

(Revised 1/22/2019 in response to Cal OES RFI 2)

(Revised 6/25/2019 in response to FEMA RFI 1)

15D. Cost Estimate Narrative

The total project cost for San Francisco’s proposed Castro Mission Health Center Seismic Upgrade project is \$2,152,213.

Pre-Award Costs (Lines 1-4)

The Pre-Award Costs include the estimated pre-award expenditures provided by City and County of San Francisco (CCSF) staff and the Structural Engineering from Biggs Cardosa Associates (Consultant). The projected total Pre-Award Costs budgeted for these line items are \$78,192. The dollar amounts for the various contracted services reflect the costs incurred by those providers after October 10, 2017 and projected to the end of the calendar year, assuming award around that time.

- Line 1 cost (\$4,4437) is based on costs incurred by CCSF staff that have been responsible for developing the benefit-cost analysis (BCA) and the preparation and compilation of the HMGP subapplication. The unit cost at \$110.93/hr represents a blended rate of the two positions who contributed the most time to those efforts, a Project Manager III (hourly rate \$103.60) and a Project Manager II (hourly rate \$118.25).
- Line 3 (Plans and Specs) (\$70,192) is based on a fee proposal from Biggs Cardosa Associates for provide design services related to the development of the plans and specifications for the structural scope. Design services include the completion of the design plans and contract administration fees during construction.

Wall Foundation Costs (Lines 5-11)

The wall foundation direct costs amount to \$222,378 and include all construction activities that are related to the construction of the wall foundation. Specific wall foundation construction activities include the following: (1) excavation for the foundation pit and disposal of excess soil material; (2) installation of temporary shoring of the excavated foundation pit to allow for a safe work area for other trade workers to furnish and install the foundation reinforcement, formwork, and concrete; (3) installation of formwork to allow for concrete placement of the new wall foundations; (4) furnish and installation of the reinforcing steel and concrete for the new wall foundations; and (5) backfill with soil after the wall foundations are completed.

- Lines 5-11 costs are based on the quantity take-offs from the 65% construction document (CD) Plans (drawings) and unit pricing provided by AECOM (Consultant Cost Estimator). The detailed cost estimate is outlined in the AECOM Estimate titled “Castro Mission Health Center Renovation, 65% CD Estimate R2” dated July 31, 2018.

Exterior Wall Costs (Lines 12-16)

The exterior wall direct costs amount to \$331,774 and include all construction activities that are related to the construction of the new exterior shear walls as part of the seismic retrofit scope. Specific wall construction activities include the following: (1) drilling and doweling reinforcing steel to attach the new wall to the existing concrete/CMU walls; (2) furnish and install new reinforcing steel for the new walls; (3)

furnish and install new formwork to buildout the new wall dimensions and allow concrete to be placed; (4) furnish and place new concrete for the new walls; and (5) furnish and install new cement plaster finish over the new wall concrete to match the other exterior wall surfaces.

- Lines 12-16 costs are based on the quantity take-offs from the 65% construction document (CD) Plans (drawings) and unit pricing provided by AECOM (Consultant Cost Estimator). The detailed cost estimate is outlined in the AECOM Estimate titled “Castro Mission Health Center Renovation, 65% CD Estimate R2” dated July 31, 2018.

Floor Adjustment and Floor Slab Coring Cost (Line 17)

This cost line item amounts to \$10,000 and is an allowance that is allocated to address the direct costs associated with floor adjustments, patching, and other repairs/modifications to the existing floor slab as a result of the new structural scope and field concrete coring through the existing slabs to create openings for new pipe penetrations.

- Lines 17 cost is a \$10,000 allowance recommended by AECOM to capture the scopes of work that include floor adjustment and floor slab coring that are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. More details will be provided as the plans are refined in the next design phase.

Seismic Bracing Costs (Lines 18-22)

The seismic bracing direct costs amount to \$84,100 and include all construction activities that are related to the construction of new seismic bracing scopes related to new interior partition walls and new piping/conduits/ductwork. Specifically, new seismic bracing elements include the following: (1) furnish and install new diagonal bracing elements to brace interior non-full height interior partition walls; (2) furnish and install new diagonal bracing elements to brace acoustical ceiling systems and gypsum wallboard and metal stud ceilings systems; and (3) furnish and install new diagonal bracing elements for plumbing, mechanical (HVAC), and electrical systems.

- Line 18 (Interior wall partitions) is a \$50,000 allowance recommended by AECOM to capture the wall seismic bracing scopes of work on the 2nd Floor of the clinic that are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. More details will be provided as the plans are refined in the next design phase.
- Line 19 (ceiling) is a \$10,000 allowance recommended by AECOM to capture the ceiling seismic bracing scopes of work on the 2nd Floor of the clinic that are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. More details will be provided as the plans are refined in the next design phase.
- Line 20 (plumbing systems) is a \$10,000 allowance recommended by AECOM to capture the plumbing system seismic bracing scopes of work on the 2nd Floor of the clinic that are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. More details will be provided as the plans are refined in the next design phase.

- Line 21 (mechanical systems) is a cost that is calculated based on renovation building square footage (portions of the 1st floor and the entire 2nd floor) and a unit price of \$1.00/square foot (SF) as the seismic bracing scopes of work are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. This is a general cost estimating approach used by many cost estimators to capture scopes of work that are not clearly defined on the plans but required.
- Line 22 (electrical systems) is a cost that is calculated based on renovation building square footage (portions of the 1st floor and the entire 2nd floor) and a unit price of \$0.50/square foot (SF) as the seismic bracing scopes of work are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. This is a general cost estimating approach used by many cost estimators to capture scopes of work that are not clearly defined on the plans but required.

Fire Suppression System Costs (Lines 23-25)

The fire suppression system direct costs amount to \$57,296 and include all construction activities that are related to the construction of a new fire suppression scope as part of the fire life safety upgrade project. Specific fire suppression system construction activities for the 2nd floor include the following: (1) demolition of the existing fire sprinkler piping and associated valves and (2) furnish and install automatic wet fire sprinkler system and tie into existing fire sprinkler system (sprinkler heads and testing/programming/commissioning of new system).

- Lines 23-24 (fire suppression) is a cost that is calculated based on renovation building square footage (entire 2nd floor is 6,243 square feet) and a unit price recommended by AECOM for the demolition of the existing fire suppression system and the installation of a code-compliant new fire suppression system. The fire suppression scope is generally design-built by the Contractor and the new scope will be not be clearly detailed in the plans. This is a general cost estimating approach used by many cost estimators to capture scopes of work that are design-built by the Contractor.
- Line 25 (extinguisher cabinet) is a cost that is calculated based on the quantity take-offs from the 65% construction document (CD) Plans (drawings) and unit pricing provided by AECOM (Consultant Cost Estimator). The detailed cost estimate is outlined in the AECOM Estimate titled "Castro Mission Health Center Renovation, 65% CD Estimate R2" dated July 31, 2018.

Fire Alarm System Costs (Lines 26-28)

The fire alarm system direct costs amount to \$56,786 and include all construction activities that are related to the construction of a new fire alarm system scope as part of the fire life safety upgrade project. Specific fire alarm system construction activities for the 2nd floor include the following: (1) furnish and install new fire alarm control panel, annunciator panel, terminal cabinets and power supply, and testing/programming/commissioning and (2) furnish and install new fire alarm initiating devices (pull stations, strobe/horns, strobes, smoke detectors, and fire smoke damper connections) and associated conduits and cables.

- Lines 26-27 (fire alarm panels) are lump sum costs recommended by AECOM to capture the new fire alarm panels that will be installed as part of the clinic renovation scopes. The location of the fire alarm panels are not clearly detailed in the 65% construction document (CD) Plans (drawings) but are expected to be required as part of the renovation project. This is a general cost estimating approach used by many cost estimators to capture scopes of work that are not clearly defined on the plans but required.
- Line 28 (fire alarm devices) is a cost that is calculated based on the quantity take-offs from the 65% construction document (CD) Plans (drawings) and unit pricing provided by AECOM (Consultant Cost Estimator). The detailed cost estimate is outlined in the AECOM Estimate titled "Castro Mission Health Center Renovation, 65% CD Estimate R2" dated July 31, 2018.

Contractor's Costs to Deliver Project (Line 29)

The costs outlined above (Lines 5-28) capture only the Contractor's materials, labor, and equipment costs and does not include the other typical costs incurred by the Contractor that must be paid for by the Owner as part of the overall project delivery costs. The Contractor costs amount to \$339,031 and are estimated based on a percentage of construction costs. These costs include, but not limited to: (1) general condition and general requirements (Contractor's project management and staffing costs assigned to project to directly manage project, contract administration, trailers for construction field staff, site housekeeping, mobilization, demobilization, etc.); (2) overhead and profit for performing the contract work (home office and home office staffing costs and profit); and (3) project specific insurance and performance and payment bonds cost that are required prior to award of contract.

- Line 29 represents AECOM's reasonable estimate of the costs of the specific items outlined above and has been extracted from the AECOM Estimate titled "Castro Mission Health Center Renovation, 65% CD Estimate R2" dated July 31, 2018 as they relate to the seismic scopes only. The percentage that was used to arrive at the amount is based on AECOM's professional judgement and experience on similar type of projects and scopes they have worked on recently. This cost estimating methodology to develop cost based on percentage of construction costs is a common approach used by many different cost estimating consultants.

Contractor's Phasing Costs (Line 30)

The Contractor's phasing costs amount to \$483,960 capture the Contractor's additional labor costs and labor inefficiencies due to Castro Mission Health Center's operational constraints where the Contractor will be required to phase and to schedule many of the loud noise/vibration generating construction activities to be performed after clinic hours and on the weekends. This phasing and multiple logistics

challenges are necessitated because of the inherent and anticipated loud noise and vibration as a result of the seismic retrofit work activities that include drilling and doweling of dowels into the existing concrete wall and the close proximity of the foundation and wall formwork and concrete placement activities to the patient care exam rooms. This additional labor costs reflects the labor premium and overtime costs for performing work outside of the typical work week (Monday through Friday, 7 – 3 PM).

- Line 30 represents AECOM’s reasonable estimate of the costs of the specific items outlined above and has been extracted from the AECOM Estimate titled “Castro Mission Health Center Renovation, 65% CD Estimate R2” dated July 31, 2018 as they relate to the seismic scopes only. The percentage that was used to arrive at the amount is based on AECOM’s professional judgement and experience on similar type of projects and scopes they have worked on recently. This cost estimating methodology to develop cost based on percentage of construction costs is a common approach used by many different cost estimating consultants.

Material and Labor Escalation/Premium Costs (Line 31)

The material and labor escalation costs amount to \$181,197 and capture the increased costs of material and labor as a result of the timing between the current estimate and the actual start of construction and premium costs associated with general labor force retention because of the current booming construction industry that is creating an overall labor shortage. The cost estimate is based on current material and labor pricing and the escalation costs will bridge the time gap between when the estimate was prepared and the actual anticipated construction start date. Escalation cost is generally estimated based on a percentage of construction costs using the City’s Annual Infrastructure Construction Cost Inflation Estimate, which was 5.75% for Calendar Year 2018.

- The \$184,197 represents AECOM’s reasonable estimate of the costs of the specific items outlined above and has been extracted from the AECOM Estimate titled “Castro Mission Health Center Renovation, 65% CD Estimate R2” dated July 31, 2018 as they relate to the seismic scopes only. The percentage that was used to arrive at the amount is based on AECOM’s professional judgement and experience on similar type of projects and scopes they have worked on recently. This cost estimating methodology to develop cost based on percentage of construction costs is a common approach used by many different cost estimating consultants.

Construction and Project Management Costs (Lines 32 and 33)

This line captures the cost of construction and project management directly related to the delivery of the seismic upgrade scope at Castro Mission. The hourly rate for construction management is that of the San Francisco Public Works day-to-day resident engineer (\$118.25), totaling \$106,189. The hourly rate for the Project Management is that of Project Manager (\$160.16), totaling \$32,032.

- Line 32 (construction management costs). The methodology used to calculate the construction management fees is based on a construction duration of 17 months at 35 hours per month (seismic scope only) with 1.5 full-time engineers/inspectors (FTEs) at a blended rate of \$118.25/hr.
- Line 33 (project management costs). The methodology used to calculate the project management fees is based on a construction duration of 17 months at 16 hours per month (seismic scope only) at a blended rate of \$118.25/hr.

Inspection Costs (Lines 34 and 35)

The seismic upgrade project will require environmental inspection oversight during foundation excavation and materials testing and special inspection during all seismic retrofit construction activities, both of which will be performed by a consultant team with an hourly rate of \$161.25, total of \$113,520 for both required project components.

- Line 34 (environmental inspection oversight). The methodology used to calculate the fees is based on two month duration for monitoring the excavation activities during construction at 88 hours per month (seismic scope only) at a blended rate of \$161.25/hr.
- Line 35 (materials testing and inspection). The methodology used to calculate the fees is based on six month duration for all seismic related activities during construction at 88 hours per month (seismic scope only) at a blended rate of \$161.25/hr.