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& associates, p.c.
attorneys-at-law

November 6, 2020

By E-Mail

San Francisco Board of Supervisors
c/o Clerk of the Board
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
Board.of.Supervisors@sfgov.org
bos.legislation@sfgov.org

Re: File No. 201127 – Appeal of CEQA "Common Sense" Exemption Determination 2019-004110ENV – 2675 Geary Boulevard [Whole Foods Market]

Dear Members of the Board of Supervisors:

On behalf of San Francisco residents Julie Fisher and Tony Vargas, and United Food & Commercial Workers Union (UFCW) Local 5 and its members who live and/or work in San Francisco ("Appellants"), please accept and consider the following points in support of their appeal of the Planning Department's September 11, 2020 "common sense" CEQA exemption determination for a proposed Whole Foods Market at 2675 Geary Boulevard ("Project").

I. Summary

The Project is in an area that both the City and the Bay Area Air Quality Management District (BAAQMD) have designated an "Air Pollution Exposure Zone" (APEZ) pursuant to section 3809 of the San Francisco Health Code. This means that people in the residential neighborhood south and west of the site, including at-risk children at the Mt. St. Joseph-St. Elizabeth Epiphany Center and the Raoul Wallenberg Traditional High School, currently experience an elevated cancer risk from exposure to air pollutant emissions, in particular diesel particulate matter (DPM) from diesel exhaust. Health Code § 3809(d)(2). *See* maps, Attachment 1.

The Project is a full-service, Whole Foods supermarket that will generate numerous daily deliveries from diesel-powered heavy trucks, as well as substantial

customer vehicle traffic. The Project would therefore constitute a significant new source of DPM pollution emissions in a residential area that already suffers elevated health risk from such emissions. Based a screening level risk assessment performed by an air quality consultant retained by appellants, the Project's DPM emissions would exceed applicable BAAQMD significance thresholds for a project's individual and cumulative health risk impacts, *i.e.*, 10 and 100 excess cancers per 1 million population respectively. Substantial evidence therefore shows the Project will have significant individual and cumulative impacts on air quality and public health with respect to its neighbors.

For this reason, it simply cannot be seen "with certainty that there is no possibility that the activity in question may have a significant effect on the environment." The Project is therefore not exempt from CEQA under the "common sense" exemption, or indeed any other statutory or categorical exemption. The Board of Supervisors should uphold this appeal and direct Planning Department staff to prepare an initial study of the Project's potentially significant environmental impacts in accordance with CEQA, and mitigate any impacts the study might identify.

II. Procedural Background

On June 25, 2020 the Planning Commission granted Conditional Use Authorization for the Project, finding it categorically exempt from CEQA under the Class 32 Infill exemption, which exempts urban infill projects that are consistent with applicable general plan and zoning classifications, so long as there are no "significant effects relating to traffic, noise, air quality, or water quality." 14 C.C.R. § 15332(d). We appealed that action to the Board of Supervisors on July 16, pointing out that the Project site is within a designated APEZ, meaning that neighboring residents currently face lifetime excess cancer risks due to air pollution greater than 100 cases per million population." S.F. Health Code, § 3809(d)(2)(A). Because the Project would introduce a substantial amount of new vehicle emissions to the site relative to existing and past conditions, including diesel-powered heavy delivery trucks, the Project would exacerbate the existing excess cancer risk to nearby receptors.

Following our appeal, the Planning Department on September 2 rescinded its Infill exemption determination, determined the appeal moot, and issued a new environmental determination that the Project qualified for CEQA's "commons sense" exemption, which applies to projects "[w]here it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment." 14. C.C.R. § 15061(b)(3). The current appeal followed.

III. The Project would result in significant emissions of Toxic Air Contaminants, aggravating the existing health risks to nearby receptors in the designated Air Pollution Exposure Zone.

Toxic air contaminants (TACs) are airborne substances that are capable of causing short-term and/or long-term chronic or carcinogenic adverse human health effects. TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes more than 200 compounds, including particulate emissions from diesel-fueled engines.

The Californian Air Resources Board (CARB) has long identified as a toxic air contaminant.[1] DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

The proposed Whole Foods would provide two loading docks for delivery vehicles to support a 49,780 square-foot supermarket.[2] The Planning Department assumes this will generate 4 daily deliveries from 65-foot trucks and 4 daily deliveries from 30-48 foot trucks.[3] These trucks would be diesel-powered, many with Transport Refrigeration Units (TRUs) which also burn diesel even when the trucks they are mounted on are not running. In addition, the Department assumes that up to 20 additional daily deliveries would be made by other vehicles, which include "bobtail trucks and large or small vans."[4] Some number of these delivery vehicles may also be

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1 CARB, Executive Summary For the "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant," Prepared by the Staff of the Air Resources Board and the Office of Environmental Health Hazard Assessment, As Approved by the Scientific Review Panel on April 22, 1998, available at https://oehha.ca.gov/media/downloads/air/document/diesel20exhaust.pdf.

2 Rachel Schuett, Transportation Planner, Transportation Coordination Memo, May 4, 2020.

3 *Id.*, Table 2.

4 *Id.*

diesel-powered. The Department estimates that the large trucks would dwell on-site for an hour and the smaller trucks would dwell for half an hour.[5] Thus, trucks that emit DPM would be operating on-site for 13.5 hours per day.[6]

Again, the Project site at 2675 Geary Boulevard is within an APEZ.[7] The Project's directly adjacent neighbor at 100 Masonic Street, the Epiphany Center/Mount St. Joseph-St. Elizabeth, is also within the APEZ.[8] *See* Attachment 1. The Epiphany Center provides "holistic client-centered care to a diverse population of children, women, and families who are the most vulnerable in our society."[9] The Epiphany Center provides both residential programs and various parent-child programs.[10] The nearby Wallenberg High School is likewise in an APEZ, as are the residential parcels directly across O'Farrell Street to the south and Masonic Avenue to the west. *See id.* Thus, the Project would contribute TAC emissions that would affect adjacent sensitive receptors also located in the APEZ.

Although it should be self-evident that introducing this new supermarket operation into an APEZ might at least have the "possibility" of causing significant impacts on air quality and human health, thereby disqualifying the Project from the "common sense" exemption from CEQA, we nevertheless consulted an air quality expert, Rahman Kapahi of the consulting firm Environmental Permitting Specialists, to estimate and model TAC emissions from the Project, and assess the resulting health risk using the truck and vehicle data generated by the Planning Department and contained in the Project file. Specifically, Mr. Kapahi performed a screening level analysis of health risk using the California Air Toxics Risk Prioritization Tool, a standard model used in connection implementing the AB-2588 Air Toxics Hot-Spots program. Mr. Kapahi's report and c.v. are attached to this letter as Attachment 2, and incorporated here by reference.

Mr. Kapahi affirms that the Project would introduce substantial TAC emissions into the residential area around the store, both from delivery vehicles and customer vehicles. TACs from project mobile sources would include diesel particulate matter, 1, 3 butadiene, benzene, formaldehyde, acetaldehyde. As his report explains and as summarized below, the Project by itself would have a significant health impact. It would also have an especially significant cumulative impact given the existing excess cancer risk in the APEZ.

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5 Transportation Coordination Memo, May 4, 2020.

6 *Id.*

7 San Francisco Property Information Map, search for 2675 Geary Blvd, visited June 18, 2020, available at https://sfplanninggis.org/PIM/.

8 *Id.*

9 Epiphany Center website, visited June 18, 2020, available at https://www.theepiphanycenter.org/who-we-are/mission-values/.)

10 *Id.*

As Mr. Kapahi documents, the Project's risk prioritization score for the Project exceeds the threshold used by BAAQMD for permitting and CEQA evaluations. Specifically, the cancer score shows the Project would cause excess cancers that exceed the commonly used threshold of significance of ten excess cancers per one million population, which is the threshold used by BAAQMD to determine if a project's impact, by itself, is significant.

Significant impacts may be caused by the cumulative effects of multiple projects over time. A cumulative impact analysis under CEQA makes two determinations: (1) whether the impact of the project in combination other projects exceeds the significance threshold, and (2) if so, whether the project's own effect is a considerable contribution. The first determination is necessary because the impact of an individual project may be "individually minor but collectively significant." In the second determination, if the cumulative effect is significant, the agency must consider whether the contribution of the project under review is "considerable," i.e., "whether 'any additional amount' of effect should be considered significant in the context of the existing cumulative effect." The second determination depends on the severity of the cumulative impact identified in step one, because the "greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant." Thus, CEQA requires cumulative impacts to be assessed in context, taking into account "the impacts of both the project under review and the relevant past, present and future projects."

Both BAAQMD and the City itself have determined that the project is located in an area that already suffers from elevated TAC-related cancer risk due to mobile source emissions; hence the APEZ designation pursuant to the Health Code. In particular, both agencies have determined that the project vicinity has a cancer risk from TACs of more than 100 excess cancers per one million, which is BAAQMD's threshold for determining the existence of a significant cumulative impact. BAAQMD concludes that once cumulative cancer risk from all sources exceeds 100 excess cancers, any additional risk is a considerable contribution.

IV. The Applicant has underreported the number and frequencies of daily truck deliveries to the Project, thus understating TAC emissions and masking even more substantial air quality and health effects.

Furthermore, the Project's TAC emissions are likely to be far higher than what Mr. Kapahi assumed, since it appears the Applicant and/or Planning Department staff have understated freight loading volume. There is no evidence or other justification for the Department's assumption that the number of daily truck deliveries for this 49,780 square foot Whole Foods store will be less than or equal to

the deliveries for the 15,000 square foot Whole Foods store at 1765 California Street. As we previously explained in comments to the Planning Commission, it is unreasonable to expect that a store three times larger will have the same number of freight loading trips. It defies credulity that Whole Foods would invest in the enterprise if it believed that the long-term business volume per retail square foot for the new store would be less than one-third of the business volume per square foot as at its California Street store.

The Applicant projects that the proposed Geary Blvd. store will attract 17,500 person-trips per day, which equates to 8,750 customers per day, the same as the California Street store one-third the size. The Planning Department's Transportation Coordination Memo claims that the equal patronage assumptions are justified by the greater population density around the California Street store, which it claims, "per Whole Foods' metrics," is twice the density of the of the population in "the immediate vicinity near 2675 Geary."[11] This statement, which is based uncritically on the applicant's purported "metrics," does not actually identify the density of the areas from which the stores would draw customers, which are presumably larger than "the immediate vicinity" of each store.

This claim is also inconsistent with the projection of store visits for the Project's traffic analysis. According to the San Francisco Travel Demand Tool, the tool used to project customer visits for the project, both the existing California Street store and the proposed Geary Boulevard store are located in the same urban medium density district, the Marina/Wester Market District.[12] The traffic analysis certainly does not assume that customer visits are limited by the low population density in "the immediate vicinity" of the Project; to the contrary, it projects that 10,075 of the 17,491 daily person-trips would be made by pedestrians.[13]

Furthermore, the implication in the Transportation Coordination Memo that the Project would have fewer delivery trips because it will carry fewer Stock Keeping Units (SKUs) is not accurate. According to the freight loading analysis performed by the applicant's consultant for the previously proposed 1600 Jackson Street store, Whole Foods operates both full service Whole Foods Markets and smaller, so-called 365 Stores, with the former offering 25,000 to 30,000 SKUs, and the latter only 7,500 SKUs.[14] As the consultant affirms, the "number of SKUs directly affects the number of vendors and deliveries needed for the given store." The proposed Geary Project is

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11 *See* Transportation Coordination Memo, May 4, 2020, p. 5.

12 *See* San Francisco County Travel Authority, San Francisco Travel Demand Tool, available at https://sftraveldemand.sfcta.org/

13 Transportation Coordination Memo, May 4, 2020, page 2.

14 Kittleson & Associates, 1600 Jackson Street Loading Analysis, April 19, 2018, p. 4

a full service Whole Foods Market, not a 365 Store, the number of vendors and deliveries needs will be far higher than reported.

For purposes of CEQA, therefore, the apparent significant understatement of the number of frequency of deliveries to the Project site by diesel-powered vehicles serves to further repudiate the Planning Department's determination that the Project qualifies for the "common sense" exemption, as discussed further below.

V. The Project does not qualify for the "common sense" exemption or any other exemption from CEQA.

After first determining that the Project qualified for the Infill exemption from CEQA, the Planning Department has changed tack and now determined that the Project is exempt from under the "common sense" exemption contained in 14 C.C.R. § 15061. This determination is not supported by the evidence in the record. As sated, the "common sense" exemption applies **only** "[w]here it can be seen **with certainty** that there is **no possibility** that the activity in question may have a significant effect on the environment." 14. C.C.R. § 15061(b)(3), emphasis added. This is an extremely rigid evidentiary standard that the City has the burden of satisfying. It simply cannot be met by this Project given its presence in an APEZ.

The courts have held that in making the required determination that there is no possibility that the activity in question may have a significant effect, the agency must make a factual review of the record to determine whether the exemption applies. As the California Supreme Court stated in *Muzzy Ranch Co. v. Solano County Airport Land Use Comm'n* (2007) 41 Cal.4th 372, 386, "whether a particular activity qualifies for the common sense exemption presents an issue of fact, and the agency invoking the exemption has the burden of demonstrating that it applies." *See CREED-21 v City of San Diego* (2015) 234 CA4th 488, 510. We submit that based on record generated by the Planning Department in support of its environmental determination, as well as on the accompanying analysis by Mr. Kapahi, the Project has a clear possibility, if not strong likelihood, of having a significant effect on air quality and human health for nearby residents.

Appellants would also point out that the Project does not qualify for the previously invoked Class 32 Infill exemption or indeed any other exemption from CEQA. Under CEQA Guidelines Section 15332, the Class 32 infill exemption does not apply under its own terms if there is substantial evidence that a project would cause significant impacts to traffic, noise, air quality, or water quality.[15] As discussed

[15] *Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego* (2006) 139 Cal.App.4th 249, 267–269.

above, there is substantial evidence here that air quality impacts would be significant due to toxic air contaminants from diesel delivery vehicles. The Project would generate TACs that would adversely affect adjacent sensitive receptors. Based on the numbers of diesel deliveries and TRUs, it is likely that the TACs would exceed BAAQMD's significance thresholds for a significant impact from a single source, which is 10 excess cancers or an increase in PM2.5 concentrations of 0.3ug/m3.[16] The project would certainly exceed the BAAQMD thresholds for significant cumulative impacts.

Furthermore, even if the Class 32 or any other categorical exemption applied, it would still be inapplicable because two of the exceptions to categorical exemptions set out in CEQA Guidelines Section 15300.2 preclude reliance on the exemption. Under Section 15300.2(c), a categorical exemption is inapplicable if "there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." As discussed above, the Project would bring diesel delivery vehicle emissions into an APEZ, an area containing sensitive receptors that has been identified by the City and BAAQMD as already experiencing elevated cancer risk. These are unusual circumstances relative to a typical grocery store proposal. Furthermore, the introduction of this additional TAC emission source creates a reasonable probability of a significant effect.

Finally, under Section 15300.2(b) a categorical exemption is inapplicable if "the cumulative impact of successive projects of the same type in the same place, over time is significant." The project and its neighbors are located in an area that both BAAQMD and the City have already designated as significantly impacted by cumulative toxic air contaminants. The basis of that designation is the emissions from successive development projects that require diesel-powered vehicles for delivery, access, and public transportation. BAAQMD provides that any additional contribution from this Project must be considered significant because its thresholds for cumulative TAC impacts are exceeded by the cumulative emission sources.

VI. Conclusion

For the foregoing reasons, the Project does not qualify for the "common sense" exemption or any categorical exemption from CEQA. The Planning Department should proceed to prepare an initial study in accordance with Guidelines Section 15063 before taking any action to approve the Project. We therefore ask the Board to GRANT the appeal and reverse the Planning Department's environmental determination for this Project.

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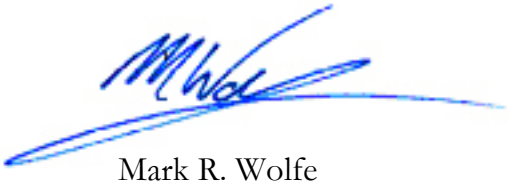
16 BAAQMD, CEQA Guidelines 2017, p. 2-5.

Thank you for your consideration of these points.

Most sincerely,

M. R. WOLFE & ASSOCIATES, P.C



Mark R. Wolfe
On behalf of Appellants Julie Fisher, Tony Vargas, and UFCW Local 5

MRW:sa
attachment

ATTACHMENT 1

ATTACHMENT 1

ATTACHMENT 1

ATTACHMENT 1

ATTACHMENT 1

ATTACHMENT 1

San Francisco **Property Information Map**

- Property
- Zoning Information
- **Environmental Information** 4
- Historic Preservation B
- Planning Applications 5
- Building Permits 18
- Other Permits 1
- Complaints
- Appeals 1
- BBNs

2675 GEARY BLVD

Environmental Information

The two sections below list environmental monitoring requirements and general environmental topics related to this property.

Report for: **2675 GEARY BLVD**

Environmental Monitoring

The following projects on this property require Environmental Monitoring, which may include mitigation measures, improvement measures, and/or Director Bulletin No. 2 type 3 clean construction priority processing applications. The Environmental Monitoring document can be found as a Related Document in the More Details section of each record below. For questions about a project's environmental monitoring contact cpc.environmentalmonitoring@sfgov.org.

Projects with Monitoring Requirements
Not applicable.

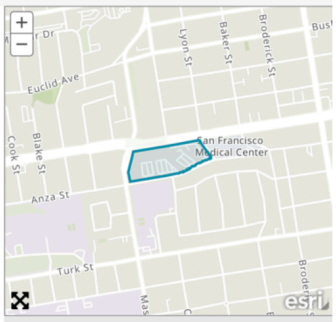
CEQA Information

Under the California Environmental Quality Act (CEQA), certain scopes of work may require additional environmental review. Below you will find property-specific information that may require further review and/or background studies for proposals reviewed by the Planning Department. For projects requiring a Project Application, use the information below to complete the Environmental Evaluation Screening Form (Page 5 and 6). Note that Preservation information is located in the Historic Preservation Tab; Environmental (ENV) projects, active and complete, can be found in the Planning Applications Tab. For questions please contact cpc.epintake@sfgov.org

100-Year Storm Flood Risk Zone
Not applicable.

Air Pollutant Exposure Zone
Health Code Article 38
Site is located in an area with elevated pollutant concentrations. Sensitive use buildings, as defined in the Applicability section of the Ordinance, must comply with Health Code Article 38.

CEQA Impact: An Environmental Evaluation Application may be required for projects that generate air pollutants.
Read more about this regulation
Added: 12/7/2014



Map Layers

- 100-Year Storm Flood Risk - Disclaimer
- Air Pollutant Exposure Zone (2014)
- Air Pollutant Exposure Zone (2020)
- Cortese
- Environmental Monitoring
- Maher Ordinance
- Seismic Hazard Zone - Landslide
- Seismic Hazard Zone - Liquefaction
- Serpentine Rocks
- Slopes of 20% or greater
- Slopes of 25% or greater

San Francisco **Property Information Map** **Epiphany Center - Mt. St. Joseph's/St. Elizabeth**

- Property
- Zoning Information
- **Environmental Information** 3
- Historic Preservation B
- Planning Applications
- Building Permits
- Other Permits
- Complaints
- Appeals
- BBNs

100 MASONIC AVE

Environmental Information

The two sections below list environmental monitoring requirements and general environmental topics related to this property.

Report for: **100 MASONIC AVE**

Environmental Monitoring

The following projects on this property require Environmental Monitoring, which may include mitigation measures, improvement measures, and/or Director Bulletin No. 2 type 3 clean construction priority processing applications. The Environmental Monitoring document can be found as a Related Document in the More Details section of each record below. For questions about a project's environmental monitoring contact cpc.environmentalmonitoring@sfgov.org.

Projects with Monitoring Requirements
Not applicable.

CEQA Information

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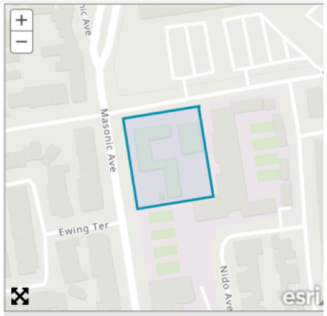
100-Year Storm Flood Risk Zone
Not applicable.

Air Pollutant Exposure Zone
Health Code Article 38
Site is located in an area with elevated pollutant concentrations. Sensitive use buildings, as defined in the Applicability section of the Ordinance, must comply with Health Code Article 38.

CEQA Impact: An Environmental Evaluation Application may be required for projects that generate air pollutants.
Read more about this regulation
Added: 12/7/2014



Map Layers

- 100-Year Storm Flood Risk - Disclaimer
- Air Pollutant Exposure Zone (2014)
- Air Pollutant Exposure Zone (2020)
- Cortese
- Environmental Monitoring
- Maher Ordinance
- Seismic Hazard Zone - Landslide
- Seismic Hazard Zone - Liquefaction
- Serpentine Rocks
- Slopes of 20% or greater
- Slopes of 25% or greater

San Francisco **Property Information Map**

Raoul Wallenberg Traditional High School

- Property
- Zoning Information
- **Environmental Information** 2
- Historic Preservation B
- Planning Applications
- Building Permits
- Other Permits
- Complaints
- Appeals
- BBNs

40 VEGA ST

Environmental Information

The two sections below list environmental monitoring requirements and general environmental topics related to this property.

Report for: **40 VEGA ST**

Environmental Monitoring

The following projects on this property require Environmental Monitoring, which may include mitigation measures, improvement measures, and/or Director Bulletin No. 2 type 3 clean construction priority processing applications. The Environmental Monitoring document can be found as a Related Document in the More Details section of each record below. For questions about a project's environmental monitoring contact cpc.environmentalmonitoring@sfgov.org.

Projects with Monitoring Requirements
Not applicable.

CEQA Information

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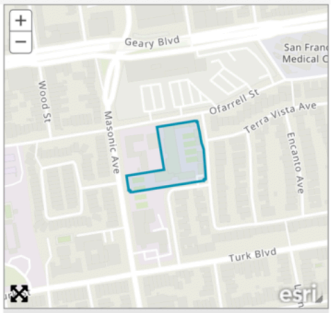
100-Year Storm Flood Risk Zone
Not applicable.

Air Pollutant Exposure Zone
Health Code Article 38
Not applicable.



Map Layers

- ☐ 100-Year Storm Flood Risk - Disclaimer
- ☐ Air Pollutant Exposure Zone (2014)
- ☐ Air Pollutant Exposure Zone (2020)
- ☐ Cortese
- ☐ Environmental Monitoring
- ☐ Maher Ordinance
- ☐ Seismic Hazard Zone - Landslide
- ☐ Seismic Hazard Zone - Liquefaction
- ☐ Serpentine Rocks
- ☐ Slopes of 20% or greater
- ☐ Slopes of 25% or greater

San Francisco **Property Information Map**

Residential Block - Example

- Property
- Zoning Information
- **Environmental Information** 1
- Historic Preservation C
- Planning Applications
- Building Permits
- Other Permits
- Complaints
- Appeals
- BBNs

83 MASONIC AVE

Environmental Information

The two sections below list environmental monitoring requirements and general environmental topics related to this property.

Report for: **83 MASONIC AVE**

Environmental Monitoring

The following projects on this property require Environmental Monitoring, which may include mitigation measures, improvement measures, and/or Director Bulletin No. 2 type 3 clean construction priority processing applications. The Environmental Monitoring document can be found as a Related Document in the More Details section of each record below. For questions about a project's environmental monitoring contact cpc.environmentalmonitoring@sfgov.org.

Projects with Monitoring Requirements
Not applicable.

CEQA Information

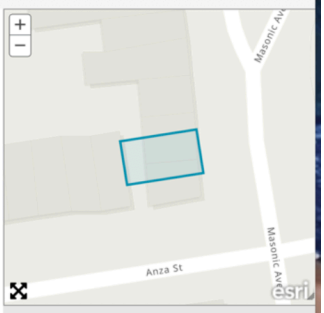
Under the California Environmental Quality Act (CEQA), certain scopes of work may require additional environmental review. Below you will find property-specific information that may require further review and/or background studies for proposals reviewed by the Planning Department. For projects requiring a Project Application, use the information below to complete the Environmental Evaluation Screening Form (Page 5 and 6). Note that Preservation information is located in the Historic Preservation Tab; Environmental (ENV) projects, active and complete, can be found in the Planning Applications Tab. For questions please contact cpc.epintake@sfgov.org

100-Year Storm Flood Risk Zone
Not applicable.

Air Pollutant Exposure Zone
Health Code Article 38
Site is located in an area with elevated pollutant concentrations. Sensitive use buildings, as defined in the Applicability section of the Ordinance, must comply with Health Code Article 38.

CEQA Impact: An Environmental Evaluation Application may be required for projects that generate air pollutants.
Read more about this regulation

Added: 12/7/2014



Map Layers

- ☐ 100-Year Storm Flood Risk - Disclaimer
- ☐ Air Pollutant Exposure Zone (2014)
- ☐ Air Pollutant Exposure Zone (2020)
- ☐ Cortese
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- ☐ Seismic Hazard Zone - Liquefaction
- ☐ Serpentine Rocks
- ☐ Slopes of 20% or greater
- ☐ Slopes of 25% or greater

Attachment 2

ENVIRONMENTAL PERMITTING SPECIALISTS
Air Quality • Permitting • OHSA • RMP/PSM

TECHNICAL MEMORANDUM

To: John Farrow
Wolf & Associates

Date: October 30, 2020

From: Ray Kapahi RK
Tel: 916-687-8352
Tel: 916-687-8352
E-Mail: ray.kapahi@gmail.com

Subject: Screening Level Health Risk Analysis of Emissions from Proposed Whole Foods Market Located on Geary Boulevard, San Francisco, CA

Environmental Permitting Specialists (EPS) has completed a screening level health risk evaluation for the above noted project and evaluated the cumulative sources of toxic air contaminants (TACs) and fine particulate matter (PM2.5) in the immediate vicinity of the project. The objectives in completing this evaluation are to determine whether the TAC or PM2.5 health impacts are significant from the project by itself or in combination with other cumulative projects of the same type in the same place.

1. Toxic Air Contaminants and PM2.5 cause serious health impacts.

According to section 39655 of the California Health and Safety Code, a toxic air contaminant (TAC) is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." Unlike for criteria air pollutants, there are no ambient air quality standards for TACs. Therefore, health risk based standards are used to assess their impacts.

Article 38 of the San Francisco Municipal Code recognizes that serious health effects are caused by exposure to traffic-caused air pollution sources from busy roadways, and that these impacts fall disproportionately on poor and certain minority communities.[1]

EPS reviewed the main sources of TACs that contribute to background cancer risk in California. A review completed by the California Air Resources Board (CARB) determined that the main source of background cancer risk is diesel particulate matter (DPM), but many TACs are also generated by gas-powered engines.[2] For the current project, the main sources of TAC's will be diesel and gas-powered delivery vehicles and customer vehicles.

2. The Project would generate toxic air contaminants and PM 2.5 from delivery vehicles, their associated transportation refrigeration units, and customer vehicles.

The Project would provide two loading docks for delivery vehicles to support a 49,780 square-foot supermarket.[3] The City of San Francisco assumes that this will generate 4 daily deliveries from 65-foot trucks and 4 daily deliveries from 30-48 foot trucks.[4] These trucks would be diesel-powered. In addition, the City assumes that up to 20 additional daily deliveries would be made by other vehicles, which include "bobtail trucks and large or small vans."[5] Some number of these delivery vehicles may also be diesel-powered. The City also assumes that the Project would generate 3,366 passenger vehicle trips per day consisting of 3,203 trips by private vehicle and 163 trips by taxi or transportation new work company.[6]

Since the proposed Whole Foods use is a supermarket, many delivery vehicles will use Transportation Refrigeration Units (TRUs).

> Transport Refrigeration Units (TRU) are powered by diesel internal combustion engines and are designed to refrigerate or heat perishable goods that are transported in various containers. Significant numbers of these units congregate at distribution centers, truck

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1 San Francisco Municipal Code, Article 38, § 3802.

2 California Air Resource Board, Risk Management Guidance for Stationary Sources of Air Toxics, July 23, 2015, available at https://ww2.arb.ca.gov/sites/default/files/classic//toxics/rma/rmgssat.pdf.

3 Rachel Schuett, Transportation Planner, Transportation Coordination Memo, May 4, 2020.

4 *Id.*, Table 2.

5 *Id.*

6 *Id.*

stops, and other facilities, emitting diesel particulate matter (PM) pollutant emissions, a toxic air contaminant, creating a health risk for those that live nearby.[7]

TRUs continue to operate even when delivery trucks are parked and unloading because the perishable goods must be kept at temperature.

The City estimates that the large trucks would dwell on-site for an hour and the smaller trucks would dwell for half an hour.[8] Thus, trucks that may emit DPM from TRUs would be on-site for 13.5 hours per day.[9]

3. Emissions from project delivery vehicles would exceed BAAQMD's and other air districts' thresholds of significance.

Delivery trucks, vans as well as customer vehicles would generate a variety of toxic air contaminants (TACs). Many of these TACs are known carcinogens, such as benzene, acetaldehyde and diesel particulates.

An evaluation of the emission rates of TACs and the cancer risks associated with exposure to these compounds can demonstrate that health risks associated with this project are significant. One widely used tool to determine if emissions of TACs are likely to pose significant public health risks is the "Risk Prioritization Tool," which was developed by the San Joaquin Valley Air Pollution Control District.[10] This tool is based on California's Air Toxics "Hot Spots" Information and Assessment Act of 1987.[11] This tool takes into account the amounts and toxicity of each TAC generated by a project and the proximity of the facility to nearby receptors such as homes

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7 CARB, Transportation Refrigeration Unit website, visited June 18, 2020, available at https://ww2.arb.ca.gov/our-work/programs/transport-refrigeration-unit.

8 Transportation Coordination Memo, May 4, 2020.

9 *Id.*

10 San Joaquin Valley Air Pollution Control District, CEQA web page, available at http://www.valleyair.org/transportation/ceqa_idx.htm [click on link to Prioritization Calculator under Screening Tools]; see also San Joaquin Valley Air Pollution Control District, Guidance for Assessing and Mitigating Air Quality Impacts, p. 45, available at http://www.valleyair.org/transportation/GAMAQI_12-26-19.pdf [recommending use of screening tools including spreadsheets to assess air quality impacts].

11 Information available at California Air Resources Board, "Hots Spots" Prioritization, available at https://ww2.arb.ca.gov/our-work/programs/ab-2588-air-toxics-hot-spots/hot-spots-prioritization.

and businesses. The Risk Prioritization Tool estimates cancer risk caused by TACs as well as their chronic and acute toxicity effects. Cancer risks are correlated with and depend on annual emissions of TACs.

One purpose of a risk prioritization screening is to determine whether the TAC risk warrants a refined health risk assessment.[12] Each District is free to establish a prioritization threshold at which facilities are required to prepare a health risk assessment.[13] See below:

AB 2588 District Prioritization Scores and Risk Threshold Levels

District	Prioritization Score Threshold						Notification Level		Risk Reduction Audit and Plan	
	Cancer		Noncancer Chronic		Noncancer Acute		Cancer	Non-cancer	Cancer	Non-cancer
	High	Low	High	Low	High	Low				
Amador	≥10	≤1	≥10	≤1	≥10	≤1	≥10	≥1	≥10	≥1
Antelope Valley	10	1	10	1	10	1	10	1	100	10
Bay Area	≥10	<1	≥10	<1	≥10	<1	>10	>1	>100	>10
Butte	≥100	<1	≥100	<1	≥100	<1	10	≥1	none	none
Calaveras	none	none	none	none	none	none	10	none	10	none
Colusa	>10	<1	>10	<1	>10	<1	>10	>1	>10	>1

BAQMD has adopted a threshold for cancer risk prioritization score of 10. These thresholds are used for both permitting and CEQA evaluations.

For the current project, we assumed just 8 diesel-powered truck deliveries per day along with 3,366 customer vehicles per day that would release TAC emissions based on vehicle travel within 1,000 feet of the project site, plus on-site idling and TRU emissions. For trucks, a 5 minute idle time was assumed, consistent with state law. TRUs were assumed to operate 60 minutes. We conservatively assumed only four refrigerated delivery vehicles using TRUs per day, even though the project would have 23 daily deliveries.

We estimated emissions of TACs using data from the California Air Resources Board for sources of diesel particulate matter and the academic literature for TAC emissions from gas-powered

[12] California Air Resources Board and California Air Pollution Control Officers Association, Risk Management Guidance for Stationary Sources of Air Toxics, July 23, 2015, pp. 22, 49, available at https://ww2.arb.ca.gov/sites/default/files/classic//toxics/rma/rmgssat.pdf?_ga=2.109727052.894744087.1604609123-1470358659.1594663568.

[13] California Air Resources Board, AB 2588 District Prioritization Scores and Risk Threshold Levels, available at https://ww2.arb.ca.gov/ab-2588-district-prioritization-scores-and-risk-threshold-levels-0.

light duty vehicles. These sources are identified in the notes to Exhibit 1, Tables 1 and 2. We entered these estimated TAC emissions into the Risk Prioritization Tool to determine the risk prioritization scores for cancer, actute toxicity, and chronic toxicity.

The resulting risk prioritization score would exceed the screening level cancer risk prioritization score of 10. Our analysis shows that the cancer risk score would exceed 10.6 for distances of 250 meters (0.15 mile). The score would equal 42.5 for distance to 100 meters (328 feet). A copy of the screening level risk analysis as well as estimate of emissions is provided in Exhibit 1.

The Project's cancer score of 42.5 indicates that it would cause an excess cancer rate in the vicinity to exceed ten excess cancers in one million population. Locations immediately adjacent to Whole Foods containing sensitive receptors, such as Epiphany Center, would be exposed to a risk score in excess of 10.6 The screening level prioritization calculation assumes all emissions are centered at the project site. In reality, the emissions would also occur along the roadways such as Masonic Avenue. This would place toxic emissions immediately adjacent to sensitive receptors, such as the Epiphany Center, which is located on Masonic Avenue. As a result, the cancer prioritization score would be well over 10.6

Ten excess cancers in one million is the CEQA threshold of significance recommended by many California air districts in their CEQA guidance documents, e.g., South Coast Air Quality Management District, San Luis Obispo County Air Pollution Control District, Bay Area Air Quality Control District, and Sacramento Metropolitan Air Quality Management District.[14] Thus, the Project, by itself, would cause a significant TAC impact to nearby sensitive receptors.

In addition, the Project would make a considerable contribution to a significant cumulative TAC impact. CEQA recognizes that significant impacts may be caused by cumulative effects of multiple projects affecting the same resource.[15] Thus, cumulative impact analysis requires an agency to determine: (1) whether the impact of the project in combination other projects

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[14] South Coast Air Quality Management District, South Coast AQMD Air Quality Significance Thresholds, Revised April 2019, available at http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf; San Luis Obispo County Air Pollution Control District, CEQA Air Quality Handbook, April 2012, page 3-7, available at https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/CEQA_Handbook_2012_v2%20%28Updated%20Map2019%29_LinkedwithMemo.pdf; Bay Area Air Quality Control District, CEQA Air Quality Guidelines, May 2017, page 2-5, available at https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en; Sacramento Metropolitan Air Quality Management District, SMAQMD Thresholds of Significance Table, April 2020, available at http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf.

[15] CEQA Guidelines, §§ 15065(a)(3), 15355.

exceeds the significance threshold, and (2) if so, whether the project's own effect is a considerable contribution.

The Bay Area Air Quality Management District (BAAQMD) identifies a significant cumulative impact from TACs when cancers exceed 100 in one million or when PM 2.5 concentrations exceed 0.8 ug/m3.[16] As discussed below, BAAQMD and the City have both determined that excess cancers from existing TAC sources in the Project vicinity do exceed 100 in one million. Thus, there is a significant cumulative TAC impact in the Project vicinity. The question then becomes whether the Project will make a considerable contribution.

When it adopted its threshold of significance for cumulative TACs in 2009, BAAQMD explained that once the cumulative threshold of 100 excess cancers was exceeded, any additional risk caused by a new project is significant:

> Cumulative thresholds for sources recognize that some areas are already near or at levels of significant impact. If within such an area there are receptors, or it can reasonably be foreseen that there will be receptors, then a cumulative significance threshold sets a level beyond which any additional risk is significant.[17]

BAAQMD's current Thresholds of Significance Justification reiterates that its threshold of 100 excess cancers from all sources "sets a level beyond which any additional risk is significant."[18]

BAAQMD's Thresholds of Significance Justification provides a scientific and regulatory justification for its thresholds of significance, including its thresholds for cumulative analysis of TACs. BAAQMD set its 100 excess cancer threshold for cumulative risk at a level ten times higher than its 10 excess cancer threshold for a significant project-specific impact from a project by itself. BAAQMD explains that its 100 excess cancer threshold represents the upper end of the U.S. EPA's guidance for the "range of acceptable cancer risks" in "making risk management decisions at the facility- and community-scale level:"

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[16] BAAQMD, CEQA Guidelines, May 2017, p. 2-5, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

[17] BAAQMD, Proposed Air Quality CEQA Thresholds of Significance December 7, 2009, p. 34 [emphasis added], available at https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en.

[18] BAAQMD, CEQA Guidelines, May 2017, Appendix D, Thresholds of Significance Justification, p. D-34, available at https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

> Cancer risk from TACs is typically expressed in numbers of excess cancer cases per million persons exposed over a defined period of exposure, for example, over an assumed 70 year lifetime. The Air District is not aware of any agency that has established an acceptable level of cancer risk for TACs. However, a range of what constitutes a significant increment of cancer risk from any compound has been established by the U.S. EPA. EPA's guidance for conducting air toxics analyses and making risk management decisions at the facility- and community-scale level considers a range of acceptable cancer risks from one in a million to one in ten thousand (100 in a million). The guidance considers an acceptable range of cancer risk increments to be from one in a million to one in ten thousand. In protecting public health with an ample margin of safety, EPA strives to provide maximum feasible protection against risks to health from HAPs by limiting additional risk to a level no higher than the one in ten thousand estimated risk that a person living near a source would be exposed to at the maximum pollutant concentrations for 70 years. This goal is described in the preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking (54 Federal Register 38044, September 14, 1989) and is incorporated by Congress for EPA's residual risk program under Clean Air Act section 112(f).[19]

BAAAQMD's reasoning in setting the threshold for what counts as a significant cumulative risk at EPA's upper limit of 100 excess cancers is that, when cumulative risk is that high, "any additional risk" from the project under review must be identified as significant, i.e., as a considerable contribution to a significant cumulative impact. Here, since the Project would contribute substantial additional TAC risk, it would make a considerable contribution to the significant cumulative TAC impact.

Finally, in addition to the Risk Prioritization tool and as part of its permitting program, BAAQMD has identified annual emission rates of TACs that are considered significant and require the preparation of a risk assessment.[20] Specifically, under District Regulation 2, Rule 5, diesel particulate matter emissions in excess of 0.34 pounds per year are considered significant that requires the preparation of a health risk assessment. The threshold for benzene under the same regulation is 3.8 pounds per year. Vehicular emissions from the Whole Foods project would generate 12.63 pounds of diesel particulate and 113 pounds of benzene per year respectively. These levels are well in excess of levels the District considered harmful. It is recognized that the

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[19] BAAQMD, CEQA Guidelines, May 2017, p. D-35, available at https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

[20] BAAQMD, Regulation 2, Permits, Rule 5, New Source Review of Toxic Air Contaminants, available at https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants/documents/rg0205_120716-pdf.pdf?la=enBAAQMD; see Table 2-5-1 " Toxic Air Contaminant Trigger Levels," available at: https://www.baaqmd.gov/~/media/files/engineering/air-toxics-programs/table_2-5-1.pdf.

current project is not subject to District permits, nevertheless, the annual emission rates of TACs noted in Regulation 2, Rule 5 do provide thresholds that are considered harmful to the public.

4. The Project is located in an area in which BAAQMD has identified a significant cumulative impact from toxic air contaminants.

In 2004, BAAQMD initiated the Community Air Risk Evaluation (CARE) program to intensify efforts to reduce air pollution in areas with greatest air pollution burdens and with most vulnerable populations."[21] As part of that program, BAAQMD identified impacted communities, describing this effort in a publication titled "Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area."[22] One impacted area was eastern San Francisco, based on the presence of relatively high levels of toxic air contaminants, relatively high exposures of youth and seniors to toxic air contaminants, and relatively high levels of poverty.[23]

BAAQMD used both modeled and measured air pollution to map TAC concentrations for each zip code.[24] BAAQMD determined excess cancer risks and PM 2.5 concentrations based on these modeled and measured TAC concentrations.[25] BAAQMD identified the cancer risk from TACs in the 94118 zip code, in which the proposed Project is located, as 191.9 excess cancers in one million.[26] BAAQMD identifies the mean annual PM 2.5 concentration in the 94118 zip code as 9.3 ug/m3.[27]

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21 BAAQMD, Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area, Version 2, March 2014, p. 7, available at https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx?la=en.

22 *Id.*

23 *Id.*

24 *Id.* at 14.

25 *Id.* at 15.

26 BAAQMD, Impacted Areas by Zip Code, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_ScoresbyZipCode.ashx?la=en.

27 *Id.*

Again, for reference, BAAQMD identifies a significant cumulative impact from TACs when cancers exceed 100 in one million or when PM 2.5 concentrations exceed 0.8 ug/m3.[28] Thus, BAAQMD has identified an existing significant cumulative impact from toxic air contaminants at the Project site and in its vicinity.

5. The Project is located in an area that the City has identified as impaired by cumulative PM2.5 emissions and has located in an Air Pollution Exposure Zone based on cumulative TAC concentrations that are above health protective levels.

As part of its CARE program, BAAQMD asked cities with impacted communities to develop a Community Risk Reduction Program (CRRP).[29] Although San Francisco has not completed its CRRP, it has identified and mapped areas in which TAC and PM2.5 exposures are above health protective levels.[30] This mapping was based on the identification of "fine particle concentrations and potential cancer risk from thousands of individual pollution sources [] estimated on a 20 meter receptor grid to provide sufficient detail for planning applications."[31]

For example, as part of its CRRP, the City developed emissions estimates, modeled PM2.5 and TAC concentrations, and estimated excess cancers from TAC for the years 2010, 2014, and 2025 throughout the City.[32] *The San Francisco Community Risk Reduction Plan: Technical Support Documentation* describes the methods and specific emission sources used within this model. The *Technical Support Documentation* explains that the analysis built on modeling systems and inputs developed by the San Francisco Department of Public Health to support San Francisco's

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[28] BAAQMD, CEQA Guidelines, May 2017, p. 2-5, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

[29] See description of CRRP in San Francisco in BAAQMD, Improving Air Quality & Health in Bay Area Communities Community Air Risk Evaluation (CARE) Program Retrospective & Path Forward (2004 - 2013) April 2014, pp. 96-98, available at https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en.

[30] *Id*. at 79-80, 96-97.

[31] *Id.* at 96.

[32] BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept, The San Francisco Community Risk Reduction Plan: Technical Support Documentation, December 2012, p. 3, available at https://www.gsweventcenter.com/Appeal_Response_References/2012_1201_BAAQMD.pdf.

Article 38, an ordinance that mandates particulate matter filtration near busy roadways.[33] The analysis included emissions estimates for PM 2.5, diesel particulate matter, and other carcinogenic compounds including exhaust from gas-powered vehicles.[34] The analysis considered mobile sources, stationary sources, transit and rail, and major construction projects, but it excluded indirect sources that generate vehicle trips such as distribution centers, retail centers, and postal service stations.[35] Furthermore, the analysis only considered locally generates sources of emissions, not regional sources:

> …the dispersion modeling, from which the maps are derived, produced concentrations and risk estimates from direct emissions. The maps themselves therefore portray concentrations of directly emitted PM2.5 and cancer risk associated with directly emitted TAC at locations near the sources of these emissions. The results do not reflect regional or long-range transport of air pollutants. Nor do they include the effects of the chemical transformation (formation or loss) of pollutants.[36]

The mapping of PM2.5 concentrations in *The San Francisco Community Risk Reduction Plan: Technical Support Documentation* shows levels in excess of the BAAQMD cumulative significance threshold of 0.8 ug/m3 in the vicinity of Geary and Masonic.[37] The primary source of PM2.5 at this location is mobile sources.[38]

Mapping of cumulative PM2.5 and excess cancer risks was intended to identify Air Pollution Exposure Zones, which are the areas in which PM2.5 and cancer risks are so high that new construction requires filtration-enhanced ventilation:

> The Air District working with SFPHD and SF Planning Department developed a San Francisco-specific emission inventory of mobile and stationary sources used to model exposure point concentrations and risk estimates for the CRRP. The mapped results were then used to identify areas, called **Air Pollution Exposure Zones where PM2.5 concentrations and cancer risks were above health protective levels.** Residential projects that fall in these zones are required to install filtration-enhanced ventilation

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33 *Id.*

34 *Id.* at 5.

35 *Id.* at 4.

36 *Id*. at 37.

37 *Id.* at 54, Figure 23.

38 *Id.* at 39, Figure 11.

> under Article 38. San Francisco adopted the revised Health Code Article 38 with updated Air Pollutant Exposure Zone map (see Figure 44) in December 2014. Article 38 was further amended to require SFDPH and SFPD to provide revised Air Pollutant Exposure Zone every five years to determine which property parcels are subject to the Article's required filtration-enhanced ventilation. While Article 38 requirements protect new residents, SFDPH wanted to pursue whether this control would benefit existing homes near high trafficked roadways which lead to the implementation and completion of this study.[39]

Article 38 defines an Air Pollution Exposure Zone to include all "locations in the City where the estimated cumulative $PM_{2.5}$ concentration is greater than 10 µg/m3 or where the estimated cumulative excess risk of cancer from air pollutants resulting from lifetime (70 year) exposure is greater than 100 in a million."[40]

As the Planning Commission staff report acknowledges, the proposed Project at 2675 Geary Street is within an Air Pollution Exposure Zone (APEZ).[41] The Project's directly adjacent neighbor at 100 Masonic Street, The Epiphany Center/Mount St. Joseph-St. Elizabeth, is also within the APEZ.[42] The Epiphany Center provides "holistic client-centered care to a diverse population of children, women, and families who are the most vulnerable in our society."[43] The Epiphany Center provides both residential programs and various parent-child programs.[44] San Francisco defines residential uses and adult-care and child-care uses as sensitive uses.[45]

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[39] San Francisco Department of Public Health et al., "Measurement Study to Evaluate In-Home Pollutant Exposure Mitigation Approaches at Sites with Elevated Traffic-Related Air Pollutants, 2018, page 17, emphasis added, available at https://www.baaqmd.gov/~/media/files/planning-and-research/care-program/documents/2018/sfdph_indoorair7_interactive-pdf.pdf?la=en.

[40] San Francisco Municipal Code, Article 38, § 3809(a).

[41] San Francisco Planning Commission, Staff Report for 2019-004110CUA, 2675 Geary Boulevard, May 28, 2020, Exhibit C; San Francisco Property Information Map, search for 2675 Geary Blvd, visited October 28, 2020, available at https://sfplanninggis.org/PIM/.

[42] *Id.*

[43] Epiphany Center website, October 28, 2020, available at https://www.theepiphanycenter.org/who-we-are/mission-values/.)

[44] *Id.*

[45] San Francisco Municipal Code, Article 38, § 3804.

Thus, the Project would contribute TACs that would affect adjacent sensitive receptors also located in the APEZ. In addition, there are sensitive receptors located directly across O'Farrell Street from the Project site, including residential uses and the Raoul Wallenburg Traditional High School. In sum, the project's TAC and PM2.5 emissions would exacerbate an existing significant cumulative impact in its immediate vicinity.

EXHIBIT 1

Copy of Risk Prioritization Score Calculation

Supporting Emission Rates for TACs

Copy of Risk Prioritization Score Calculation

	A	B	C	D	E	F	G	H
1	**Unit and Process#**	Whole Foods Market SF, Screening Level HRA - - Rev Oct 30_2020. Based on 3,366 customer vehicles and 4 TRUs per day.						
2	**Operating Hours hr/yr**	8,760.00						
3	Receptor Proximity and Proximity	**Cancer**	**Chronic**	**Acute**				
4	Factors	**Score**	**Score**	**Score**	**Max Score**			
5	**0< R<100 1.000**	42.562	0.433	0.821	4.26E+01			
6	**100≤R<250 0.250**	10.640	0.108	0.205	1.06E+01			
7	**250≤R<500 0.040**	1.702	0.017	0.033	1.70E+00			
8	**500≤R<1000 0.011**	0.468	0.005	0.009	4.68E-01			
9	**1000≤R<1500 0.003**	0.128	0.001	0.002	1.28E-01			
10	**1500≤R<2000 0.002**	0.085	0.001	0.002	8.51E-02			
11	**2000<R 0.001**	0.043	0.000	0.001	4.26E-02			
12		Enter the unit's CAS# of the substances emitted and their amounts.						
13	**Whole Foods Market SF, Screening Leve**							
14	**Substance**	**CAS#**	**Annual Emissions (lbs/yr)**	**Maximum Hourly (lbs/hr)**	**Average Hourly (lbs/hr)**	**Cancer**	**Chronic**	**Acute**
15					0.00E+00	0.00E+00	0.00E+00	0.00E+00
16	**1,3-Butadiene**	106990	5.58E+00	9.55E-04	6.37E-04	7.30E+00	4.78E-02	2.17E-03
17	**Benzene**	71432	5.64E+01	1.29E-02	6.44E-03	1.26E+01	3.22E-01	7.17E-01
18	**Formaldehyde**	50000	1.60E+01	3.66E-03	1.83E-03	7.39E-01	3.04E-02	9.98E-02
19	**Acetaldehyde**	75070	3.45E+00	7.87E-04	3.94E-04	7.17E-02	4.22E-04	2.51E-03
20	**Diesel engine exhaust, particulate matter (Diesel PM)**	9901	9.46		1.08E-03	2.19E+01	3.24E-02	0.00E+00
21					0.00E+00	0.00E+00	0.00E+00	0.00E+00

Receptor proximity is in meters. Priortization scores are calculated by multiplying the total scores summed below by the proximity factors. Record the Max score for your receptor distance. If the substance list for the unit is longer than the number of rows here or if there are multiple processes use additional worksheets and sum the totals of the Max Scores.

Prioritzation score for each substance generated below. Totals on last row.

MARPLOT

Controls | Edit | Search & Get Info | ALOHA & CAMEO | Other

Selection Info

Selection Area (Circular)

Radius: 0.160 miles **Perimeter**: 1.01 miles **Area**: 0.080 sq miles

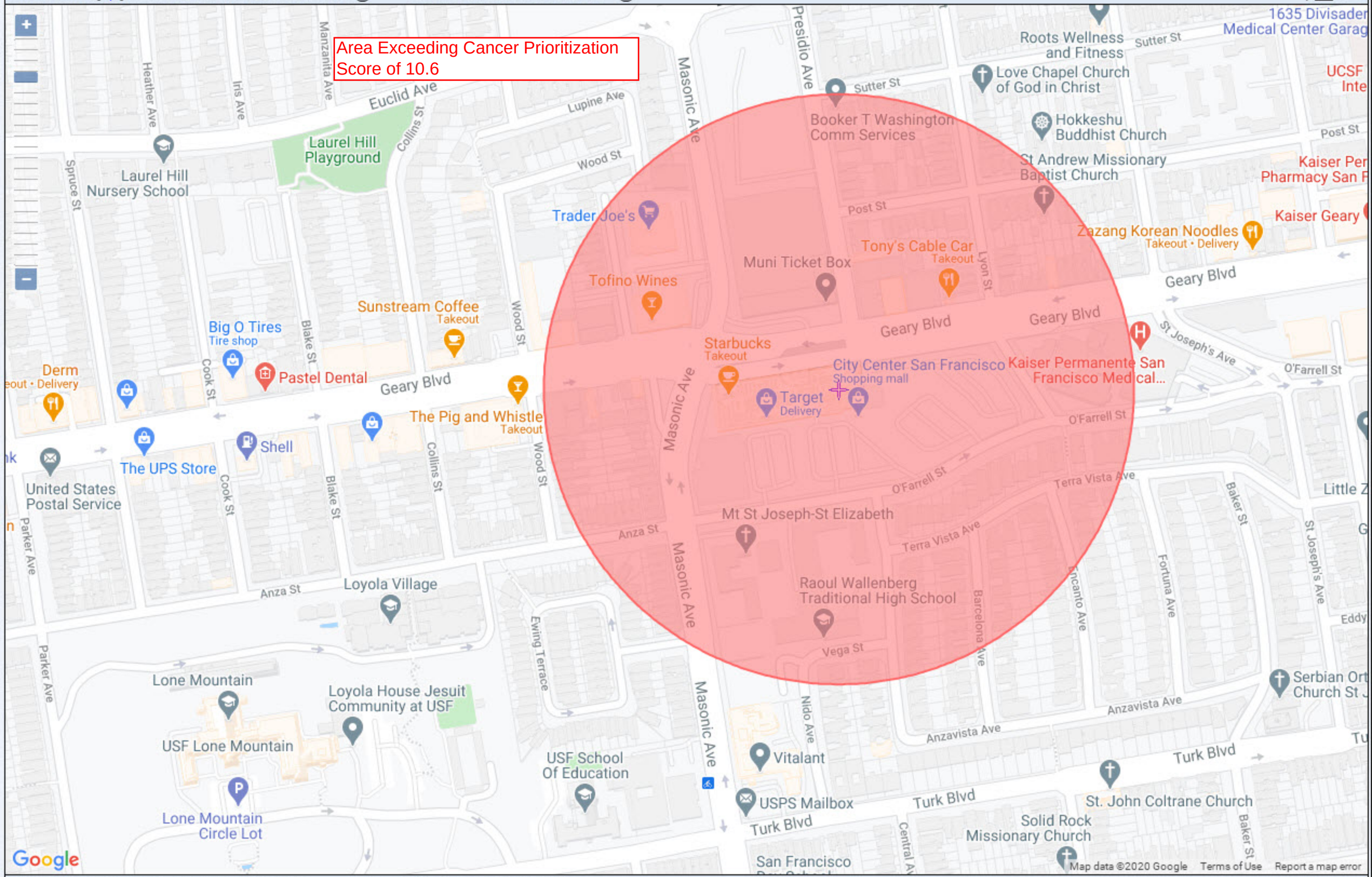
Extra Tools

2010 U.S. Census Data

Population: 1,350

Housing units: 619

Click Point (◈): 37.782131°N, 122.445985°W USNG: 10S EG 48785 81787



Cursor: 37.784624°N, 122.442471°W USNG: 10S EG 49093 82065

MARPLOT

Controls | Edit | Search & Get Info | ALOHA & CAMEO | Other

Temporary Layer

Selection Info

Selection Area (Circular)

Radius: 0.160 miles **Perimeter:** 1.01 miles **Area:** 0.080 sq miles

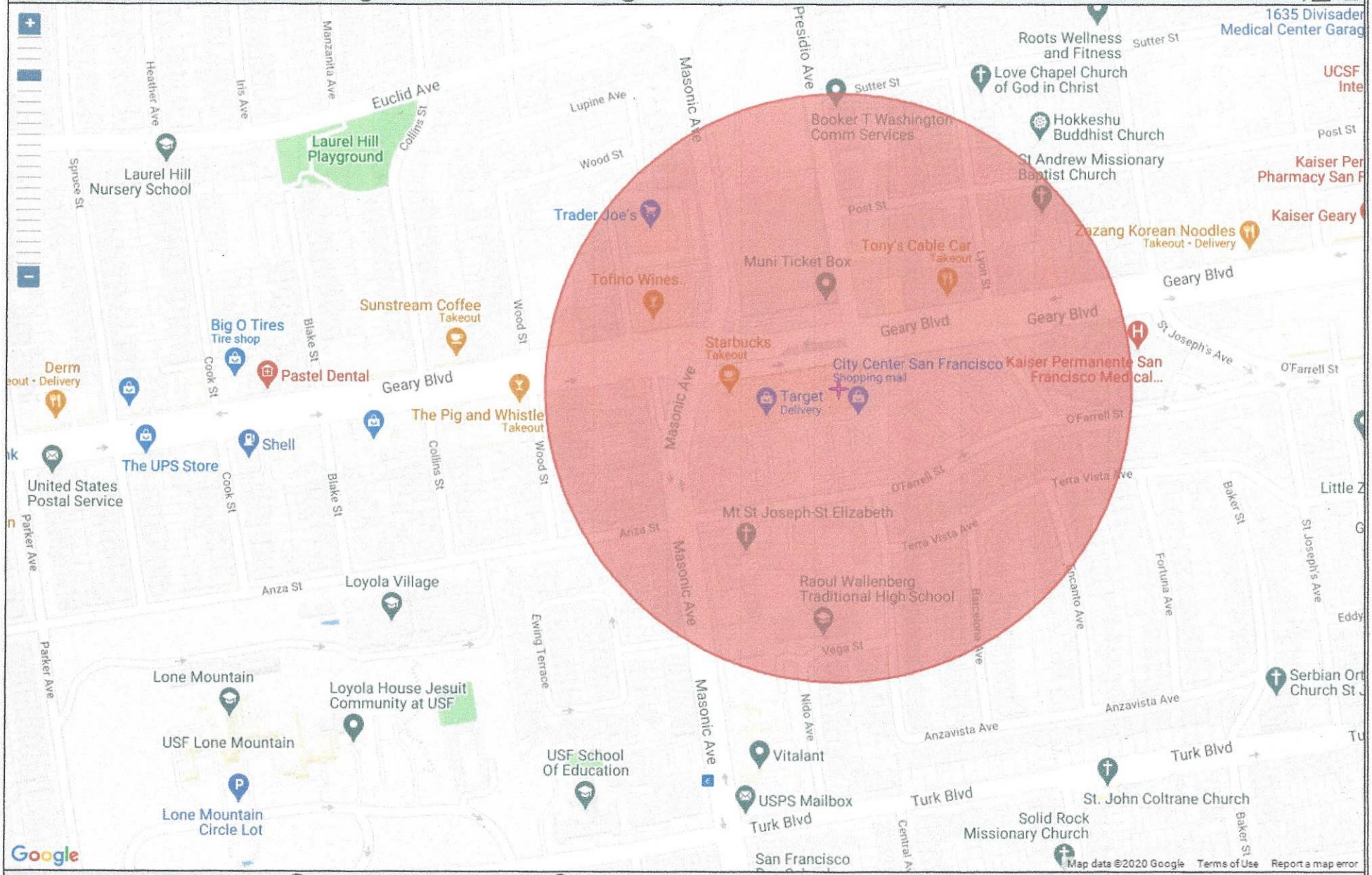
Extra Tools

2010 U.S. Census Data

Population: 1,350

Housing units: 619

Click Point (◈): 37.782131°N, 122.445985°W USNG: 10S EG 48785 81787



Cursor: 37.784624°N, 122.442471°W USNG: 10S EG 49093 82065

Supporting Emission Rates for TACs

Table 1
Calculation of On-Site DPM Emissions
Whole Foods, geary Boulevard, San Francisco

IDLING EMISSIONS	Units	
HD Trucks Count	*(trucks/day)*	8
Truck Idling		
Idle rate per truck	*(min/truck)*	5
Idle rate all trucks	*(min/day)*	40
Idle time per day all trucks	*(hrs/day)*	0.7
idle time per year all trucks	*(hrs/yr)*	243.3
Emission Factor for Vehicle Idling (Note 1)	*(grams/vehicle-hr)*	0.019776
Idling Emissions All Trucks	*(grams/yr)*	4.8
	(lbs/yr)	0.01

EMISSIONS FROM On-Site Truck Movement	Units	
Daily Truck Volume	(Trucks/day)	8
Distrance Travelled On-Site		
1 Truck	*(mile/truck)*	0.05
All Trucks/day	*(miles/day)*	0.40
All Trucks (per year)	*(miles/yr)*	146
Emission Factor (EMFAC 2017 for HD Trucks CY 2022)	*(gram/mile)*	0.06449
Emissions		
1 Truck (per mile)	*(grams/mile)*	0.06449
All Trucks (per day)	*(grams/day)*	0.02580
All Trucks (per year)	*(grams/yr)*	9.42
	(lbs/yr)	0.021

EMISSIONS FROM TRUs	Units	
No. of Trucks (50% of all HD Trucks)	*(trucks with TRUs/day)*	4.0
TRU Operating Time		
1 TRU	*(min)*	45
All TRUs	*(hrs/day)*	3.0
Average TRU Engine Size	*(hp)*	34
Emission Factor for TRUs (Note 2)	*(grams/hp-hr)*	0.25
Load Factor (Note 3)		0.46
Emission Rate		
1 Truck (engine HP x EF x Load Factor)	*(grams/hr)*	3.91
All Trucks (x daily operating hrs for all trucks)	*(grams/day)*	11.73
(x365)	*(grams/yr)*	4,281.5
(1 lb/454 grams)	*(lbs/yr)*	9.43
TOTAL On-Site (Idling +On-Site Move't+TRUs)	*(lbs/yr)*	9.46

Notes
1. Available at: https://ww3.arb.ca.gov/msei/emfac2011_idling_emission_rates.xlsx
2. Emission Factor from ARB: https://ww3.arb.ca.gov/regact/trude03/fro1.pdf

3. Draft 2019 Update to Emissions Inventory for Transport Refrigeration Units. California Air Resources Board October 2019. Section 3.6, Table 9.

Table 2
Calculation of Toxic Emissions from Light Duty Delivery Vehicles within 0.23 mile of Whole Foods Site

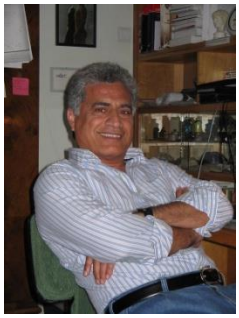
No. of Vehicles per Day	1,683	veh/day
	614,295	veh/yr
Length of Roadway	0.23	mile (1,000 feet)
Annual Miles (annual number of cars x 0.23 mil x 2)	282,576	miles/yr

(Annual number of cars x 0.23 mil x 2)
to account for round trip per vehicle

	EF	Emission Rate (Vehicle Travel)			Emission Rate (vehicle travel + idle + start-up/shut down)
TAC	(mg/mile)	(mg/yr)	(g/yr)	(lb/yr)	(lb/yr)
1,3 Butadiene	4.48	1,265,939	1265.939	2.788	5.5768
Benzene	45.28	12,795,028	12795.028	28.183	56.3658
Formaldehyde	12.87	3,636,749	3636.749	8.010	16.0209
Acetaldehyde	2.77	782,735	782.735	1.724	3.4482
Nox [grams/yr]	0.0536		15139.6	33.3	66.7
	(gram/mile)		(g/yr)	(lb/yr)	
PM-2.5	0.00171		483.204	1.0643	1.0643

NOTES
1. Emission Factors From: Zhu, Durbin, Norbeck and Cocker (July 2004)
"Internal Combustion Engine (ICE) Air Toxic Emissions"
Final Report to Research Division CARB, Sacramento, CA
2. Emissions from Vehicle Idle + start-up and shut-down estimated to equal 50% of emissions from vehicle travel

Ray Kapahi
Senior Air Quality
Consulting Engineer



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Practice Areas

- Air Quality Permitting
- Odor Investigation and Control
- Health Risk Assessment
- Computational Fluid Dynamics
- Greenhouse Gas Analysis
- Atmospheric Dispersion Modeling

Industries

- Solid Waste
- Energy Production
- Construction and Mining
- Cannabis Cultivation
- Oil and Gas Production
- Food Industries

Education and Training

- BSc. Physics (1972)
- MEng. Chemical Engineering (1975)
- CARB Accredited Green House Gas (GHG) Lead Verifier with Specialization in Process Emissions and Electricity Transactions (2009)

News

- Presentation "Numerical Modeling of Landfill Gas and Odors" 33rd International Conference on Solid Waste Technology and Management. March 11 to 14, 2018, Annapolis, MD.

- Presentation "Integrated Approach to Effective Odor Control at Landfills and Composting Facilities" Wastecon 2016, Indianapolis, IN.

EXPERIENCE

Over 30 years of experience in analyzing air quality and odor impacts, permitting of stationary sources, and preparation of environmental impact documents. Mr. Kapahi assists a broad range of clients and assists them to identify and meet their regulatory obligations.

The scope of his experience includes siting of new landfills, waste to energy plants, obtaining conditional use permits from City and County Governments for new projects or expansion of existing projects. Specific experience and skills include preparation of emission inventories, analysis and measurements of odors, dispersion modeling, oversight of air quality monitoring, analysis of impacts to public health, responding to public comments, and appearing before City and County Planning Boards and Commissions as an expert witness on behalf of clients.

Following approvals for new facilities or expansion of existing facilities, Mr. Kapahi continues to work with clients to ensure on-going compliance.

REPRESENTATIVE PROJECTS

Air Quality Modeling and Permitting

- **Permitting of a Powdered Milk Plant (Turlock, CA)**

Evaluate emissions of various air pollutants from the proposed 30 million gallons per year mild processing/drying facility. Demonstrate compliance with local and state air quality regulations, including regulation of toxic air pollutants.

- **Permit Revisions for an Existing Fruit Dehydration Facility (Yuba City, CA)**

Assisted a major food processor in revising their operating permits to allow for additional steam production. Worked cooperatively with the local air district to ensure timely issuance of the revised permits.

- **Permitting of a Waste to Energy Plant (Fort Irwin, CA)**

Quantify emissions from a proposed 34 tons per day solid waste to energy project. Analyze emissions associated with pyrolysis and subsequent utilization of synthetic gas to generate 1.5 MW of electric power. Prepare the necessary permit applications and supporting documentation.

- **Permitting of a CBD Oil Extraction Facility (Mendota, CA)**

Quantify emissions from a proposed solvent extraction process. Assist in design of an RTO VOC control system. The facility was permitting in 2019 and is currently operating.

Publications and Presentations

Presentation "Use of Advanced Models to Control Fugitive Odors from Composting Sites". US Compost Council Annual Meeting, January 2015, Austin, TX.

"Air Emissions from Landfills and Transfer Stations – Do they Increase Public Health Risks?" Presented at Quad State Environmental Conference, Pigeon Forge TN, Sept 2015.

"Risks of Carbon Credit Invalidation Under California's Cap-and-Trade Program", Presented at the 2014 Air and Waste Management Association Annual Conference. June 24-27, 2014. Long Beach, CA

"Estimate of VOC Emissions from Sludge Drying", Presented at the 1995 SWANA Conference. November 1995, Baltimore, MD.

"Use of Biofilters to Control VOCs", Biocycle, February 1995.

"Impacts of the 1990 Clean Air Act Amendments", San Jose Business Journal, March 24, 1994.

"Modeling Fine Particulates" in Municipal Waste Incineration Risk Assessment, Edited by Curtis Travis, Plenum Press, 1990.

Specialized Training

Calculating Tank Emissions. Trinity Consultants. Los Angeles, CA February 1-2, 2020.

Accidental Release Modeling Workshop. Trinity Consultants. Dallas, TX November 1-2, 2018.

HARP2 (Risk Assessment Model) Training at California Air Resources Board. Redding, CA

Hearing Board Variance Training – California Air Resources Board (1995)

Air Emissions and Odors from Wastewater – University of Texas, Austin (1994)

Professional Affiliations

Air and Waste Management Association (Board Member)

American Institute of Chemical Engineers (Member)

Odor Analysis and Mitigation

- **Ventilation System for Odor Control (Anaheim, CA)**

Advanced computational fluid mechanics (CFD) models were used to predict the air flow and building pressure to identify the location, size and number of exhaust fans required to remove odors from the transfer station building.

- **Migration of Odors and Aerosol from Leachate Evaporation Pond (Bi-County Landfill, Montgomery County, TN)**

Analyze the movement of odors and aerosols from leachate evaporators. Demonstrate that evaporators were ineffective in reducing volume of leachate, but were release odors and VOCs to nearby homes.

- **Analysis and Control of Fugitive Dust and Odors from a Soil Blending Facility (Stockton, CA)**

Advanced computational fluid mechanics (CFD) models were used to predict the air flow and movement of fugitive dust at a soil blending facility. With this information, the client was able to install? appropriate mitigation services to mitigate off-site migration of fugitive dust. View how the movement of dust occurs at:
https://www.youtube.com/watch?v=wXEX6IT-54U

- **Review of Odor Control Systems for Cannabis Cultivation and Distribution Facilities (Palm Springs, CA)**

EPS evaluated the odor control system for over 15 different odor cultivation and distribution facilities in Palm Springs. The effectiveness of the proposed system was evaluated and recommendations were made to the City to Palm Springs.

Analysis of Public Health Risks

- **Analysis of Public Health Risks Associated with Composting Operations (Napa County, CA)**

Estimate the types and amounts of toxic air contaminants (TAC) released from green waste and food waste composting. An air dispersion model was used with local wind data to determine the concentration of each TAC. The concentration estimates were supplemented with toxicity data to quantify public health risks from exposure to the various toxic pollutants.

- **Analysis of Public Health Risks from Proposed Asphalt Plant (Kern County, California)**

Analyze emissions of any toxic air pollutants from a proposed 250 tons per day asphalt plant. Emissions from aggregate drying, propane combustion and asphalt oil were quantified. Acute and chronic public health risks from exposure to various toxic pollutants were calculated and compared with regulatory thresholds of significance.