547.03	534.88	2.9%	2,529.57	531.21	2.9%	2,547.03	534.88	2.9%
6:09 PM	81,320.78	6,505.66	93.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

SEPTEMBER 27

Mirror date: March 15
Analysis hours: 8:03 AM-5:58 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:03 AM	83,198.11	8,319.81	96.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	84,769.05	18,649.19	97.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,580.34	21,645.09	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,473.91	21,618.48	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	86,465.37	21,616.34	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	82,656.94	20,664.23	95.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	80,577.62	20,144.40	93.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	77,736.64	19,434.16	89.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	72,875.42	18,218.85	84.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	68,650.64	17,162.66	79.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	65,598.57	16,399.64	75.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	66,228.90	16,557.22	76.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	66,686.95	16,671.74	76.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	62,891.62	15,722.90	72.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	60,459.84	15,114.96	69.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	68,173.00	17,043.25	78.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	76,101.99	19,025.50	87.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	73,715.63	18,428.91	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	66,481.79	16,620.45	76.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	62,163.40	15,540.85	71.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	57,841.58	14,460.39	66.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	56,990.77	14,247.69	65.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	52,493.88	13,123.47	60.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	49,404.01	12,351.00	57.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	48,224.44	12,056.11	55.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	70.49	17.62	0.1%	70.49	17.62	0.1%
2:45 PM	49,498.46	12,374.62	57.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	356.44	89.11	0.4%	356.44	89.11	0.4%
3:00 PM	51,645.77	12,911.44	59.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	855.73	213.93	1.0%	855.73	213.93	1.0%
3:15 PM	53,351.00	13,337.75	61.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,516.42	379.11	1.7%	1,516.42	379.11	1.7%
3:30 PM	51,568.96	12,892.24	59.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,410.14	602.53	2.8%	2,410.14	602.53	2.8%
3:45 PM	51,908.51	12,977.13	59.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,403.78	850.94	3.9%	3,403.78	850.94	3.9%
4:00 PM	51,602.40	12,900.60	59.5%	35.48	8.87	0.0%	35.85	8.96	0.0%	4,213.16	1,053.29	4.9%	4,213.16	1,053.29	4.9%
4:15 PM	51,364.64	12,841.16	59.3%	486.28	121.57	0.6%	485.82	121.45	0.6%	4,992.09	1,248.02	5.8%	4,992.09	1,248.02	5.8%
4:30 PM	53,683.86	13,420.96	61.9%	1,499.06	374.76	1.7%	1,497.48	374.37	1.7%	5,725.96	1,431.49	6.6%	5,725.96	1,431.49	6.6%
4:45 PM	60,071.17	15,017.79	69.3%	1,569.92	392.48	1.8%	1,570.38	392.60	1.8%	3,791.89	947.97	4.4%	3,791.89	947.97	4.4%
5:00 PM	65,117.31	16,279.33	75.1%	2,282.62	570.66	2.6%	2,282.16	570.54	2.6%	4,482.59	1,120.65	5.2%	4,482.59	1,120.65	5.2%
5:15 PM	81,893.62	20,473.41	94.5%	414.21	103.55	0.5%	413.10	103.27	0.5%	471.79	117.95	0.5%	471.79	117.95	0.5%
5:30 PM	82,611.99	20,653.00	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	82,888.75	19,064.41	95.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:58 PM	82,471.66	9,071.88	95.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

OCTOBER 4

Mirror date: March 8

Analysis hours: 8:09 AM-5:47 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:09 AM	86,315.75	3,452.63	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	86,626.31	14,726.47	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,486.45	21,621.61	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	86,533.81	21,633.45	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	85,554.56	21,388.64	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	84,650.91	21,162.73	97.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	81,500.77	20,375.19	94.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	75,711.93	18,927.98	87.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	71,737.54	17,934.39	82.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	68,516.91	17,129.23	79.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	66,423.93	16,605.98	76.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	67,520.48	16,880.12	77.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	67,922.34	16,980.58	78.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	63,802.42	15,950.60	73.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	64,427.08	16,106.77	74.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	73,647.47	18,411.87	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	84,747.59	21,186.90	97.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	79,776.03	19,944.01	92.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	73,918.93	18,479.73	85.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	69,565.25	17,391.31	80.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	64,270.96	16,067.74	74.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	62,441.09	15,610.27	72.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	56,224.48	14,056.12	64.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	52,646.47	13,161.62	60.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	51,463.28	12,865.82	59.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	47.37	11.84	0.1%	47.37	11.84	0.1%
2:45 PM	52,119.88	13,029.97	60.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	289.39	72.35	0.3%	289.39	72.35	0.3%
3:00 PM	53,520.68	13,380.17	61.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	724.41	181.10	0.8%	724.41	181.10	0.8%
3:15 PM	54,852.75	13,713.19	63.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,309.32	327.33	1.5%	1,309.32	327.33	1.5%
3:30 PM	55,265.48	13,816.37	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,115.73	528.93	2.4%	2,115.73	528.93	2.4%
3:45 PM	56,810.51	14,202.63	65.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,080.30	770.08	3.6%	3,080.30	770.08	3.6%
4:00 PM	57,739.51	14,434.88	66.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,872.04	968.01	4.5%	3,872.04	968.01	4.5%
4:15 PM	57,543.92	14,385.98	66.4%	168.94	42.23	0.2%	170.33	42.58	0.2%	4,576.39	1,144.10	5.3%	4,576.39	1,144.10	5.3%
4:30 PM	60,806.16	15,201.54	70.2%	41.98	10.49	0.0%	39.19	9.80	0.0%	2,611.30	652.82	3.0%	2,611.30	652.82	3.0%
4:45 PM	66,440.09	16,610.02	76.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,405.44	351.36	1.6%	1,405.44	351.36	1.6%
5:00 PM	78,414.15	19,603.54	90.5%	63.15	15.79	0.1%	63.15	15.79	0.1%	316.32	79.08	0.4%	316.32	79.08	0.4%
5:15 PM	85,612.33	21,403.08	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	85,797.70	23,165.38	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:47 PM	86,676.00	12,134.64	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

OCTOBER 11

Mirror date: March 1
Analysis hours: 8:16 AM-5:37 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:16 AM	86,676.00	10,401.12	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	20,802.24	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,648.79	21,662.20	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	85,655.52	21,413.88	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	85,659.51	21,414.88	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	85,093.17	21,273.29	98.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	80,974.27	20,243.57	93.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	74,997.09	18,749.27	86.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	70,805.66	17,701.41	81.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	68,101.30	17,025.33	78.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	66,853.37	16,713.34	77.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	68,296.24	17,074.06	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	67,856.03	16,964.01	78.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	65,428.71	16,357.18	75.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	68,069.82	17,017.45	78.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	76,818.23	19,204.56	88.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	84,876.13	21,219.03	97.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	78,389.63	19,597.41	90.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	73,140.38	18,285.10	84.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	69,543.24	17,385.81	80.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	65,699.06	16,424.77	75.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	64,634.18	16,158.55	74.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	58,599.05	14,649.76	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	55,131.65	13,782.91	63.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	54,134.66	13,533.67	62.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	22.94	5.73	0.0%	22.94	5.73	0.0%
2:45 PM	54,485.53	13,621.38	62.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	205.71	51.43	0.2%	205.71	51.43	0.2%
3:00 PM	55,144.46	13,786.12	63.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	570.70	142.68	0.7%	570.70	142.68	0.7%
3:15 PM	57,073.43	14,268.36	65.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,073.98	268.49	1.2%	1,073.98	268.49	1.2%
3:30 PM	59,603.46	14,900.87	68.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,771.64	442.91	2.0%	1,771.64	442.91	2.0%
3:45 PM	61,770.55	15,442.64	71.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,610.28	652.57	3.0%	2,610.28	652.57	3.0%
4:00 PM	63,127.51	15,781.88	72.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,461.92	865.48	4.0%	3,461.92	865.48	4.0%
4:15 PM	63,353.93	15,838.48	73.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,853.70	713.42	3.3%	2,853.70	713.42	3.3%
4:30 PM	66,448.26	16,612.07	76.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	249.36	62.34	0.3%	249.36	62.34	0.3%
4:45 PM	74,718.29	18,679.57	86.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	278.25	69.56	0.3%	278.25	69.56	0.3%
5:00 PM	82,717.03	20,679.26	95.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	85,299.16	21,324.79	98.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	86,676.00	16,468.44	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:37 PM	86,676.00	5,200.56	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

OCTOBER 18

Mirror date: February 22
Analysis hours: 8:22 AM-5:27 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:22 AM	86,676.00	5,200.56	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,027.10	21,506.77	99.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	85,588.00	21,397.00	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	85,803.74	21,450.94	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	82,143.35	20,535.84	94.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	79,602.45	19,900.61	91.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	74,495.58	18,623.89	85.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	69,491.42	17,372.85	80.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	67,574.25	16,893.56	78.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	67,723.50	16,930.87	78.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	68,494.43	17,123.61	79.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	67,416.55	16,854.14	77.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	67,663.22	16,915.81	78.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	70,822.65	17,705.66	81.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	79,339.16	19,834.79	91.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	83,612.69	20,903.17	96.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	77,548.30	19,387.07	89.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	72,839.57	18,209.89	84.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	69,467.83	17,366.96	80.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	66,230.11	16,557.53	76.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	65,725.71	16,431.43	75.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	59,938.92	14,984.73	69.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	56,357.66	14,089.41	65.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	55,298.91	13,824.73	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	6.41	1.60	0.0%	6.41	1.60	0.0%
2:45 PM	55,392.16	13,848.04	63.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	143.77	35.94	0.2%	143.77	35.94	0.2%
3:00 PM	56,857.87	14,214.47	65.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	448.11	112.03	0.5%	448.11	112.03	0.5%
3:15 PM	59,909.76	14,977.44	69.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	882.01	220.50	1.0%	882.01	220.50	1.0%
3:30 PM	65,054.34	16,263.58	75.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,489.58	372.40	1.7%	1,489.58	372.40	1.7%
3:45 PM	66,706.54	16,676.64	77.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	2,221.14	555.29	2.6%	2,221.14	555.29	2.6%
4:00 PM	67,991.81	16,997.95	78.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	3,044.73	761.18	3.5%	3,044.73	761.18	3.5%
4:15 PM	69,752.30	17,438.07	80.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,313.03	328.26	1.5%	1,313.03	328.26	1.5%
4:30 PM	74,635.44	18,658.86	86.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	79,027.67	19,756.92	91.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	84,035.63	21,008.91	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	86,423.02	19,013.06	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:27 PM	86,676.00	8,667.60	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

OCTOBER 25

Mirror date: February 15
Analysis hours: 7:30 AM-4:18 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:30 AM	86,676.00	11,267.88	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	86,273.68	21,568.42	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	85,571.75	21,392.94	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	85,999.70	21,499.93	99.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	85,679.20	21,419.80	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	82,606.60	20,651.65	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	78,319.70	19,579.92	90.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	72,159.74	18,039.93	83.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	69,116.77	17,279.19	79.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	67,827.88	16,956.97	78.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	68,426.91	17,106.73	78.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	68,280.64	17,070.16	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	68,138.17	17,034.54	78.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	71,029.11	17,757.28	81.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	72,910.34	18,227.58	84.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	81,239.43	20,309.86	93.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	82,570.75	20,642.69	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	77,009.17	19,252.29	88.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	72,871.33	18,217.83	84.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	70,593.82	17,648.45	81.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	68,525.36	17,131.34	79.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	68,907.53	17,226.88	79.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	62,776.27	15,694.07	72.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	59,135.38	14,783.85	68.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	57,312.30	14,328.07	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	57,216.17	14,304.04	66.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	89.16	22.29	0.1%	89.16	22.29	0.1%
2:00 PM	58,916.39	14,729.10	68.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	335.64	83.91	0.4%	335.64	83.91	0.4%
2:15 PM	63,161.04	15,790.26	72.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	705.55	176.39	0.8%	705.55	176.39	0.8%
2:30 PM	68,466.57	17,116.64	79.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,232.70	308.17	1.4%	1,232.70	308.17	1.4%
2:45 PM	72,495.75	18,123.94	83.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	1,253.32	313.33	1.4%	1,253.32	313.33	1.4%
3:00 PM	74,067.16	18,516.79	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	836.13	209.03	1.0%	836.13	209.03	1.0%
3:15 PM	76,227.56	19,056.89	87.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	80,461.53	20,115.38	92.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	83,679.10	20,919.77	96.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	86,676.00	13,001.40	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:18 PM	86,676.00	2,600.28	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

NOVEMBER 1

Mirror date: February 8
Analysis hours: 7:36 AM-4:10 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:36 AM	86,676.00	6,067.32	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	85,651.99	16,273.88	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	85,801.60	21,450.40	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	85,759.81	21,439.95	98.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,578.95	21,644.74	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	79,785.60	19,946.40	92.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	70,872.15	17,718.04	81.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	68,675.53	17,168.88	79.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	68,851.90	17,212.97	79.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	72,836.78	18,209.20	84.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	70,689.38	17,672.35	81.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	69,037.83	17,259.46	79.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	73,726.50	18,431.62	85.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	74,260.61	18,565.15	85.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	82,569.45	20,642.36	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	81,893.34	20,473.34	94.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	76,740.77	19,185.19	88.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	73,678.02	18,419.51	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	73,106.58	18,276.64	84.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	72,091.76	18,022.94	83.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	72,387.18	18,096.80	83.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	66,940.02	16,735.01	77.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	64,084.47	16,021.12	73.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	62,692.96	15,673.24	72.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	62,402.55	15,600.64	72.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	48.76	12.19	0.1%	48.76	12.19	0.1%
2:00 PM	63,157.42	15,789.35	72.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	246.39	61.60	0.3%	246.39	61.60	0.3%
2:15 PM	66,980.42	16,745.11	77.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	560.21	140.05	0.6%	560.21	140.05	0.6%
2:30 PM	71,607.89	17,901.97	82.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	926.68	231.67	1.1%	926.68	231.67	1.1%
2:45 PM	77,403.42	19,350.85	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	77,442.33	19,360.58	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	81,045.60	20,261.40	93.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	81,787.65	20,446.91	94.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	83,710.76	20,927.69	96.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	86,676.00	18,201.96	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:10 PM	86,676.00	7,800.84	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

NOVEMBER 8

Mirror date: February 1
Analysis hours: 7:43 AM-4:03 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:43 AM	86,676.00	866.76	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	86,676.00	11,267.88	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	86,261.51	21,565.38	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	85,844.60	21,461.15	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,486.35	21,621.59	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,454.72	20,863.68	96.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	75,827.83	18,956.96	87.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	68,848.83	17,212.21	79.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	70,585.74	17,646.43	81.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	79,044.48	19,761.12	91.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	76,845.63	19,211.41	88.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	71,767.07	17,941.77	82.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	74,649.00	18,662.25	86.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	75,013.34	18,753.34	86.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	83,316.52	20,829.13	96.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	81,594.38	20,398.60	94.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	76,747.18	19,186.80	88.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	74,884.62	18,721.16	86.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	75,410.28	18,852.57	87.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	73,844.17	18,461.04	85.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	75,338.86	18,834.72	86.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	72,658.19	18,164.55	83.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	69,603.70	17,400.93	80.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	68,290.20	17,072.55	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	68,386.51	17,096.63	78.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	18.76	4.69	0.0%	18.76	4.69	0.0%
2:00 PM	68,617.02	17,154.26	79.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	166.52	41.63	0.2%	166.52	41.63	0.2%
2:15 PM	70,294.21	17,573.55	81.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	426.94	106.73	0.5%	426.94	106.73	0.5%
2:30 PM	74,228.94	18,557.24	85.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	136.71	34.18	0.2%	136.71	34.18	0.2%
2:45 PM	78,668.62	19,667.16	90.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	80,277.36	20,069.34	92.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	80,820.85	20,205.21	93.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	82,076.58	20,519.14	94.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	84,125.26	21,031.31	97.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	86,414.01	12,962.10	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:03 PM	86,676.00	2,600.28	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Maritime Plaza

PREVISION DESIGN

NOVEMBER 15

Mirror date: January 25
Analysis hours: 7:51 AM-3:57 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:51 AM	86,676.00	6,934.08	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	86,676.00	17,335.20	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	85,494.29	21,373.57	98.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	81,845.42	20,461.35	94.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	70,265.05	17,566.26	81.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	73,777.86	18,444.46	85.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	84,525.72	21,131.43	97.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	82,304.02	20,576.01	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	75,247.85	18,811.96	86.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	75,126.74	18,781.68	86.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	75,613.30	18,903.32	87.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	83,555.39	20,888.85	96.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	81,622.25	20,405.56	94.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	76,981.87	19,245.47	88.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	76,210.19	19,052.55	87.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	76,737.89	19,184.47	88.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	75,088.94	18,772.24	86.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	77,231.79	19,307.95	89.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	77,376.86	19,344.21	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	74,130.40	18,532.60	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	71,811.75	17,952.94	82.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	71,946.13	17,986.53	83.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	2.60	0.65	0.0%	2.60	0.65	0.0%
2:00 PM	71,683.77	17,920.94	82.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	95.57	23.89	0.1%	95.57	23.89	0.1%
2:15 PM	72,530.77	18,132.69	83.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	56.65	14.16	0.1%	56.65	14.16	0.1%
2:30 PM	74,951.02	18,737.76	86.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	78,340.78	19,585.20	90.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	80,614.49	20,153.62	93.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	81,100.30	20,275.08	93.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	82,305.51	20,576.38	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,447.44	19,882.91	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:57 PM	86,676.00	9,534.36	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

NOVEMBER 22

Mirror date: January 18
Analysis hours: 7:57 AM-3:54 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:57 AM	86,676.00	1,733.52	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	86,676.00	13,001.40	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	85,772.81	21,443.20	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	83,356.46	20,839.11	96.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	72,936.06	18,234.02	84.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	74,814.13	18,703.53	86.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	86,499.64	21,624.91	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	78,381.37	19,595.34	90.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	75,229.46	18,807.36	86.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	75,967.61	18,991.90	87.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	83,273.06	20,818.26	96.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	82,030.89	20,507.72	94.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	77,439.27	19,359.82	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	77,344.82	19,336.20	89.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	77,911.15	19,477.79	89.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	75,789.94	18,947.49	87.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	78,420.47	19,605.12	90.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	80,672.72	20,168.18	93.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	78,612.62	19,653.15	90.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	74,871.06	18,717.77	86.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	74,100.22	18,525.05	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	72,954.82	18,238.71	84.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	72,673.33	18,168.33	83.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	74,178.33	18,544.58	85.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	77,733.67	19,433.42	89.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	81,227.91	20,306.98	93.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	82,789.28	20,697.32	95.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	85,243.25	21,310.81	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,676.00	17,335.20	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:54 PM	86,676.00	6,934.08	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

NOVEMBER 29

Mirror date: January 11
Analysis hours: 8:04 AM-3:51 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:04 AM	86,676.00	7,800.84	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	86,676.00	18,201.96	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	85,616.70	21,404.17	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	83,556.04	20,889.01	96.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	75,439.26	18,859.81	87.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	75,222.40	18,805.60	86.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	81,713.08	20,428.27	94.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	75,006.38	18,751.59	86.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	76,196.63	19,049.16	87.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	82,547.35	20,636.84	95.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	82,852.90	20,713.23	95.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	78,381.74	19,595.43	90.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	77,701.45	19,425.36	89.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	79,325.32	19,831.33	91.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	77,418.28	19,354.57	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	78,645.31	19,661.33	90.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	83,293.77	20,823.44	96.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	82,350.00	20,587.50	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	77,884.68	19,471.17	89.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	75,645.62	18,911.40	87.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	73,674.58	18,418.65	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	73,059.95	18,264.99	84.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	74,122.88	18,530.72	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	77,708.41	19,427.10	89.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	82,596.85	20,649.21	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	84,420.31	21,105.08	97.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:51 PM	86,676.00	4,333.80	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

DECEMBER 6

Mirror date: January 4
Analysis hours: 8:10 AM-3:51 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:10 AM	86,676.00	3,467.04	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	86,676.00	14,734.92	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	85,641.68	21,410.42	98.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	84,459.22	21,114.81	97.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	78,273.45	19,568.36	90.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	74,930.04	18,732.51	86.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	83,913.78	20,978.45	96.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	74,488.06	18,622.01	85.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	76,947.78	19,236.95	88.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	81,427.21	20,356.80	93.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	84,026.25	21,006.56	96.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	78,744.50	19,686.12	90.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	78,679.67	19,669.92	90.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	80,492.64	20,123.16	92.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	79,781.88	19,945.47	92.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	78,933.86	19,733.47	91.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	84,602.34	21,150.59	97.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	84,822.82	21,205.71	97.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	80,630.09	20,157.52	93.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	77,335.71	19,333.93	89.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	74,647.70	18,661.93	86.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	73,647.74	18,411.94	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	74,305.93	18,576.48	85.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	77,685.56	19,421.39	89.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	84,518.29	21,129.57	97.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	85,257.37	21,314.34	98.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,676.00	14,734.92	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:51 PM	86,676.00	4,333.80	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

DECEMBER 13

Mirror date: December 28

Analysis hours: 8:15 AM-3:52 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:15 AM	86,676.00	10,401.12	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	85,814.42	21,453.61	99.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	84,953.77	21,238.44	98.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	80,188.20	20,047.05	92.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	74,117.68	18,529.42	85.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	85,549.08	21,387.27	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	86,016.70	21,504.17	99.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	74,655.23	18,663.81	86.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	77,469.73	19,367.43	89.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	79,935.87	19,983.97	92.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	85,188.55	21,297.14	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	79,736.84	19,934.21	92.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	77,781.97	19,445.49	89.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	80,850.29	20,212.57	93.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	80,893.94	20,223.49	93.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	79,489.06	19,872.26	91.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	84,022.17	21,005.54	96.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	85,939.71	21,484.93	99.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	82,791.42	20,697.85	95.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	78,966.37	19,741.59	91.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	75,714.53	18,928.63	87.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	74,162.82	18,540.70	85.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	74,446.36	18,611.59	85.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	77,149.88	19,287.47	89.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	85,034.94	21,258.74	98.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	85,312.35	21,328.09	98.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,676.00	15,601.68	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:52 PM	86,676.00	5,200.56	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

DECEMBER 20

Winter solstice (December 21 similar)
Analysis hours: 8:19 AM-3:54 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:19 AM	86,676.00	6,934.08	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	86,676.00	18,201.96	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	86,590.65	21,647.66	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	85,236.94	21,309.23	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	81,508.38	20,377.10	94.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	72,930.49	18,232.62	84.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	82,781.02	20,695.25	95.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	76,902.65	19,225.66	88.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	77,521.92	19,380.48	89.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	78,203.79	19,550.95	90.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	85,353.68	21,338.42	98.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	80,482.79	20,120.70	92.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	77,059.79	19,264.95	88.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	80,724.17	20,181.04	93.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	81,302.86	20,325.71	93.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	79,243.69	19,810.92	91.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	82,957.10	20,739.28	95.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	86,291.79	21,572.95	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	84,018.82	21,004.71	96.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	80,349.52	20,087.38	92.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	76,714.12	19,178.53	88.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	74,675.47	18,668.87	86.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	74,385.90	18,596.47	85.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	76,348.48	19,087.12	88.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	84,167.51	21,041.88	97.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	85,087.51	21,271.88	98.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	86,676.00	21,669.00	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	86,676.00	18,201.96	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:54 PM	86,676.00	6,934.08	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

EXHIBIT H: QUANTITATIVE SHADOW DATA

Quantitative Shadow Data for Sue Bierman Park

Shadow data for existing conditions, net new shadow from project, and cumulative condition shadow

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

JUNE 21

Summer solstice
Analysis hours: 6:46 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:46 AM	3,163.42	347.98	1.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	60.42	13.90	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	50.84	12.71	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	40.53	10.13	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	31.69	7.92	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	22.11	5.53	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	12.53	3.13	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	3.68	0.92	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	10.32	2.58	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	72.21	18.05	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	2,395.59	598.90	1.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	6,544.22	1,636.06	3.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	11,272.78	2,818.19	6.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	15,215.08	3,803.77	8.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	18,938.53	4,734.63	10.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	20,989.27	5,247.32	11.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	22,286.17	5,571.54	12.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	21,743.83	5,435.96	12.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	21,256.02	5,314.00	12.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	20,234.70	5,058.68	11.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	20,371.76	5,092.94	11.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	19,268.65	4,817.16	10.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	19,951.00	4,987.75	11.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	20,965.69	5,241.42	11.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	24,289.75	6,072.44	13.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	23,434.23	5,858.56	13.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	23,261.80	5,815.45	13.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	19,856.68	4,964.17	11.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	18,658.52	4,664.63	10.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	14,969.70	3,742.43	8.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	13,233.61	3,308.40	7.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	8,598.64	2,149.66	4.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	6,063.78	1,515.94	3.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	3,158.26	789.57	1.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	784.78	196.19	0.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	144.43	36.11	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	141.48	35.37	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	134.11	33.53	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	4,418.33	1,104.58	2.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	11,627.22	2,906.80	6.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	18,292.29	4,573.07	10.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	24,266.90	6,066.73	13.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	29,389.69	7,347.42	16.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	32,911.23	8,227.81	18.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	32,288.57	8,072.14	18.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	32,684.28	8,171.07	18.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	42,377.18	10,594.30	23.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	61,835.95	15,458.99	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	94,547.49	23,636.87	53.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	135,990.31	33,997.58	76.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	173,982.33	52,194.70	98.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:36 PM	176,552.57	31,779.46	99.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JUNE 28

Mirror date: June 14
Analysis hours: 6:48 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:48 AM	3,145.74	314.57	1.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	61.16	13.46	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	51.58	12.90	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	41.27	10.32	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	31.69	7.92	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	22.11	5.53	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	12.53	3.13	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	3.68	0.92	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	8.84	2.21	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	55.27	13.82	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	2,334.43	583.61	1.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	6,436.64	1,609.16	3.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	11,238.88	2,809.72	6.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	15,257.82	3,814.46	8.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	19,082.22	4,770.56	10.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	21,315.70	5,328.93	12.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	22,797.57	5,699.39	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	22,313.44	5,578.36	12.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	21,797.62	5,449.41	12.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	20,709.99	5,177.50	11.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	20,827.15	5,206.79	11.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	19,741.73	4,935.43	11.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	20,312.81	5,078.20	11.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	21,222.12	5,305.53	12.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	24,660.40	6,165.10	13.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	24,201.32	6,050.33	13.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	23,995.73	5,998.93	13.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	20,679.78	5,169.94	11.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	19,466.14	4,866.53	11.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	15,820.80	3,955.20	8.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	14,185.66	3,546.42	8.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	9,608.17	2,402.04	5.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	6,721.07	1,680.27	3.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	3,732.29	933.07	2.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	1,304.28	326.07	0.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	146.64	36.66	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	145.17	36.29	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	133.38	33.34	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	3,959.99	990.00	2.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	11,110.66	2,777.67	6.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	17,999.75	4,499.94	10.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	24,143.11	6,035.78	13.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	29,391.16	7,347.79	16.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	33,112.40	8,278.10	18.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	32,872.92	8,218.23	18.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	32,940.71	8,235.18	18.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	41,151.02	10,287.75	23.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	59,945.86	14,986.46	33.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	90,817.41	22,704.35	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	132,941.11	33,235.28	74.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	171,999.39	51,599.82	96.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:36 PM	176,721.31	31,809.84	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JULY 5

Mirror date: June 7
Analysis hours: 6:52 AM-7:36 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:52 AM	3,075.73	184.54	1.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	150.32	28.56	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	50.11	12.53	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	39.79	9.95	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	30.21	7.55	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	21.37	5.34	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	11.05	2.76	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	2.21	0.55	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	11.05	2.76	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	195.27	48.82	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	2,880.46	720.12	1.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	7,172.78	1,793.20	4.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	12,112.82	3,028.20	6.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	16,244.50	4,061.13	9.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	20,106.49	5,026.62	11.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	22,746.72	5,686.68	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	24,469.55	6,117.39	13.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	23,914.68	5,978.67	13.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	23,349.49	5,837.37	13.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	22,138.06	5,534.52	12.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	22,185.22	5,546.31	12.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	21,101.27	5,275.32	11.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	21,610.46	5,402.61	12.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	22,555.87	5,638.97	12.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	26,185.00	6,546.25	14.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	26,208.58	6,552.15	14.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	25,974.99	6,493.75	14.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	22,722.41	5,680.60	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	21,522.03	5,380.51	12.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	17,942.27	4,485.57	10.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	16,437.56	4,109.39	9.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	11,976.50	2,994.12	6.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	8,781.39	2,195.35	4.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	5,037.31	1,259.33	2.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	2,436.12	609.03	1.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	159.90	39.98	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	150.32	37.58	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	140.74	35.19	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	3,992.41	998.10	2.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	11,151.19	2,787.80	6.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	18,618.73	4,654.68	10.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	25,025.15	6,256.29	14.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	30,428.69	7,607.17	17.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	34,370.99	8,592.75	19.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	34,214.04	8,553.51	19.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	34,255.30	8,563.83	19.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	40,964.59	10,241.15	23.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	59,048.34	14,762.08	33.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	89,503.56	22,375.89	50.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	132,900.58	33,225.15	74.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	171,639.06	51,491.72	96.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:36 PM	177,173.75	31,891.28	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JULY 12

Mirror date: May 31
Analysis hours: 6:56 AM-7:33 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
6:56 AM	2,954.89	88.65	1.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 AM	1,280.70	192.10	0.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	47.16	11.79	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	36.84	9.21	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	27.26	6.82	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	17.69	4.42	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	7.37	1.84	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	4.42	1.11	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	14.74	3.68	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	750.14	187.54	0.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	4,135.37	1,033.84	2.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	8,743.07	2,185.77	4.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	13,866.59	3,466.65	7.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	18,006.38	4,501.59	10.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	22,060.69	5,515.17	12.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	25,088.53	6,272.13	14.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	27,271.16	6,817.79	15.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	26,576.28	6,644.07	15.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	25,876.25	6,469.06	14.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	24,476.18	6,119.04	13.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	24,421.65	6,105.41	13.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	23,325.17	5,831.29	13.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	23,824.04	5,956.01	13.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	24,951.47	6,237.87	14.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	28,877.56	7,219.39	16.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	29,411.06	7,352.76	16.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	29,153.15	7,288.29	16.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	25,952.88	6,488.22	14.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	24,739.24	6,184.81	13.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	21,322.34	5,330.58	12.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	20,030.59	5,007.65	11.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	15,771.42	3,942.86	8.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	12,776.75	3,194.19	7.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	7,146.99	1,786.75	4.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	4,273.16	1,068.29	2.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	900.47	225.12	0.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	164.32	41.08	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	152.53	38.13	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	4,527.39	1,131.85	2.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	11,804.07	2,951.02	6.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	20,189.75	5,047.44	11.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	26,955.78	6,738.94	15.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	32,664.38	8,166.10	18.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	36,841.01	9,210.25	20.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	36,301.62	9,075.40	20.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	36,737.11	9,184.28	20.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	42,094.22	10,523.56	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	59,327.62	14,831.90	33.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	90,756.99	22,689.25	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	135,999.89	33,999.97	76.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	171,712.74	48,079.57	96.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:33 PM	177,576.09	26,636.41	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

JULY 19

Mirror date: May 24
Analysis hours: 7:01 AM-7:30 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:01 AM	2,785.40	362.10	1.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:16 AM	42.74	10.26	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	33.90	8.14	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	23.58	5.90	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	13.26	3.32	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	4.42	1.11	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	8.84	2.21	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	33.16	8.29	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	2,106.74	526.68	1.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	6,309.90	1,577.47	3.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	11,162.98	2,790.75	6.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	16,219.45	4,054.86	9.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	20,707.78	5,176.94	11.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	25,255.06	6,313.76	14.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	28,415.53	7,103.88	16.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	31,013.77	7,753.44	17.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	30,340.26	7,585.07	17.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	29,385.27	7,346.32	16.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	27,712.55	6,928.14	15.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	27,532.02	6,883.00	15.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	26,384.70	6,596.17	14.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	26,979.36	6,744.84	15.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	28,470.06	7,117.52	16.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	32,787.44	8,196.86	18.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	33,784.44	8,446.11	19.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	33,501.47	8,375.37	18.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	30,356.47	7,589.12	17.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	29,093.46	7,273.37	16.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	25,927.09	6,481.77	14.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	24,983.89	6,245.97	14.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	21,087.27	5,271.82	11.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	18,444.82	4,611.21	10.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	11,809.23	2,952.31	6.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	6,796.97	1,699.24	3.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	2,759.61	689.90	1.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	375.81	93.95	0.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	168.75	42.19	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	5,675.44	1,418.86	3.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	13,179.82	3,294.96	7.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	22,314.91	5,578.73	12.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	30,161.20	7,540.30	17.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	36,331.09	9,082.77	20.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	40,931.43	10,232.86	23.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	39,014.80	9,753.70	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	40,711.10	10,177.78	22.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	45,197.96	11,299.49	25.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	61,276.66	15,319.17	34.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	95,248.27	23,812.07	53.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	142,508.75	35,627.19	80.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	171,462.94	42,865.74	96.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 PM	177,576.83	23,084.99	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

JULY 26

Mirror date: May 17
Analysis hours: 7:07 AM-7:25 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:07 AM	2,735.30	164.12	1.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	36.84	7.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	27.26	6.82	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	17.69	4.42	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	7.37	1.84	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	5.16	1.29	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	15.47	3.87	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	1,010.26	252.57	0.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	4,491.28	1,122.82	2.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	9,338.47	2,334.62	5.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	14,232.82	3,558.21	8.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	19,564.14	4,891.04	11.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	24,660.40	6,165.10	13.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	29,590.86	7,397.71	16.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	33,139.67	8,284.92	18.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	35,966.34	8,991.58	20.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	35,252.30	8,813.07	19.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	33,946.55	8,486.64	19.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	31,912.03	7,978.01	18.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	31,554.64	7,888.66	17.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	30,354.26	7,588.57	17.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	31,066.09	7,766.52	17.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	33,147.04	8,286.76	18.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	37,944.86	9,486.21	21.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	39,366.30	9,841.57	22.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	39,004.49	9,751.12	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	35,897.07	8,974.27	20.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	34,661.32	8,665.33	19.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	31,840.55	7,960.14	17.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	31,373.37	7,843.34	17.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	28,153.94	7,038.49	15.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	25,696.45	6,424.11	14.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	18,712.31	4,678.08	10.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	12,442.20	3,110.55	7.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	5,408.69	1,352.17	3.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	2,055.89	513.97	1.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	733.93	183.48	0.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	7,440.27	1,860.07	4.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	15,289.51	3,822.38	8.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	24,790.09	6,197.52	14.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	34,754.17	8,688.54	19.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	41,528.30	10,382.07	23.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	46,207.48	11,551.87	26.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	42,219.49	10,554.87	23.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	46,502.97	11,625.74	26.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	51,493.85	12,873.46	29.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	65,402.45	16,350.61	36.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	102,743.80	25,685.95	57.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	150,204.71	37,551.18	84.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	173,216.71	36,375.51	97.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:25 PM	177,576.83	15,981.91	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

AUGUST 2

Mirror date: May 10
Analysis hours: 7:12 AM-7:18 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:12 AM	2,481.07	49.62	1.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 AM	990.37	148.55	0.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	21.37	5.34	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	10.32	2.58	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	3.68	0.92	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	12.53	3.13	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	433.28	108.32	0.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	3,503.86	875.97	2.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	8,015.77	2,003.94	4.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	13,128.24	3,282.06	7.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	17,951.11	4,487.78	10.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	23,978.05	5,994.51	13.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	29,688.13	7,422.03	16.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	35,089.45	8,772.36	19.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	39,078.18	9,769.54	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	42,204.02	10,551.00	23.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	40,969.75	10,242.44	23.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	38,986.80	9,746.70	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	36,587.52	9,146.88	20.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	36,098.24	9,024.56	20.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	34,843.33	8,710.83	19.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	35,935.39	8,983.85	20.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	38,986.07	9,746.52	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	44,355.70	11,088.93	25.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	46,055.69	11,513.92	25.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	45,621.66	11,405.42	25.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	42,487.72	10,621.93	23.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	41,341.87	10,335.47	23.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	39,057.54	9,764.39	22.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	39,248.40	9,812.10	22.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	36,933.12	9,233.28	20.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	34,544.16	8,636.04	19.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	27,047.15	6,761.79	15.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	20,466.08	5,116.52	11.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	11,666.27	2,916.57	6.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	4,539.18	1,134.79	2.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	3,505.33	876.33	2.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	9,981.77	2,495.44	5.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	18,546.51	4,636.63	10.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	28,193.00	7,048.25	15.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	39,173.97	9,793.49	22.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	48,179.37	12,044.84	27.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	49,930.93	12,482.73	28.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	47,519.86	11,879.97	26.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	54,870.23	13,717.56	30.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	61,267.08	15,316.77	34.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	76,407.74	19,101.93	43.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	115,412.96	28,853.24	65.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:00 PM	155,481.51	38,870.38	87.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:15 PM	176,097.91	26,414.69	99.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:18 PM	177,573.88	5,327.22	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

AUGUST 9

Mirror date: May 3
Analysis hours: 7:19 AM-7:10 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:19 AM	1,982.94	178.46	1.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	12.53	2.63	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	2.95	0.74	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	10.32	2.58	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	212.22	53.06	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	2,940.88	735.22	1.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	7,377.63	1,844.41	4.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	12,271.25	3,067.81	6.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	17,207.60	4,301.90	9.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	22,761.46	5,690.37	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	29,321.90	7,330.47	16.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	35,726.11	8,931.53	20.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	41,736.10	10,434.02	23.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	46,236.22	11,559.06	26.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	49,437.22	12,359.31	27.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	47,614.92	11,903.73	26.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	44,805.20	11,201.30	25.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	41,998.43	10,499.61	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	41,401.56	10,350.39	23.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	40,110.54	10,027.64	22.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	42,010.22	10,502.55	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	45,908.31	11,477.08	25.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	51,988.30	12,997.07	29.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	53,683.86	13,420.96	30.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	53,290.36	13,322.59	30.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	50,103.36	12,525.84	28.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	49,220.58	12,305.15	27.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	47,522.81	11,880.70	26.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	48,507.28	12,126.82	27.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	47,190.48	11,797.62	26.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	44,833.94	11,208.48	25.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	37,185.87	9,296.47	20.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	30,433.11	7,608.28	17.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	21,096.11	5,274.03	11.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	12,885.07	3,221.27	7.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	8,009.88	2,002.47	4.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	12,766.43	3,191.61	7.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	22,787.99	5,697.00	12.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	32,247.31	8,061.83	18.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	42,112.64	10,528.16	23.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	55,867.97	13,966.99	31.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	53,648.49	13,412.12	30.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	57,210.56	14,302.64	32.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	66,000.79	16,500.20	37.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	74,704.07	18,676.02	42.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	92,044.31	23,011.08	51.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	123,923.92	42,134.13	69.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:10 PM	176,812.68	37,130.66	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

AUGUST 16

Mirror date: April 26
Analysis hours: 7:25 AM-7:02 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:25 AM	1,036.05	41.44	0.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:30 AM	3.68	0.63	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	10.32	2.58	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	120.85	30.21	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	2,677.82	669.45	1.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	6,992.98	1,748.25	3.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	11,994.18	2,998.55	6.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	16,681.47	4,170.37	9.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	22,351.02	5,587.75	12.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	28,407.43	7,101.86	16.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	35,519.05	8,879.76	20.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	42,680.04	10,670.01	24.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	49,446.07	12,361.52	27.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	54,501.79	13,625.45	30.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	56,948.97	14,237.24	32.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	53,461.32	13,365.33	30.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	49,844.72	12,461.18	28.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	47,115.32	11,778.83	26.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	46,566.34	11,641.59	26.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	46,377.70	11,594.43	26.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	49,692.18	12,423.05	28.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	54,529.06	13,632.26	30.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	61,425.51	15,356.38	34.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	62,821.16	15,705.29	35.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	62,085.02	15,521.25	35.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	58,764.64	14,691.16	33.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	58,232.61	14,558.15	32.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	57,170.77	14,292.69	32.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	59,043.92	14,760.98	33.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	57,917.23	14,479.31	32.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	55,580.59	13,895.15	31.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	48,460.12	12,115.03	27.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	41,909.27	10,477.32	23.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	32,517.00	8,129.25	18.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	25,445.17	6,361.29	14.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	20,850.73	5,212.68	11.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	18,481.67	4,620.42	10.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	25,848.98	6,462.25	14.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	36,199.19	9,049.80	20.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	44,926.05	11,231.51	25.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	53,913.76	13,478.44	30.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	59,377.72	14,844.43	33.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	70,282.06	17,570.52	39.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	81,543.05	20,385.76	45.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	95,349.95	23,837.49	53.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	110,013.11	27,503.28	62.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	124,651.95	33,656.03	70.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:02 PM	168,352.57	23,569.36	94.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

AUGUST 23

Mirror date: April 19
Analysis hours: 7:31 AM-6:52 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:31 AM	465.71	51.23	0.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	133.38	30.68	0.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	2,713.93	678.48	1.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	7,121.20	1,780.30	4.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	11,991.23	2,997.81	6.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	16,797.90	4,199.47	9.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	22,188.17	5,547.04	12.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	28,396.38	7,099.09	16.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	34,973.02	8,743.26	19.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	42,702.88	10,675.72	24.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	50,691.39	12,672.85	28.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	58,297.46	14,574.36	32.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	62,810.11	15,702.53	35.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	61,830.79	15,457.70	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	57,405.10	14,351.27	32.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	53,498.90	13,374.73	30.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	50,859.40	12,714.85	28.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	50,779.82	12,694.95	28.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	52,630.86	13,157.71	29.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	58,640.84	14,660.21	33.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	64,871.16	16,217.79	36.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	72,769.03	18,192.26	41.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	73,416.75	18,354.19	41.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	71,803.72	17,950.93	40.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	68,397.12	17,099.28	38.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	68,578.40	17,144.60	38.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	68,324.91	17,081.23	38.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	70,240.06	17,560.01	39.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	68,757.46	17,189.36	38.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	66,800.31	16,700.08	37.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	60,513.99	15,128.50	34.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	54,285.89	13,571.47	30.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	45,168.48	11,292.12	25.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	40,808.37	10,202.09	23.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	36,255.19	9,063.80	20.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	33,552.32	8,388.08	18.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	30,997.56	7,749.39	17.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	37,102.60	9,275.65	20.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	48,085.05	12,021.26	27.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	50,699.50	12,674.87	28.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	70,265.85	17,566.46	39.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	87,142.59	21,785.65	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	102,012.08	25,503.02	57.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	120,027.30	30,006.83	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	120,763.44	30,190.86	68.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:45 PM	130,855.00	24,862.45	73.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:52 PM	154,962.01	9,297.72	87.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

AUGUST 30

Mirror date: April 12
Analysis hours: 7:37 AM-6:42 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:37 AM	1,363.23	81.79	0.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	2,951.20	560.73	1.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	7,387.95	1,846.99	4.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	12,350.83	3,087.71	7.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	16,991.70	4,247.92	9.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	22,515.34	5,628.84	12.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	28,398.59	7,099.65	16.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	35,135.87	8,783.97	19.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	42,266.65	10,566.66	23.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	50,661.18	12,665.30	28.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	59,505.20	14,876.30	33.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	67,277.81	16,819.45	37.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	68,808.30	17,202.08	38.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	66,095.11	16,523.78	37.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	60,995.17	15,248.79	34.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	56,722.75	14,180.69	31.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	53,784.81	13,446.20	30.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	56,111.14	14,027.78	31.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	61,116.76	15,279.19	34.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	69,712.45	17,428.11	39.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	76,919.13	19,229.78	43.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	85,992.33	21,498.08	48.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	85,016.70	21,254.17	47.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	82,629.95	20,657.49	46.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	79,386.94	19,846.74	44.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	80,445.84	20,111.46	45.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	81,071.45	20,267.86	45.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	82,394.14	20,598.54	46.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	80,382.46	20,095.62	45.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	78,748.80	19,687.20	44.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	73,096.94	18,274.24	41.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	67,390.55	16,847.64	38.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	60,283.35	15,070.84	33.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	57,135.40	14,283.85	32.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	52,580.75	13,145.19	29.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	50,299.37	12,574.84	28.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	45,307.02	11,326.75	25.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	42,175.28	10,543.82	23.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	44,683.62	11,170.90	25.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	56,939.39	14,234.85	32.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	81,379.46	20,344.87	45.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	111,010.11	27,752.53	62.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	130,171.92	32,542.98	73.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	128,334.88	32,083.72	72.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:30 PM	126,707.85	29,142.80	71.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:42 PM	150,061.02	16,506.71	84.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

SEPTEMBER 6

Mirror date: April 5
Analysis hours: 7:44 AM-6:31 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:44 AM	7,933.24	1,031.32	4.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	13,591.00	3,397.75	7.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	18,242.92	4,560.73	10.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	23,360.54	5,840.14	13.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	29,142.83	7,285.71	16.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	35,381.99	8,845.50	19.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	42,558.46	10,639.61	24.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	50,219.05	12,554.76	28.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	59,239.19	14,809.80	33.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	66,607.25	16,651.81	37.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	68,991.79	17,247.95	38.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	67,722.14	16,930.54	38.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	64,522.61	16,130.65	36.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	61,040.86	15,260.22	34.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	58,270.19	14,567.55	32.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	57,564.26	14,391.07	32.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	62,740.84	15,685.21	35.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	70,307.12	17,576.78	39.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	81,173.14	20,293.28	45.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	90,843.20	22,710.80	51.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	100,222.20	25,055.55	56.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	97,999.04	24,499.76	55.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	94,941.72	23,735.43	53.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	92,187.27	23,046.82	51.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	93,960.20	23,490.05	52.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	94,176.11	23,544.03	53.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	94,882.77	23,720.69	53.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	92,878.46	23,219.62	52.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	91,768.72	22,942.18	51.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	86,942.90	21,735.72	49.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	82,044.13	20,511.03	46.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	77,329.57	19,332.39	43.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	74,578.07	18,644.52	42.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	70,037.42	17,509.35	39.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	66,609.46	16,652.36	37.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	60,641.47	15,160.37	34.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	55,037.51	13,759.38	31.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	49,759.24	12,439.81	28.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	65,854.89	16,463.72	37.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	98,791.92	24,697.98	55.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	134,911.52	33,727.88	76.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	139,403.54	34,850.88	78.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	133,771.57	36,118.32	75.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:31 PM	150,015.34	21,002.15	84.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

SEPTEMBER 13

Mirror date: March 29
Analysis hours: 7:50 AM-6:21 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:50 AM	23,516.76	1,881.34	13.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	25,482.02	5,351.22	14.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	28,827.45	7,206.86	16.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	32,588.48	8,147.12	18.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	37,812.22	9,453.05	21.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	43,425.03	10,856.26	24.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	50,490.22	12,622.56	28.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	58,709.37	14,677.34	33.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	66,399.45	16,599.86	37.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	69,021.26	17,255.32	38.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	67,941.73	16,985.43	38.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	66,008.90	16,502.22	37.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	62,781.37	15,695.34	35.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	60,686.42	15,171.61	34.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	60,046.81	15,011.70	33.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	63,264.76	15,816.19	35.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	70,890.72	17,722.68	39.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	79,858.54	19,964.64	45.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	90,673.72	22,668.43	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	100,402.73	25,100.68	56.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	107,245.39	26,811.35	60.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	106,329.45	26,582.36	59.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	104,401.78	26,100.44	58.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	104,857.91	26,214.48	59.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	107,438.46	26,859.61	60.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	107,652.89	26,913.22	60.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	108,123.75	27,030.94	60.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	106,084.81	26,521.20	59.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	105,346.46	26,336.61	59.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	102,054.82	25,513.70	57.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	99,790.39	24,947.60	56.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	95,229.11	23,807.28	53.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	92,569.71	23,142.43	52.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	88,116.01	22,029.00	49.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	83,208.40	20,802.10	46.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	75,995.09	18,998.77	42.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	69,417.70	17,354.43	39.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	69,828.14	17,457.04	39.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	82,486.99	20,621.75	46.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	112,811.04	28,202.76	63.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	136,102.32	34,025.58	76.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	145,487.21	36,371.80	81.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:15 PM	141,903.03	25,542.55	79.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:21 PM	150,019.02	7,500.95	84.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

SEPTEMBER 20

Fall equinox (Spring equinox on March 22 similar)
Analysis hours: 7:57 AM-6:09 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:57 AM	39,637.47	792.75	22.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	39,874.74	5,981.21	22.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	41,573.99	10,393.50	23.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	43,505.35	10,876.34	24.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	47,116.05	11,779.01	26.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	51,636.07	12,909.02	29.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	58,805.91	14,701.48	33.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	65,975.74	16,493.93	37.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	69,008.00	17,252.00	38.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	68,218.80	17,054.70	38.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	66,376.60	16,594.15	37.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	64,140.17	16,035.04	36.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	61,827.85	15,456.96	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	61,692.26	15,423.07	34.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	64,258.07	16,064.52	36.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	70,515.65	17,628.91	39.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	79,969.81	19,992.45	45.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	89,030.48	22,257.62	50.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	98,766.13	24,691.53	55.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	108,199.65	27,049.91	60.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	111,787.52	27,946.88	63.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	109,420.66	27,355.17	61.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	107,565.20	26,891.30	60.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	109,401.50	27,350.38	61.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	113,519.18	28,379.80	63.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	116,770.30	29,192.57	65.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	119,289.69	29,822.42	67.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	119,194.63	29,798.66	67.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	119,951.40	29,987.85	67.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	119,361.90	29,840.47	67.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	118,478.38	29,619.60	66.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	113,866.99	28,466.75	64.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	111,600.35	27,900.09	62.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	106,792.21	26,698.05	60.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	100,760.86	25,190.21	56.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	92,411.28	23,102.82	52.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	88,693.72	22,173.43	49.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	91,295.65	22,823.91	51.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	102,331.15	25,582.79	57.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	113,188.33	28,297.08	63.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	126,188.35	31,547.09	71.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
6:00 PM	139,034.36	29,197.22	78.3%	344.12	72.27	0.2%	314.65	66.08	0.2%	344.12	72.27	0.2%	314.65	66.08	0.2%
6:09 PM	150,817.06	12,065.36	84.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

SEPTEMBER 27

Mirror date: March 15
Analysis hours: 8:03 AM-5:58 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:03 AM	51,832.08	5,183.21	29.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	53,713.33	11,816.93	30.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	54,371.37	13,592.84	30.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	56,340.31	14,085.08	31.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	59,986.39	14,996.60	33.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	65,906.47	16,476.62	37.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	68,954.21	17,238.55	38.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	68,358.81	17,089.70	38.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	66,792.94	16,698.23	37.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	64,597.04	16,149.26	36.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	62,300.92	15,575.23	35.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	61,718.79	15,429.70	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	63,269.92	15,817.48	35.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	69,271.06	17,317.77	39.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	77,936.03	19,484.01	43.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	88,157.28	22,039.32	49.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	97,507.54	24,376.88	54.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	106,665.47	26,666.37	60.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	115,295.06	28,823.77	64.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	115,015.05	28,753.76	64.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	111,179.59	27,794.90	62.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	110,623.25	27,655.81	62.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	113,651.09	28,412.77	64.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	119,557.91	29,889.48	67.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	125,055.03	31,263.76	70.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	130,031.91	32,507.98	73.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	131,991.27	32,997.82	74.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	134,338.97	33,584.74	75.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	135,572.50	33,893.13	76.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	136,377.91	34,094.48	76.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	133,529.88	33,382.47	75.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	132,582.99	33,145.75	74.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	126,564.89	31,641.22	71.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	118,935.25	29,733.81	67.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	111,010.85	27,752.71	62.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	107,021.38	26,755.35	60.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	108,268.18	27,067.05	61.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	110,839.15	27,709.79	62.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	115,075.47	28,768.87	64.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:45 PM	121,726.54	27,997.11	68.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:58 PM	132,718.57	14,599.04	74.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

OCTOBER 4

Mirror date: March 8
Analysis hours: 8:09 AM-5:47 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:09 AM	63,843.21	2,553.73	36.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	64,860.84	11,026.34	36.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	64,356.82	16,089.20	36.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	65,269.81	16,317.45	36.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	67,184.22	16,796.06	37.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	68,974.84	17,243.71	38.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	68,573.98	17,143.49	38.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	67,093.59	16,773.40	37.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	65,143.07	16,285.77	36.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	62,830.00	15,707.50	35.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	61,606.05	15,401.51	34.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	62,473.35	15,618.34	35.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	66,142.27	16,535.57	37.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	73,662.13	18,415.53	41.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	82,822.27	20,705.57	46.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	92,252.11	23,063.03	52.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	101,023.19	25,255.80	56.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	110,437.56	27,609.39	62.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	118,055.41	29,513.85	66.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	116,434.28	29,108.57	65.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	112,950.31	28,237.58	63.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	113,343.07	28,335.77	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	118,098.15	29,524.54	66.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	126,298.88	31,574.72	71.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	134,724.36	33,681.09	75.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	142,296.53	35,574.13	80.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	145,519.64	36,379.91	81.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	148,890.86	37,222.71	83.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	151,170.03	37,792.51	85.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	154,750.52	38,687.63	87.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	155,355.50	38,838.87	87.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	154,023.22	38,505.81	86.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	147,635.95	36,908.99	83.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	139,914.20	34,978.55	78.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	130,527.09	32,631.77	73.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	121,390.53	30,347.63	68.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	114,749.77	28,687.44	64.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	114,963.47	28,740.87	64.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	130,789.42	35,313.14	73.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:47 PM	148,563.68	20,798.92	83.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

OCTOBER 11

Mirror date: March 1
Analysis hours: 8:16 AM-5:37 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:16 AM	73,152.94	8,778.35	41.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	73,564.86	17,655.57	41.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	73,297.37	18,324.34	41.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	71,058.73	17,764.68	40.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	68,816.41	17,204.10	38.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	67,485.61	16,871.40	38.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	65,629.41	16,407.35	37.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	63,625.10	15,906.27	35.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	61,763.00	15,440.75	34.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	61,933.22	15,483.31	34.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	64,037.01	16,009.25	36.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	69,626.98	17,406.74	39.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	78,012.66	19,503.17	43.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	86,717.41	21,679.35	48.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	95,652.07	23,913.02	53.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	103,940.49	25,985.12	58.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	112,997.47	28,249.37	63.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	117,310.43	29,327.61	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	115,771.82	28,942.96	65.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	112,519.98	28,129.99	63.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	114,555.24	28,638.81	64.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	119,609.49	29,902.37	67.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	128,230.98	32,057.74	72.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	139,750.61	34,937.65	78.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	150,030.81	37,507.70	84.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	155,676.78	38,919.19	87.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	160,689.77	40,172.44	90.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	165,400.64	41,350.16	93.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	172,266.14	43,066.53	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	175,996.96	43,999.24	99.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	172,510.78	43,127.70	97.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	167,343.05	41,835.76	94.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	162,439.12	40,609.78	91.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	148,841.49	37,210.37	83.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	134,590.24	33,647.56	75.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	120,260.15	30,065.04	67.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	124,299.73	31,074.93	70.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:30 PM	143,604.49	27,284.85	80.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:37 PM	160,213.74	9,612.82	90.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

OCTOBER 18

Mirror date: February 22
Analysis hours: 8:22 AM-5:27 PM (PDT)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:22 AM	78,860.81	4,731.65	44.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	79,531.37	14,315.65	44.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	77,633.17	19,408.29	43.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	71,948.15	17,987.04	40.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	67,905.63	16,976.41	38.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	66,234.38	16,558.60	37.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	64,259.55	16,064.89	36.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	62,239.76	15,559.94	35.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	62,399.67	15,599.92	35.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	62,687.79	15,671.95	35.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	66,658.09	16,664.52	37.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	73,186.84	18,296.71	41.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	81,856.96	20,464.24	46.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	90,046.64	22,511.66	50.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	98,417.58	24,604.40	55.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	106,456.93	26,614.23	59.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	115,058.52	28,764.63	64.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	117,276.53	29,319.13	66.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	115,341.49	28,835.37	65.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	113,149.27	28,287.32	63.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	115,506.55	28,876.64	65.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	120,582.17	30,145.54	67.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	128,880.17	32,220.04	72.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	142,143.99	35,536.00	80.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	153,045.38	38,261.35	86.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	158,658.93	39,664.73	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	163,045.57	40,761.39	91.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	166,224.47	41,556.12	93.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	171,311.88	42,827.97	96.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	177,495.03	44,373.76	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	175,237.97	43,809.49	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	170,194.77	42,548.69	95.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	165,797.08	41,449.27	93.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:30 PM	158,191.01	39,547.75	89.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:45 PM	144,592.64	36,148.16	81.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:00 PM	130,542.57	32,635.64	73.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:15 PM	133,488.61	29,367.49	75.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
5:27 PM	153,934.06	15,393.41	86.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

OCTOBER 25

Mirror date: February 15
Analysis hours: 7:30 AM-4:18 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:30 AM	80,756.06	10,498.29	45.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	78,488.69	19,622.17	44.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	71,839.82	17,959.96	40.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	67,441.39	16,860.35	38.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	65,144.54	16,286.14	36.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	62,994.33	15,748.58	35.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	62,561.78	15,640.44	35.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	68,730.19	17,182.55	38.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	65,852.68	16,463.17	37.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	69,336.65	17,334.16	39.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	76,468.16	19,117.04	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	84,859.74	21,214.94	47.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	92,688.35	23,172.09	52.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	100,572.95	25,143.24	56.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	108,408.93	27,102.23	61.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	116,535.23	29,133.81	65.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	117,335.48	29,333.87	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	115,038.63	28,759.66	64.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	113,357.81	28,339.45	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	115,765.93	28,941.48	65.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	120,744.28	30,186.07	68.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	130,892.58	32,723.15	73.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	144,958.87	36,239.72	81.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	156,139.54	39,034.88	87.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	161,815.72	40,453.93	91.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	165,843.50	41,460.88	93.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	168,433.63	42,108.41	94.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	169,523.48	42,380.87	95.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	176,085.38	44,021.35	99.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	176,718.36	44,179.59	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	172,248.45	43,062.11	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	168,216.99	42,054.25	94.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	163,715.39	40,928.85	92.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	152,712.31	38,178.08	86.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	148,148.08	37,037.02	83.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:15 PM	168,257.52	25,238.63	94.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:18 PM	177,532.61	5,325.98	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

NOVEMBER 1

Mirror date: February 8
Analysis hours: 7:36 AM-4:10 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:36 AM	78,964.71	5,527.53	44.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	76,924.29	14,615.62	43.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	71,919.41	17,979.85	40.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	69,283.59	17,320.90	39.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	64,484.30	16,121.07	36.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	62,258.18	15,564.55	35.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	71,380.75	17,845.19	40.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	75,751.92	18,937.98	42.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	71,156.00	17,789.00	40.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	71,777.19	17,944.30	40.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	79,195.35	19,798.84	44.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	88,543.40	22,135.85	49.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	95,688.92	23,922.23	53.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	102,281.78	25,570.44	57.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	109,839.21	27,459.80	61.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	117,503.49	29,375.87	66.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	117,319.27	29,329.82	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	114,903.78	28,725.95	64.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	113,421.92	28,355.48	63.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	115,727.61	28,931.90	65.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	120,330.90	30,082.72	67.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	132,882.16	33,220.54	74.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	147,764.17	36,941.04	83.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	158,826.20	39,706.55	89.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	164,949.67	41,237.42	92.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	168,667.96	42,166.99	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	171,628.00	42,907.00	96.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	169,298.73	42,324.68	95.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	174,289.61	43,572.40	98.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	177,481.03	44,370.26	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	174,542.36	43,635.59	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	170,074.66	42,518.67	95.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	166,598.80	41,649.70	93.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	162,056.68	40,514.17	91.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	166,056.46	34,871.86	93.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:10 PM	177,576.83	15,981.91	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

NOVEMBER 8

Mirror date: February 1
Analysis hours: 7:43 AM-4:03 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:43 AM	75,645.81	756.46	42.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
7:45 AM	75,377.58	9,799.09	42.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	74,343.74	18,585.93	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	74,683.44	18,670.86	42.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	67,080.32	16,770.08	37.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	62,776.21	15,694.05	35.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	80,098.77	20,024.69	45.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	83,875.27	20,968.82	47.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	74,431.43	18,607.86	41.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	73,837.50	18,459.38	41.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	82,253.40	20,563.35	46.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	95,663.13	23,915.78	53.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	103,907.33	25,976.83	58.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	109,010.96	27,252.74	61.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	113,296.65	28,324.16	63.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	119,447.38	29,861.84	67.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	117,293.48	29,323.37	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	115,351.80	28,837.95	65.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	114,092.48	28,523.12	64.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	115,618.55	28,904.64	65.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	119,725.18	29,931.30	67.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	134,011.06	33,502.76	75.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	150,329.25	37,582.31	84.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	161,408.22	40,352.06	90.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	167,847.81	41,961.95	94.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	170,803.43	42,700.86	96.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	172,992.70	43,248.18	97.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	172,168.13	43,042.03	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	172,521.84	43,130.46	97.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	176,829.63	44,207.41	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	176,257.08	44,064.27	99.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	172,270.56	43,067.64	97.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	169,410.00	42,352.50	95.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	166,967.98	41,741.99	94.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:00 PM	168,719.54	25,307.93	95.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
4:03 PM	173,253.56	5,197.61	97.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

NOVEMBER 15

Mirror date: January 25
Analysis hours: 7:51 AM-3:57 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:51 AM	74,752.71	5,980.22	42.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	75,264.10	15,052.82	42.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	76,462.27	19,115.57	43.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	71,389.59	17,847.40	40.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	70,038.89	17,509.72	39.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	82,526.78	20,631.70	46.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	85,738.10	21,434.53	48.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	73,537.59	18,384.40	41.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	75,933.93	18,983.48	42.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	87,206.70	21,801.68	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	104,449.68	26,112.42	58.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	115,212.53	28,803.13	64.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	120,887.98	30,221.99	68.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	123,241.57	30,810.39	69.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	124,256.25	31,064.06	70.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	118,378.90	29,594.73	66.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	116,647.97	29,161.99	65.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	115,681.92	28,920.48	65.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	116,765.87	29,191.47	65.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	119,186.52	29,796.63	67.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	134,076.64	33,519.16	75.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	152,024.07	38,006.02	85.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	161,946.15	40,486.54	91.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	167,511.06	41,877.76	94.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	170,135.08	42,533.77	95.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	173,784.11	43,446.03	97.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	174,943.96	43,735.99	98.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	170,777.64	42,694.41	96.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	175,167.97	43,791.99	98.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	177,253.34	44,313.33	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	174,644.79	43,661.20	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	171,914.65	42,978.66	96.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	170,437.94	39,200.73	96.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:57 PM	171,443.78	18,858.82	96.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

NOVEMBER 22

Mirror date: January 18
Analysis hours: 7:57 AM-3:54 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
7:57 AM	75,953.82	1,519.08	42.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:00 AM	76,073.93	11,411.09	42.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	77,205.78	19,301.44	43.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	77,505.69	19,376.42	43.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	74,747.55	18,686.89	42.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,237.13	20,809.28	46.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	84,770.58	21,192.65	47.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	73,358.53	18,339.63	41.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	78,274.99	19,568.75	44.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	92,997.10	23,249.27	52.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	112,616.51	28,154.13	63.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	126,214.88	31,553.72	71.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	132,626.46	33,156.62	74.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	133,224.07	33,306.02	75.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	128,827.85	32,206.96	72.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	120,321.32	30,080.33	67.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	117,470.33	29,367.58	66.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	116,855.77	29,213.94	65.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	118,274.27	29,568.57	66.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	118,560.91	29,640.23	66.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	132,698.68	33,174.67	74.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	152,221.55	38,055.39	85.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	161,313.90	40,328.48	90.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	166,731.44	41,682.86	93.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	169,418.10	42,354.53	95.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	175,162.07	43,790.52	98.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	177,367.55	44,341.89	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	170,557.32	42,639.33	96.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	173,549.78	43,387.45	97.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	177,576.09	44,394.02	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	176,473.72	44,118.43	99.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	173,860.75	43,465.19	97.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	173,560.84	34,712.17	97.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:54 PM	173,585.89	13,886.87	97.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

NOVEMBER 29

Mirror date: January 11
Analysis hours: 8:04 AM-3:51 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:04 AM	76,984.71	6,928.62	43.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	77,756.23	16,328.81	43.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	78,492.37	19,623.09	44.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	77,487.27	19,371.82	43.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,651.26	20,912.82	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	87,109.43	21,777.36	49.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	77,168.93	19,292.23	43.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	80,456.89	20,114.22	45.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	96,559.91	24,139.98	54.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	117,362.75	29,340.69	66.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	134,840.78	33,710.20	75.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	142,445.38	35,611.34	80.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	140,496.33	35,124.08	79.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	132,303.71	33,075.93	74.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	121,823.81	30,455.95	68.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	118,921.25	29,730.31	67.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	118,983.14	29,745.79	67.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	120,070.04	30,017.51	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	117,622.86	29,405.72	66.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	130,093.07	32,523.27	73.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	149,585.74	37,396.43	84.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	160,019.94	40,004.99	90.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	165,544.33	41,386.08	93.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	168,866.92	42,216.73	95.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	175,202.60	43,800.65	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	177,576.09	44,394.02	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	172,793.01	43,198.25	97.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	172,453.31	43,113.33	97.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	176,618.88	44,154.72	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	177,332.92	44,333.23	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	175,612.31	43,903.08	98.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	175,987.38	31,677.73	99.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:51 PM	176,608.57	8,830.43	99.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

DECEMBER 6

Mirror date: January 4
Analysis hours: 8:10 AM-3:51 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:10 AM	77,801.18	3,112.05	43.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:15 AM	78,111.40	13,278.94	44.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	79,448.84	19,862.21	44.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	79,260.20	19,815.05	44.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,767.69	20,941.92	47.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	90,558.03	22,639.51	51.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	82,825.96	20,706.49	46.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	84,929.75	21,232.44	47.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	96,830.34	24,207.59	54.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	117,870.46	29,467.61	66.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	137,521.55	34,380.39	77.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	149,430.99	37,357.75	84.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	146,205.67	36,551.42	82.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	135,325.65	33,831.41	76.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	123,416.95	30,854.24	69.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	120,004.46	30,001.11	67.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	121,032.40	30,258.10	68.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	121,849.60	30,462.40	68.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	117,068.73	29,267.18	65.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	127,917.80	31,979.45	72.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	146,144.51	36,536.13	82.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	158,532.92	39,633.23	89.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	164,153.84	41,038.46	92.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	168,368.79	42,092.20	94.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	175,231.34	43,807.84	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	177,576.83	44,394.21	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	174,932.91	43,733.23	98.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	171,442.31	42,860.58	96.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	175,974.85	43,993.71	99.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	177,576.09	44,394.02	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	176,866.48	44,216.62	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	177,058.80	30,100.00	99.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:51 PM	177,402.19	8,870.11	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PROJECT: 530 Sansome Project
OPEN SPACE: Sue Bierman Park (West)

PREVISION DESIGN

DECEMBER 13

Mirror date: December 28
Analysis hours: 8:15 AM-3:52 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:15 AM	78,340.57	9,400.87	44.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	79,478.31	19,869.58	44.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	80,112.77	20,028.19	45.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,587.15	20,896.79	47.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	93,032.47	23,258.12	52.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	87,457.98	21,864.49	49.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	89,446.82	22,361.70	50.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	96,007.99	24,002.00	54.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	115,734.98	28,933.74	65.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	135,564.40	33,891.10	76.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	151,649.73	37,912.43	85.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	150,853.17	37,713.29	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	138,407.28	34,601.82	77.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	125,577.48	31,394.37	70.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	118,926.40	29,731.60	67.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	122,316.05	30,579.01	68.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	122,988.82	30,747.20	69.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	119,192.42	29,798.10	67.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	125,478.00	31,369.50	70.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	142,267.79	35,566.95	80.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	157,001.69	39,250.42	88.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	162,758.19	40,689.55	91.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	167,525.80	41,881.45	94.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	175,130.39	43,782.60	98.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	177,576.83	44,394.21	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	176,949.74	44,237.44	99.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	171,794.54	42,948.63	96.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	175,302.82	43,825.70	98.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	177,310.08	44,327.52	99.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	177,402.19	44,350.55	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	177,576.83	31,963.83	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:52 PM	177,547.35	10,652.84	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

PREVISION DESIGN

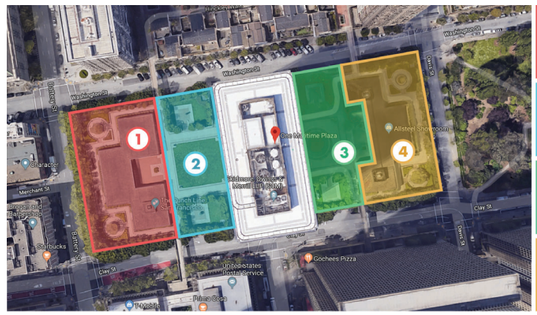
DECEMBER 20

Winter solstice (December 21 similar)
Analysis hours: 8:19 AM-3:54 PM (PST)

Analysis Time	EXISTING SHADOW			530 SANSOME PROJECT NET NEW SHADOW			530 SANSOME VARIANT NET NEW SHADOW			PROJECT CUMULATIVE NET NEW SHADOW			VARIANT CUMULATIVE NET NEW SHADOW		
	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage	Shadow Area (sf)	Area/Time (sfh)	Coverage
8:19 AM	78,543.95	6,283.52	44.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:30 AM	79,298.52	16,652.69	44.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
8:45 AM	80,633.00	20,158.25	45.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:00 AM	83,154.60	20,788.65	46.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:15 AM	92,813.62	23,203.40	52.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:30 AM	90,166.75	22,541.69	50.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
9:45 AM	90,772.46	22,693.12	51.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:00 AM	94,505.49	23,626.37	53.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:15 AM	112,043.22	28,010.80	63.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:30 AM	131,728.21	32,932.05	74.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
10:45 AM	150,999.07	37,749.77	85.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:00 AM	153,400.56	38,350.14	86.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:15 AM	141,312.79	35,328.20	79.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:30 AM	129,779.90	32,444.97	73.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
11:45 AM	118,453.33	29,613.33	66.7%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:00 PM	122,660.17	30,665.04	69.1%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:15 PM	123,512.74	30,878.18	69.6%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:30 PM	121,461.27	30,365.32	68.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
12:45 PM	122,940.92	30,735.23	69.2%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:00 PM	138,310.75	34,577.69	77.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:15 PM	155,399.71	38,849.93	87.5%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:30 PM	161,497.39	40,374.35	90.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
1:45 PM	166,584.80	41,646.20	93.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:00 PM	173,675.79	43,418.95	97.8%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:15 PM	177,576.83	44,394.21	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:30 PM	177,576.83	44,394.21	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
2:45 PM	173,005.97	43,251.49	97.4%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:00 PM	174,547.52	43,636.88	98.3%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:15 PM	177,345.45	44,336.36	99.9%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:30 PM	177,551.77	44,387.94	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:45 PM	177,576.83	37,291.13	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%
3:54 PM	177,576.83	14,206.15	100.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%	0.00	0.00	0.0%

EXHIBIT J: 2019 MARITIME PLAZA PARK USER SURVEY

Park survey data taken from the 447 Battery Street shadow study provided courtesy of Fastcast



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

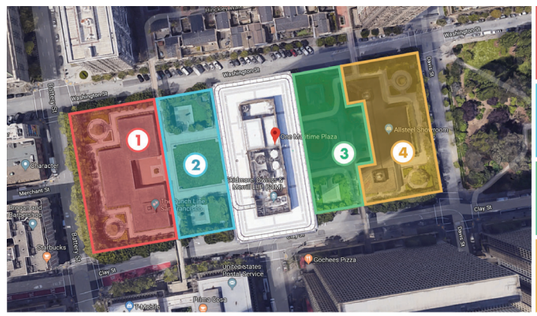
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 85° | spec: weekday (12:00 - 6:00) | date: 8/13/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
12:00	1	0	Sitting areas active	1	0	Light activity; break takers	1	0	Sitting areas active	2	0	Light activity in sitting area	5
12:15	3	0	Pavilions & sitting areas active; break takers	4	0	Light activity; break takers in sitting areas	5	0	Sitting areas active, passersby around One MP. doors	4	0	Passersby; activity in sitting area	16
12:30	9	0	Pavilions & sitting areas active	11	0	Passersby in grassy area, traffic around doors to One MP.	11	0	Pavilions & sitting areas active	7	0	Sitting areas/pavilions active, people taking breaks	38
12:45	16	0	Pavilions & sitting areas active, increased activity	14	0	Grassy area & corner pavilions active, break takers	12	0	Pavilions & sitting areas active; working groups sitting	7	0	Sitting areas/pavilions active, people taking breaks	49
1:00	11	0	Breaktakers, sitting areas & pavilions active	14	0	Grassy area & corner pavilions active, break takers	8	0	Pavilions & sitting areas active	8	0	Sitting areas/pavilions active, people taking breaks	41
1:15	9	0	Breaktakers, sitting areas & pavilions active	6	0	Sitting areas active; passersby	9	0	Pavilions & sitting areas active, traffic around doors to One MP.	10	0	Sitting areas/pavilions active, people taking breaks	34
1:30	5	0	Pavilions & sitting areas active; break takers	5	0	Corner pavilions & sitting areas active; foot traffic	12	0	Working groups sitting by fountain/paved open space	10	0	Sitting areas/pavilions active, people taking breaks	32
1:45	1	0	Sitting area active	6	0	Corner pavilions & sitting areas active; foot traffic	5	0	Reduced activity, dog walkers spotted	5	0	Sitting areas/pavilions active, people taking breaks	17
2:00	5	0	Pavilions & sitting areas active	8	0	Corner pavilions & sitting areas active; foot traffic	3	0	Pavilions & sitting areas active	2	0	Sitting areas active, light activity & passersby	18
2:15	3	0	Pavilions & sitting areas active	5	0	Reduced activity, passersby & foot traffic around One MP.	4	0	Pavilions & sitting areas active, passersby coming and going	2	0	Sitting areas active, light activity & passersby	14
2:30	3	0	Pavilions & sitting areas active	2	0	Person sitting; person walking between offices	4	0	Light activity at pavilions, passersby coming & going	4	0	Sitting areas active, light activity & passersby	13
2:45	4	0	Pavilions & sitting areas active; break takers	4	0	Scattered activity around sitting areas	5	0	Light activity at pavilions, passersby coming & going	1	0	Light activity in sitting area	14
3:00	4	0	People sitting on benches	6	0	Groups talking around One MP. doors; passersby	5	0	Light activity at pavilions, passersby coming & going	1	0	Light activity in sitting area	16
3:15	1	0	Reduced activity, sitting area active	4	0	Scattered activity around sitting areas	5	0	Passersby coming & going	3	0	Break takers in sitting areas; passersby	13
3:30	2	0	Sitting area active	2	0	Sitting areas active, passersby in grass & on pathway	3	0	Passersby coming & going	1	0	Light activity in sitting area	8
3:45	1	0	Sitting area active	5	0	Sitting areas active, passersby in grass & on pathway	4	0	Passersby coming & going	2	0	Sitting areas active, light activity & passersby	12
4:00	1	2	People sitting	3	0	Passersby in grassy area, traffic around doors One MP.	3	0	Passersby coming & going	1	0	Sitting area active	10
4:15	2	0	People sitting, walking through	4	0	Passersby in grassy area, traffic around doors One MP.	1	0	Person sitting in pavilion	1	0	Sitting area active	8
4:30	1	0	People sitting	5	0	People talking, walking through grassy area	2	0	Walkers around doors to One MP.	4	0	Passersby; sitting area active	12
4:45	2	0		4	0		0	0		1	0		7
5:00	1	0		1	0		0	0		0	0		2
5:15	0	0		0	0		1	0		1	0		2
5:30	1	0		0	0		2	0		1	0		4
5:45	1	0		1	0		1	0		0	0		3
6:00	0	0		0	0		0	0		0	0		0
Totals	87	2		115	0		106	0		78	0		388



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

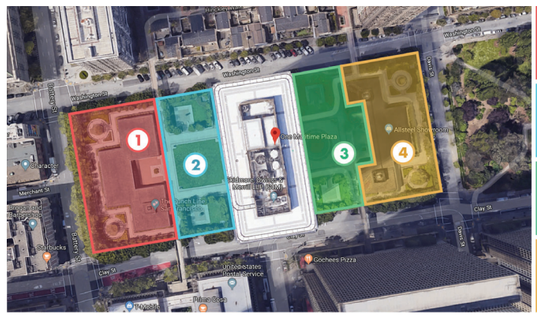
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, scattered clouds, 70° | spec: weekday (12:00 - 6:00) | date: 8/12/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
12:00	3	0	Brake takers in sitting area	3	0	Corner pavilion active, persons eating	6	0	Persons sitting, group talking by fountain	4	0	Sitting areas active, break takers eating	16
12:15	3	0	Brake takers in sitting area	2	0	Corner pavilion active, persons eating	6	0	Persons sitting, group talking by fountain	3	0	Sitting areas active, break takers eating	14
12:30	8	0	Pavilians active, people eating	9	0	Passersby in grassy area, traffic around doors of One MP.	7	0	Persons sitting, group talking by fountain, passersby walking	3	0	Sitting areas active, break takers eating	27
12:45	11	0	Pavilions & sitting areas active; passersby	11	0	Passersby in grassy area, traffic around doors of One MP.	10	0	Persons sitting, group talking by fountain, passersby walking	11	0	Activity at sitting areas & pavilions, groups	43
1:00	9	0	Pavilions & sitting areas active; passersby	9	0	Passersby in grassy area, traffic around doors of One MP.	8	0	Dynamic activity, people on phones, sitting, and reading	6	0	Activity at sitting areas & pavilions	32
1:15	10	0	Pavilions & sitting areas active; passersby	8	0	Passersby in grassy area, traffic around doors of One MP.	9	0	Corner pavilions & sitting areas active	10	0	Activity at sitting areas & pavilions; foot traffic	37
1:30	10	0	Pavilions & sitting areas active; passersby	6	0	Passersby walking, people sitting on steps	9	0	Corner pavilions & sitting areas active	9	0	Activity at sitting areas & pavilions; foot traffic	34
1:45	2	0	Reduced activity, people taking breaks	6	0	Corner pavilions & sitting areas active; foot traffic	7	0	Corner pavilions & sitting areas active	4	0	Passersby, people taking breaks	19
2:00	1	0	Passersby on path	2	0	Person walking, person sitting	8	0	Corner pavilions & sitting areas active, person eating	4	0	Passersby, people taking breaks	15
2:15	3	0	Passersby on path	2	0	Person walking, person sitting	4	0	Foot traffic, activity at sitting areas	3	0	Passersby, people taking breaks	12
2:30	5	0	Pavilions & sitting area active	5	0	Foot traffic, dog walker	5	0	Foot traffic, activity at sitting areas	2	0	Activity at sitting areas	17
2:45	8	0	Activity at sitting areas, person reading	4	0	Foot traffic, dog walker	5	2	Scattered activity at sitting areas, person w/ stroller in grass	1	0	Person on phone	20
3:00	1	0	Person reading	4	0	Brake takers, person reading, light activity	2	2	Scattered activity at sitting areas, person w/ stroller in grass	1	0	Person on phone	10
3:15	1	0	Person reading	2	0	Brake takers, person reading, light activity	5	0	Scattered activity at sitting areas	2	0	Sitting areas active	10
3:30	0	0	No activity	5	0	Sitting areas active, passersby in grass & on pathway	6	0	Groups walking; traffic around doors of One MP.	3	0	Sitting areas active	14
3:45	2	0	Sitting area active	2	0	Sitting areas active, passersby in grass & on pathway	2	0	Person standing, person walking dog	1	0	Scattered activity at sitting areas	7
4:00	1	0	Passersby, break takers walking	4	0	Sitting area active, standing persons talking	1	0	Sitting area active	1	0	Scattered activity at sitting areas	7
4:15	0	0	No activity	3	0	Sitting area active, standing persons talking	2	0	Sitting area active	2	0	Scattered activity at sitting areas, dog walker	7
4:30	2	0	Sitting areas active	2	0	Sitting area active	3	0	Persons walking, sitting area active	2	0	Scattered activity at sitting areas, dog walker	9
4:45	2	0		1	0		1	0		2	0		6
5:00	1	0		2	0		2	0		1	0		6
5:15	0	0		0	0		1	0		1	0		2
5:30	1	0		1	0		0	0		1	0		3
5:45	0	0		1	0		0	0		1	0		2
6:00	0	0		0	0		0	0		0	0		0
Totals	84	0		94	0		109	4		78	0		369



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

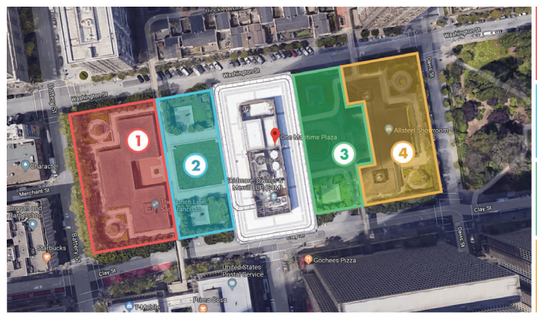
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 78° | spec: weekday (12:00 - 6:00) | date: 8/15/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
12:00	1	0	Break taker(s) sitting	4	0	Break taker(s) sitting	5	0	Persons sitting, persons walking	4	0	Persons sitting, persons walking	14
12:15	3	0	Break taker(s) sitting	7	0	Sitting area active; persons standing around One MP.	4	0	Persons sitting, persons walking	5	0	Persons sitting, persons walking	19
12:30	10	0	Activity at sitting areas & pavilions	11	0	Sitting area active; persons standing & walking around One MP.	6	0	Persons sitting, persons walking	4	0	Activity at sitting areas & pavilion	31
12:45	11	0	Activity at sitting areas & pavilions	9	0	Sitting area active; persons standing & walking around One MP.	15	0	Sitting area active; persons standing & walking around One MP.	4	0	Activity at sitting areas & pavilion	39
1:00	1	0	Person sitting	13	0	Sitting area active; persons standing & walking around One MP.	9	0	Sitting area active; persons standing & walking around One MP.	9	0	Activity at sitting areas & pavilion	32
1:15	9	0	Passersby walking, sitting area active	12	0	Sitting area active; persons standing & walking around One MP.	10	0	Sitting area active; foot traffic around One MP.	9	0	Activity at sitting areas & pavilion, group walking	40
1:30	5	0	Passersby walking, sitting area active	8	0	Passersby walking through, persons standing, sitting	7	0	Persons standing, walking through	8	0	Activity at sitting areas & pavilion, group walking	28
1:45	2	0	Sitting area active, light activity	3	0	Passersby walking through, persons standing, sitting	5	0	Sitting area active; foot traffic around One MP.	7	0	Persons sitting, eating, others walking through	17
2:00	5	0	Sitting area active, light activity	2	0	Light activity, couple sitting by grassy area	6	0	Sitting area active; foot traffic around One MP.	6	0	Person with dog, sitting areas active	19
2:15	3	0	Pavilions & sitting areas active	5	0	Light activity, couple sitting others walking by grassy area	4	0	Pavilions & sitting areas active	3	0	People taking breaks, sitting area active	15
2:30	3	0	Pavilions & sitting areas active	2	0	Foot traffic	4	0	Pavilions & sitting areas active	4	0	People taking breaks, sitting area active	13
2:45	4	0	Pavilions & sitting areas active	5	0	Persons standing & walking around One MP.	4	0	Pavilions & sitting areas active	4	0	Sitting area active	17
3:00	1	0	Sitting area active	5	0	Foot traffic, person eating at sitting area	2	0	Sitting area active, persons reading	1	0	Person walking dog	9
3:15	1	0	Sitting area active	1	0	Foot traffic w/ dog in grass	2	0	Sitting area active, persons reading	0	0	No activity	4
3:30	2	0	Persons sitting on steps @ Punchline	3	0	Foot traffic w/ dog; people standing around One MP.	4	0	Persons at fountain area	0	0	No activity	9
3:45	3	0	Persons walking, standing around building	4	0	Pavilion active, persons talking & walking in grassy area	5	0	Persons at fountain area	2	0	Scattered activity, person sitting	14
4:00	3	0	Person reading, walking, sitting	5	0	Pavilion active, persons talking & walking in grassy area	3	0	Person walking dog, others standing	2	0	Scattered activity, person sitting	13
4:15	2	0	Persons talking, walking	2	0	Passersby in grassy area, traffic around doors One MP.	4	0	Persons standing around One MP, break taking	2	0	Scattered activity, persons sitting	10
4:30	2	0	Persons talking, walking	2	0	People talking, walking through grassy area	4	0	Persons standing around One MP	3	0	Persons eating, talking	11
4:45	2	0		0	0		3	0		1	0		6
5:00	1	0		1	0		0	0		2	0		4
5:15	0	0		1	0		1	0		0	0		2
5:30	1	0		2	0		1	0		1	0		5
5:45	0	0		0	0		3	0		3	0		6
6:00	0	0		0	0		0	0		1	0		1
Totals	75	0		107	0		111	0		85	0		378



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

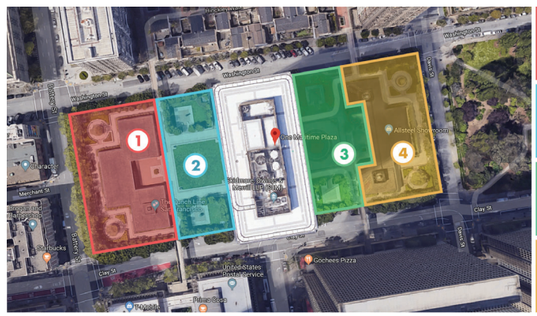
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 69° | spec: weekend (12:00 - 4:30) | date: 8/17/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
12:00	0	0	No activity	1	0	Person in grassy area, walking	3	0	Persons walking along periphery, dogs	1	0	Back sitting area active	5
12:15	0	0	No activity	2	0	Person in grassy area	1	0	Dog walker	1	0	Back sitting area active	4
12:30	0	0	No activity	0	0	No activity	2	0	Persons walking, dogs	2	0	Back sitting area & pathway active	4
12:45	3	0	Persons walking along pathway, dog walker	1	2	Family walking	0	0	No activity	0	0	No activity	6
1:00	4	2	Family walking, person sitting in pavilion	2	0	Pavilion, grassy area active	0	0	No activity	2	0	Pathway active, dog walkers	10
1:15	0	0	No activity	3	0	Light activity, persons strolling through areas	3	0	Sitting area active, persons walking	2	0	Back sitting area & pathway active	8
1:30	2	0	Pathway, pavilion in use	4	1	Light activity, persons strolling through areas	1	0	Sitting area active	0	0	No activity	8
1:45	0	0	No activity	0	0	No activity	2	0	Sitting area active, persons walking	2	0	Pavilion, sitting area active	4
2:00	0	0	No activity	2	0	Grassy area active	1	0	Sitting area active	0	0	No activity	3
2:15	2	0	Pathway, pavilion active; dogs	1	0	Grassy area active	2	0	Dog walkers	1	0	Pathway active, dogs	6
2:30	1	0	Pavilion active; dogs	3	0	Grassy area, pavilion active	2	0	Person walking dog, person sitting	4	0	Group walking	10
2:45	3	0	Persons walking along pathway	0	0	No activity	1	0	Pavilions & sitting areas active	0	0	No activity	4
3:00	2	0	Persons walking along pathway	3	0	Persons walking, person sitting in pavilion	0	0	Sitting area active, persons reading	0	0	No activity	5
3:15	5	0	Persons on stairway, talking	3	0	Grassy area, pavilion active	1	0	Sitting area active, persons reading	0	0	No activity	9
3:30	3	0	Persons on stairway, talking	3	0	Grassy area, pavilion active; dog walkers	0	0	Persons at fountain area	2	0	Back sitting area & pathway active	8
3:45	4	0	Persons on stairway, talking	0	0	No activity	3	0	Group walking by fountain	1	0	Back sitting area active	8
4:00	2	0	Persons walking	5	0	Light activity, persons strolling through areas & sitting	4	0	Group standing by fountain	0	0	No activity	11
4:15	1	0	Persons walking	2	0	Person sitting, walking	0	0	No activity	0	0	No activity	3
4:30	0	0	No activity	1	0	Persons walking	2	0	Persons walking	0	0	No activity	3
Totals	32	2		36	3		28	0		18	0		119



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 69° | spec: weekend (12:00 - 4:30) | date: 8/26/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
12:00	1	0	Persons walking	0	0	No activity	1	0	Person walking	0	0	No activity	2
12:15	0	0	No activity	0	0	No activity	0	0	No activity	0	0	No activity	0
12:30	2	0	Pathway active, dogs	1	0	Person walking	0	0	No activity	1	0	Pathway active with dog walker	4
12:45	2	0	Sitting area in use; dog walker	0	0	No activity	2	0	Person walking	0	0	No activity	4
1:00	0	0	No activity	3	2	Grassy area in use, pavilion active	0	0	No activity	2	0	Pathway active with dog walker, person passing through	7
1:15	0	0	No activity	2	2	Grassy area in use	1	0	Pavilion in use, person sitting	1	0	Person passing through	6
1:30	2	0	Pathway active	4	3	Grassy area in use, people with kids	1	0	Pavilion in use, person sitting	0	0	No activity	10
1:45	1	0	Sitting area in use	0	0	No activity	0	0	No activity	2	0	Sitting area, pathway active	3
2:00	0	0	No activity	0	0	No activity	1	0	Person walking, dog	0	0	No activity	1
2:15	0	0	No activity	1	1	Mother & child walking	0	0	No activity	1	0	Person sitting with dog	3
2:30	0	0	No activity	1	0	Person walking	0	0	No activity	1	0	Person sitting with dog	2
2:45	1	0	Pavilion active, person reading	0	0	No activity	1	0	Person sitting at sitting area	1	0	Person sitting with dog	3
3:00	1	0	Pavilion active, person reading	0	0	No activity	0	0	No activity	2	0	Persons walking	3
3:15	1	0	Sitting area active	1	0	Sitting area in use	3	0	Group on pathway	0	0	No activity	5
3:30	3	0	Pavilion, pathway active	2	0	Sitting area in use	1	0	Person walking with dog	0	0	No activity	6
3:45	0	0	No activity	0	0	No activity	0	0	No activity	0	0	No activity	0
4:00	0	0	No activity	1	0	Person walking through grass	0	0	No activity	0	0	No activity	1
4:15	2	0	Pathway active	0	0	No activity	0	0	No activity	1	0	Pavilion active, person on the phone	3
4:30	0	0	No activity	0	0	No activity	2	0	Person walking with dog, person at sitting area	0	0	No activity	2
Totals	16	0		16	8		13	0		12	0		65

Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: morning fog, clear skies; 60° | spec: weekday | date: 11/21/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
7:00	0	0	Minimal activity	2	0	Walking activity (active)	0	0	Minimal activity	0	0	Minimal activity	2
7:15	0	0	Minimal activity	0	0	Minimal activity	2	0	Active foot traffic around structure	0	0	Minimal activity	2
7:30	0	0	Minimal activity	4	0	People entering structure, walkers (active)	2	0	Active foot traffic around structure	0	0	Minimal activity	6
7:45	2	0	Walking activity from breezeway (active)	6	0	People entering structure, walkers (active)	5	0	People entering / around structure (active)	5	0	Walking activity (active); passive activity in sitting area	18
8:00	3	0	Walking activity from breezeway (active)	3	0	People entering / around structure (active)	3	0	People entering / around structure (active)	2	0	Through foot traffic from breezeway	11
8:15	2	0	Walking activity (active)	4	0	People entering structure, walkers (active)	7	0	People entering / around structure (active); activity in sitting areas	5	0	Walking activity (active); passive activity in sitting area	18
8:30	0	0	Minimal activity	5	0	People around entrance to structure, walkers (active)	3	0	People entering / around structure (active); activity in sitting areas	0	0	Minimal activity	8
8:45	2	0	Walking activity (active); sitting areas active (passive)	2	0	Passive activity in pavilions, break takers; walkers	2	0	Active foot traffic around structure	2	0	Passive activity in pavilions, break takers	8
9:00	1	0	Sitting areas active (passive)	4	0	Passive activity in pavilions / sitting areas, break takers; walkers	1	0	Active foot traffic around structure	2	0	Passive activity in pavilions, break takers	8
9:15	0	0	Minimal activity	2	0	Walking activity	3	0	Active foot traffic around structure	1	0	Passive activity in pavilion, break taker	6
9:30	1	0	Walking activity (active)	3	0	People entering / around structure (active)	4	0	Passive activity, break takers in pavilions / sitting areas	2	0	Passive activity in pavilion, break taker; foot traffic (active)	10
9:45	2	0	Walking activity (active)	5	0	People entering / around structure (active)	1	0	Passive activity around pavilion	0	0	Minimal activity	8
10:00	5	0	Passthrough walking activity (active); sitting areas / pavilions active (passive)	5	0	People entering / around structure (active)	4	0	Working group standing around fountain (active)	1	0	Through foot traffic from breezeway	15
11:00	3	0	Passive activity, break takers in sitting areas	3	0	Passive activity in pavilions, break takers; passersby in grassy area	5	0	Passive activity in pavilions, break takers	3	0	Passive activity in pavilions / sitting area, break takers	14
11:15	2	0	Passive activity, break takers in sitting areas / pavilions	4	0	Passive activity in pavilions, break takers; people entering / around structure (active)	3	0	Passive activity in pavilions, break takers	3	0	Passive activity in pavilions / sitting area, break takers	12
11:30	4	0	Passive activity, break takers in sitting areas / pavilions	2	0	Passive activity in pavilions	4	0	Passive activity in pavilions, break takers; through foot traffic	3	0	Passive activity in pavilions / sitting area, break takers; through foot traffic	13
11:45	2	0	Passive activity, break takers in sitting areas	3	0	Passive activity in pavilions	1	0	Through foot traffic	0	0	Minimal activity	6
12:00	2	0	Passive activity, break takers in sitting areas	2	0	Passive activity in pavilions	2	1	Through foot traffic including a mother & stroller	2	0	Break takers in sitting area (passive)	9
12:15	7	0	Passive activity, break takers in sitting areas / pavilions eating; through foot traffic	4	0	Passive activity, break takers in pavilions / sitting areas	7	0	Passive activity in pavilions, break takers; through foot traffic	2	0	Break takers in sitting area (passive)	20
12:30	6	0	Passive activity, break takers in sitting areas / pavilions eating; through foot traffic	11	0	Passive activity, break takers in pavilions / sitting areas / grassy area eating, talking	9	0	Passive activity in pavilions / sitting areas, break takers eating, talking; through foot traffic	4	0	Break takers in sitting area (passive); through foot traffic	30
12:45	9	0	Passive activity, break takers in sitting areas / pavilions eating; through foot traffic	11	0	Passive activity, break takers in pavilions / sitting areas / grassy area eating, talking	14	0	Passive activity in pavilions / sitting areas, break takers eating, talking; through foot traffic	4	0	Break takers in sitting area (passive); through foot traffic	38
1:00	9	0	Passive activity, break takers in sitting areas / pavilions eating; through foot traffic	8	0	Passive activity, break takers in pavilions / sitting areas / grassy area eating, talking	7	0	Passive activity in pavilions / sitting areas, break takers eating, talking; through foot traffic	5	0	Break takers in sitting area (passive); through foot traffic	29
1:15	5	0	Passive activity, break takers in sitting areas / pavilions	7	0	Sitting areas active; passersby	8	0	Passive activity in pavilions / sitting areas, break takers eating, talking; through foot traffic	5	0	Meeting group in pavilion (active)	25
1:30	7	0	Active group activity in sitting areas – people talking	7	0	Corner pavilions & sitting areas active; foot traffic	7	0	Minimal activity	6	0	Meeting group in pavilion (active)	27
1:45	2	0	Passive activity, break takers in sitting areas / pavilions	7	0	Corner pavilions & sitting areas active; foot traffic	2	0	Through foot traffic	5	0	Break takers in sitting area (passive); through foot traffic	16
2:00	2	0	Passive activity, break takers in sitting areas / pavilions	4	0	Corner pavilions & sitting areas active; foot traffic	4	0	Through foot traffic; passive activity in pavilions	1	0	Break takers in sitting area (passive)	11
3:00	3	0	Passive activity, break takers in sitting areas / pavilions	4	0	Corner pavilions & sitting areas active; foot traffic	2	0	Passive activity in pavilions	2	0	Passive activity in pavilion / sitting area, break takers	11
3:15	4	0	Passive activity, break takers in sitting areas / pavilions	3	0	Corner pavilions & sitting areas active; foot traffic	1	0	Passive activity in pavilion	2	0	Passive activity in pavilion / sitting area, break takers	10
3:30	2	0	Passive activity, break takers in sitting areas; dog walking	1	0	Reduced activity, walker in grassy area	1	0	Passive activity in pavilion	4	0	Passive activity in pavilions / sitting areas, break takers	8
3:45	1	0	Through foot traffic	4	0	Corner pavilions & sitting areas active; foot traffic	2	0	Passive activity in pavilions / sitting areas	5	0	Passive activity in pavilions / sitting areas, break takers	12
4:00	3	2	Through foot traffic; family	3	0	Corner pavilions & sitting areas active; foot traffic	3	0	Passive activity in pavilions / sitting areas	2	0	Through foot traffic	13
4:15	4	0	Through foot traffic; passive activity, break takers in pavilions	2	0	Corner pavilions & sitting areas active; foot traffic	6	0	Group standing around fountain (active); passive activity in pavilions	4	0	Through foot traffic from breezeway	16
4:30	2	0	Through foot traffic; passive activity, break takers in pavilions	4	0	Light, passive activity in corner pavilions & sitting areas; walker in grass	0	0	Minimal activity	0	0	Minimal activity	6
4:45	3	0	Through foot traffic; passive activity, break takers in pavilions / sitting areas	7	0	Passive activity in corner pavilions & sitting areas; group standing in grassy area	2	0	Passive activity in pavilions / sitting areas	0	0	Minimal activity	12
5:00	2	0	Through foot traffic	6	0	Passive activity in pavilions, break takers; people entering / around structure (active)	4	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	2	0	Through foot traffic to breezeway	14
5:15	4	0	Through foot traffic	9	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	5	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	2	0	Through foot traffic; passive activity by sitting area	20
5:30	10	0	Through foot traffic, increased activity; passive activity in sitting areas	12	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	9	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	3	0	Through foot traffic to breezeway	34
5:45	6	0	Through foot traffic to breezeway, increased activity; passive activity in sitting areas	11	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	10	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	6	0	Through foot traffic to breezeway, group walking	33
6:00	5	0	Through foot traffic to breezeway	9	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	11	0	Active foot traffic around structure, reduced activity in sitting areas / pavilions	5	0	Through foot traffic to breezeway	30
Totals	127	2		193	193		166	1		100	0		589

Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

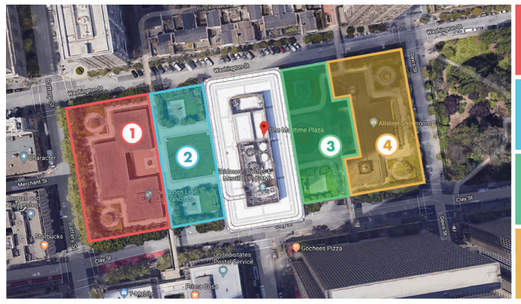
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: clear skies; 51 | spec: weekend | date: 11/23/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
7:00	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	0
7:15	0	0	Minimal activity	1	0	Through foot traffic, dog walker in grassy area	0	0	Minimal activity	0	0	Minimal activity	1
7:30	0	0	Minimal activity	3	0	Through foot traffic, dog walkers in grassy area	1	0	Through foot traffic, dog walker	0	0	Minimal activity	4
7:45	0	0	Minimal activity	2	0	Through foot traffic, dog walkers in grassy area	2	0	Through foot traffic, dog walker	0	0	Minimal activity	4
8:00	2	0	Active through foot traffic	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	2
8:15	2	0	Active through foot traffic from breezeway	2	0	Passive through traffic, people talking in pavilions	1	0	Passive activity in sitting area, person walking & stopping at fountain	0	0	Minimal activity	5
8:30	0	0	Minimal activity	2	0	Passive through traffic, people talking in pavilions	0	0	Minimal activity	1	0	Passive activity in sitting area / pavilion	3
8:45	0	0	Minimal activity	0	0	Minimal activity	2	0	Through foot traffic, dog walker	2	0	Passive activity in sitting area / pavilion	4
9:00	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	2	0	Passive activity in sitting area / pavilion	2
9:15	1	0	Passive activity in sitting area	1	0	Through foot traffic	1	0	Through foot traffic	0	0	Minimal activity	3
9:30	1	0	Passive activity in sitting area	1	0	Through foot traffic	0	0	Minimal activity	1	0	Through foot traffic from breezeway	3
9:45	1	0	Passive activity in sitting area	0	0	Minimal activity	2	0	Through foot traffic	0	0	Minimal activity	3
10:00	3	0	Active through foot traffic; passive activity in sitting area	2	2	Family in grassy area (active)	0	0	Minimal activity	0	0	Minimal activity	7
11:00	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	0
11:15	1	1	Through foot traffic (family)	2	0	Through foot traffic	0	0	Minimal activity	0	0	Minimal activity	4
11:30	0	0	Minimal activity	0	0	Minimal activity	1	0	Through foot traffic, dog walker	0	0	Minimal activity	1
11:45	2	0	Through foot traffic from breezeway	2	1	Family in grassy area (active); walking through	0	0	Minimal activity	3	0	Passive activity in sitting area; though foot traffic	8
12:00	1	0	Through foot traffic	1	0	Through foot traffic	0	0	Minimal activity	4	0	Passive activity in sitting area; though foot traffic (dog walker)	6
12:15	2	0	Passive activity in pavilion sitting area	0	0	Minimal activity	0	0	Minimal activity	0	0	Minimal activity	2
12:30	3	0	Passive activity in pavilion sitting area; foot traffic from breezeway	2	0	Through foot traffic, dog walker	3	0	Through foot traffic; passive activity in pavilion / sitting area	1	0	Passive activity in sitting area	9
12:45	0	0	Minimal activity	1	0	Through foot traffic, dog walker	2	2	Family walking through; passive activity in pavilion / sitting area	1	0	Passive activity in sitting area	6
1:00	0	0	Minimal activity	4	2	Active through foot traffic, family	1	1	Family walking through; passive activity in pavilion / sitting area	1	0	Through foot traffic, passive activity in sitting area	9
1:15	0	0	Minimal activity	5	3	Active through foot traffic, family in grassy area	0	0	Minimal activity	0	0	Minimal activity	8
1:30	2	2	Family in pavilion sitting area	2	1	Active through foot traffic, family in grassy area	1	0	Through foot traffic	0	0	Minimal activity	8
1:45	3	2	Family in pavilion sitting area; foot traffic	1	0	Passive activity in sitting area / pavilion	0	0	Minimal activity	0	0	Minimal activity	6
2:00	0	0	Minimal activity	0	0	Minimal activity	1	0	Through foot traffic	2	0	Through foot traffic, passive activity in sitting area	3
3:00	0	0	Minimal activity	0	0	Minimal activity	1	0	Passive activity in sitting area	0	0	Minimal activity	1
3:15	2	0	Through foot traffic, dog walker	1	0	Passive activity in sitting area	0	0	Minimal activity	0	0	Minimal activity	3
3:30	2	0	Through foot traffic from breezeway	2	1	Passive activity in sitting area (family)	0	0	Minimal activity	1	1	Active through traffic, family	7
3:45	2	0	Minimal activity	2	0	Passive activity in sitting area	3	0	Passive activity in sitting area; active foot traffic	0	0	Minimal activity	7
4:00	1	6	Through foot traffic (children); passive activity in sitting area	1	0	Passive activity in sitting area	2	0	Passive activity in sitting area	0	0	Minimal activity	10
4:15	1	0	Passive activity in sitting area	0	0	Minimal activity	2	0	Passive activity in sitting area	1	0	Foot traffic from breezeway, dog walker	4
4:30	0	0	Minimal activity	2	0	Through foot traffic	0	0	Minimal activity	0	0	Minimal activity	2
4:45	2	0	Through foot traffic from breezeway	0	0	Minimal activity	1	0	Through foot traffic	0	0	Minimal activity	3
5:00	0	0	Minimal activity	1	0	Through foot traffic, dog walker	0	0	Minimal activity	0	0	Minimal activity	1
5:15	3	0	Through foot traffic, dog walker	1	0	Through foot traffic, dog walker	1	0	Through foot traffic, walking around fountain	1	1	Through foot traffic (family)	7
5:30	0	0	Minimal activity	0	0	Minimal activity	2	2	Through foot traffic (family)	3	0	Through foot traffic	7
5:45	0	0	Minimal activity	0	0	Minimal activity	2	2	Through foot traffic (family)	1	0	Through foot traffic	5
6:00	0	0	Minimal activity	2	0	Active through foot traffic	0	0	Minimal activity	0	0	Minimal activity	2
Totals	37	11		46	56		32	7		25	2		170



Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 61° | spec: (1:30 - 5:00) | date: 11/10/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
1:30	0	0	no activity	2	0	dog walkers	1	0	dog walker	2	0	passer-by; dog walker	5
1:45	2	0	light activity in north and south corner pavilions	0	0	no activity	0	0	no activity	1	0	light activity south pathway	3
2:00	2	0	light activity in north and south corner pavilions	1	0	light activity south corner pavilion	0	0	no activity	2	0	light activity south pathway; passer-by	5
2:15	2	0	light activity in north and south corner pavilions	6	0	passers-by; light activity grassy area, south corner pavilion	1	0	light activity south corner pavilion	1	0	light activity south pathway	10
2:30	2	0	light activity in north and south corner pavilions	1	0	light activity south corner pavilion	2	0	passer-by; dog walker	1	0	light activity south pathway	6
2:45	3	0	light activity in north and south corner pavilions, dog walker	0	0	no activity	4	2	passerby; light activity at fountain	1	0	light activity south pathway	10
3:00	0	0	no activity	0	0	no activity	2	1	dog walkers north corner pavilion	0	0	no activity	3
3:15	0	0	no activity	1	0	comedy club worker working	1	0	passer-by	0	0	no activity	2
3:30	1	0	passer-by	1	0	comedy club worker on break	1	0	passer-by	1	0	worker on break south pathway	4
3:45	0	0	no activity	1	1	passers-by	1	0	dog walker	0	0	no activity	3
4:00	0	0	no activity	3	0	passer-by; light activity grassy area	0	0	no activity	1	0	passer-by	4
4:15	0	0	no activity	2	0	dog walker; comedy club worker on break	3	1	passers-by	0	0	no activity	6
4:30	0	0	no activity	3	0	dog walker grassy area; passers-by	0	0	no activity	0	0	no activity	3
4:45	0	0	no activity	0	0	no activity	1	0	passers-by	1	0	medium activity east pathway	2
5:00	0	0	no activity	2	0	dog walkers grassy area	3	1	passers-by	1	0	light activity south corner pavilion	7
Totals	12	0		23	1		20	5		12	0		73

Zone 1
The Punch Line SF + pathway w/ trees
Corner pavilions & sitting areas

Zone 2
Grassy area (center)
Corner pavilions & sitting areas

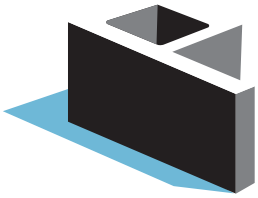
Zone 3
Fountian & paved open space (center)
Corner pavilions & sitting areas

Zone 4
Office space + pathway w/ trees
Corner pavilions & sitting areas

Maritime Plaza

weather: sunny, 71° | spec: (1:30 - 5:00) | date: 11/11/19

	Adults	Children		Adults	Children		Adults	Children		Adults	Children		Segment Totals
1:30	1	0	light activity south pavillion	5	0	passers-by; dog walkers; light activity south pavilion passer-by	10	0	light activity fountain area, light activity both pavilions; passers- by	3	0	passers-by	19
1:45	1	0	light activity south pavilion	1	0	light activity both pavilions	6	1	passers-by, light activity south pavilion	2	0	light activity south pavilion; light activity north path area	11
2:00	3	0	light activity both pavilions	2	0	passer-by; dog walker; light activity south pavilion	8	2	passers-by, medium activity fountain area	3	0	light activity north pavilion	18
2:15	1	0	light activity north pavilion	3	0	Photographer working north pavilion area, workers on break on comedy club steps	7	1	passers-by	3	0	passer-by; light activity both pavilions	15
2:30	3	0	passer-by; light activity south pavilion	3	0	passers-by; dog walkers on grassy area light activity both pavilions; dog walker light activity both pavilions; passer-by	5	0	passers-by; light activity both pavilions; dog walker	2	0	light activity south pavilion	13
2:45	3	0	light activity both pavilions	5	0	passers-by; dog walker; light activity south pavilion	5	0	passers-by; light activity both pavilions	1	0	light activity south pavilion	14
3:00	2	0	light activity south pavilion	4	0	passers-by; light activity south pavilion	5	0	passers-by; allsteel maintenance workers	2	0	dog walker; light activity north pavilion	13
3:15	3	0	light activity south pavilion	3	0	dog walkers in grassy area; light activity north pavilion passer-by; dog walker; park employee	8	0	passers-by; allsteel maintenance workers	1	0	light activity north pavilion	15
3:30	3	0	light activity south pavilion	6	0	passers-by - workers leaving work; dog walkers passers-by - workers leaving work; dog walkers; light activity comedy club steps area	5	0	passers by; light activity fountain area; light activity north pavilion	3	0	light activity north pavilion; passer-by	17
3:45	6	0	passers-by; light activity south pavilion	6	0	" "	7	2	passers-by; light activity both pavilions	1	0	passer-by	22
4:00	1	0	passer-by	3	0	passer-by; light activity grassy area	2	1	lilght activity Fountain area; passers-by; security staff	0	0	no activity	7
4:15	0	0	no activity	3	0	dog walker; comedy club worker on break	1	0	passer-by	0	0	no activity	4
4:30	2	0	park empoyees working	8	0	dog walker grassy area; passers-by	5	0	light activity north pavilion; passers-by - workers leaving work	0	0	no activity	15
4:45	1	0	light activity north path area	5	0	passers-by; dog walker; light activity south pavilion	7	3	light activity fountain area; passers-by - workers leaving work	1	0	light activity east bench area	17
5:00	2	0	passers-by	1	0	dog walker	7	0	light activity fountain area; light activity south pavilion area; passers-by - workers leaving work	2	0	park employee; light activity east bench area	12
Totals	32	0		58	0		88	10		24	0		212



PREVISION
DESIGN

1806 Belles Street, Suite 6B
San Francisco, CA 94129
tel 415.498.0141
fax 415.493.0141

www.previsiondesign.com
info@previsiondesign.com

From:	Board of Supervisors, (BOS)
To:	BOS-Supervisors
Cc:	BOS Legislation, (BOS); Calvillo, Angela (BOS); Laxamana, Junko (BOS); Mchugh, Eileen (BOS); Ng, Wilson (BOS); Somera, Alisa (BOS)
Subject:	FW: Letter of support, 530 Sansome Street Project
Date:	Monday, September 20, 2021 4:20:41 PM
Attachments:	530 Sansome support letter .docx

From: Cynthia Gómez <cgomez@unitehere2.org>
Sent: Monday, September 20, 2021 4:02 PM
To: Walton, Shamann (BOS) <shamann.walton@sfgov.org>; Chan, Connie (BOS) <connie.chan@sfgov.org>; Stefani, Catherine (BOS) <catherine.stefani@sfgov.org>; Mar, Gordon (BOS) <gordon.mar@sfgov.org>; Preston, Dean (BOS) <dean.preston@sfgov.org>; Haney, Matt (BOS) <matt.haney@sfgov.org>; Melgar, Myrna (BOS) <myrna.melgar@sfgov.org>; Mandelman, Rafael (BOS) <rafael.mandelman@sfgov.org>; hilary.ronen@sfgov.org; Safai, Ahsha (BOS) <ahsha.safai@sfgov.org>
Cc: Board of Supervisors, (BOS) <board.of.supervisors@sfgov.org>
Subject: Letter of support, 530 Sansome Street Project

Dear President Walton and honorable members of the Board of Supervisors,

Please find the attached letter, in support of the approved mixed-use project at 530 Sansome Street.

Thank you,

--
Cynthia Gómez
Senior Research Analyst
she/her/hers
UNITE/HERE, Local 2
209 Golden Gate Avenue
San Francisco, CA 94102
cgomez@unitehere2.org
415.864.8770, ext. 763

UNITE HERE!

September 20, 2021

The Honorable Shamann Walton
President, Board of Supervisors
City and County of San Francisco

Dear President Walton and honorable members of the Board of Supervisors,

We are pleased to write this letter in support of the proposed project at 530 Sansome Street.

As a union representing hospitality employees, we are concerned with whether new jobs created in this industry will serve to lift up the community by providing leading wages and working conditions for the hardworking people who work in our city's hotels.
Hotel developers have historically supported the creation of good quality jobs by agreeing to remain neutral and present no encumbrances to efforts by their employees to form a union. The developer of this project has worked with our union to sign such an agreement, and has also signed an agreement that will cover the building trades for the construction of the hotel.

This project will undertake to provide the city with a new and improved fire station, which we understand is sorely needed and will better meet the needs of the hardworking firefighters who protect our city and its residents.

We support this project for its various benefits, including, most crucially, its guarantees of good quality jobs in this critical industry for San Francisco.

Please feel free to contact me if you have further questions.

Sincerely,

Cynthia Gómez
Senior Research Analyst
Unite Here, Local 2

209 Golden Gate Ave., San Francisco, CA 94102 • phone: 415.864.8770 • fax: 415.864.4158
209 Highland Ave., Burlingame, CA, 94010 • phone: 650.344.6827 • fax: 650.344.9406

From:	BOS Legislation, (BOS)
To:	BOS Legislation, (BOS)
Subject:	FW: HEARING NOTICE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021
Date:	Tuesday, September 21, 2021 9:02:32 AM
Attachments:	image001.png

From: BOS Legislation, (BOS)
Sent: Tuesday, September 21, 2021 8:52 AM
To: 'Ryan Patterson' <ryan@zfplaw.com>; James Abrams <jabrams@jabramslaw.com>; Penick, Andrico <andrico.penick@sfgov.org>; DeWitt, Dawn (FIR) <dawn.dewitt@sfgov.org>
Cc: PEARSON, ANNE (CAT) <Anne.Pearson@sfcityatty.org>; STACY, KATE (CAT) <Kate.Stacy@sfcityatty.org>; JENSEN, KRISTEN (CAT) <Kristen.Jensen@sfcityatty.org>; Hillis, Rich (CPC) <rich.hillis@sfgov.org>; Teague, Corey (CPC) <corey.teague@sfgov.org>; Sanchez, Scott (CPC) <scott.sanchez@sfgov.org>; Gibson, Lisa (CPC) <lisa.gibson@sfgov.org>; Jain, Devyani (CPC) <devyani.jain@sfgov.org>; Navarrete, Joy (CPC) <joy.navarrete@sfgov.org>; Lewis, Don (CPC) <don.lewis@sfgov.org>; Varat, Adam (CPC) <adam.varat@sfgov.org>; Sider, Dan (CPC) <dan.sider@sfgov.org>; Starr, Aaron (CPC) <aaron.starr@sfgov.org>; Ionin, Jonas (CPC) <jonas.ionin@sfgov.org>; Callagy, Alana (CPC) <Alana.Callagy@sfgov.org>; Kern, Chris (CPC) <chris.kern@sfgov.org>; Rosenberg, Julie (BOA) <julie.rosenberg@sfgov.org>; Longaway, Alec (BOA) <alec.longaway@sfgov.org>; BOS-Supervisors <bos-supervisors@sfgov.org>; BOS-Legislative Aides <bos-legislative_aides@sfgov.org>; Calvillo, Angela (BOS) <angela.calvillo@sfgov.org>; Somera, Alisa (BOS) <alisa.somera@sfgov.org>; Mchugh, Eileen (BOS) <eileen.e.mchugh@sfgov.org>
Subject: HEARING NOTICE: Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021

Greetings,

The Office of the Clerk of the Board has scheduled a remote hearing for Special Order before the Board of Supervisors on **October 5, 2021, at 3:00 p.m**., to hear an appeal of CEQA Final Mitigated Negative Declaration, for the proposed 530 Sansome Street project.

Please find the following link to the hearing notice for the matter:

Public Hearing Notice - September 21, 2021

I invite you to review the entire matters on our Legislative Research Center by following the link below:

Board of Supervisors File No. 210923

Best regards,

Jocelyn Wong
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T: 415.554.7702 | F: 415.554.5163

jocelyn.wong@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services

 Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

NOTICE OF PUBLIC HEARING

BOARD OF SUPERVISORS OF THE CITY AND COUNTY OF SAN FRANCISCO
Sent via Email and/or U.S. Postal Service

NOTICE IS HEREBY GIVEN THAT the Board of Supervisors of the City and County of San Francisco will hold a remote public hearing to consider the following appeal and said public hearing will be held as follows, at which time all interested parties may attend and be heard:

Date: **Tuesday, October 5, 2021**

Time: **3:00 p.m.**

Location: **City Hall, Room 250 (Remote Public Participation)**

Watch: **www.sfgovtv.org or**
SF Cable Channel 26, 78 or 99 *(depending on your provider)* once the meeting starts, the telephone number and Meeting ID will be displayed on the screen.

Public Comment Call-In: https://sfbos.org/remote-meeting-call

Subject: **File No. 210923.** Hearing of persons interested in or objecting to the approval of a Final Mitigated Negative Declaration under the California Environmental Quality Act for the proposed project at 530 Sansome Street, identified in Planning Case No. 2019-017481ENV, and affirmed on appeal by the Planning Commission and issued on July 29, 2021. (District 3) (Appellant: Ryan Patterson of Zacks, Freedman, and Patterson PC, on behalf of 447 Partners, LLC) (Filed August 30, 2021)

On March 17, 2020, the Board of Supervisors (Board) authorized their Board and Committee meetings to convene remotely and allow remote public comment via teleconference. Effective June 29, 2021, the Board and staff began to reconvene for in-person Board proceedings. Committee meetings will continue to convene remotely until further notice. Visit the SFGovTV website at (www.sfgovtv.org) to stream the live meetings, or to watch meetings on demand.

PUBLIC COMMENT CALL-IN
WATCH: SF Cable Channel 26, 78 or 99 *(depending on your provider)* once the meeting starts, the telephone number and Meeting ID will be displayed on the screen; or
VISIT: https://sfbos.org/remote-meeting-call

DATED ~ MAILED ~ EMAILED ~ POSTED: September 21, 2021

In accordance with Administrative Code, Section 67.7-1, persons who are unable to attend the hearing on this matter may submit written comments prior to the time the hearing begins. These comments will be made as part of the official public record in this matter and shall be brought to the attention of the Board of Supervisors. Written comments should be addressed to Angela Calvillo, Clerk of the Board, City Hall, 1 Dr. Carlton B. Goodlett Place, Room 244, San Francisco, CA, 94102 or sent via email (board.of.supervisors@sfgov.org). Information relating to this matter is available in the Office of the Clerk of the Board or the Board of Supervisors' Legislative Research Center (https://sfbos.org/legislative-research-center-lrc). Agenda information relating to this matter will be available for public review on Friday, October 1, 2021.

For any questions about this hearing, please contact one of the Legislative Clerks:

Lisa Lew (lisa.lew@sfgov.org ~ (415) 554-7718)
Jocelyn Wong (jocelyn.wong@sfgov.org ~ (415) 554-7702)

Please Note: *The Department is open for business, but employees are working from home. Please allow 48 hours for us to return your call or email.*

Angela Calvillo
Clerk of the Board of Supervisors
City and County of San Francisco

jw:ll:ams

DATED ~ MAILED ~ EMAILED ~ POSTED: September 21, 2021

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

PROOF OF MAILING

Legislative File No. 210923

Description of Items: Hearing - Appeal of Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - 3 Notices Mailed

I, Lisa Lew , an employee of the City and County of San Francisco, mailed the above described document(s) by depositing the sealed items with the United States Postal Service (USPS) with the postage fully prepaid as follows:

Date: September 21, 2021

Time: 10:00 a.m.

USPS Location: Repro Pick-up Box in Building Management's Office (Rm 8)

Mailbox/Mailslot Pick-Up Times (if applicable): N/A

Signature: _____

Instructions: Upon completion, original must be filed in the above referenced file.

From: BOS Legislation, (BOS)
To: Ko, Yvonne (CPC); Yeung, Tony (CPC)
Cc: BOS-Operations; BOS Legislation, (BOS)
Subject: APPEAL FILING FEES PICKUP: September 7, 2021
Date: Tuesday, September 7, 2021 9:59:03 AM
Attachments: 210919 469 Stevenson Fee Waiver.pdf
210919 Appeal Check Pickup.pdf
210923 Appeal Check Pickup.pdf
210927 Appeal Check Pickup.pdf
image001.png

Hi Yvonne and Tony,

We have appeal checks for pick up for the listed appeal projects below, ready to be picked up at the Clerk's Office, Monday through Friday from 8:00 a.m. to 5:00 p.m:

File No.	Check #	Fee Waiver
210919 - Hearing - Appeal of Final Environmental Impact Report Certification - Proposed 469 Stevenson Street Project	#11407 By TODCO	Yes. Fee waiver attached.
210923 - Hearing - Appeal of Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project	#81384 By Northern California Legal Support Services, Inc	None submitted.
210927 - Hearing - Appeal of Determination of Exemption From Environmental Review - Proposed 35 Ventura Avenue Project	#81383 By Northern California Legal Support Services, Inc	None submitted.

Ops,
The checks should be in your possession currently. Please have Planning sign the attached pick up forms and scan it to leg clerks when completed. Thank you.

Best regards,
Jocelyn Wong
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T: 415.554.7702 | F: 415.554.5163
jocelyn.wong@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services

 Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

Disclosures: *Personal information that is provided in communications to the Board of Supervisors is subject to disclosure under the California Public Records Act and the San Francisco Sunshine Ordinance. Personal information provided will not be redacted. Members of the public are not required to provide personal identifying information when they communicate with the Board of Supervisors and its committees. All written or oral communications that members of the public submit to the Clerk's Office regarding pending legislation or hearings will be made available to all members of the public for inspection and copying. The Clerk's Office does not redact any information from these submissions. This means that personal information—including names, phone numbers, addresses and similar information that a member of the public elects to submit to the Board and its committees—may appear on the Board of Supervisors' website or in other public documents that members of the public may inspect or copy.*

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

September 7, 2021

File No. 210923-210926
Planning Case No. 2019-017481ENV

Received from the Board of Supervisors Clerk's Office one check, one in the amount of Six Hundred Eighty One Dollars ($681) the filing fee paid by Northern California Legal Support Services, Inc. for the appeal of the Final Mitigated Negative Declaration under CEQA for the proposed 530 Sansome Street project:

Planning Department By:

Theo Chen
Print Name

9/7/2021
Signature and Date

From:	BOS Legislation, (BOS)
To:	"Ryan Patterson"; James Abrams; Penick, Andrico; DeWitt, Dawn (FIR)
Cc:	PEARSON, ANNE (CAT); STACY, KATE (CAT); JENSEN, KRISTEN (CAT); Hillis, Rich (CPC); Teague, Corey (CPC); Sanchez, Scott (CPC); Gibson, Lisa (CPC); Jain, Devyani (CPC); Navarrete, Joy (CPC); Lewis, Don (CPC); Varat, Adam (CPC); Sider, Dan (CPC); Starr, Aaron (CPC); Ionin, Jonas (CPC); Callagy, Alana (CPC); Rosenberg, Julie (BOA); Longaway, Alec (BOA); BOS-Supervisors; BOS-Legislative Aides; Calvillo, Angela (BOS); Somera, Alisa (BOS); Mchugh, Eileen (BOS); BOS Legislation, (BOS)
Subject:	Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project - Appeal Hearing October 5, 2021
Date:	Friday, September 3, 2021 4:56:45 PM
Attachments:	image001.png

Greetings,

The Office of the Clerk of the Board has scheduled for a remote hearing Special Order before the Board of Supervisors on **October 5, 2021, at 3:00 p.m.** Please find linked below an appeal letter regarding the proposed 530 Sansome Street project, as well as direct links to the Planning Department's timely filing determination, and an informational letter from the Clerk of the Board.

Appeal Letter - August 30, 2021
Planning Department Memo - September 2, 2021
Clerk of the Board Letter - September 3, 2021

I invite you to review the entire matters on our Legislative Research Center by following the link below:

Board of Supervisors File No. 210923

Regards,

Lisa Lew
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T 415-554-7718 | F 415-554-5163
lisa.lew@sfgov.org | www.sfbos.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.
Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services.

 Click here to complete a Board of Supervisors Customer Service Satisfaction form

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

September 3, 2021

Ryan J. Patterson
Zacks, Freedman & Patterson, PC
601 Montgomery Street, Suite 400
San Francisco, CA 94111

Subject: File No. 210923 - Appeal of CEQA Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project

Dear Mr. Patterson:

The Office of the Clerk of the Board is in receipt of a memorandum dated September 2, 2021, from the Planning Department regarding their determination on the timely filing of an appeal of the CEQA Final Mitigated Negative Declaration for the proposed 530 Sansome Street project.

The Planning Department has determined that the appeal was filed in a timely manner (copy attached).

Pursuant to Administrative Code, Section 31.16, a remote hearing date has been scheduled for **Tuesday, October 5, 2021, at 3:00 p.m.**, at the Board of Supervisors meeting.

Please provide to the Clerk's Office by noon:

20 days prior to the hearing: *Wednesday, Sept. 15, 2021*	names and addresses of interested parties to be notified of the hearing, in spreadsheet format; and
11 days prior to the hearing: *Friday, Sept. 24, 2021*	any documentation which you may want available to the Board members prior to the hearing.

For the above, the Clerk's office requests electronic files be sent to bos.legislation@sfgov.org.

If you have any questions, please feel free to contact Legislative Clerks Lisa Lew at (415) 554-7718, Jocelyn Wong at (415) 554-7702, or Brent Jalipa at (415) 554-7712.

Very truly yours,

Angela Calvillo
Clerk of the Board

ll:jw:ams

c: Anne Pearson, Deputy City Attorney
Kate Stacy, Deputy City Attorney
Kristen Jensen, Deputy City Attorney
Rich Hillis, Director, Planning Department
Corey Teague, Zoning Administrator, Planning Department
Scott Sanchez, Acting Deputy Zoning Administrator, Planning Department
Lisa Gibson, Environmental Review Officer, Planning Department
Devyani Jain, Deputy Environmental Review Officer, Planning Department
Joy Navarrete, Environmental Planning, Planning Department
Don Lewis, Environmental Planning, Planning Department
Adam Varat, Acting Director of Citywide Planning, Planning Department
Dan Sider, Director of Executive Programs, Planning Department
Aaron Starr, Manager of Legislative Affairs, Planning Department
Jonas Ionin, Planning Commission Secretary, Planning Department
Alana Callagy, Staff Contact, Planning Department
Julie Rosenberg, Executive Director, Board of Appeals
Alec Longaway, Legal Process Clerk, Board of Appeals

San Francisco Planning

49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103
628.652.7600
www.sfplanning.org

FINAL MITIGATED NEGATIVE DECLARATION APPEAL TIMELINESS DETERMINATION

Date: September 2, 2021
To: Angela Calvillo, Clerk of the Board of Supervisors
From: Lisa Gibson, Environmental Review Officer – (628) 652-7571

RE: **Appeal Timeliness Determination – 530 Sansome Street Final Mitigated Negative Declaration; Planning Department Case No. 2019-017481ENV, 2019-017481APL**

On August 30, 2021, Ryan Patterson (Appellant) filed an appeal with the Office of the Clerk of the Board of Supervisors of the Final Mitigated Negative Declaration (FMND) for the proposed project at 530 Sansome Street. As explained below, the appeal is timely.

Date of Approval Action	30 Days after Approval Action	Appeal Deadline (Must Be Day Clerk of Board's Office Is Open)	Date of Appeal Filing	Timely?
Thursday, July 29, 2021	Saturday, August 28, 2021	Monday, August 30, 2021	Monday, August 30, 2021	Yes

Approval Action: On April 28, 2021, the Planning Department issued a preliminary mitigated negative declaration (PMND) for the proposed project at 530 Sansome Street. An appeal was filed by Ryan Patterson on behalf of 447 Partners, LLC on May 18, 2021. On July 29, 2021, the Planning Commission affirmed the PMND on appeal. On July 29, 2021, the Planning Department issued the Final MND (FMND). The Approval Action for the project was Conditional Use Authorization by the Planning Commission, which occurred on July 29, 2021 (Date of the Approval Action).

Appeal Deadline: San Francisco Administrative Code Chapter 31, Section 31.16(d) states that any person or entity that has filed an appeal of the PMND with the Planning Commission during the public comment period provided in Chapter 31 may appeal the Planning Commission's approval of the FMND. The code further provides that the appellant shall submit a letter of appeal to the Clerk of the Board within 30 days after the Date of Approval Action for the project taken in reliance of the FMND. The Approval Action occurred on Thursday, July 29, 2021, and the 30th day after the Date of the Approval Action is Saturday, August 28, 2021.

The next day when the Office of the Clerk of the Board of Supervisors was open was Monday, August 30, 2021 (Appeal Deadline).

Appellant Standing: The appellant appealed the PMND to the Planning Commission, which held an appeal hearing on July 29, 2021. Therefore, the appellant has standing to appeal the FMND.

Appeal Filing and Timeliness: The Appellant filed the appeal of the FMND on Monday, August 30, 2021, prior to the end of the Appeal Deadline on Monday, August 30, 2021. Therefore, the appeal is timely.

From:	BOS Legislation, (BOS)
To:	Hillis, Rich (CPC)
Cc:	PEARSON, ANNE (CAT); STACY, KATE (CAT); JENSEN, KRISTEN (CAT); Teague, Corey (CPC); Sanchez, Scott (CPC); Gibson, Lisa (CPC); Jain, Devyani (CPC); Navarrete, Joy (CPC); Lewis, Don (CPC); Varat, Adam (CPC); Sider, Dan (CPC); Starr, Aaron (CPC); Ionin, Jonas (CPC); Callagy, Alana (CPC); Rosenberg, Julie (BOA); Longaway, Alec (BOA); BOS-Supervisors; BOS-Legislative Aides; Calvillo, Angela (BOS); Somera, Alisa (BOS); Mchugh, Eileen (BOS); BOS Legislation, (BOS)
Subject:	Appeal of CEQA Certification of Final Mitigated Negative Declaration - Proposed Project 530 Sansome Street
Date:	Tuesday, August 31, 2021 2:31:12 PM
Attachments:	image001.png Appeal Ltr 083021.pdf COB Ltr - Determination Request - 530 CEQA Neg Dec.pdf

---

Dear Director Hillis,

The Office of the Clerk of the Board is in receipt of an appeal of the CEQA Certification of the Final Mitigated Negative Declaration for the proposed project at 530 Sansome Street. The appeal was filed by Ryan J. Patterson of Zacks, Freedman & Patterson, PC, on behalf of 447 Partners, LLC.

Please find the attached letter of appeal and timely filing determination request letter from the Clerk of the Board. Kindly review for timely filing determination. Thank you.

Regards,

Lisa Lew
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
T 415-554-7718 | F 415-554-5163
lisa.lew@sfgov.org | www.sfbos.org

BOARD of SUPERVISORS

City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. (415) 554-5184
Fax No. (415) 554-5163
TDD/TTY No. (415) 554-5227

August 31, 2021

To: Rich Hillis
Planning Director

From: Angela Calvillo
Clerk of the Board of Supervisors

Subject: Appeal of California Environmental Quality Act (CEQA) Issuance of Final Mitigated Negative Declaration - 530 Sansome Street Project

An appeal of the CEQA Final Mitigated Negative Declaration for the proposed 530 Sansome Street project, was filed with the Office of the Clerk of the Board on August 30, 2021, by Ryan J. Patterson of Zacks, Freedman & Patterson, PC, on behalf of 447 Partners, LLC.

Pursuant to Administrative Code, Chapter 31.16, I am forwarding this appeal, with attached documents, to the Planning Department to determine if the appeal has been filed in a timely manner. The Planning Department's determination should be made within three (3) working days of receipt of this request.

If you have any questions, please feel free to contact Legislative Clerks Lisa Lew at (415) 554-7718, Jocelyn Wong at (415) 554-7702, or Brent Jalipa at (415) 554-7712.

c: Anne Pearson, Deputy City Attorney
Kate Stacy, Deputy City Attorney
Kristen Jensen, Deputy City Attorney
Corey Teague, Zoning Administrator, Planning Department
Scott Sanchez, Acting Deputy Zoning Administrator, Planning Department
Lisa Gibson, Environmental Review Officer, Planning Department
Devyani Jain, Deputy Environmental Review Officer, Planning Department
Joy Navarrete, Environmental Planning, Planning Department
Don Lewis, Environmental Planning, Planning Department
Adam Varat, Acting Director of Citywide Planning, Planning Department
Dan Sider, Director of Executive Programs, Planning Department
Aaron Starr, Manager of Legislative Affairs, Planning Department
Jonas Ionin, Planning Commission Secretary, Planning Department
Alana Callagy, Staff Contact, Planning Department
Julie Rosenberg, Executive Director, Board of Appeals
Alec Longaway, Legal Process Clerk, Board of Appeals

ll: bjj:ams

Print Form

Introduction Form

By a Member of the Board of Supervisors or the Mayor

Time stamp
or meeting date

I hereby submit the following item for introduction (select only one):

☐ 1. For reference to Committee. (An Ordinance, Resolution, Motion, or Charter Amendment)

☐ 2. Request for next printed agenda Without Reference to Committee.

☒ 3. Request for hearing on a subject matter at Committee.

☐ 4. Request for letter beginning "Supervisor _____ inquires"

☐ 5. City Attorney request.

☐ 6. Call File No. _____ from Committee.

☐ 7. Budget Analyst request (attach written motion).

☐ 8. Substitute Legislation File No. _____

☐ 9. Reactivate File No. _____

☐ 10. Question(s) submitted for Mayoral Appearance before the BOS on _____

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

☐ Small Business Commission ☐ Youth Commission ☐ Ethics Commission

☐ Planning Commission ☐ Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use a Imperative Form.

Sponsor(s):

Clerk of the Board

Subject:

Hearing - Appeal of Final Mitigated Negative Declaration - Proposed 530 Sansome Street Project

The text is listed below or attached:

Hearing of persons interested in or objecting to the approval of a Final Mitigated Negative Declaration under the California Environmental Quality Act for the proposed project at 530 Sansome Street, identified in Planning Case No. 2019-017481ENV, and affirmed on appeal by the Planning Commission and issued on July 29, 2021. (District 3) (Appellant: Ryan Patterson of Zacks, Freedman, and Patterson PC, on behalf of 447 Partners, LLC) (Filed August 30, 2021)

Signature of Sponsoring Supervisor: _____

For Clerk's Use Only: