DRAFT ENVIRONMENTAL IMPACT REPORT

3700 California Street

PLANNING DEPARTMENT
CASE NO. 2017-003559ENV

STATE CLEARINGHOUSE NO. 2018092043

Draft EIR Publication Date:	**JUNE 13, 2019**
Draft EIR Public Hearing Date:	**JULY 11, 2019**
Draft EIR Public Comment Period:	**JUNE 13, 2019 – JULY 29, 2019**

SAN FRANCISCO
PLANNING
DEPARTMENT

Written comments should be sent to:
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TO: Distribution List for the 3700 California Street Draft EIR

FROM: Lisa Gibson, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for the 3700 California Street Project (Planning Department File No. [2017-003559ENV])

This is the Draft of the Environmental Impact Report (EIR) for the 3700 California Street Project. A public hearing will be held on the adequacy and accuracy of this document. After the public hearing, our office will prepare and publish a document titled "Responses to Comments," which will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the Draft EIR will automatically receive a copy of the Responses to Comments document, along with notice of the date reserved for certification; others may receive a copy of the Responses to Comments and notice by request or by visiting our office. This Draft EIR together with the Responses to Comments document will be considered by the Planning Commission in an advertised public meeting and will be certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Responses to Comments document and print both documents in a single publication called the Final EIR. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one document, rather than two. Therefore, if you receive a copy of the Responses to Comments document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Responses to Comments have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR [in Adobe Acrobat format on a CD] to private individuals only if they request them. Therefore, if you would like a copy of the Final EIR, please fill out and mail the postcard provided inside the back cover to the Environmental Planning division of the Planning Department within two weeks after certification of the EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR.

Thank you for your interest in this project.

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
Air District or BAAQMD	Bay Area Air Quality Management District
Air Resources Board or CARB	California Air Resources Board
AQI	Air Quality Index
BART	Bay Area Rapid Transit
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
City	City and County of San Francisco
City	San Francisco Planning Department of the City and County of San Francisco
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CPMC	California Pacific Medical Center
dB	Decibel
dBA	A-Weighted Decibel
dBA	Decibels
DPM	diesel particulate matter
EIR	environmental impact report
FTA	Federal Transit Administration
GGT	Golden Gate Transit
GHG	greenhouse gas
Hz	hertz
Ldn	Day-Night Level
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Levels
LRDP	Long-Range Development Plan
MERV-13	Minimum Efficiency Reporting Value 13

MLP	maximum load point
MMRP	mitigation monitoring and reporting program
Muni	San Francisco Municipal Railway
NAHC	Native American Heritage Commission
NO_2	nitrogen dioxide
NOA	notice of availability
NOP	notice of preparation
NO_X	oxides of nitrogen
OPR	Office of Planning and Research
OPR	State Office of Planning and Research
PDAs	priority development areas
PG&E	Pacific Gas & Electric
planning department	San Francisco Planning Department
PM_{10}	particulate matter of 10 microns in diameter or less
$PM_{2.5}$	particulate matter of 2.5 microns in diameter or less
ppm	part per million
PPV	Peak Particle Velocity
SF Guidelines	2002 Transportation Impact Analysis Guidelines for Environmental Review
SFMTA	San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SO_2	sulfur dioxide
State Water Board	State Water resources Control Board
STC	sound transmission class
TAZs	transportation analysis zones
TDM	Transportation Demand Management
Transportation Authority	San Francisco County Transportation Authority
U.S.C.	United States Code
VMT	vehicle-miles-traveled
VOC	volatile organic compounds
WETA	Water Emergency Transportation Authority

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SUMMARY

S.1 INTRODUCTION

This document is a Draft Environmental Impact Report (EIR) for the proposed 3700 California Street Project (proposed project). Following the synopsis of the proposed project, a summary table presents the environmental impacts of the proposed project identified in the EIR by topic and the mitigation measures identified to reduce or lessen significant impacts. Improvement measures, which are not required to mitigate significant impacts but would further reduce the magnitude of less-than-significant impacts, are also identified. Significant impacts identified in the initial study prepared for the proposed project are listed in a separate summary table, along with the mitigation measures that would reduce them to less-than-significant levels. Following these summary tables is a description of the alternatives to the proposed project that are addressed in this EIR and tables that compare the characteristics and environmental impacts of those alternatives with those of the proposed project as well as other project alternatives. The chapter concludes with a summary of environmental issues to be resolved and areas of known controversy.

S.2 PROJECT SYNOPSIS

The 3700 California Street project proposes redevelopment on a portion of the current site of the California Pacific Medical Center (CPMC) campus at 3700 California Street in the Presidio Heights neighborhood of San Francisco. The approximately 214,000-square-foot, 4.9-acre irregularly shaped project site encompasses 14 parcels on one full city block (Block 1016, Lots 001–009) and portions of two other blocks (Block 1015, Lots 001, 052, and 053, and Block 1017, Lots 027 and 028). The project site is bounded by Sacramento Street to the north, residential uses to the east, California Street to the south, and medical office and residential uses to the west. The project site is located primarily within an RM-2 (Residential, Mixed – Moderate Density) zoning district, with portions also in an RH-2 (Residential, House – Two Family) zoning district. In addition, the majority of the project site is located in an 80-E height and bulk district, with the exception of two lots that cover approximately 8 percent of the project site and are in a 40-X height and bulk district.

The project proposes demolition of five of the six existing hospital buildings on the project site, including a five-story accessory parking garage; demolition of a two-level, below-grade parking structure; renovation and adaptive re-use of a portion of the Marshal Hale hospital building at 3698 California Street to residential use; retention and renovation of the existing nine-unit residential building at 401 Cherry Street; and construction of 31 new residential buildings, including some accessory amenity spaces comprised of landscaped common areas and a resident fitness facility. With project development, the residential buildings on the project site would contain 273 dwelling units, including 14 single-family homes and 19 multi-family residential buildings with studios and one-, two-, three-, and four-bedroom units. The proposed project would be constructed on three blocks, with residential buildings ranging from three to seven stories (36 to 80 feet). With the exception of 12 of the 14 proposed single-family homes that would be on separate lots, all residential buildings would be situated above below-grade parking podiums on each block. A total of 416 parking spaces would be provided, consisting of 392 subterranean spaces in podiums and 24 private spaces located within the 12 single family residences on separate lots. The proposed project would include shared onsite amenity space, comprised of a resident fitness facility, and approximately 86,200 square feet of private and common open space areas for residents, which may include common roof deck areas for some of the buildings.

S.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The Planning Department published a Notice of Preparation (NOP) on September 19, 2018, announcing its intent to prepare and distribute an EIR. The NOP is available for review as part of Case No. 2017-003559ENV and found in Appendix A. An initial study was prepared and is available in Appendix B. The initial study found that the proposed project would have potentially significant impacts in the areas of transportation and circulation, noise, and air quality. It also found that the proposed project's impacts on other environmental topics (land use and planning, population and housing, cultural resources [historic architectural resources, archaeological resources, human remains], tribal cultural resources, transportation and circulation [aviation-related topics], noise [aviation-related topics], air quality [odors], greenhouse gas emissions, wind, shadow, recreation, utilities and services systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, mineral resources, energy, agriculture and forestry resources, and wildfire) would either be less than significant or less than significant with mitigation or that the proposed project would have no impact. Thus, the topics analyzed in this EIR are transportation and circulation, noise, and air quality.

All impacts of the proposed project and associated mitigation measures and improvement measures identified in this EIR are summarized in Table S-1. These impacts are listed in the same order as they appear in the text of Chapter 4, *Environmental Setting and Impacts*, of this EIR. For the topics evaluated in the EIR, the levels of significance of impacts before and after implementation of applicable mitigation measures are identified as:

- **No Impact**. No adverse changes (or impacts) to the environment are expected.
- **Less than Significant**. An impact that would not involve an adverse physical change to the environment, would not exceed the defined significance criteria, or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations.

- **Less than Significant with Mitigation**. An impact that would be reduced to a less-than-significant level though implementation of the identified mitigation measure.
- **Significant and Unavoidable with Mitigation**. An adverse physical environmental impact that would exceed the defined significance criteria but could be reduced through compliance with existing local, state, and federal laws and regulations and/or implementation of feasible mitigation measures. The impact cannot be reduced to a less-than-significant level.
- **Significant and Unavoidable**. An adverse physical environmental impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations. There are no feasible mitigation measures.

S.3.1 SUMMARY TABLES

Table S-1 summarizes all environmental impacts and mitigation measures identified in the EIR for the proposed project. For a complete description of potential impacts and recommended mitigation measures, please refer to the topical sections in Chapter 4 of the EIR. Table S-2, p. S-10, summarizes only the significant environmental impacts of the proposed project and mitigation measures for the topics evaluated in the initial study. Both tables are arranged in four columns: 1) impacts, 2) level of significance before mitigation (if applicable), 3) mitigation and improvement measures (if applicable), and 4) level of significance after mitigation (if applicable).

TABLE S-1. SUMMARY OF IMPACTS OF PROPOSED PROJECT IDENTIFIED IN EIR

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Transportation and Circulation			
Impact TR-1: Construction of the proposed project would not result in substantial interference with people walking, biking, riding transit, or driving, nor would it result in potentially hazardous conditions.	LTS	**Improvement Measure I-TR-A: Project Construction Updates** To minimize construction impacts on access for nearby residences, institutions, and businesses, the project sponsor should provide nearby residences and adjacent businesses with regularly updated information regarding construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel or parking lane closures, and sidewalk closures through a newsletter and/or website.	NA
Impact TR-2: The proposed project would not cause substantial additional VMT or substantially induce automobile travel.	LTS	None required.	NA
Impact TR-3: The proposed project would not cause any major traffic hazards.	LTS	**Improvement Measure I-TR-B: Monitoring and Abatement of Queues** A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks or travel lanes for a consecutive period of 3 minutes or longer on a daily basis. It will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to the project site. If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods would vary, depending on the characteristics and causes of the recurring queue as well as the characteristics of the parking and loading facility, the street(s) to which the facility connects, and the associated land uses (if applicable). Suggested abatement methods include, but are not limited to, the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; ingress/egress restrictions, such right in/right out access limitations; employment of parking attendants to facilitate parking garage ingress and egress; and additional TDM transportation demand management strategies. If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than 7 days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.	NA

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Impact TR-4: The proposed project would not cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity or cause a substantial increase in delays or operating costs such that significant adverse impacts on transit could result.	LTS	None required.	NA
Impact TR-5: The proposed project would not result in potentially hazardous conditions or interfere with accessibility to the project vicinity.	LTS	See Improvement Measure I-TR-B: Monitoring and Abatement of Queues, above.	NA
Impact TR-6: The proposed project would not result in potentially hazardous conditions for people bicycling and would not interfere with bicycle accessibility to the project site or adjoining areas.	LTS	See Improvement Measure I-TR-B: Monitoring and Abatement of Queues, above.	NA
Impact TR-7: The proposed project would accommodate its commercial vehicle and passenger loading demand, and proposed project loading operations would not create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking.	LTS	None required.	NA
Impact TR-8: The proposed project would not result in significant impacts on emergency access to the project site or adjacent locations.	LTS	None required.	NA
Impact TR-9: The proposed project would not result in a substantial parking deficit, and thus, the project's parking supply would not create potentially hazardous conditions or significant delays that would affect transit, bicyclists, or people walking.	NI	None required.	NA
Impact C-TR-1: The proposed project, in combination with reasonably foreseeable future projects, would not result in cumulative construction-related transportation impacts.	LTS	See Improvement Measure I-TR-A: Project Construction Updates, above.	NA
Impact C-TR-2: The proposed project, in combination with reasonably foreseeable future projects, would not cause any major traffic hazards.	LTS	None required.	NA
Impact C-TR-3: The proposed project, in combination with reasonably foreseeable future projects, would not result in significant transit impacts.	LTS	None required.	NA

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Noise			
Impact NO-1: Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity.	S	**Mitigation Measure M-NO-1: Construction Noise Control** The project sponsor shall develop a set of site-specific noise attenuation measures under the supervision of a qualified acoustical consultant to ensure that maximum feasible noise attenuation will be achieved for the duration of construction activities. Prior to commencement of demolition and construction activities, the project sponsor shall submit the construction noise control plan to the San Francisco Planning Department for review and approval. Noise attenuation measures shall be implemented to meet a goal of not increasing noise levels from construction activities by more than 10 dBA above the ambient noise level at sensitive receptor locations. Noise measures may include, but are not limited to, those listed below. ● Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation. ● Prohibit gasoline or diesel engines from having unmuffled exhaust systems. ● Ensure that equipment and trucks for project construction use the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds) wherever feasible. According to the Federal Highway Administration, the use of shields or barriers around noise sources can reduce noise by 5 to 10 dBA, depending on the type of barrier used. ● Use "quiet" gasoline-powered or electrically powered compressors as well as electric rather than gasoline- or diesel-powered forklifts for small lifting, where feasible. ● Locate stationary noise sources, such as temporary generators, concrete saws, and crushing/processing equipment, as far from nearby receptors as possible; muffle and enclose noise sources within temporary enclosures and shield with barriers, which could reduce construction noise by as much as 5 dB; or implement other measures, to the extent feasible. ● Undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, such as midday or early afternoon when residents are more likely to be at work and less likely to be sleeping, as feasible. ● In response to noise complaints received from people in the project area, monitor the effectiveness of noise attenuation measures by taking noise measurements. A plan for noise monitoring shall be provided to the City for review prior to the commencement of each construction phase.	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		The construction noise control plan must include the following measures for responding to and tracking complaints pertaining to construction noise: ● A procedure and phone numbers for notifying the Department of Building Inspection, health department, or the police department of complaints (during regular construction hours and off hours). ● A sign posted onsite describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction. ● Designation of an onsite construction complaint and enforcement manager for the project. ● A plan for notification of neighboring residents and nonresidential building managers within 300 feet of the project construction area at least 30 days in advance of activities that could increase daytime ambient noise levels at sensitive receptor locations by 10 dBA or more. The notification must include the associated control measures that will be implemented to reduce noise levels.	
Impact NO-2: Construction of the project could generate excessive ground-borne vibration or ground-borne noise levels.	S	**Mitigation Measure M-NO-2: Vibration-Sensitive Equipment at 3838 California Street** If vibration-sensitive equipment at 3838 California Street is not present in the building prior to the start of project construction, the sponsor shall submit documentation to the San Francisco Planning Department, verifying that this equipment is not present, and the remainder of this mitigation measure shall not be required. A community liaison shall be designated and made available to respond to vibration complaints from building occupants at 3838 California Street. Contact information for the community liaison shall be posted in a conspicuous location so that it is clearly visible to building occupants most likely to be disturbed. Through the community liaison, the project sponsor shall provide notification to property owners and occupants of 3838 California Street of construction activities involving equipment that can generate vibration capable of interfering with vibration-sensitive equipment 10 days prior to the start of project construction, informing them of the estimated start date and duration of vibration-generating construction activities. These equipment types include a large bulldozer, or similar equipment, operating within 135 feet of the building; a jackhammer operating within 75 feet of the building; or a loaded truck operating within 125 feet of the building. The community liaison shall manage concerns and complaints resulting from construction vibration. Reoccurring disturbances shall be evaluated by a qualified noise and vibration consultant to ensure that there are no exceedances of the 65 VdB vibration level threshold for vibration-sensitive equipment. If concerns prior to construction or complaints during construction related to equipment interference are identified, the community liaison shall work with the project sponsor and the affected building occupants to resolve the concerns. To resolve concerns raised by building	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		occupants, the community liaison shall convey the details of the complaint(s) to the project sponsor so that specific measures can be implemented, such as scheduling certain construction activities outside the hours of operation of specific vibration-sensitive equipment and/or conducting ground-borne vibration monitoring to document that no exceedances of the 65 VdB impact level occur at specific distances and/or locations. Ground-borne vibration monitoring, if appropriate to resolve concerns, shall be conducted by a qualified noise and vibration consultant.	
Impact NO-3: Operation of the proposed project would not result in a substantial periodic or permanent increase in ambient noise levels.	LTS	**Improvement Measure I-NO-A: Stationary Equipment Noise Controls** Prior to approval of each building permit, the project sponsor shall submit documentation to the San Francisco Planning Department, demonstrating that the building's stationary equipment (such as HVAC equipment) meets the noise limits specified in section 2909 of the San Francisco Police Code (i.e., a 5 dB increase at the property plane and interior limits of 55 dBA and 45 dBA for daytime and nighttime hours, respectively). Acoustical treatments may include, but are not limited to: ● Enclosing HVAC and other noise-generating mechanical equipment ● Installing relatively quiet models of air handlers, exhaust fans, and other mechanical equipment ● Using mufflers or silencers on equipment exhaust fans ● Orienting or shielding equipment to protect sensitive uses to the greatest extent feasible ● Increasing the distance between stationary equipment and noise-sensitive receptors (residences, schools, and childcare facilities) ● Placing barriers around the equipment to facilitate the attenuation of noise.	NA
Impact C-NO-1: Construction activities for the proposed project, in combination with reasonably foreseeable projects, could result in a substantial temporary increase in noise.	S	See Mitigation Measure M-NO-1: Construction Noise Control, above.	LTS
Impact C-NO-2: Construction activities from the proposed project, in combination with reasonably foreseeable projects, would not generate excessive ground-borne vibration.	LTS	None required.	NA
Impact C-NO-3: Operation of the proposed project, in combination with reasonably foreseeable projects, would not result in a substantial periodic or permanent increase in ambient noise levels in the project vicinity, above levels existing without the project.	LTS	None required.	NA

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Air Quality			
Impact AQ-1: During construction, the proposed project would generate fugitive dust and criteria air pollutants, but would not contribute substantially to an existing or projected air quality violation or result in a cumulatively considerable net increase in criteria air pollutants.	LTS	None required.	NA
Impact AQ-2: At project buildout, operation of the proposed project would not result in emissions of criteria air pollutants at levels that would violate an air quality standard or result in a cumulatively considerable net increase in criteria air pollutants.	NI	None required.	NA
Impact AQ-3: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations.	LTS	None required.	NA
Impact AQ-4: The proposed project would not conflict with implementation of the 2017 Bay Area Clean Air Plan.	LTS	None required.	NA
Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts to sensitive receptors.	LTS	None required.	NA

Legend: NI = No Impact; LTS = Less than significant or negligible impact, no mitigation required; S = Significant; SU = Significant and unavoidable adverse impact, no feasible mitigation; NA = Not Applicable

TABLE S-2. SUMMARY OF SIGNIFICANT IMPACTS OF PROPOSED PROJECT IDENTIFIED IN THE INITIAL STUDY (EIR APPENDIX B)

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Cultural Resources			
Impact CR-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code.	S	**Improvement Measure I-CR-A: Historic Resource Interpretation** The project sponsor should provide a permanent display of interpretive materials concerning the history and architectural features of the Marshal Hale hospital building as well as the history of the CPMC California Campus. The historic interpretation should be supervised by an architectural historian who meets the Secretary of the Interior's Professional Qualification Standards and conducted in coordination with an exhibit designer. The interpretative materials (which may include, but are not limited to, a display of current and historical photographs, news articles, artifacts associated with the hospital, and video recordings) should be placed in prominent public settings. A proposal describing the general parameters of the interpretive program should be approved by the planning department's preservation staff prior to issuance of a site permit. The substance, media, and other elements of such an interpretive display should be approved by the planning department's preservation staff prior to issuance of a temporary certificate of occupancy for Block 1017. **Mitigation Measure M-CR-1: Historic Preservation Plan and Protective Measures for 3698 California Street** A historic preservation plan and protective measures shall be prepared and implemented to aid in preserving and protecting those historical resources that would be retained and rehabilitated as part of the project. The historic preservation plan shall be prepared by a qualified historic preservation architect who meets the Secretary of Interior's Professional Qualification Standards (36 CFR, Part 61), and the project sponsor shall ensure that the contractor follows the plan. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets for Block 1017, and all documentation shall be reviewed and approved by the planning department's preservation staff. Implementation of the historic preservation plan shall ensure that the proposed rehabilitation and adaptive reuse meet all requirements by establishing measures to protect retained building façades and character defining features from construction equipment that could inadvertently damage historic resources. Specifically, the preservation plan shall incorporate construction specifications that require the construction contractor(s) to use all feasible means to avoid damage to the historic building, including, but not necessarily limited to, staging equipment and materials as far as possible from the historic building to avoid direct impact damage, maintaining a buffer zone when possible between heavy equipment and historical resources,	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		appropriately shoring excavation sidewalls to prevent the movement of adjacent structures, designing and installing new adjacent foundations so as to minimize any uplift of soils, ensuring adequate drainage from adjacent sites, covering the roofs of adjacent structures to avoid damage from falling objects, and ensuring appropriate security to minimize risks related to vandalism and fire. The consultant shall conduct regular periodic inspections of the historic building during ground disturbing activities on the project site. Should damage to the building occur, the building shall be remediated to its preconstruction condition at the conclusion of ground disturbing activity on the site and fixed during rehabilitation of the resource.	
Impact CR-2: Project-related activities could cause a substantial adverse change in the significance of an archaeological resource, pursuant to section 15064.5.	S	**Mitigation Measure M-CR-2: Archaeological Testing** Based on a reasonable presumption that archaeological 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 archaeological consultant from the rotational Qualified Archaeological Consultants List (QACL) maintained by the planning department archaeologist. After the first project approval action, or as directed by the Environmental Review Officer (ERO), the project sponsor shall contact the planning department archaeologist to obtain the names and contact information for the next three archaeological consultants on the QACL. The archaeological consultant shall undertake an archaeological testing program, as specified herein. In addition, the consultant shall be available to conduct an archaeological monitoring and/or data recovery program if required pursuant to this measure. The archaeological consultant's work shall be conducted in accordance with this measure at the direction of the ERO. All plans and reports prepared by the consultant, as specified herein, shall be submitted first and directly to the ERO for review and comment and considered draft reports and subject to revision until final approval by the ERO. Archaeological monitoring and/or data recovery programs required by this measure could suspend construction of the proposed project for up to a maximum of four weeks. At the direction of the ERO, 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 archaeological resource, as defined in CEQA Guidelines section 15064.5 (a) and (c), to a less-than-significant level. *Consultation with Descendant Communities*: On discovery of an archaeological site associated with descendant Native Americans, the overseas Chinese, or other potentially interested descendant group, an appropriate representative of the descendant group and the ERO shall be contacted. The term "archaeological site" is intended here to minimally include any archaeological deposit, feature, burial, or	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		evidence of burial. An "appropriate representative" of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission; in the case of the overseas Chinese, this applies to individuals listed by the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the planning department archaeologist. The representative of the descendant group shall be given an opportunity to monitor archaeological field investigations of the archaeological site and offer recommendations to the ERO regarding appropriate treatment of the archaeological site, recovered data from the archaeological site, and, if applicable, interpretative treatment of the associated archaeological site. A copy of the final archaeological resources report shall be provided to the representative of the descendant group. *Archaeological Testing Program*. The archaeological consultant shall prepare and submit to the ERO for review and approval an archaeological testing plan (ATP). The archaeological testing program shall be conducted in accordance with the approved ATP. The ATP shall identify the property type of the expected archaeological resource(s) that could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archaeological testing program will be to determine, to the extent possible, the presence or absence of archaeological resources and whether any archaeological resource encountered on the project site constitutes a historical resource under CEQA. At the completion of the archaeological testing program, the archaeological consultant shall submit a written report of the findings to the ERO. If, based on the archaeological testing program, the archaeological consultant finds that significant archaeological resources may be present, the ERO, in consultation with the archaeological consultant, shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archaeological testing, archaeological monitoring, and/or an archaeological data recovery program. No archaeological data recovery shall be undertaken without the prior approval of the ERO or the planning department archaeologist. If the ERO determines that a significant archaeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor, either: A) The proposed project shall be redesigned so as to avoid any adverse effect on the significant archaeological resource, or B) A data recovery program shall be implemented, unless the ERO determines that the archaeological resource is of greater interpretive rather than research significance and that interpretive use of the resource is feasible.	

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		Archaeological Monitoring Program. If the ERO, in consultation with the archaeological consultant, determines that an archaeological monitoring program shall be implemented, the archaeological monitoring program shall minimally include the following provisions: ▪ The archaeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soil-disturbing activities commencing. The ERO, in consultation with the archaeological consultant, shall determine what project activities shall be archaeologically monitored. In most cases, any soil-disturbing activities, such as demolition, excavation, grading, utility installation, foundation work, pile driving (foundation, shoring, etc.), and site remediation, shall require archaeological monitoring because of the risk these activities pose to potential archaeological resources and their depositional context; ▪ The archaeological consultant shall undertake a training program for workers who are involved in soil-disturbing activities; this will include an overview of the expected resource(s), how to identify evidence of the expected resource(s), and the appropriate protocol to be implemented in the event of apparent discovery of an archaeological resource; ▪ The archaeological monitor(s) shall be present on the project site, according to a schedule agreed upon by the archaeological consultant and the ERO, until the ERO has, in consultation with project archaeological consultant, determined that project construction activities could have no effects on significant archaeological deposits; ▪ The archaeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; ▪ If an intact archaeological deposit is encountered, all soil-disturbing activities in the vicinity of the deposit shall cease. The archaeological monitor shall be empowered to temporarily redirect demolition/excavation/pile installation/construction activities and equipment until the deposit is evaluated. If, in the case of pile installation or deep foundation activities (foundation, shoring, etc.), the archaeological monitor has cause to believe that the pile installation or deep foundation activities may affect an archaeological resource, the pile installation or deep foundation activities shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archaeological consultant shall immediately notify the ERO of the encountered archaeological deposit. The archaeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archaeological deposit and present the findings of this assessment to the ERO.	

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		Whether or not significant archaeological resources are encountered, the archaeological consultant shall submit a written report of the findings of the monitoring program to the ERO. *Archaeological Data Recovery Program*. The archaeological data recovery program shall be conducted in accord with an archaeological data recovery plan (ADRP). The archaeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archaeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archaeological resource is expected to contain. That is, the ADRP 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 archaeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: ▪ *Field Methods and Procedures*. Descriptions of proposed field strategies, procedures, and operations. ▪ *Cataloging and Laboratory Analysis*. Description of selected cataloging 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 onsite/offsite public interpretive program during the course of the archaeological data recovery program. ▪ *Security Measures*. Recommended security measures to protect the archaeological 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*. If human remains and associated or unassociated funerary objects are discovered during any soil-disturbing activity, all applicable state and federal laws shall be followed, including immediate notification of the coroner of the City and County of San Francisco; in the event that the coroner determines that the human remains are Native American remains, the Native American Heritage Commission (NAHC) shall be notified. The NAHC shall appoint a most	

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		likely descendant (MLD) (Public Resources Code section 5097.98). The ERO shall also be immediately notified upon discovery of human remains. The archaeological consultant, project sponsor, ERO, and MLD shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5(d)) within six days of the discovery of the human remains. This proposed timing shall not preclude the Public Resources Code section 5097.98 requirement that descendants make recommendations or preferences for treatment within 48 hours of being granted access to the project site. The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of an MLD. The archaeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects, as specified in the treatment agreement if such as agreement has been made or, otherwise, as determined by the archaeological consultant and the ERO. If no agreement is reached, state regulations shall be followed, including the reinternment of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (Public Resources Code section 5097.98). *Final Archaeological Resources Report*. The archaeological consultant shall submit a draft final archaeological resources report (FARR) to the ERO that evaluates the historical significance of any discovered archaeological resource and describes the archaeological and historical research methods employed in the archaeological testing/monitoring/data recovery program(s) undertaken. The draft FARR shall include a curation and deaccession plan for all recovered cultural materials. The draft FARR shall also include an interpretation plan for public interpretation of all significant archaeological features. Copies of the draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, the consultant shall also prepare a public distribution version of the FARR. Copies of the FARR shall be distributed as follows: California Archaeological Site Survey Northwest Information Center (NWIC) shall receive one copy, and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The environmental planning division of the planning department shall receive one bound and one unlocked, searchable PDF copy on CD of the FARR, 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 high public interest or high interpretive value, the ERO may require additional content for the final report or a different format or distribution plan.	

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Impact CR-3: Project-related activities could disturb human remains, including those interred outside of formal cemeteries.	S	See Mitigation Measure M-CR-2: Archaeological Testing, above.	LTS
Impact C-CR-1. The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative cultural resource impacts.	S	See Mitigation Measure M-CR-2: Archaeological Testing, above.	LTS
Tribal Cultural Resources			
Impact TCR-1: Project-related activities could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074.	S	See Mitigation Measure M-CR-2: Archaeological Testing, above. **Mitigation Measure M-CR-3: Tribal Cultural Resources Interpretive Program** If the Environmental Review Officer (ERO) determines that preservation in place of a tribal cultural resource (TCR), pursuant to Mitigation Measure M-CR-2, Archaeological Testing, is both feasible and effective, then the archaeological consultant shall prepare an archaeological resource preservation plan (ARPP). Implementation of the approved ARPP by the archaeological consultant shall be required when feasible. If the ERO determines that preservation in place of a TCR is not a sufficient or feasible option, then the project sponsor shall implement an interpretive program of the TCR in consultation with affiliated Native American tribal representatives. An interpretive plan produced in consultation with affiliated Native American tribal representatives, at a minimum, and approved by the ERO would be required to guide the interpretive program. The plan shall identify proposed locations for installations or displays, the proposed content and materials of those displays or installations, 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; artifact displays and interpretation; and educational panels or other informational displays.	LTS
Impact C-TCR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative tribal cultural resources impacts.	S	See Mitigation Measures M-CR-2: Archaeological Testing, and M-CR-3: Tribal Cultural Resources Interpretive Program, above.	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Biological Resources			
Impact BI-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on 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.	S	**Mitigation Measure M-BI-1: Preconstruction Nesting Bird Surveys and Buffer Areas** Nesting birds and their nests shall be protected during construction by implementation of the following measures for each construction phase: a. To the extent feasible, the project sponsor shall conduct initial activities including, but not limited to, vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may compromise breeding birds or the success of their nests outside of the nesting season (January 15 through August 15). b. If construction during the bird nesting season cannot be fully avoided, a qualified wildlife biologist shall conduct pre-construction nesting surveys within 14 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 14 days or more. Typical experience requirements for a "qualified biologist" include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities and a minimum of two years of experience in biological monitoring or surveying for nesting birds. Surveys of suitable habitat shall be performed in publicly accessible areas within 100 feet of the project site in order to locate any active nests of common bird species and within 250 feet of the project site to locate any active raptor (birds of prey) nests. c. If active nests are located during the preconstruction nesting bird surveys, a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests; if so, the following measures shall apply, as determined by the biologist: i. If construction is not likely to affect the active nest, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. Spot-check monitoring frequency would be determined on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise his/her determination at any time during the nesting season in coordination with the planning department. ii. If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. These buffer distances shall be equivalent to the survey	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
		distances (100 feet for passerines and 250 feet for raptors); however, the buffers may be adjusted if an obstruction, such as a building, is within line of sight between the nest and construction. iii. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the planning department, who would notify the California Department of Fish and Wildlife (CDFW). Necessary actions to remove or relocate an active nest(s) shall be coordinated with the planning department and approved by CDFW. iv. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If adverse effects in response to project work within the buffer are observed and could compromise the nest, work within the no-disturbance buffer(s) shall halt until the nest occupants have fledged. v. Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels, so exclusion zones around nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the planning department, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly affected. d. In the event inactive nests are observed within or adjacent to the project site at any time throughout the year, any removal or relocation of the inactive nests shall be at the discretion of the qualified biologist in coordination with the planning department, who would notify and seek approval from the CDFW, as appropriate. Work may proceed around these inactive nests.	
Impact BI-2: The proposed project could 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.	S	See Mitigation Measure M-BI-1: Preconstruction Nesting Bird Surveys and Buffer Areas, above.	LTS
Impact C-BI-1: The proposed project, in combination with reasonably foreseeable projects, could result in cumulative biological resources impacts.	S	See Mitigation Measure M-BI-1: Preconstruction Nesting Bird Surveys and Buffer Areas, above.	LTS

Environmental Impacts	Level of Significance before Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation
Paleontological Resources			
Impact GE-4: The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	S	**Mitigation Measure M-GE-4: Inadvertent Discovery of Paleontological Resources** Before the start of any excavation activities, the project applicant shall retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology, who is experienced in teaching non-specialists. The qualified paleontologist shall train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, the proper notification procedures should fossils be encountered, and the laws and regulations protecting paleontological resources. The qualified paleontologist shall also make periodic visits during earthmoving in high sensitivity sites to verify that workers are following the established procedures. If potential paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease all earthwork or other types of ground disturbance within 25 feet of the find and notify the project sponsor, the qualified paleontologist, and the planning department. The fossil should be protected by an "exclusion zone" (i.e., an area of approximately 5 feet around the discovery that is marked with caution tape to prevent damage to the fossil). Construction work in the affected areas shall remain stopped or be diverted to allow recovery of fossil remains in a timely manner. The qualified paleontologist shall evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines if the resource is deemed significant (see Society of Vertebrate Paleontology, *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources,* http://vertpaleo.org/Membership/MemberEthics/SVP_Impact_Mitigation_Guidelines.aspx). The recovery plan may include a field survey, construction monitoring, sampling and data recovery procedures, university or museum storage coordination for any specimen recovered, and a report of findings. If storage of a specimen is required, upon receipt of the fossil collection, a signed repository receipt form shall be obtained and provided to the planning department. Recommendations in the recovery plan that are determined by the planning department to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered. The project sponsor shall be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented, including the costs necessary to prepare and identify collected fossils and any curation fees charged for university or museum storage.	LTS

Legend: NI = No Impact; LTS = Less than significant or negligible impact, no mitigation required; S = Significant; SU = Significant and unavoidable adverse impact, no feasible mitigation; NA = Not Applicable

S.4 Summary of Alternatives

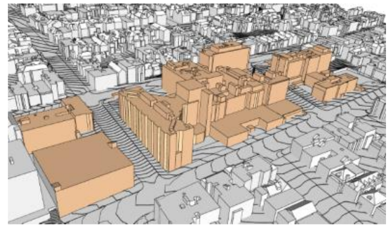
In addition to the proposed project, this Draft EIR analyzes the environmental impacts of three alternatives that were determined to represent a reasonable range of alternatives to the proposed project, as follows:

- **No Project Alternative (Alternative A)**: The No Project Alternative is based on what would reasonably be expected to occur on the project site if the proposed project is not approved, in accordance with CEQA Guidelines section 15126.6(e). The No Project Alternative assumes that physical conditions on the project site would remain the same. However, because CPMC moved to a new facility at Geary Street and Van Ness Avenue in the spring of 2019, the No Project Alternative does not assume continuation of existing operational conditions. Rather, it is assumed that the previous hospital facility would be occupied by non-acute medical care and medical office uses.
- **Reduced Construction Alternative (Alternative B)**: This alternative was selected based on its ability to reduce construction-related impacts associated with the mass grading and excavation necessary to create below grade parking, loading, and access for the proposed project. This alternative has been specifically included for analysis because of its potential to reduce impacts to cultural resources, tribal cultural resources, paleontological resources, and construction-related noise. Alternative B assumes that all existing uses on the project site would be demolished with the exception of 401 Cherry Street and the Marshal Hale hospital building, and that a new residential development would be constructed that would continue the neighborhood's residential land use pattern of homes with individual garages and driveways at grade level. Alternative B would allow for the construction of 141 new multi-family residential uses primarily in the form of duplex buildings (including the nine existing units at 401 Cherry Street).
- **Rehabilitation/Reuse Alternative (Alternative C)**: This alternative was selected based on its ability to reduce construction-related impacts including impacts to cultural resources, tribal cultural resources, biological resources (i.e., impacts on nesting birds resulting from tree removal), paleontological resources, and construction-related noise. Alternative C assumes retention of all existing hospital buildings and conversion of those buildings into residential uses, with minimal demolition, less excavation, and minimal construction activities during renovations. This alternative would result in 258 residential units.

Pursuant to CEQA Guidelines Section 15126.6(e)(2), if the no project alternative is the environmentally superior alternative, then an EIR is required to identify another environmentally superior alternative from among the alternatives evaluated. The proposed project would result in significant impacts in the areas of cultural resources, tribal cultural resources, biological resources, paleontological resources, and noise, which would be mitigated to a less-than-significant level with implementation of the proposed mitigation measures. Overall, the Rehabilitation/Reuse Alternative is identified as the environmentally superior alternative because it would reduce the severity of adverse environmental effects across a broad range of environmental resources, and not result in any new significant environmental impacts.

Table S-3 presents a comparison of the characteristics of the proposed project to the alternatives. Table S-4, p. S-24, presents a comparison of the potential significant environmental impacts of the proposed project, the No Project Alternative, the Reduced Construction Alternative, and the Rehabilitation/Reuse Alternative.

TABLE S-3. COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

	Proposed Project	No Project Alternative	Reduced Construction Alternative	Rehabilitation/Reuse Alternative
				
Building Heights	36′–80′	25′–112′	36′–40′[a]	25′–112′
No. of Stories	3–7	3–8	3	3–8
Total No. Units	273	9	141	258
Studio	13: 5%	0: 0%	0: 0%	8: 3%
1 Bedroom	56: 21%	9: 100%	13: 9%	65: 25%
2 Bedroom	88: 32%	0: 0%	42: 30%	84: 33%
3 Bedroom	96: 35%	0: 0%	86: 61%	91: 35%
4 Bedroom	20: 7%[b]	0: 0%	0: 0%	10: 4%
Square Footage (sf) by Use	603,200 sf residential; 15,000 sf amenity	7,000 sf residential (401 Cherry); 622,000 sf medical office	235,000 sf residential	462,000 sf residential; 25,000 sf amenity; 142,000 sf storage/unusable (subgrade)
Open Space	86,200 sf (common and private)	25,000 sf (common)	82,600 sf (common)[d]	88,200 sf (common)[d]
Parking	416 spaces; 221,000 sf	439 spaces; 105,000 sf	132 spaces; 52,000 sf[e]	354 spaces; 105,000 sf
Bike Stalls	411 class 1 22 class 2	16	212 class 1 21 class 2	387 class 1 39 class 2
No. of Lots (lot size)	16 (2,500–99,400 sf)	14 (approx. 2,000–59,000 sf)	+/- 60 (+/- 3,000 sf)	Not determined – potentially same/less than existing
Entitlements	CU/PUD	None	Potential PUD	CU/PUD
Excavation Depth	13′–75′ below grade;[c] 61,800 cubic yards (cy)	None	Up to 10′ below grade; approx. 6,600 cy	Approx. 8′ below grade; approx. 1,200 cy

Proposed Project	No Project Alternative	Reduced Construction Alternative	Rehabilitation/Reuse Alternative

Source: TMG Partners 2018.

[a.] Forty feet for all new buildings, 40 feet for existing 401 Cherry Street, and 36 feet for existing 3698 California Street (Marshal Hale hospital building).

[b.] 12 single-family residential (SFR) units on separate lots and two SFR units on podium lots are included in four-bedroom count; exact bedroom count not yet determined.

[c.] Maximum depths of 13 feet on Block A, 75 feet on Block B, and 17 feet on Block C.

[d.] Some portion of open space could be made private.

[e.] Accounts for one space per unit, except 401 Cherry Street.

Notes: Amenity = common areas, fitness facility, recreation space; CU/PUD = conditional use/planned unit development.

TABLE S-4. COMPARISON OF SIGNIFICANT IMPACTS OF PROJECT TO IMPACTS OF ALTERNATIVES

	Proposed Project	**Alternative A: No Project Alternative**	**Alternative B: Reduced Construction Alternative**	**Alternative C: Rehabilitation/ Reuse Alternative**
Description	The project proposes demolition of five of the six existing hospital buildings on the project site, including a five-story accessory parking garage; demolition of a two-level, below-grade parking structure; renovation and adaptive re-use of a portion of the Marshal Hale hospital building at 3698 California Street to residential use; retention and renovation of the existing nine-unit residential building at 401 Cherry Street; and construction of 31 new residential buildings, including some accessory amenity spaces comprised of landscaped common areas and a resident fitness facility.	Existing buildings would be partially upgraded and occupied by similar non-acute care and/or medical office buildings.	Alternative B assumes that all existing buildings on the project site would be demolished with the exception of 401 Cherry Street and the Marshal Hale hospital building, and that a new residential development would be constructed that would continue the neighborhood's residential land use pattern of homes with individual garages and driveways at grade level. Alternative B would allow for the construction of 141 new multi-family residential uses (including the nine existing units at 401 Cherry Street).	Alternative C assumes retention of all existing hospital buildings and conversion of those buildings into residential uses, with minimal demolition, less excavation, and minimal construction activities during renovations. This alternative would result in 258 residential units.
Ability to Meet Project Objectives	Meets all of the project objectives.	Would not meet any of the project objectives.	Would meet some but not all of the basic project objectives.	Would meet some but not all of the basic project objectives.
Cultural Resources				
Impact CR-1: The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant tosection 15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code.	LSM	LSM <	LSM =	LSM =
Impact CR-2: Project-related activities could cause a substantial adverse change in the significance of an archaeological resource, pursuant to section 15064.5	LSM	NI <	LSM <	LSM <
Impact CR-3: Project-related activities could disturb human remains, including those interred outside of formal cemeteries.	LSM	NI <	LSM <	LSM <

	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Construction Alternative	Alternative C: Rehabilitation/ Reuse Alternative
Impact C-CR-1. The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative cultural resource impacts.	LSM	NI <	LSM <	LSM <
Tribal Cultural Resources				
Impact TCR-1: Project-related activities could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074.	LSM	NI <	LSM <	LSM <
Impact C-TCR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative tribal cultural resources impacts.	LSM	NI <	LSM <	LSM <
Biological Resources				
Impact BI-1: The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on 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.	LSM	NI <	LSM =	NI <
Impact BI-2: The proposed project could 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.	LSM	NI <	LSM =	NI <
Impact C-BI-1. The proposed project, in combination with reasonably foreseeable projects, could result in cumulative biological resources impacts.	LSM	NI <	LSM =	NI <

	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Construction Alternative	Alternative C: Rehabilitation/ Reuse Alternative
Paleontological Resources				
Impact GE-4. The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LSM	NI <	LSM <	LSM <
Noise				
Impact NO-1. Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity.	LSM	LS <	LSM =	LS <
Impact NO-2. Construction of the project could generate excessive ground-borne vibration or ground-borne noise levels.	LSM	NI <	LSM =	LS <
Impact C-NO-1. Construction activities for the proposed project, in combination with reasonably foreseeable projects, could result in a substantial temporary increase in noise.	LSM	LS <	LSM =	LS <

Legend: NI (no impact); LS (less than significant); LSM (less than significant with mitigation); = (equal to); < (less than); > (greater than)

S.5 Areas of Known Controversy and Issues to Be Resolved

The release of the NOP in September 2018 initiated the formal CEQA scoping process, the purpose of which is to allow the public and government agencies to comment on the issues and provide input on the scope of the EIR. Individuals and agencies that received these notices include local, regional, and state agencies; property owners and adjacent residents and tenants within 300 feet of the project site; and other potentially interested parties that have requested such notice. During the public comment period, nearly all comments received were administrative in nature (e.g., requests for document copies). A letter was also received from the Native American Heritage Commission (NAHC), summarizing general tribal outreach requirements. No environmental concerns specific to the proposed project or the scope and contents of the EIR were received.

As discussed in Section 2.4 in Chapter 2, *Project Description*, of this EIR, in August 2013, the City and Sutter West Bay Hospitals (doing business as CPMC), entered into a development agreement regarding redevelopment of some of CPMC's existing facilities, which were no longer needed by CPMC when its new hospital campus at Geary Street and Van Ness Avenue became operational in the spring of 2019. From 2015 through 2017, the project sponsor engaged in a community outreach process to solicit input regarding the neighborhood's vision for redevelopment of the project site, pursuant to the requirements set forth in the development agreement. The project sponsor worked with the Vision Advisory Committee, comprising leaders from several neighborhood associations (see p. 2-12 for more information), which included quarterly meetings starting in December 2014, with a total of eight official Vision Advisory Committee meetings and a wider community meeting. The project sponsor conducted a neighborhood survey, which received more than 300 responses, and held more than 35 additional neighbor and neighborhood meetings, including presentations and meetings with interested neighborhood associations as well as one-on-one in-home meetings with neighbors, particularly during the spring and summer of 2016. Environmental topics raised during this process included traffic, parking, noise, walkability, and consistency with the quality and character of existing neighborhood architecture. Although the community outreach process is separate from the NOP scoping effort and not part of the environmental review process required by CEQA, the planning department considered each of these topics in preparing the EIR for the proposed project. Refer to Sections 4.2, *Transportation and Circulation*; 4.3, *Noise*; and 4.4 *Air Quality*, for discussions of the proposed project's impacts related to traffic, noise, and air quality, respectively. As noted in Section 4.1, *Introduction*, the proposed project is subject to California Public Resources Code section 21099(d), which eliminates consideration of impacts related to aesthetics and parking in determining the significance of physical environmental impacts under CEQA for residential, mixed-use residential, or employment-center projects on infill sites within transit priority areas. Accordingly, this EIR does not contain a separate discussion of impacts related to aesthetics or parking. However, renderings of the project are included in Chapter 2, *Project Description*. In addition, Section 4.2, *Transportation and Circulation*, analyzes whether the amount of parking proposed would result in potentially hazardous conditions or significantly affect other transportation modes. Finally, although walkability is not an environmental impact in and of itself, the general concept of walkability is discussed throughout the EIR with respect to other environmental topics related to reducing the number of vehicle trips (e.g., Section 4.2, *Transportation and Circulation*, and Section 4.4, *Air Quality*).

1 INTRODUCTION

1.1 PROJECT SUMMARY

The project sponsor, TMG Partners, proposes redevelopment on a portion of the current site of the California Pacific Medical Center campus at 3700 California Street in the Presidio Heights neighborhood of San Francisco. The 4.9-acre project site encompasses 14 parcels on one full city block (Block 1016, Lots 001–009) and portions of two other blocks (Block 1015, Lots 001, 052, and 053, and Block 1017, Lots 027 and 028). The project site is bounded by Sacramento Street to the north, residential uses to the east, California Street to the south, and medical office and residential uses to the west. Cherry Street runs north–south through Blocks 1015 and 1016, while Maple Street runs north–south through Blocks 1016 and 1017.

The project proposes demolition of five of the six hospital buildings on the project site, including a five-story accessory parking garage; demolition of a two-level, below-grade parking structure; renovation and adaptive reuse of a portion of the Marshal Hale hospital building at 3698 California Street as a residential use; retention and renovation of the existing nine-unit residential building at 401 Cherry Street; and construction of 31 new residential buildings, including some accessory amenity spaces with landscaped common areas and a resident fitness facility. With project development, the residential buildings on the project site would contain 273 dwelling units, including 14 single-family homes and 19 multi-family residential buildings with studios and one-, two-, three-, and four-bedroom units. The proposed project would be constructed on three blocks, with residential buildings ranging from three to seven stories (36 to 80 feet). With the exception of 12 of the 14 proposed single-family homes, which would be on separate lots, all new residential buildings would be situated above below-grade parking podiums on each block. A total of 416 parking spaces would be provided, consisting of 392 subterranean spaces in podiums and 24 private spaces within the 12 single-family residences on separate lots. The proposed project would include shared onsite amenity space, comprising a resident fitness facility and approximately 86,200 square feet of private and common open space[1] areas for residents, which may include common roof deck areas for some of the buildings. The project sponsor is seeking conditional use authorization for review of the proposed buildings that exceed 50- or 40-foot height limits and planned unit development approval with certain planning code exceptions. The 14 existing parcels that make up the project site would be merged and subdivided into 16 parcels.

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1 "Common usable open space" is defined by Planning Code section 135(a) as "an area or areas designed for use jointly by two or more dwelling units (or bedrooms in group housing)."

1.2 PURPOSE OF THIS EIR

This environmental impact report (EIR) analyzes the physical environmental effects associated with implementation of the proposed project. It has been prepared by the San Francisco Planning Department of the City and County of San Francisco (City), the lead agency for the proposed project, in compliance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines (California Public Resources Code sections 21000 et seq. and California Code of Regulations Title 14, sections 15000 et seq.) as well as San Francisco Administrative Code chapter 31. The lead agency is the public agency that has principal responsibility for carrying out or approving a project.

As described by CEQA and the CEQA Guidelines, public agencies are charged with a duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

As defined in CEQA Guidelines section 15382, a "significant effect on the environment" is:

> a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

CEQA requires an EIR to be prepared before a discretionary decision is made to approve a project that may cause a significant effect on the environment that cannot be mitigated. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, identify mitigation measures to lessen or eliminate significant adverse impacts, and examine feasible alternatives to the project. The City must consider the information in this EIR and make certain findings with respect to each significant effect that is identified. The information contained in this EIR, along with other information available through the public review processes, will be reviewed and considered by the decision makers prior to a decision to approve, disapprove, or modify the proposed project or adopt an alternative to the proposed project.

1.3 TYPE OF EIR

This document is a project-level EIR, pursuant to CEQA Guidelines section 15161. A project-level EIR focuses on changes in the environment that would result from construction and operation of a specific development project. Furthermore, this EIR is also a focused EIR, pursuant to CEQA Guidelines section 15063(c). In accordance with section 15128, an initial study was prepared for the proposed project (refer to Appendix B of this EIR) to identify which effects of the project would result in less-than-significant impacts, and therefore require no further analysis, and which effects warrant more detailed environmental analysis in the EIR. The initial study has not gone through a separate public review process; however, comments on the initial study will be accepted during the public review period for the EIR. This EIR evaluates the whole of the proposed action, including project-level impacts (offsite, onsite, construction related, operational, direct, and indirect) and cumulative impacts. It is an informational document that does not determine whether the project will be approved but aids in the planning and decision-making process by disclosing the potential environmental impacts associated with construction and operation of the proposed project.

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with the information necessary to enable them to make a decision that takes account of environmental consequences. An evaluation of the environmental impacts of a proposed project need not be exhaustive; however, the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good-faith effort at full disclosure (CEQA Guidelines section 15151).

1.4 Environmental Review Process

1.4.1 Notice of Preparation of an EIR

TMG Partners filed an environmental evaluation application for the proposed project with the planning department on March 17, 2017. Filing of the environmental evaluation application initiated the environmental review process. A revised environmental evaluation application was filed on June 1, 2018.

On September 19, 2018, the planning department published a notice of preparation (NOP) of an EIR and a notice of availability (NOA) of the NOP. The NOP was distributed for a 30-day review period to responsible or trustee agencies, in accordance with CEQA Guidelines section 15082, as well as organizations, companies, neighborhood groups in the Presidio Heights neighborhood, and/or individuals that the City believed had an interest in the proposed project. The NOP requested agencies and interested parties to comment on the environmental issues that should be addressed in the EIR. The purpose of the public review period was to solicit comments on the scope and content of the environmental analysis contained in the EIR.

1.4.2 Areas of Known Controversy and Issues to Be Resolved

During the NOP review and comment period, a total of 14 comment letters and emails were submitted to the planning department. Nearly all comments received in response to the NOP were administrative in nature (e.g., requests for document copies). A letter was also received from the Native American Heritage Commission (NAHC), summarizing general tribal outreach requirements. No environmental concerns specific to the proposed project or the scope and contents of the EIR were received. The NOP is available for review as part of Case No. 2017-003559ENV and found in Appendix A.

As discussed in Chapter 2, *Project Description*, Section 2.4, of this EIR, in August 2013, the City and Sutter West Bay Hospitals (doing business as CPMC) entered into a development agreement regarding redevelopment of some of CPMC's existing facilities, which were no longer needed by CPMC when its new hospital campus at Geary Street and Van Ness Avenue became operational in the spring of 2019. From 2015 through 2017, the project sponsor engaged in a community outreach process to solicit input regarding the neighborhood's vision for redevelopment of the project site, pursuant to the requirements set forth in the development agreement. The project sponsor worked with the Vision Advisory Committee, comprising leaders from several neighborhood associations (see pp. 2-11 and 2-12 for more information), which included quarterly meetings starting in December 2014, with a total of eight official Vision Advisory Committee meetings and a wider community meeting. The project sponsor conducted a neighborhood survey, which received more than 300 responses, and held more than 35 additional neighbor and neighborhood meetings, including presentations and meetings with interested neighborhood associations as well as one-on-one in-home meetings with neighbors, particularly during the spring and summer of 2016. Environmental topics raised during this process included traffic, parking, noise, walkability, and consistency with the quality and character of existing neighborhood architecture.

Although the community outreach process is separate from the NOP scoping effort and not part of the environmental review process required by CEQA, the planning department considered each of these topics in preparing the EIR for the proposed project. Refer to Sections 4.2, *Transportation and Circulation*; 4.3, *Noise*; and 4.4, *Air Quality,* for discussions of the proposed project's impacts related to traffic, noise, and air quality, respectively. As noted in Section 4.1, *Introduction*, the proposed project is subject to California Public Resources Code section 21099(d), which eliminates consideration of impacts related to aesthetics and parking in determining the significance of physical environmental impacts under CEQA for residential, mixed-use residential, or employment-center projects on infill sites within transit priority areas. Accordingly, this EIR does not contain a separate discussion of impacts related to aesthetics or parking. However, renderings of the project are included in Chapter 2, *Project Description*. In addition, Section 4.2, *Transportation and Circulation*, analyzes whether the amount of parking proposed would result in potentially hazardous conditions or significantly affect other transportation modes. Finally, although walkability is not an environmental impact in and of itself, the general concept of walkability is discussed throughout the EIR with respect to other environmental topics related to reducing the number of vehicle trips (e.g., Section 4.2, *Transportation and Circulation*, and Section 4.4, *Air Quality*).

1.4.3 Draft EIR and Initial Study Public Review and Opportunities for Public Participation

An initial study has been prepared to determine whether any aspect of the proposed project, either individually or cumulatively, would cause a significant effect on the environment. The initial study identified impacts that would be less than significant with or without mitigation, and impacts that required further analysis in the EIR. The initial study found that the potential individual and cumulative environmental impacts of the proposed project on the following environmental topics would be less than significant, or less than significant with mitigation measures that have been identified, and therefore would not require further analysis in the EIR: land use and planning, population and housing, cultural resources (historic architectural resources, archaeological resources, human remains), tribal cultural resources, noise (aviation-related topics), air quality (odors), greenhouse gas 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, agriculture and forestry resources, and wildfire. As such, these topics are not addressed in this EIR. The initial study determined that the proposed project could result in potentially significant environmental impacts on the following environmental topics, which are analyzed in this EIR: transportation and circulation, noise (all topics, except aviation-related topics), and air quality (all topics, except odors). Comments on the initial study will be accepted during the public review period for the EIR, per CEQA Guidelines section 15128, as discussed below.

The CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The City will provide opportunities for the public to present comments and concerns regarding this EIR and initial study and its CEQA process. These opportunities will occur during the public review and comment period as well as at a public hearing before the San Francisco Planning Commission.

The draft EIR and initial study are available for public review and comment on the planning department's "Environmental Impact Reports & Negative Declarations" web page (http://tinyurl.com/sfceqadocs). CDs and paper copies are also available at the Planning Information Center counter on the first floor of 1660 Mission Street, San Francisco. Documents referenced in this EIR are available for review at the planning department, 1650 Mission Street, Suite 400, (telephone 415.575.9072) under Case No. 2017-003559ENV. The public comment period for this Draft EIR is from June 13, 2019, to July 29, 2019.

The Planning Commission will hold a public hearing on this draft EIR during the 45-day public review and comment period to solicit public comment on the information presented in this document. The public hearing will be held on July 11, 2019, at City Hall, Dr. Carlton B. Goodlett Place, Room 400, not before 10:00 a.m. and most likely later (call 415.558.6422 the week of the hearing for a recorded message with a more specific time). In addition, members of the public are invited to submit written comments on the draft EIR. Written public comments may be submitted to:

San Francisco Planning Department
Attention: Jeanie Poling, EIR Coordinator
1650 Mission Street, Suite 400 San Francisco, CA 94103
jeanie.poling@sfgov.org

Comments are most helpful when they address the environmental analysis itself or suggest specific alternatives and/or additional measures to mitigate the significant environmental impacts of the proposed project.

Members of the public are not required to provide personal identifying information when they communicate with the Planning Commission. 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 planning department's website or in other public documents.

1.4.4 FINAL EIR AND EIR CERTIFICATION

Following the close of the public review and comment period, the City will prepare and publish a document titled "Responses to Comments on the Draft EIR," which will contain all written and recorded oral comments on this draft EIR and written responses to those comments, along with copies of the letters or emails received, a transcript of the public hearing, and any necessary revisions to the draft EIR. The draft EIR and the responses to comment document will constitute the final EIR. Not less than 10 days prior to the Planning Commission hearing to consider certification of the final EIR, the final EIR will be made available to the public and any board(s), commission(s) or department(s) that will carry out or approve the proposed project. The Planning Commission, in an advertised public meeting, will consider the documents and, if found adequate, certify the final EIR, provided it (1) was completed in compliance with CEQA; (2) presented to the Planning Commission, which reviewed and considered the information contained in the final EIR prior to approving the proposed project; and (3) reflects the lead agency's independent judgment and analysis.

CEQA requires agencies to neither approve a project nor implement a project unless the project's significant environmental impacts have been reduced to a less-than-significant level, thereby essentially eliminating, avoiding, or substantially lessening the potentially significant impacts of the proposed project, except when certain findings are made. If an agency approves a project that would result in the occurrence of significant adverse impacts that cannot feasibly be mitigated to less-than-significant levels (that is, significant and unavoidable impacts), the agency must state the reasons for its action in writing; demonstrate that mitigation is infeasible, based on the EIR or other information in the record; and adopt a Statement of Overriding Considerations.

1.4.5 MITIGATION MONITORING AND REPORTING PROGRAM

At the time of project approval, CEQA and the CEQA Guidelines require lead agencies to adopt a mitigation monitoring and reporting program (MMRP), a condition of project approval, to mitigate or avoid significant impacts on the environment (CEQA Guidelines section 21081.6; CEQA Guidelines section 15097). This EIR identifies and presents the mitigation measures and improvement measures that would form the basis of such a monitoring and reporting program. Any mitigation and improvement measures adopted by the lead agency and the City as conditions for approval of the project would be included in the MMRP.

1.5 ORGANIZATION OF THE DRAFT EIR

The EIR has been organized as follows:

- **Summary.** This chapter summarizes the EIR by providing a concise overview of the proposed project, the environmental impacts that would result from the proposed project, mitigation and improvement measures identified to reduce or eliminate the impacts, project alternatives and their comparative environmental effects, and areas of controversy and issues to be resolved.
- **Chapter 1, Introduction.** This chapter includes a discussion of the purpose of the EIR, a discussion of the environmental review process, a summary of the comments received on the scope of the EIR, and a brief outline of the document's organization.
- **Chapter 2, Project Description.** This chapter provides a detailed description of the proposed project, including the project's background and objectives, the project location, the existing site's land use characteristics, project components and characteristics, the development schedule (including anticipated construction activities), and project approvals and the intended uses of the EIR.
- **Chapter 3, Plans and Policies.** This chapter provides a summary of the plans, policies, and regulations of the City as well as regional and state agencies that may be applicable to the proposed project and identifies any potential project conflicts with the policies.
- **Chapter 4, Environmental Setting and Impacts.** This chapter provides the analysis for the three resource topics that were identified in the initial study for further analysis. Each environmental topic contains a description of the environmental setting (or existing

conditions), regulatory framework, and project-level and cumulative impacts. Each impact discussion includes the significance criteria used to determine the nature or magnitude of environmental impacts, significance conclusions, and feasible mitigation to avoid, minimize, or mitigate significant or potentially significant environmental impacts. Improvement measures are also identified for impacts determined not to be significant but could be further reduced. The environmental topics included in this EIR are:

  - Transportation and circulation,
  - Noise, and
  - Air quality.

- **Chapter 5, Other CEQA Issues.** Pursuant to Section 15126.2 of the CEQA Guidelines, this chapter summarizes any growth-inducing impacts that could result from the proposed project, irreversible changes to the environment, and significant and unavoidable environmental impacts. This chapter also presents any areas of controversy left to be resolved.
- **Chapter 6, Alternatives.** This chapter analyzes alternatives to the proposed project, including the required No Project Alternative, and compares their environmental effects to those of the proposed project. It also identifies the environmentally superior alternative. Alternatives evaluated in this chapter include the following:
  - Alternative A: No Project Alternative,
  - Alternative B: Reduced Construction Alternative, and
  - Alternative C: Rehabilitation/Reuse Alternative.
- **Chapter 7, Report Preparers.** This chapter presents a list of persons involved in preparation of this EIR.
- **Appendices.** The following appendices are included in this EIR:
  - Appendix A, Notice of Preparation of an Environmental Impact Report for Case No. 2017-003559ENV;
  - Appendix B, Initial Study;
  - Appendix C, Historic Resource Evaluation Response;
  - Appendix D, Wind Study;
  - Appendix E, Energy Model Outputs;
  - Appendix F, Transportation Analysis;
  - Appendix G, Noise Model Outputs; and
  - Appendix H, Air Quality Model Outputs.

2 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The project sponsor, TMG Partners, proposes redevelopment on a portion of the current site of the California Pacific Medical Center (CPMC) campus at 3700 California Street in the Presidio Heights neighborhood of San Francisco. The project proposes demolition of five of the six existing hospital buildings on the 4.9-acre project site, including an accessory off-street parking garage; demolition of a two-story, below-grade parking structure; renovation and adaptive re-use of a portion of the Marshal Hale hospital building at 3698 California Street to residential use; retention and renovation of the existing nine-unit residential building at 401 Cherry Street; and construction of 31 new residential buildings, including some accessory amenity spaces comprised of landscaped common areas and a fitness facility. The residential buildings on the project site would contain a total of 273 dwelling units, reflecting the design and scale of the existing neighborhood, including 14 single-family homes and 19 multi-family residential buildings with studios and one-, two-, three-, and four-bedroom units. The proposed project would be constructed on three blocks, with residential buildings ranging from three to seven stories (36 to 80 feet). The new multi-family residential buildings would be situated above below-grade parking podiums on each block. The new single-family homes would be constructed on separate lots and would include private parking garages. A total of 416 parking spaces would be provided across the project site, consisting of 392 subterranean spaces in podiums and 24 private spaces located within the 12 single-family residences. The proposed project would include shared onsite amenity space and approximately 86,200 square feet of private and common open space[1] areas for residents, which may include common roof decks for some of the buildings. The project sponsor is seeking conditional use authorization for review of the proposed buildings that exceed 50- or 40-foot height limits and planned unit development approval with certain planning code exceptions. The 14 existing parcels on the project site would be merged and subdivided into 16 parcels.

2.2 PROJECT SPONSOR'S OBJECTIVES

The project sponsor has identified the following project objectives:

- Develop the project site in a manner that is consistent with existing residential neighborhood character and the Neighborhood Vision Plan with the Visioning Advisory Committee.

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1 "Common usable open space" is defined by Planning Code section 135(a) as "an area or areas designed for use jointly by two or more dwelling units (or bedrooms in group housing)."

- Create housing that is attractive to families by providing new adequately sized units with two or more bedrooms and family-friendly amenities, including onsite recreational facilities, private and shared gardens, and open space.
- Develop new residential uses that "knit together" the project site and existing neighborhood through architectural, site, landscape design, and overall development scale, thereby extending the existing neighborhood fabric through the site.
- Develop building and landscape designs that reflect the diversity of existing San Francisco neighborhoods.
- Under the Transportation Demand Management (TDM) Plan, encourage a reduction in the number of person trips by automobile through the following: enhanced sidewalks, shared cargo bikes, shared cars, utility carts, subsidized clipper cards, secure bike parking, onsite delivery services and storage facilities for delivered goods, and onsite family-friendly recreational amenities.
- Promote sustainability through environmentally sensitive design features including those required by the San Francisco Public Utilities Commission's (SFPUC's) Non-Potable Water Ordinance as well as the City and County of San Francisco's (City's) Stormwater Management Requirements, Green Building Ordinance, Better Roofs Ordinance, and Better Streets Design Guidelines.
- Retain the existing 401 Cherry Street apartment building on the corner of Cherry Street and Sacramento Street to avoid the loss of existing housing units.
- Preserve and incorporate the historic portion of the Marshal Hale building (fronting California Street) into the proposed design.
- Provide off-street parking that is adequate for the occupancy proposed.

2.3 PROJECT LOCATION

2.3.1 PROJECT SITE

The approximately 214,000-square-foot, 4.9-acre irregularly shaped project site is in the Presidio Heights neighborhood of San Francisco (see Figure 2-1). It encompasses 14 parcels on one full city block (Block 1016, Lots 001–009) and portions of two other blocks (Block 1015, Lots 001, 052, and 053, and Block 1017, Lots 027 and 028). The project site is bounded by Sacramento Street to the north, residential uses to the east, California Street to the south, and medical office and residential uses to the west (see Figure 2-2, p. 2-4). Cherry Street runs north/south through Blocks 1015 and 1016, while Maple Street runs north/south through Blocks 1016 and 1017. The project site is located on a south-facing hillside which has a ground surface that slopes relatively

3700 California Street
Case No. 2017-003559ENV

Figure 2-1
Project Site Location

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Figure 2-2
Existing Land Uses

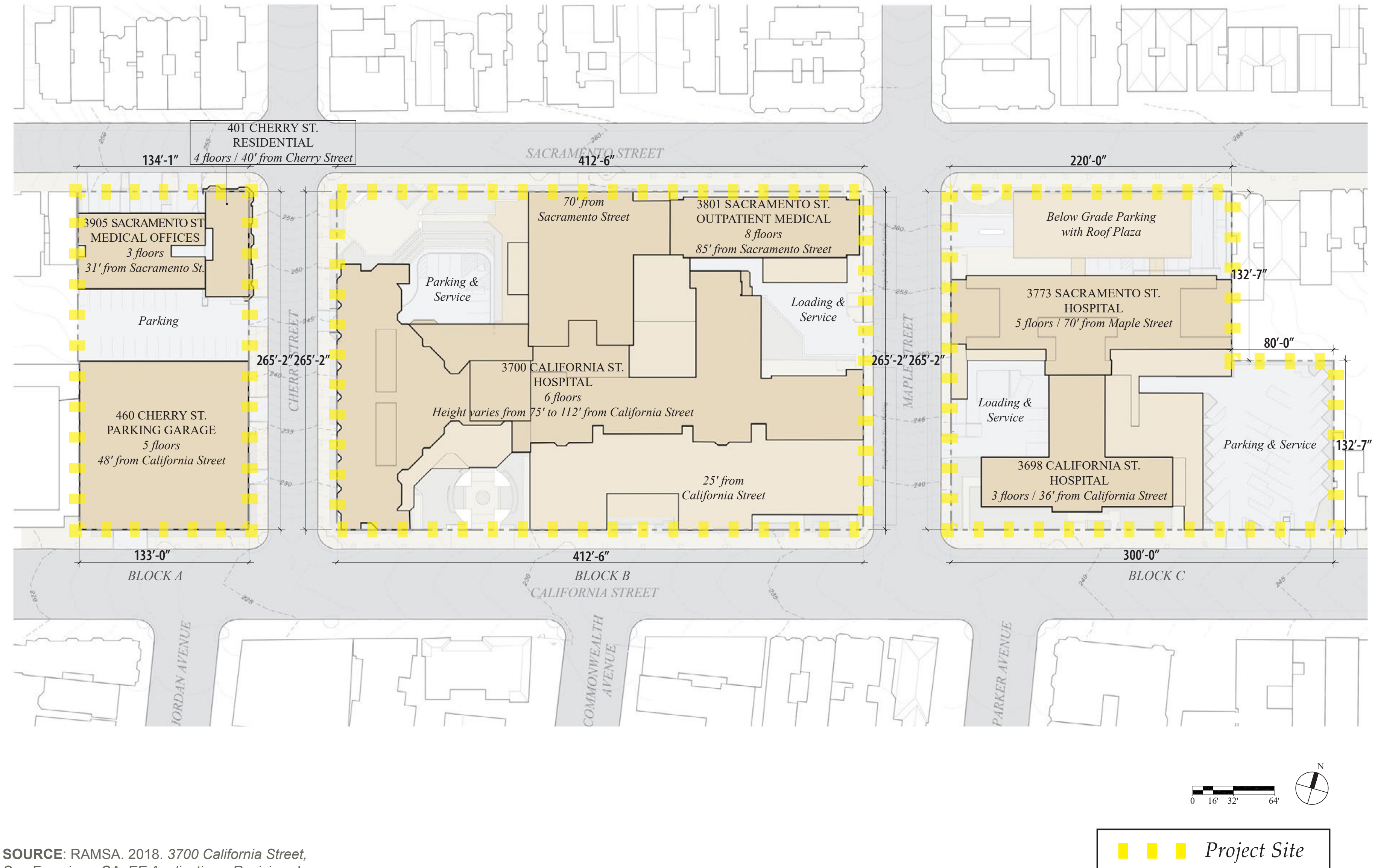
steeply down to the south and gradually down to the west. As measured at the sidewalk, the ground surface elevation across the project site ranges from 254 feet San Francisco City Datum[2] at the northeast corner of the project site to 210 feet at the southwest corner, a grade change of 44 feet. From west to east, the three blocks that make up the project site are referred to herein as Block A, Block B, and Block C, respectively (see Figure 2-3).

2.3.2 EXISTING LAND USE

The project site is currently occupied by approximately 734,000 square feet of improvements within seven buildings, including approximately 622,000 square feet of hospital/medical office facilities associated with CPMC; a nine-unit, approximately 7,000-square-foot residential building; and approximately 105,000 square feet of enclosed parking area within two parking garages. These buildings range from three to eight stories (25 to 112 feet), with the most prominent building being the six-story hospital at 3700 California Street. The project site includes a total of 333 enclosed parking spaces and 106 surface parking spaces. Existing land uses on the project site, described below, are summarized in Table 2-1, p. 2-7, and shown in Figure 2-2, p. 2-4, and Figure 2-3.

The project site is located primarily within the RM-2 (Residential, Mixed – Moderate Density) zoning district, with portions also in the RH-2 (Residential, House – Two Family) zoning district (see Figure 2-4, p. 2-8). The RM-2 district allows apartments and houses at a maximum density of three dwelling units per lot or one dwelling unit per 600 square feet of lot area. The RH-2 district allows two-family houses at a maximum density of two dwelling units per lot, with up to one unit per 1,500 square feet of lot area with conditional use approval. Specifically, approximately 83 percent of the project site is zoned RM-2, and approximately 17 percent of the project site (eight parcels) is zoned RH-2. Although the project site is zoned for residential use, the existing hospital was granted approval through conditional use authorization. The majority of the project site is in the 80-E height and bulk district, with the exception of two lots that cover approximately 8 percent of the project site and are in the 40-X height and bulk district. The 80-E district allows a maximum building height of 80 feet, with building areas exceeding 65 feet in height restricted to no larger than 110 feet in length and 140 feet in diagonal dimension. The 40-X district allows a maximum building height of 40 feet and has no bulk limitation.

2 San Francisco City Datum establishes the City's zero point for surveying purposes at approximately 8.6 feet above the mean sea level established by the 1929 U.S. Geological Survey datum.



SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

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3700 California Street
Case No. 2017-003559ENV

Figure 2-3
Existing Site Plan

TABLE 2-1. EXISTING LAND USES AT THE PROJECT SITE

Address	Assessor's Block/Lot(s)	Building Square Footage	Zoning District	Height/ Bulk District	Present Use
3905 Sacramento Street	1015/052	26,000	RH-2 [a]	40-X[b]	Medical office building
401 Cherry Street	1015/001	7,000	RH-2	40-X	Residential
460 Cherry Street	1015/053	88,000	RM-2	80-E[c]	Parking garage
3700 California Street	1016/002–009	360,000	RM-2 and RH-2[d]	80-E	Hospital
3801 Sacramento Street	1016/001 and 002	69,000	RM-2	80-E	Outpatient/research
3773 Sacramento Street	1017/028	17,000 149,000	RM-2	80-E	Parking garage Hospital (vacant)
3698 California Street (Marshal Hale building)	1017/027 and 028	18,000	RM-2	80-E	Breast Health Center, Newborn Connections, Skilled Nursing Facility, Alzheimer's Residential Care, and other support services
Total hospital square footage		622,000			
Total parking square footage		105,000			
Total residential square footage		7,000			
Total square footage		**734,000**			

Source: California Pacific Medical Center, 2008 Institutional Master Plan, pp. 98–100.

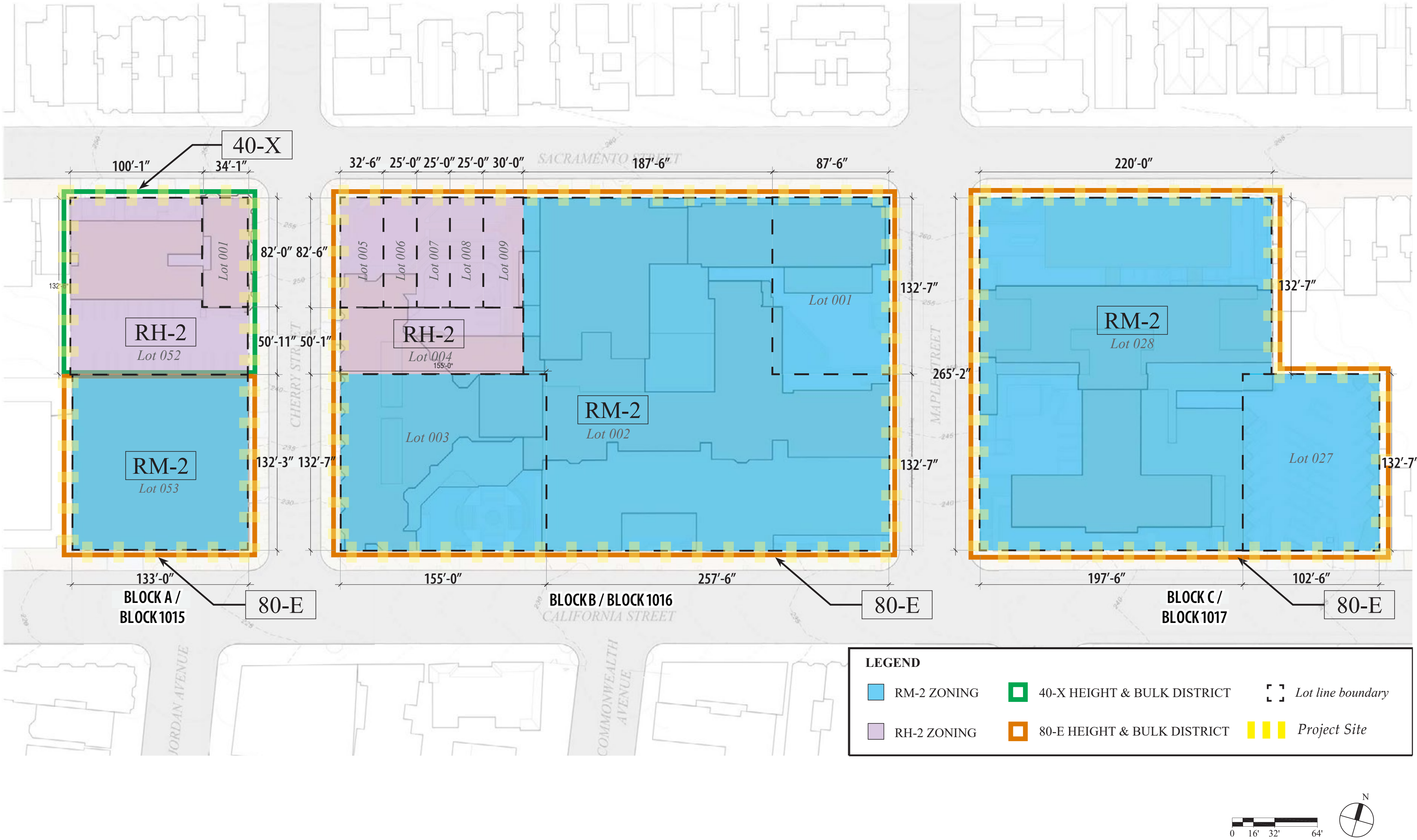
Notes:

a. RH-2: (Residential, House – Two Family);

b. 40-X: Buildings within the 40-X district cannot exceed 40 feet in height and do not have a bulk limit;

c. 80-E: Buildings within the 80-E district cannot exceed 80 feet in height. Building areas exceeding 65 feet in height have bulk limit dimensions of 110 feet (length) and 140 feet (diagonal).

d. RM-2: (Residential, Mixed – Moderate Density); Lots 004-009 are located in the RH-2 zoning district.



SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

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Figure 2-4
Existing Lots, Zoning, and Height and Bulk Districts

2.3.3 EXISTING BUILDINGS

The use and physical characteristics of the buildings on the project site are described below.

- **3905 Sacramento Street.** Located on the south side of Sacramento Street, immediately west of and adjacent to 401 Cherry Street, the building at 3905 Sacramento Street is a three-story, approximately 26,000-square-foot medical office building that reaches a height of 31 feet. The building was constructed in 1959.
- **401 Cherry Street.** Located at the southwest corner of Sacramento Street and Cherry Street, the building at 401 Cherry Street is a four-story, approximately 7,000-square-foot multi-family residential building with nine units. The building reaches a height of 40 feet. The building was constructed in 1907.
- **460 Cherry Street.** Located at the northwest corner of California Street and Sacramento Street, the five-story, 48-foot-tall aboveground parking structure at 460 Cherry Street occupies approximately 88,000 square feet and contains 290 enclosed parking spaces. The building was constructed in 1971.
- **3700 California Street.** The most prominent building on the project site is the six-story CPMC building at 3700 California Street. The building is an irregularly shaped, multiple-story hospital complex that ranges in height from 75 to 112 feet. The main entrance on California Street is recessed from the property line and accessed from the sidewalk via brick steps. The building includes one below-grade basement level. Originally constructed in 1911 as The Hospital for Children and Training School for Nurses, the various interconnected components of the building were constructed at different times, up until 1984, as additions to the original hospital. The hospital provides primarily diagnostic and treatment space, medical support, and inpatient-care and outpatient-care space. The hospital comprises approximately 360,000 square feet and is licensed for 299 beds. The hospital includes three existing emergency backup generators – two located in the loading and service lot on the west side of Maple Street (Block B) and one located in the loading and service lot on the east side of Maple Street (Block C).
- **3801 Sacramento Street.** Located at the southwest corner of Sacramento Street and Maple Street, the building at 3801 Sacramento Street is an eight-story, approximately 69,000-square-foot outpatient medical facility that reaches a height of 85 feet. The slab tower structure was built in 1967 and serves as an extension to the main hospital.
- **3698 California Street and 3773 Sacramento Street.** The buildings at 3698 California Street and 3773 Sacramento Street are located across Maple Street from the 3700 California Street CPMC building. The two buildings are interconnected via a three-story connecting wing oriented north-south, forming an approximately 167,000-square-foot, "I"-shaped complex. Originally constructed as the Marshal Hale

Memorial Hospital in 1940, the three-story, 36-foot-tall building fronting California Street (3698 California Street) features an art-deco façade and may be eligible for listing in the California Register of Historical Resources. This building comprises approximately 18,000 square feet and houses medical and supportive services, including: Adult Day Services, Breast Cancer Recovery Program, Breast Health Center, Gastroenterology Services, Gynecological Cancer Recovery Program, Lady's Touch, Newborn Connections, Outpatient Services, Palliative Care, Patient Registration Services, Post Acute Services, Skilled Nursing Facility, Women's Health Resource Center, Alzheimer's Residential Care, and Ambulatory Surgery. Behind the 3698 California Street building is a five-story, 70-foot-tall concrete building constructed in 1970 as an addition to the original Marshal Hale hospital building (3773 Sacramento Street); this approximately 149,000-square-foot building is currently used for hospital storage and does not provide patient services. Immediately north of the 3773 Sacramento Street building is a two-story, below-grade parking structure with a roof plaza. It comprises 17,000 square feet and provides 36 parking spaces.

2.3.4 PARKING, CIRCULATION, AND LOADING

Parking on the project site is currently provided by a combination of above-grade and below-grade parking structures as well as surface parking lots. The parking structures include the previously discussed five-story above-grade parking structure at 460 Cherry Street, which is accessed from Cherry Street, the below-grade parking structure at 3773 Sacramento Street, which is accessed from Maple Street, and seven additional subterranean spaces located below 3700 California Street. Together, the parking structures provide 333 enclosed and striped parking spaces. A surface parking lot is located on Block A, between 3905 Sacramento Street and 460 Cherry Street. This lot is accessible from Sacramento Street via a driveway that runs under the 3905 Sacramento Street building. Two other surface parking lots are on the project site, one on Block B, with access from Cherry Street, and one on Block C, with access from California Street. Together, the surface parking lots provide 106 surface parking spaces, for a total of 439 striped parking spaces on site. Two loading and service areas are located off Maple Street, one on Block B and one on Block C.

2.3.5 EXISTING INFRASTRUCTURE SYSTEMS

The SFPUC provides potable water to the project site via a system of 6- to 20-inch-diameter water lines under Sacramento, Maple, California, and Cherry streets. The project site is not located in any of the subareas to which the City provides recycled (reclaimed) water. The City's combined stormwater and sanitary sewer system (combined sewer system), operated by the SFPUC, conveys combined stormwater and wastewater flows from the project site to the Oceanside Water Pollution Control Plant for treatment prior to discharge to the Pacific Ocean.

The project site is served by a system of 8- to 33-inch-diameter gravity sewer lines under Sacramento, Maple, California, and Cherry streets. Electrical service to the project site is provided by Pacific Gas & Electric (PG&E) via an electrical distribution circuit that runs underground. Natural gas is delivered to the project site via a system of 2- to 6-inch-diameter standard and high-pressure natural gas lines in Sacramento, Maple, California, and Cherry streets.

2.3.6 Open Space and Vegetation

Open space and landscaped areas on the project site are limited because of the densely developed nature of the site. The project site currently contains 163 trees; 91 of the trees are regulated trees (i.e., 77 street trees and 14 significant trees)[3] and 72 are non-regulated trees.[4]

On the northwest corner of Block B, at the intersection of Cherry Street and Sacramento Street, there is a publicly accessible outdoor plaza with hardscape features, trees, and seating areas. Pedestrian access to the plaza is from the sidewalk on Sacramento Street. In the middle of the plaza are eight stone columns in a circular configuration. On the northwest corner of Block C, a private courtyard is situated on the roof deck of the below-grade parking garage. The courtyard has a fence around the perimeter, with vegetation along both sides of the fence. Seating areas, hardscape features, trees, and planters are found within the courtyard.

There are 77 street trees along Sacramento Street, California Street, Cherry Street, and Maple Street project frontages, which together comprise approximately 2,700 feet of street frontage.

2.4 Development Agreement Background

In August 2013, the City and Sutter West Bay Hospitals (doing business as CPMC), entered into a development agreement regarding redevelopment of some of CPMC's existing facilities that were no longer needed by CPMC when its new hospital campus at Geary Street and Van Ness Avenue became operational in the spring of 2019. The development agreement did not include a project description or development controls for the 3700 California Street site (known as the California Campus in the development agreement).

The development agreement required creation of the California Campus Visioning Advisory Committee as well as a community vision planning process that included the identification of community goals, development of a community vision plan, and regularly scheduled meetings to provide community input. The development agreement specified the composition

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3 *Significant trees* are trees of any species within 10 feet of the public right-of-way that are either 12 inches in diameter or 20 feet tall or have 15 feet of canopy spread.

4 TMG Partners, 3700 California Street, Tree Planting & Removal Summary. December 2018.

of the Visioning Advisory Committee, with most of the nine members being representatives from the surrounding neighborhood associations.[5] The community vision plan developed by the Visioning Advisory Committee was the basis of the proposed project.

2.5 PROJECT CHARACTERISTICS

The proposed project would demolish five of the six existing hospital buildings on the project site, including an accessory off-street parking garage; demolish the two-story, below-grade parking structure at 3773 Sacramento Street; renovate the existing nine-unit residential building at 401 Cherry Street; convert a portion of the Marshal Hale hospital building at 3698 California Street to residential use; and construct 31 new residential buildings and add accessory amenity spaces comprised of landscaped common areas and a fitness facility. As part of the hospital demolition, three existing generators would be removed. In total, the proposed project would include 273 residential units, comprised of nine existing units and 264 new units. The proposed project would construct or renovate approximately 618,200 square feet of residential uses and accessory amenity space on Blocks A, B, and C and excavate approximately 61,800 cubic yards for below-grade parking podiums totaling approximately 221,000 square feet of parking area. In addition, the proposed project would include approximately 86,200 square feet of private and common open space areas, which may include common roof decks for some of the buildings. Figure 2-5 depicts the proposed site plan, while Table 2-2, p. 2-14, summarizes project characteristics by block and building. Overall, the project proposes to reduce the approximately 629,000 square feet of existing hospital/residential uses and 439 parking stalls to approximately 618,200 square feet of residential use with 416 parking stalls.

The project's 273 residential units would include 14 single-family homes and 19 multi-family residential buildings with 69 studios and one-bedroom units, 88 two-bedroom units, 96 three-bedroom units, and 20 four-bedroom units. Approximately 75 percent of the residential units would contain two or more bedrooms. The project would comply with the Inclusionary Affordable Housing Program requirements under Planning Code section 415.

The majority of the site is within the RM-2 (Residential, Mixed – Moderate Density) zoning district and subject to the 80-E height and bulk designation, with the exception of a portion of Blocks A and B, which is within the RH-2 (Residential, House – Two Family) zoning district, and a portion of Block A, which is subject to the 40-X height and bulk designation. Residential buildings on the project site would range in height from three to seven stories (36 to 80 feet). Proposed building elevations from selected segments of California, Cherry, and Maple streets are shown in Figure 2-6, p. 2-15.

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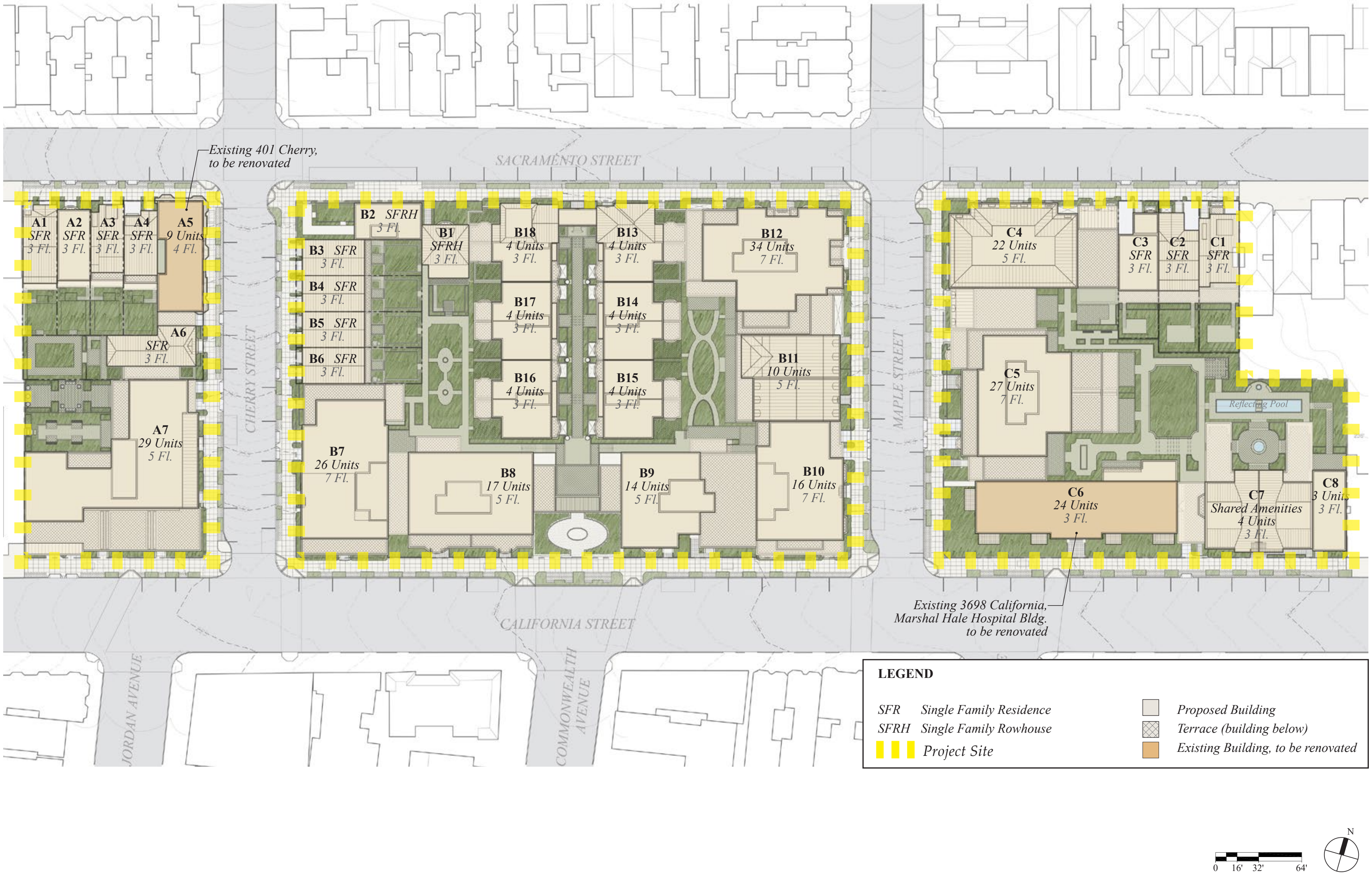
5 Jordan Park Improvement Association, Lake Street Residents Association, Laurel Village Improvement Association, Laurel Village Merchants Association, Neighborhood Association of Presidio Planning, Pacific Heights Residents Association, Presidio Heights Association of Neighbors, Sacramento Street Merchants, and San Francisco Board of Supervisor, District 2.



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SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

3700 California Street
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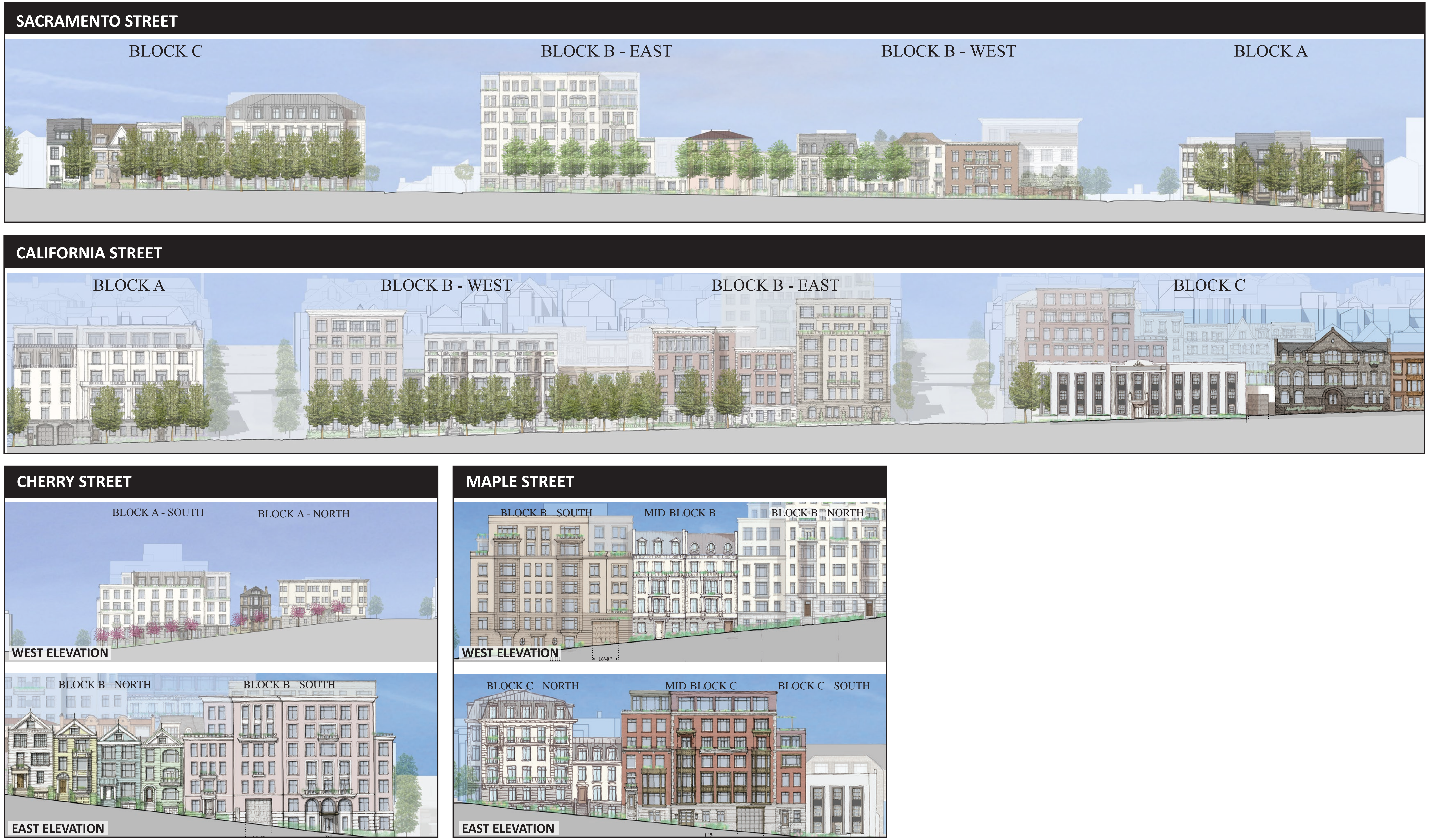
Figure 2-5
Proposed Site Plan

TABLE 2-2. PROPOSED PROJECT CHARACTERISTICS

Building[1]	Lot Area	Floors	Roof Height	Building Area (square feet)	Total Number of Units	Parking Spaces	Private Open Space	Common Open Space[3]
Block A								
A1 (SFR)	2,500	3	40	5,200	1	2	1,100	n/a
A2 (SFR)	2,500	3	40	4,800	1	2	1,100	n/a
A3 (SFR)	2,500	3	40	4,800	1	2	1,300	n/a
A4 (SFR)	2,500	3	40	4,600	1	2	1,200	n/a
A5 (MF, existing)	2,800	4	40	7,000	9	in podium	n/a[2]	0
A6 (SFR)	5,000	3	40	5,900	1	2	2,900	n/a
A7 (MF)	17,600	5	65	61,200	29	57	4,600	2,900
Block A Total	**35,400**			**93,500**	**43**	**67**	**12,200**	**2,900**
Block B								
B3 (SFR)	2,500	3	40	4,500	1	2	1,100	n/a
B4 (SFR)	2,500	3	40	4,500	1	2	1,100	n/a
B5 (SFR)	2,500	3	40	4,500	1	2	1,100	n/a
B6 (SFR)	2,500	3	40	4,500	1	2	1,100	n/a
B1 (SFRH)		3	40	4,900	1		1,400	
B2 (SFRH)		3	40	5,800	1		1,300	
B7 (MF)		7	80	48,200	26		2,200	
B8 (MF)		5	66	35,900	17		2,700	
B9 (MF)		5	66	35,000	14		3,500	
B10 (MF)		7	80	44,000	16		900	
B11 (MF)	99,400	5	58	21,200	10	215	700	11,500
B12 (MF)		7	80	66,000	34		3,000	
B13 (MF)		3	40	10,400	4		1,000	
B14 (MF)		3	40	11,600	4		1,000	
B15 (MF)		3	40	11,600	4		1,000	
B16 (MF)		3	40	11,600	4		1,000	
B17 (MF)		3	40	11,600	4		1,000	
B18 (MF)		3	40	10,400	4		1,000	
Block B Total	**109, 400**			**346,200**	**147**	**223**	**26,100**	**11,500**
Block C								
C1 (SFR)	3,400	3	38	5,500	1	2	1,500	n/a
C2 (SFR)	3,400	3	36	5,700	1	2	1,400	n/a
C3 (SFR)	3,100	3	42	5,700	1	2	1,100	n/a
C4 (MF)		5	58	50,400	22		4,000	
C5 (MF)		7	80	59,200	27		5,700	
C6 (MF)	59,100	3	36	18,800	24	120	900	19,000
C7(Amenity/MF)		3	50	28,700	4		n/a	
C8 (MF)		3	38	4,200	3			
Block C Total	**69,000**			**178,200**	**83**	**126**	**14,500**	**19,000**
Proposed Project Total	**213,800**			**618,200**	**273**	**416**	**52,800**	**33,400**

Notes: Numbers may not sum due to rounding.
SFR = single family residence. MF = multi-family. SFRH = single-family rowhouse (on podium).
[1] Refer to Figure 2-5, p. 2-13, for building locations.
[2] Building A5 is an existing legal nonconforming use.
[3] In addition to the common spaces included in this table, some buildings may have common roof deck areas.



SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June and November.

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Figure 2-6
Proposed Elevations

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Twelve of the single-family residences would be stand-alone buildings located on separate lots. Parking for these single-family residences would be provided in attached two-car garages located on the same lot where each residence is located. Parking for the two other single-family residences and the multi-family residential units in new buildings would be provided in below-grade parking podiums at a rate of 1.5 parking spaces per unit. Overall, the project site would include 416 parking spaces, which would be located primarily in below-grade parking podiums. Four off-street loading zones would also be provided, as would parking for 424 bicycles. The project would merge the existing 14 parcels within the three city blocks, and would subdivide the site into 16 new parcels.

The project characteristics are discussed in detail below by block. Visual simulations from the various project site frontages are provided in Figures 2-7 through 2-12, pp. 2-18 through 2-23. The simulations are illustrative renderings intended to convey the basic visual characteristics of the proposed buildings, such as height, mass, and architectural style. The simulations are not design-level diagrams.

2.5.1 Block A

Block A is bounded by Sacramento Street to the north, Cherry Street to the east, California Street to the south, and medical office and residential uses to the west. The project would demolish the medical office building at 3905 Sacramento Street and the parking garage at 460 Cherry Street on Block A. It would also retain and renovate the nine-unit residential building at 401 Cherry Street. Six new residential buildings would be constructed, comprised of both single-family and multi-family buildings and ranging in height from three stories (40 feet) in the northern portion of Block A to five stories (65 feet) in the southern portion of Block A. When accounting for rooftop appurtenances (e.g., stair, elevator, or mechanical penthouses), building heights would range from 42 to 75 feet. Along Sacramento Street and on Cherry Street (south of 401 Cherry Street), five three-story single-family residences (Buildings A1, A2, A3, A4, and A6) with a height of 40 feet would be constructed on separate lots, with each lot providing two parking spaces and at least one Class 1 bicycle space.[6] A five-story, 29-unit multi-family residential building (Building A7) would be constructed at the corner of California and Cherry streets; this building would have a height of 65 feet. Block A would be excavated 13 feet below ground surface to construct a two-level subterranean parking podium with 57 parking spaces and 65 Class 1 bicycles spaces, accessed from California Street.

6 Class 1 bicycle spaces are defined by Planning Code section 155.1(a) as “spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and Employees.”

Figure 2-7
View of Block A from Jordan Avenue Looking North

EXISTING VIEW

PROPOSED VIEW

Note: All views are for illustrative purposes only, providing approximate representations of the building masses in relation to existing neighboring context, and do not include measured views of actual building heights.

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3700 California Street
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Figure 2-8
View of Block B from Commonwealth Avenue Looking North

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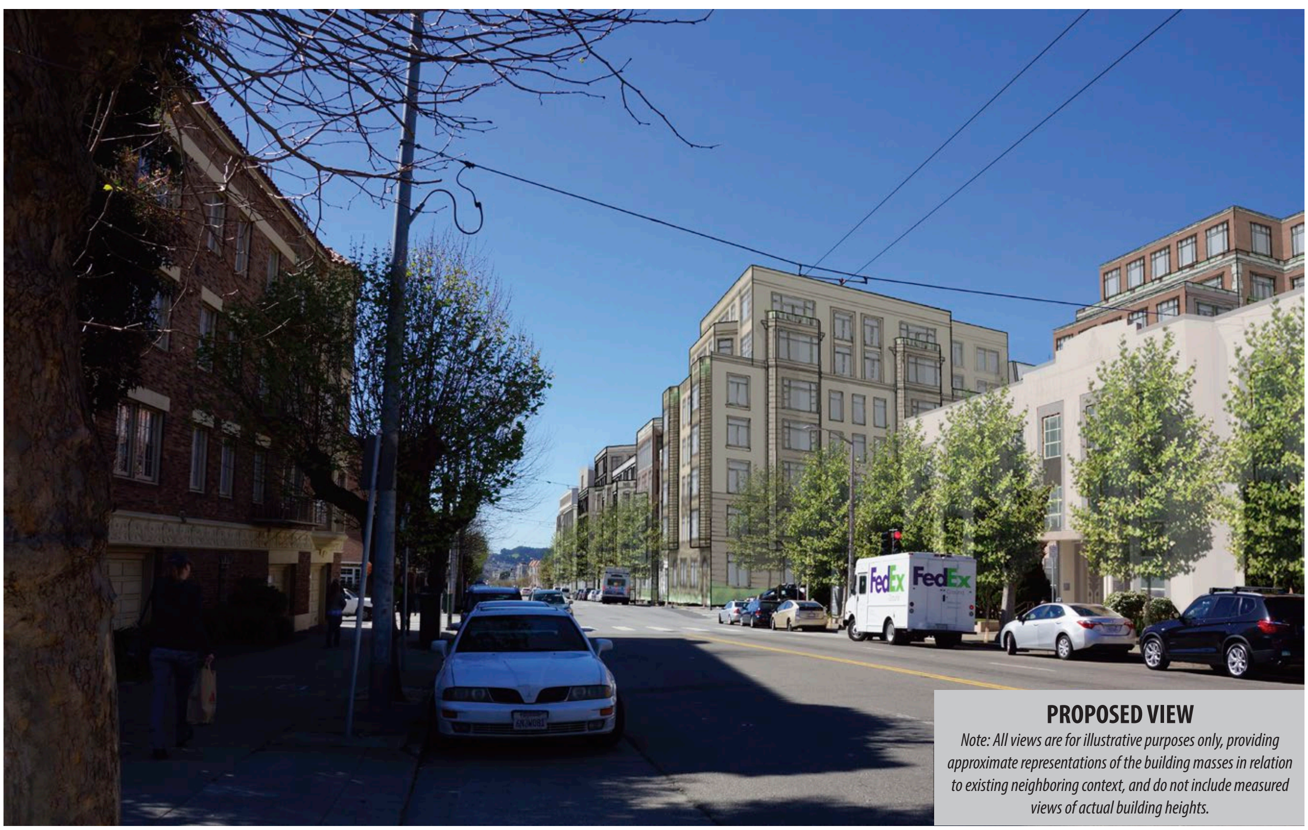
3700 California Street
Case No. 2017-003559ENV

Figure 2-9
View of Block C from Parker Avenue Looking North



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3700 California Street
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Figure 2-10
View of Blocks B and C from California Street Looking West

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3700 California Street
Case No. 2017-003559ENV

Figure 2-11
View of Block B from Cherry Street Looking South

Graphics... 00140.18 (10/31/18) AB

Figure 2-12
View of Block B from Sacramento Street Looking Southeast

Approximately 12,200 square feet of private open space and 2,900 square feet of common open space for residents would be provided on Block A.[7] The three existing lots on Block A would be merged and subdivided into seven parcels with a total lot area of approximately 35,400 square feet. Upon completion, the proposed buildings would provide total lot coverage of approximately 24,000 square feet, or approximately 68 percent.

2.5.2 Block B

Block B is bounded by Sacramento Street to the north, Maple Street to the east, California Street to the south, and Cherry Street to the west. The proposed project would demolish all existing buildings on Block B and construct 18 new residential buildings ranging in height from three stories (40 feet) to seven stories (80 feet). When accounting for rooftop appurtenances (e.g., stair, elevator, or mechanical penthouses), building heights would range from 42 to 90 feet. The northwest and central portions of Block B would be occupied by three-story buildings, including six single-family residences (Buildings B1, B2, B3, B4, B5, and B6) and six multi-family buildings internally oriented along a central walkway (Buildings B13, B14, B15, B16, B17, and B18). Taller multi-family buildings would be located along the California Street and Maple Street frontages, including Buildings B7, B10, and B12, which would have a height of 80 feet, and Buildings B8, B9, and B11, which would range in height from 58 to 66 feet. A total of 141 multi-family dwelling units would be provided on Block B. Block B would be excavated up to 75 feet below ground surface to create a two-level below-grade parking structure that would include 215 parking spaces and 221 Class 1 bicycles spaces, with access from Cherry and Maple streets. The four single-family buildings on separate lots (B3, B4, B5, and B6) would each contain two parking spaces and at least one Class 1 bicycle parking space. Approximately 26,100 square feet of private open space and 11,500 square feet of common open space for residents would be provided on Block B.[8] The nine existing lots on Block B would be merged and subdivided into five parcels with a total lot area of approximately 109,400 square feet. Upon completion, the proposed buildings would provide total lot coverage of approximately 73,000 square feet, or approximately 66 percent.

2.5.3 Block C

Block C is bounded by Sacramento Street to the north, residential uses to the east, California Street to the south, and Maple Street to the west. The proposed project would demolish all the buildings within the project site on Block C, save for renovation and adaptive reuse of the older portion of the Marshal Hale building at 3698 California Street (i.e., the portion fronting California Street). The proposed project would also demolish the two-story, below-grade parking structure at 3773 Sacramento Street. The project would construct seven new buildings

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[7] In addition, some of the multi-family buildings may include common roof deck areas.

[8] Ibid.

ranging in height from three to seven stories (36 to 80 feet). When accounting for rooftop appurtenances (e.g., stair, elevator, or mechanical penthouses), building heights would range from 38 to 90 feet. Uses fronting Sacramento Street would include three three-story single-family residences (Buildings C1, C2, and C3) and a five-story multi-family residential building (Building C4) with 22 units. Central to Block C would be a seven-story, 80-foot-tall multi-family residential building (Building C5) with 27 units. The rear wing and central connector portions of the Marshal Hale building at 3698 California Street would be demolished, and the older portion fronting California Street would be retained and renovated to provide 24 residential units across three floors (Building C6). Two three-story buildings would front California Street east of Building C6: Building C7 would include four multi-family residential units as well as a shared amenities facility (i.e., fitness facility), and Building C8 would include three multi-family residential units. Block C would be excavated up to 17 feet below ground surface to create a two-level below-grade parking structure that would include 120 parking spaces and 125 Class 1 bicycle spaces, with access from Maple and California streets. The three single-family residences that would be located on separate lots (C1, C2, and C3) would each include two parking spaces and at least one Class 1 bicycle parking space. Approximately 14,500 square feet of private open space and 19,000 square feet of common open space would be provided for residents on Block C.[9] The two existing lots on Block C would be merged and subdivided into four parcels with a total lot area of approximately 69,000 square feet. Upon completion, the proposed buildings would provide total lot coverage of approximately 40,000 square feet, or approximately 58 percent.

2.5.4 Streetscape, Sidewalk Changes, and Vegetation

Proposed streetscape changes would include enhanced sidewalk and entry paving, approximately 4,500 square feet of planting, light fixtures, sidewalk bulb-outs, and bike racks. The project proposes widening the existing 7.8-foot-wide sidewalks along Maple Street and making appropriate sidewalk and street changes on the perimeter of the project site to meet the City's Better Streets Plan standards for sidewalk widths. This would include replacing the existing perpendicular parking with parallel parking along Maple Street to allow for sidewalk widening that meets the Better Streets Plan standards on this block. The project would also include a new high-visibility crosswalk with flashing lights on the east leg of the unsignalized intersection of California Street and Commonwealth Avenue (to match the design of the west leg of the intersection), corner bulb-outs to reduce pedestrian crossing distances across Cherry and Maple streets at California and Sacramento streets, and a new sidewalk extension (approximately 100 feet wide) at Commonwealth Avenue to reduce the crossing distance for people walking across California Street.

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[9] Ibid.

The San Francisco Municipal Railway's (Muni's) 33-Ashbury/18th line terminates at Sacramento and Cherry streets, and Muni operators use the existing CPMC restroom facilities. The proposed project would change transit amenities in areas surrounding the project site in several ways. First, subject to the project retaining the Block A driveway on California Street in its current location, the proposed project would replace the existing Muni driver layover bathroom for the 33-Ashbury/18th route in the hospital at Sacramento and Cherry streets with a new driver bathroom at 401 Cherry Street (Building A5 at the northwest corner of Sacramento and Cherry streets).[10] This bathroom would be closer to the layover stop than the existing bathroom. Second, the proposed project would shift the Muni overhead wires for the 33-Ashbury/18th line at Sacramento and Maple streets to allow Muni vehicles to make a tighter turn onto Maple Street, given the new corner bulb-out at the southeast corner of this intersection and the changes to the Maple Street sidewalk widths and right-of-way/parking configuration. The project does not propose any new bus stops or changes to existing bus stops.

The proposed project would lead to a net increase of trees at the project site. As shown in Table 2-3, the project site currently contains 163 trees: 91 are regulated trees (77 street trees and 14 significant trees) and 72 are non-regulated trees. The proposed project would remove 42 of the 77 existing street trees and plant 68 new street trees, for a total of 103 street trees. Nine of the 14 significant trees would be removed due to conflicts with the proposed buildings. Of the other 72 non-regulated trees on-site, 70 would be removed and would be replaced with 146 new trees.[11] Overall, the project would increase the total number of trees onsite from 163 to 256 due to the planting of 214 new trees.

TABLE 2-3. EXISTING AND PROPOSED TREES

Type of Tree	Existing Trees	Trees to Be Removed	New Trees	Total Trees
Unregulated Trees	72	-70	146	148
Street Trees	77	-42	68	103
Significant Trees	14	-9	--	5
Total	163	-121	214	256

Source: TMG Partners, 3700 California Street, Tree Planting & Removal Summary. December 2018.

10 Should the proposed driveway for Block A be moved to another location, no bathroom would be provided. In addition, per the March 14, 2019, agreement between CPMC and Muni, a portable restroom unit would be provided at 401 Cherry Street during project construction.

11 TMG Partners, 3700 California Street, Tree Planting & Removal Summary. December 2018.

2.5.5 OPEN SPACE

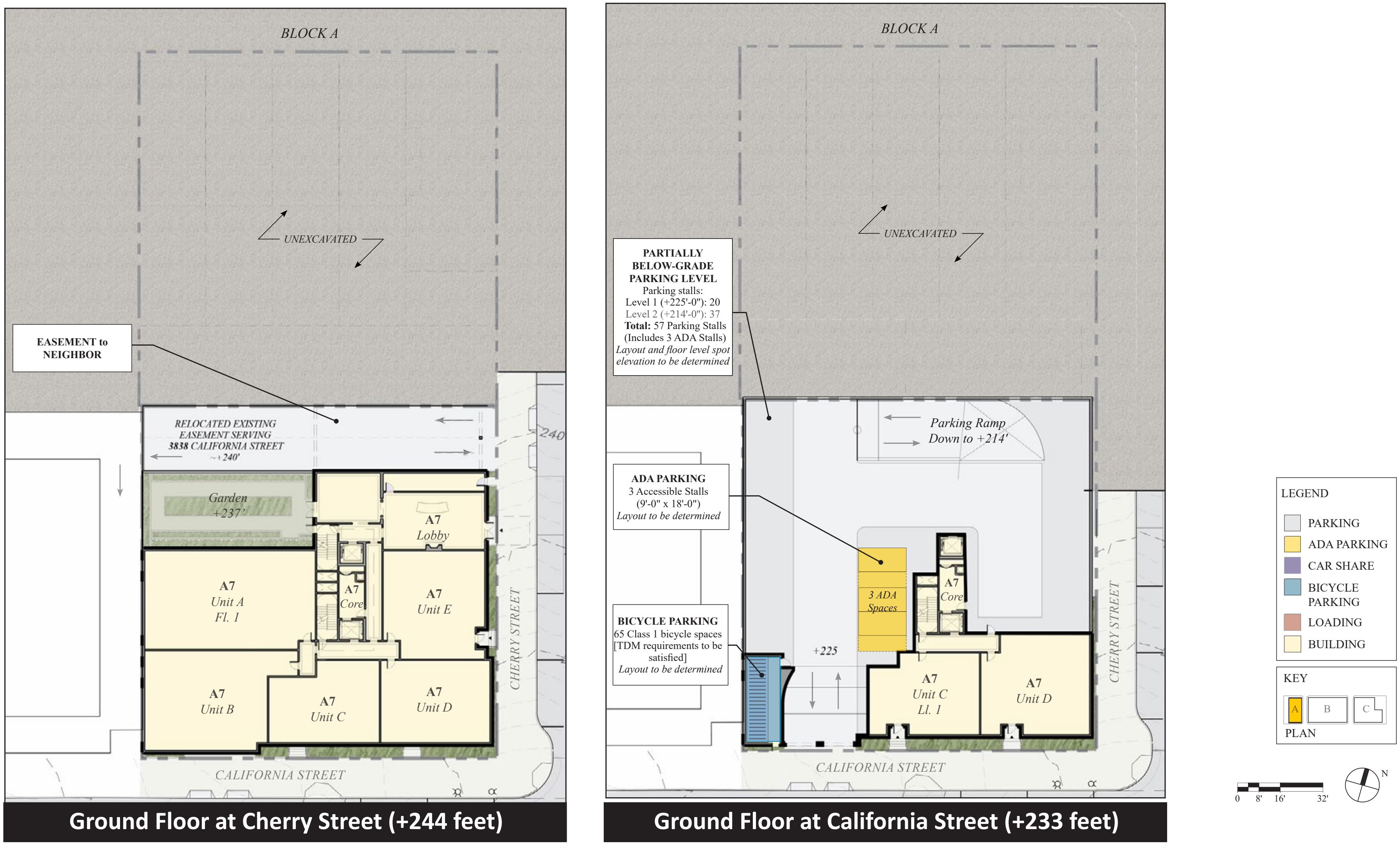
The proposed project would include private open space areas that would be directly accessible from individual units as well as common open space areas that would be accessible to all project residents. In total, the project would provide approximately 86,200 square feet of open space comprised of 52,800 square feet of private open space and 33,400 square feet of common open space. In addition, the project may include common roof deck areas for some of the buildings. The project would not include publicly accessible open space.

Each single-family residence in Block A, Block B, and Block C would have a private yard. Additional private open space areas would be distributed around the multi-family buildings. In total, 93 residential units would have direct access to private open space. Common open space areas would be distributed throughout all three blocks and would consist of landscaping and hardscaping within interior courtyards, rear yards, and front yard setbacks, as well as shared gardens, patios, and roof decks. Block A would include a common open space garden west of Building A7. Block B would be organized around a central walkway anchored by an inset garden that would create visual openness through the site and create a focal point for Commonwealth Avenue where it terminates at California Street. Two other common open space gardens would be located on either side of the central walkway on Block B. Block C would include a common open space garden and reflecting pool.

2.5.6 PROPOSED PARKING, CIRCULATION, AND LOADING

A total of 416 parking spaces would be provided, including 392 subterranean spaces and 24 at-grade private spaces for single-family residences with two-car garages. The subterranean spaces would serve all of the multi-family units as well as two of the single-family residences on Block B (Buildings B1 and B2); these uses would include 1.5 spaces per unit, while the 12 detached single-family residences located on 12 separate lots with private garages would include two spaces per unit. The project would provide 411 Class 1 bike storage spaces, 22 Class 2[12] bike storage spaces, 13 spaces for cargo bikes, a bike repair station, two required car-share spaces, and five optional car-share spaces. Block A would have 57 parking spaces in two below-grade parking levels, which would include three Americans with Disabilities Act– (ADA-) compliant spaces (on the ground level). Ingress and egress would be provided at California Street (see Figure 2-13). Block B would have 215 parking spaces across two levels and include nine ground-level ADA-compliant spaces, two required and five optional car-share

[12] Class 2 bike storage spaces are defined by Planning Code section 155.1(a) as "spaces located in a publicly accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use."



SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

Graphics... 00140.18 (10/31/18) AB

Figure 2-13
Block A Access, Circulation, and Ground-Floor Parking Plan

spaces, and four off-street loading spaces. Ingress and egress would be provided at Cherry Street and Maple Street (see Figure 2-14). Block C would include five ground-level ADA-compliant spaces and one off-street loading space. Ingress and egress would be provided at Maple Street (see Figure 2-15, p. 2-31). Block A would include 65 Class 1 bicycle spaces, Block B would include 221 Class 1 bicycle spaces, and Block C would include 125 Class 1 bicycle spaces within the subterranean parking garages. Internal loading zones would be incorporated into the podium parking levels at Blocks B and C, accessible from Cherry Street and with an exit onto Maple Street. Block C would also have a loading space with ingress from California Street.

The proposed project would reuse seven of the 14 existing curb cuts and remove seven others; 11 new curb cuts would be added, for a total of 18 curb cuts. Twelve of the 18 curb cuts would be for the single-family homes. The proposed project's driveways would include one 10-foot-wide curb cut for each of the single-family homes, two 10-foot-wide curb cuts for the multi-family garage on Block A (for passenger vehicles only), one 18-foot-wide curb cut for each end of the multi-family parking garage on Block B (for passenger and freight vehicles), and one 18-foot curb cut along Maple Street and one 18-foot curb cut along California Street for the multi-family parking garage on Block C , thereby meeting the Better Streets Plan's recommended widths. This is consistent with the recommended practices for curb cuts and driveways presented in the City's Better Streets Plan.

Block A is encumbered by an access easement that currently provides access to the parking garage at 3838 California from Cherry Street, per an easement agreement between the two property owners. This easement, which crosses Block A just north of the parking garage at 460 Cherry Street, is for the staff of the medical office at 3838 California only; visitors enter the garage at 3838 California via the existing driveway on California Street. This easement would be retained by the proposed project.

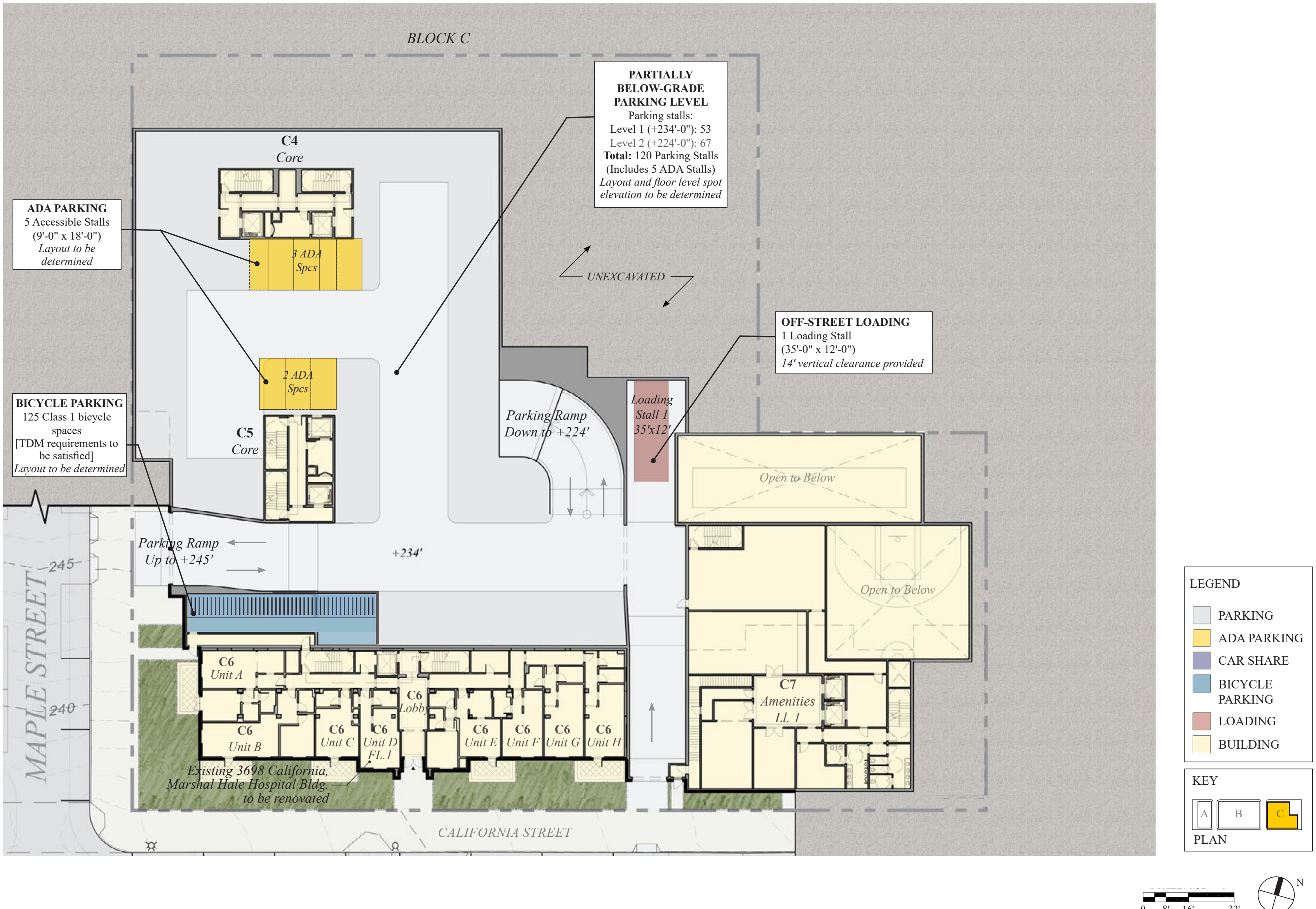
2.5.7 Transportation Demand Management Plan

As required by the city's TDM Program Ordinance (Planning Code section 169), the project sponsor would be required to develop a TDM Plan, which would be subject to review and approval by the Planning Commission as part of its deliberations on the proposed project. Compliance with the approved TDM Plan would be adopted as a condition of approval for the proposed project (see Planning Code section 169.4(c)).

SOURCE: RAMSA 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

Graphics... 00140.18 (10/31/18) AB

Figure 2-14
Block B Access, Circulation, and Ground-Floor Parking Plan



SOURCE: RAMSA. 2018. *3700 California Street, San Francisco, CA: EE Application—Revision*. June.

Graphics... 00140.18 (10/31/18) AB

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Figure 2-15
Block C Access, Circulation, and Ground-Floor Parking Plan

The project sponsor proposes the following TDM measures for the project. These measures would be subject to review and approval as part of Planning Department approvals:

1. ACTIVE-1: Improve Walking Conditions – All landscaped edges along the street and building edges of the public right of way comply with the Better Streets Plan.
2. ACTIVE-2: Bike Parking (Option C) – Provide 1.5 Class 1 bike spaces per dwelling (5 percent for cargo bikes) and three Class 2 bike spaces for every 20 dwellings with unit storage.
3. ACTIVE-5A: Bike repair station, in parking structure.
4. ACTIVE-5B: Bike Maintenance Services – the project will provide vouchers for local bike shops or on-call maintenance.
5. CSHARE-1: Car-share (Option E) – Car-share memberships for each dwelling and one car-share space for every 40 dwellings through an onsite shared fleet.
6. DELIVERY-1: Delivery supportive amenities, including delivery room, lockers, refrigerators for grocery deliveries, drop-off zones.
7. FAMILY-1, FAMILY-3: Family TDM – Amenities (A + B) and Family TDM Package: Family amenities include onsite storage for family gear, utility carts, cargo bikes.
8. HOV-1: Contributions or incentives (Option B) – Sell Clipper Cards at Central Lobby and offer residents 50 percent per month of monthly pass for weekly commute purposes.[13]
9. INFO-1: Multi-modal way-finding signage, including onsite TDM information.
10. INFO-2: Real-time transportation displays.
11. INFO-3: Tailored marketing (Option D), including welcome packets, personal consultation, financial incentives, offer of assistance in trip tracking.

2.5.8 PROPOSED INFRASTRUCTURE SYSTEMS

POTABLE WATER SYSTEM

The project would realign a portion of an existing 8-inch-diamater domestic water line in California Street in front of Block B, a portion of an existing 12-inch-diameter domestic water line in Maple Street in front of Block B, and a portion of an existing 6-inch-diameter domestic

[13] The property owner would proactively offer contributions or incentives to each dwelling unit and/or employee, at least once annually, for the life of the project. If requested by a resident or employee, the property owner would pay for contributions or incentives equivalent to the cost of a (25, 50, 75, or 100 percent) monthly Muni only “M” pass, or equivalent value in e-cash loaded onto Clipper Card, per dwelling unit and/or employee.

water line in Maple Street in front of Block C. These water lines are proposed to be realigned to facilitate installation of sidewalk bulb-outs. New water connections would be provided to the proposed residential buildings, with each building separately metered at the sidewalk. Low-pressure water for firefighting purposes would be provided from four existing fire hydrants along California, Sacramento, and Cherry streets. Four new low-pressure fire hydrants would be installed along California and Sacramento streets.

WASTEWATER AND STORMWATER SYSTEM

The project would include the installation of 4- to 12-inch-diameter sewer laterals to connect each of the proposed residential buildings to the gravity sewer lines under California, Sacramento, Cherry, and Maple streets.

ELECTRICITY AND NATURAL GAS

Connections to the PG&E grid would be provided for the new and renovated buildings and would include construction of new 0.75- to 2-inch-diameter natural gas lines that would connect to existing 4- and 6-inch-diameter high-pressure natural gas lines under California and Sacramento streets. New electrical lines and transformers would connect to the existing PG&E grid and serve buildings along California, Sacramento, and Cherry streets. The multi-family buildings could include central boilers.

2.5.9 PROPOSED SUSTAINABILITY FEATURES

The proposed project would incorporate infrastructure and building features in compliance with the green building and energy and water efficiency requirements in the San Francisco Green Building Code. Each new dwelling would be equipped with efficient water features such as low-flow showerheads, kitchen and bathroom sink aerators, and low-flow toilets. The existing residential building at 401 Cherry Street would be renovated to install efficient water fixtures, attic insulation, weather stripping, and other heating insulation upgrades to comply with current energy and water efficiency standards. Landscape would be installed, constructed, operated, and maintained in accordance with rules adopted by the SFPUC that establish a water budget for outdoor water consumption. The roof coverage for all project buildings would incorporate either 15 percent solar, or 30 percent living roof, or a combination of the two; it may also include common open space roof deck areas for some of the buildings. The project would provide for the storage, collection, and loading of recyclables, compost, and solid waste; receptacles for the multi-family buildings would be provided in a manner that is convenient for all users of the building, while the single-family buildings would have private bins. All of the project’s construction and demolition material would be transported by a registered hauler to a registered facility to be processed for recycling. Stormwater would be managed on site using low impact design measures in accordance with the San Francisco Stormwater Management Ordinance.

2.5.10 Construction Activities and Schedule

It is anticipated that project construction would be conducted in three distinct phases by block, beginning at Block C and moving west, with the potential for construction phases to overlap. The exact construction schedule would be dictated by market conditions at the time of project construction. The analysis in this EIR is based on reasonable assumptions using information provided by the project sponsor. The EIR analysis conservatively assumes that project construction would be completed within the shortest potential timeframe and that construction phases would overlap, as described below. Project completion is anticipated to occur in 2024.

Construction activities would include demolition of existing uses, site preparation and grading, excavation and shoring, building construction, and site finishing work. The duration of construction for the entire project is estimated to be approximately 40 months. Construction on Block C would begin first and occur over 29 months. Construction on Block B would begin two months after the start of construction on Block C and would occur over 35 months. Construction on Block A would begin 15 months after the start of construction on Block B and would occur over 23 months. Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to seven days a week. The project does not propose nighttime construction work. However, the City may determine that it is necessary to conduct nighttime construction work for activities within the public right-of-way. In the event that nighttime construction work is necessary, it would be for only minimal short-term activities, such as utility installation or roadway repaving. Staging of construction equipment would occur on the project site. If sidewalks are required for construction staging, pedestrian walkways would be constructed in the curb lanes.

Development on Blocks A and C is anticipated to be constructed on a mat-supported pile foundation, while development on Block B would be constructed on a mat foundation. Drilled auger piles would be used on Blocks A and C; the project would not require impact pile driving. To accommodate the below-grade parking levels and foundation, the project would entail excavation to maximum depths of 13 feet on Block A; 75 feet on Block B; and 17 feet on Block C. The project would excavate a total of approximately 61,800 cubic yards of soil across Blocks A, B, and C, which would be hauled off-site.

2.6 Project Approvals

The following is a preliminary list of the anticipated approvals required for the proposed project; the list is subject to change. These approvals may be reviewed in conjunction with the required environmental review but may not be granted until after the required environmental review is completed.

2.6.1 Planning Commission

- Adoption of findings under the CEQA
- Adoption of Findings of Consistency with the general plan and priority policies of Planning Code section 101.1
- Conditional use authorization to permit development of buildings with heights in excess of 50 feet in an RM district and in excess of 40 feet in an RH district, all within the 80-E height and bulk district, as well as planned unit development approval of rear yard modifications (Planning Code section 134), building front moderations (section 144.1), minor deviation from height measurement (sections 261 and 304(d)(6)), projections over streets (section 136), and dwelling unit exposure (section 140)
- Approval of a Transportation Demand Management Plan (Planning Code section 169) to provide a strategy for managing the transportation demands created by the project
- Approval of a Streetscape Plan (Planning Code section 138.1)

2.6.2 Board of Supervisors

- Approval of General Plan Referral for subdivision and changes to public streets and sidewalks
- Approval of Final Subdivision Map(s), including any dedications and easements for public improvements, and acceptance of public improvements, as necessary

2.6.3 Actions by Other City Departments

Department of Building Inspection

- Review and approval of demolition, grading, and building permits

San Francisco Public Works

- Approval of the merger of 14 existing parcels and the subsequent subdivision into 16 new parcels
- If sidewalk(s) are used for construction staging and pedestrian walkways are constructed in the curb lane(s), approval of a street space permit from the Bureau of Street Use and Mapping
- Approval of a permit to remove significant trees on privately owned property
- Approval of a permit to remove and plant street trees and partial waiver from Public Works Code section 806(d) to provide 31 fewer street trees than required

- Approval of construction within the public right-of-way (e.g., curb cuts, bulb-outs, sidewalk extensions, and new crosswalk)
- Approval of an encroachment permit or a street improvement permit for streetscape improvements

San Francisco Municipal Transportation Agency

- Approval of modifications to on-street loading and other colored curb zones
- Approval of a special traffic permit from the Sustainable Streets Division if sidewalk(s) are used for construction staging and pedestrian walkways are constructed in the curb lane(s)
- Approval of the placement of bicycle racks in the public right-of-way

San Francisco Public Utilities Commission

Review and approval of the following:

- Construction permit for non-potable water system
- Plumbing plans and documentation for non-potable water reuse system per the Non-potable Water Ordinance
- Erosion and sediment control plan per Public Works Code article 4.1
- Changes to sewer laterals (connections to the City sewer system)
- Changes to existing publicly owned fire hydrants, water service laterals, water meters, and/or water mains
- Size and location of new fire, standard, and/or irrigation water service laterals
- Post-construction stormwater design guidelines, including a Stormwater Control Plan, in accordance with City's 2016 Stormwater Management Requirements and Design Guidelines
- Project's landscape and irrigation plans per the Water Efficient Irrigation Ordinance and the SFPUC Rules & Regulations Regarding Water Service to Customers
- Groundwater dewatering wells (if they are to be used during construction), per San Francisco Health Code article 12B (Soil Boring and Well Regulation Ordinance) (joint approval with the San Francisco Department of Public Health)

San Francisco Department of Public Health

- Review and approval of a site mitigation plan, in accordance with San Francisco Health Code article 22A (Maher Ordinance)

- Review and approval of a construction dust control plan, in accordance with San Francisco Health Code article 22B (Construction Dust Control Ordinance)
- Review and approval of design and engineering plans for a non-potable water reuse system and testing prior to issuance of a Permit to Operate
- Review and approval of groundwater dewatering wells (if they are to be used during construction), (joint approval with the San Francisco Public Utilities Commission)

ACTIONS BY OTHER GOVERNMENT AGENCIES

- Bay Area Air Quality Management District approval of any necessary air quality permits for installation, operation, and testing (e.g., Authority to Construct/Permit to Operate) of individual air pollution sources, such as boilers

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3 PLANS AND POLICIES

In accordance with CEQA Guidelines section 15125, this chapter provides a summary of relevant City and County of San Francisco (City) and regional plans that are applicable to the proposed project, with a focus on the project's potential inconsistencies with those plans. Inconsistency with a plan does not necessarily result in a significant impact pursuant to CEQA. To result in an impact under CEQA, the inconsistency must be related to a direct or indirect physical impact on the environment and result in a significant, adverse impact (as determined by application of the significance criteria in this draft environmental impact report [EIR] and initial study for the affected resource). The potential physical impacts on the environment that may result from an inconsistency with a plan are discussed in Chapter 4, *Environmental Setting and Impacts*, and the initial study (Appendix B).

Relevant City plans and policies discussed in this chapter include the San Francisco General Plan and the San Francisco Planning Code, which includes the Accountable Planning Initiative. The chapter also discusses the regional plans that are applicable to the project, including the Metropolitan Transportation Commission and Association of Bay Area Governments Plan Bay Area 2040[1] and the Regional Water Quality Control Board's San Francisco Bay Basin (Region 2) Water Quality Control Plan.[2] Other applicable local planning documents described here for context include the Climate Action Plan for San Francisco,[3] San Francisco Bicycle Plan,[4] San Francisco Better Streets Plan,[5] Transit First Policy, and the Transportation Sustainability Program.

The determination of a project's consistency with an applicable local general plan, policy, or regional plan is ultimately made independent of the environmental review process by the project decision makers when they decide whether to approve or disapprove a project. The analysis in this chapter is intended to provide decision makers with a synopsis of relevant planning and policy considerations. The analysis presented is intended to supplement the decision makers' own understanding of the various and often competing policy considerations.

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1 Metropolitan Transportation Commission and Association of Bay Area Governments. 2018. *Plan Bay Area 2040, Final Plan.* Available: http://2040.planbayarea.org/. Accessed: September 19, 2018.

2 Regional Water Quality Control Board, San Francisco Region. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan.*

3 San Francisco Department of the Environment and San Francisco Public Utilities Commission. 2004. *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*. Available: https://sfenvironment.org/sites/default/files/fliers/files/climateactionplan.pdf. Accessed: September 19, 2018.

4 City of San Francisco Planning Department. 2009. *San Francisco Bicycle Plan.*

5 City of San Francisco Planning Department. 2010. *San Francisco Better Streets Plan.*

A. San Francisco Plans and Policies

San Francisco General Plan

The San Francisco General Plan, as adopted by the San Francisco Planning Commission and the San Francisco Board of Supervisors, contains the comprehensive, long-term land use policy for San Francisco. The general plan serves as a guide to protect, preserve, and enhance the desirable quality and unique character of the city; improve the city as a place for living, commerce, and industry; coordinate the city's land use and circulation patterns for efficient functioning and the convenience and wellbeing of its residents, workers, and visitors; and coordinate the city's growth and development with adjoining jurisdictions. The general plan contains the following elements: housing, commerce and industry, recreation and open space, community facilities, transportation, community safety, environmental protection, urban design, air quality, and arts. In addition, the general plan includes a land use index that cross references the policies related to land use.

The general plan designates several planning areas and subareas; however, the project site does not fall within the boundaries of any area plan. The general plan elements that are particularly relevant to planning considerations associated with this project include the urban design element,[6] the housing element,[7] the environmental protection element,[8] the transportation element, and the recreation and open space element,[9] described below. The proposed project's consistency with applicable individual policies is discussed in the appropriate topical sections of this draft EIR and the initial study (Appendix B).

The planning department, zoning administrator, Planning Commission, and other City decision makers will evaluate the proposed project in the context of the general plan, and as part of the project review process will consider potential conflicts. The consideration of general plan objectives and policies would take place independently of the environmental review process. Any potential conflict not identified in this EIR would be considered in that context and would not alter the analysis of physical environmental impacts found in this EIR.

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6 City of San Francisco Planning Department. 2010. *San Francisco General Plan*. Urban Design Element.

7 City of San Francisco Planning Department. 2015. *San Francisco General Plan*. Housing Element.

8 City of San Francisco Planning Department. 2004. *San Francisco General Plan*. Environmental Protection Element.

9 City of San Francisco Planning Department. 2014. *San Francisco General Plan*. Recreation and Open Space (ROSE) Element.

URBAN DESIGN ELEMENT

The San Francisco General Plan Urban Design Element,[10] which guides the physical character and order of the city, is concerned both with development and preservation. This element aims to enhance and conserve the city's positive attributes and improve the living environment. Its goal is to protect public views of open space and water bodies, and to protect and enhance the aesthetic character of San Francisco. The urban design element's objectives and policies with which the proposed project aligns are building and landscape designs that reflect the scale and diversity of the Presidio Heights neighborhood (Objective 1, and Policies 1.5 and 3.7); landscaping, street trees, and onsite recreation space (Policies 4.10 and 4.12); and streetscape amenities that promote walkability, comfort, safety, and pride in the neighborhood environment (Objective 4, and Policies 4.2 and 4.4).

The proposed project has been designed for consistency with the project's own neighborhood vision plan (discussed in Chapter 2, *Project Description*). The project aims to create new residential uses that "knit together" the project site and existing neighborhood through architectural, site, and landscape design, thereby extending the existing neighborhood fabric through a site that has historically interrupted the area with institutional buildings and uses, which would not be inconsistent with Policy 1.7: "recognize the natural boundaries of districts, and promote connections between districts." The project site encompasses 14 parcels on one full city block and portions of two other blocks, totaling 214,000 square feet of lot area.

Given its size, the project could potentially conflict with Urban Design Policy 3.8: "Discourage accumulation and development of large properties, unless such development is carefully designed with respect to its impact upon the surrounding area and upon the city." The project's overall design would not be inconsistent with the urban design principles included in the urban design element;[11] specifically objective 3.1, and policies 1.3, 2.6, 3.1, 3.2, 3.4, 3.5, 3.6, 3.9, and 4.15 regarding respect for community and neighborhood character, building form, contrast, massing, and visual harmony between new and older buildings. Also, the project is seeking a planned unit development authorization, discussed below, that would also help ensure consistency with the urban design element objective and policies.

The proposed project would preserve and incorporate the historic portion of the Marshal Hale hospital building (fronting California Street) into the proposed design, thereby preserving a historic resource that provides history, architectural diversity, and continuity with past development (not inconsistent with objective 2 and polices 2.4, 2.5, 2.6, and 2.7).

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10 City of San Francisco Planning Department. 2010. *San Francisco General Plan*. Urban Design Element.

11 City of San Francisco Planning Department. 2010. *San Francisco General Plan*. Urban Design Element.

The urban design element includes general guidance on building heights and bulk under revised Map 4, "Urban Design Guidelines for Height of Buildings," and revised Map 5, "Urban Design Guidelines for Bulk of Buildings," respectively. According to these maps, the general guidance on building height for the project site is up to 40 feet, with no bulk limitations. The proposed project includes 33 total buildings, some of which would be newly constructed and some that would be retained from existing conditions. Building characteristics and heights of all buildings in the proposed project are discussed in detail in Chapter 2, *Project Description.* The proposed project would include a total of 11 buildings that would exceed the 40-foot building height guidance for the project area, according to the urban design guideline maps. It should be noted that urban design guideline maps do not prescribe height limits; height limits are regulated through the use of zoning maps. The proposed project would construct buildings generally at or below existing building heights, which are up to 112 feet, and zoned height limits. The proposed project would seek conditional use authorization for review of the proposed buildings that would exceed 40 feet. The footprints of the new buildings would not be identical to those of the existing buildings; therefore, some minor height increases would occur where there are gaps or irregularly shaped buildings (primarily at street frontages). The project would also seek approval of a planned unit development exception, which would address minor deviations from the way in which building heights are measured for some of the single-family homes on Blocks A and B. Therefore, the height inconsistencies would not obviously conflict with Maps 4 and 5 of the urban design element. Overall, the project would not present potential inconsistencies with the policies of the San Francisco General Plan Urban Design Element.

HOUSING ELEMENT

The 2014 San Francisco General Plan Housing Element[12] seeks to ensure adequate housing for all segments of its population of current and future San Franciscans through objectives and policies that address the city's growing housing demand and growing economy (which itself puts more pressure on the existing housing stock) and focus on strategies that can be accomplished with the city's limited land supply (necessitating infill and high-density development). In general, the housing element supports projects that increase the city's housing supply (both market-rate and affordable housing), especially in areas that are close to the city's job centers and are well-served by transit.

The objectives of the project are based, in part, upon the housing element's policy direction, particularly with respect to increasing the city's housing stock with a mix of housing types, retaining existing housing units, and ensuring sustainability in design and construction. The project would comply with the Inclusionary Affordable Housing Program requirements under Planning Code section 415, most likely through the payment of in-lieu fees. The project would not present a potential conflict with policies from the housing element.

12 City of San Francisco Planning Department. 2015. *San Francisco General Plan*. Housing Element.

ENVIRONMENTAL PROTECTION ELEMENT

The San Francisco General Plan Environmental Protection Element[13] contains objectives and policies concerning the impact of urbanization on the natural environment. It seeks to give value to the natural environment and lend it appropriate consideration in urban development, along with economic and social considerations. It concerns protection of the natural environment, conservation, energy use, hazardous materials, and transportation noise. The proposed project would be generally consistent with the objectives and policies of the environmental protection element regarding reduced automobile traffic at the project site and related noise and air quality effects in the project area because, with removal of the existing hospital, the proposed project would result in a net reduction in vehicle trips and resulting air and noise effects (refer to Sections 4.2, *Transportation and Circulation*, 4.3, *Noise*, and 4.4, *Air Quality*). The proposed project would also be located in proximity to transit (consistent with objective 15 and policy 15.3). The project contains goals to meet or exceed environmentally sensitive design and energy standards and would incorporate infrastructure and building features in compliance with the green building and energy and water efficiency requirements in the San Francisco Green Building Code. Overall, the project would not present potential conflicts with policies from the environmental protection element.

TRANSPORTATION ELEMENT

The San Francisco General Plan Transportation Element contains objectives and policies concerning the local and regional transportation system, including general regional transportation, congestion management, vehicle circulation, transit, pedestrians, bicycles, citywide parking, and goods movement. The transportation element refers to the San Francisco's Transit First Policy (also discussed further below). It contains objectives and policies that are directly pertinent to consideration of the proposed project, namely objectives related to locating development close to transit, encouraging transit use through site design and incentives, and reducing traffic (and resultant noise and energy consumption) in the project area (consistent with policy 2.2).

Development of the project would be generally consistent with the objectives and policies in the transportation element. The project is close to local public transit and regional transit connections (such as Golden Gate Transit) and incorporates features to encourage their use (consistent with objectives 2 and 11, and policies 2.1, 11.3, 14.7, and 14.8). The project would implement a Transportation Demand Management (TDM) plan (discussed below) and encourage a reduction in automobile use and increased walkability by providing enhanced sidewalks, shared cargo bikes, shared cars (consistent with policy 16.5), utility carts, subsidized

[13] City of San Francisco Planning Department. 2004. *San Francisco General Plan*. Environmental Protection Element.

transit passes (consistent with policy 2.5), secure bike parking (consistent with objective 28 and policies 28.1 and 16.6), and onsite delivery services and storage facilities for delivered goods (consistent with objective 40 and policy 40.1). These project features aim to reduce congestion, air pollution, noise, and energy consumption (consistent with policy 2.2). Furthermore, with removal of the existing hospital, the proposed project would result in net reduction in vehicle trips, air emissions, noise generation, and utility consumption at the project site (refer to Sections 4.2, *Transportation and Circulation*, 4.3, *Noise*, and 4.4, *Air Quality,* in the EIR and Section E.12, *Utilities and Service Systems*, in the initial study [Appendix B]).

The project includes street and streetscape improvements and has been designed to meet the City's Better Streets Design Guidelines[14] (discussed below). These features align with the objectives and policies of the transportation element by increasing pedestrian comfort, safety, and movement space, thereby encouraging walking, biking, and transit use (consistent with policies 20.7, 23.1, 23.2, and 24.2). These design elements also encourage low auto ownership in a neighborhood that is well served by transit and is convenient to neighborhood shopping, thereby supporting reduced parking needs.

The proposed project would provide off-street parking that would be adequate for the occupancy proposed. The project would be generally consistent with transportation element parking guidelines (policies 28.3, 30.1, 30.5, 30.8, 34.1, and 34.3). In addition, the proposed project is expected to reduce traffic at the project site and in the vicinity, compared with existing conditions with the hospital use. Section 4.2, *Transportation and Circulation*, discusses traffic, parking, and circulation. Overall, the project would not obviously present a potential conflict with any objectives or policies from the transportation element.

RECREATION AND OPEN SPACE ELEMENT

The San Francisco General Plan Recreation and Open Space Element[15] was revised and updated in April 2014. It characterizes the city's open spaces and calls for their preservation and enhancement through community engagement. Specific to this project, this element encourages the inclusion of private recreational facilities on private land (policy 1.11) and privately developed residential open spaces to be usable, beautiful, and environmentally sustainable (objective 2 and policy 2.11). The project includes ample open space amenities for building residents, including onsite recreational facilities, private and shared gardens, and common patios, as described in Section 2.3.6 in Chapter 2, *Project Description*. Landscaping would be water efficient. The proposed project would not obviously conflict with any objectives or policies in the recreation and open space element.

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14 City of San Francisco Planning Department. 2010. *San Francisco Better Streets Plan.*

15 City of San Francisco Planning Department. 2014. *San Francisco General Plan*. Recreation and Open Space (ROSE) Element.

ACCOUNTABLE PLANNING INITIATIVE

In November 1986, San Francisco voters approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the planning code to establish eight priority policies. The priority policies are also incorporated into the preamble to the general plan, which provides that the priority policies "shall be the basis upon which inconsistencies in the general plan are resolved." The priority policies are related to: (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 priority policies, which provide general policies and objectives to guide land use decisions, contain certain policies that relate to physical environmental issues. Where appropriate, these issues are discussed in the topical sections of Chapter 4, *Environmental Setting and Impacts*, and in the initial study in Appendix B of this EIR.

Prior to issuing a permit for any project that requires an initial study or EIR under CEQA; prior to issuing a permit for any demolition, conversion, or change of use; and prior to taking any action that requires a finding of consistency with the general plan, the City is required to find that the proposed project would generally be consistent with the priority policies.

The project's proposal to renovate and reuse the Marshal Hale hospital building at 3698 California Street includes plans to preserve and incorporate the historic portion of the building into the project design. Therefore, this aspect of the project would be consistent with the above policy that calls for the preservation of historic buildings. The proposed project would provide housing on the site, which would be compatible with existing uses in the vicinity and support citywide affordable housing efforts, most likely through payment of in-lieu fees. Other features of the proposed project such as proximity to transit, incentives to use alternative modes of transportation, enhanced streetscapes for increased walkability, and provision of resident open space are compatible with the priority policies of the Accountable Planning Initiative. The proposed project would not obviously conflict with the priority policies of the Accountable Planning Initiative.

PLANNING CODE

The planning code incorporates by reference the City's zoning maps and governs allowable uses, densities, and the configuration of buildings in San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless either the proposed action conforms to the planning code or an exception is granted pursuant to provisions of the planning code. The following section describes the project's consistency with its applicable land use districts, and the bulk, height, and other regulations assigned to the project site. This analysis incorporates information from the planning code compliance analysis for the proposed project, which was submitted with the revised conditional use authorization and planned unit development application on June 1, 2018.[16]

ALLOWABLE USES AND DENSITY

The project site is located primarily (83 percent) within the RM-2 (Residential, Mixed – Moderate Density) zoning district, with portions (17 percent) in the RH-2 (Residential, House – Two Family) zoning district. The RM-2 district allows apartments and houses at a maximum density of three dwelling units per lot or one dwelling unit per 600 square feet of lot area. The RH-2 district allows two-family houses at a maximum density of two dwelling units per lot, with up to one unit per 1,500 square feet of lot area with conditional use authorization. Accessory uses[17] are not permitted to occupy more than 33 percent of the total floor area for primary use.

The proposed project would construct or renovate a total of 273 residential units, providing approximately 618,200 square feet of residential space. The single-family and multi-family units, as well as accessory amenity space, are permitted uses in the district. The project proposes an amenity building on Block C, with a 14,787-square-foot recreational and amenity facility for project residents, which would occupy less than 2.5 percent of the primary residential floor area and would therefore comply with allowable accessory uses. Overall proposed density for the entire project site (RM-2 and RH-2 areas combined) is approximately one unit per 773 square feet of lot area, which complies with the allowed density limits. Refer to Figure 2-4, Existing Lots, Zoning, and Height and Bulk Districts, in Chapter 2, *Project Description*. As shown, the project would be consistent with the allowable uses and density permitted at the project site.

HEIGHT AND BULK

The majority of the project site is in the 80-E height and bulk district, with the exception of two lots that cover approximately 8 percent of the project site in the 40-X height and bulk district. Per article 2.5 of the planning code, the 80-E district allows a maximum building height of 80 feet, with building areas exceeding 65 feet in height restricted to no larger than 110 feet in length and 140 feet in diagonal dimension. The 40-X district allows a maximum building height of 40 feet and has no bulk limitation.

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[16] Reuben, Junius & Rose, LLP. 2018. *Planning Code Compliance Analysis for Redevelopment of CPMC California Campus at 3700 California Street*.

[17] Accessory uses are defined as either (a) necessary to operation or enjoyment of a lawful principal use or conditional use or (b) appropriate, incidental, and subordinate to any such use.

Table 2-2 in Chapter 2, *Project Description*, details the building characteristics including heights associated with the project. The project would seek a conditional use authorization to permit development of buildings with heights in excess of 50 feet in an RM district and in excess of 40 feet in an RH district, all within the 80-E height and bulk district (section 253).

Per Planning Code section 304, projects on larger sites can be reviewed as planned unit developments in order to be developed as integrated units. Modification of certain code requirements can be granted "in cases of outstanding overall design, complementary to the design and values of the surrounding area." The project would seek approval for consideration as a planned unit development and exceptions for the following planning code requirements: rear yard (section 134),[18] moderation of building fronts (section 144.1),[19] minor deviation from height measurement (section 261),[20] and projections over streets (section 136).[21] Some units in the project may also require an exception from the dwelling unit exposure requirement (section 140).

Affordable Housing

Planning Code sections 415 et seq. set the requirements and procedures for the Inclusionary Affordable Housing Program. The proposed project would meet those requirements, most likely by payment of an in-lieu fee.

Other Planning Code Requirements

Residential Design Guidelines

Planning Code section 311 specifies the City's residential design guidelines, which articulate expectations regarding the character of the built environment and are intended to promote design that will protect neighborhood character, enhancing the attractiveness and quality of life in the city. The guidelines address basic principles of urban design that will result in residential development that maintains cohesive neighborhood identity, preserves historic resources, and enhances the unique setting and character of the city and its residential neighborhoods. The guidelines also suggest opportunities for residential designs to further the City's goal of environmental sustainability. The project has been designed in accordance with these guidelines.

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[18] Both RM-2 and RH-2 districts require a rear-yard set-back of 45 percent of the lot depth, except for reductions that are based on the average for adjacent buildings; if averaged, the rear-yard set-back must be at least 25 percent of lot depth but no less than 15 feet.

[19] Buildings in RM-2 districts constructed on lots that are more than 35 feet wide are required to provide certain relief to façade massing by varying the building height or depth at intervals of no more than 35 feet.

[20] RH-2 district limits the building front height to 30 feet and overall building height to 40 feet.

[21] Section 136 outlines the types of obstructions/overhangs, such as bay windows or decorative architectural elements, which may be permitted over streets and alleys.

Open Space

Planning Code section 135 specifies the amount of usable open space required to be supplied by new residential development in RH-2 and RM-2 zoning districts. "Private usable open space" is defined as areas private to and designed for use by only one dwelling unit; "common usable open space" is defined as an area or areas designed for joint use by two or more dwelling units. The usable open space requirement in the RH-2 district is 125 square feet per dwelling unit if private, plus one-third more for any portion of usable open space that is common. RM-2 zoned parcels require 80 square feet per dwelling unit if private, plus one-third more for any portion of usable open space that is common.

The proposed project would include shared onsite amenity space and approximately 86,200 square feet of private and common open space areas for residents only. Approximately 33,363 square feet of the total would be common open space, not including possible roof top areas, distributed throughout all three blocks. The common open space would consist of landscaping and hardscape within interior courtyards, rear yards, and front yard setbacks as well as shared gardens, patios, and possible roof decks. The remaining square footage would be in the form of private rear-yards connected to the single-family residences. The proposed project would comply with the City's open space specifications. The project would not include publicly accessible open space, and none is required by the planning code.

Rooftop Screening

Planning Code section 141 specifies the City's rooftop screening requirements that mechanical equipment and appurtenances must not be visible from any point at or below the roof level of the subject building. The project's rooftop configurations—including mechanical equipment, potential solar and living roof areas, and potential open space areas—have not yet been fully determined; however, the project is expected to comply with rooftop screening requirements. The roof coverage of the project would incorporate 15 percent solar or 30 percent living roof, or a combination of the two.

Street Frontage

The planning code addresses some visual aspects of street frontages in residential districts under section 144, including allowances, locations, and widths of off-street parking entrances, windows, and landscaping. The project has been designed to comply with the regulations regarding street frontage in residential districts.

The purpose of Planning Code section 138.1 is to "establish requirements for the improvement of the public right-of-way associated with development projects, such that the public right-of-way may be safe, accessible, convenient and attractive to pedestrian use and travel by all modes of transportation consistent with the San Francisco General Plan, achieve best practices in ecological stormwater management, and provide space for public life and social interaction, in accordance with the City's 'Better Streets Policy.'" The San Francisco Better Streets Plan[22] (discussed below) carries out the Better Streets Policy (section 98.1) adopted by the board of supervisors in 2006, and governs the design, location, and dimensions of all pedestrian and streetscape items in the public right-of-way, including crosswalks, sidewalk bulb-outs, street furniture, planters, and trees.

The project site is more than 0.5 acre in size, requiring submittal of a streetscape plan. This plan would show the location, design, and dimensions for all existing and proposed streetscape elements in the public right-of-way directly adjacent to the front of the property—including street trees, sidewalk landscaping, street lighting, site furnishings, utilities, driveways, and curb lines—and the relation of such elements to the proposed new construction and site work. The project's streetscape plan has not yet been submitted, but the project is expected to comply with this requirement and those in the San Francisco Better Streets Plan (discussed below).

SIDEWALKS

According to the planning code, California Street is both a commercial and residential throughway with a 12-foot minimum and 15-foot recommended sidewalk width. Sacramento, Maple, and Cherry streets are neighborhood streets with a 10-foot minimum and 12-foot recommended sidewalk width. Improvements to and alteration of sidewalks may be necessary pursuant to the San Francisco Better Streets Plan (discussed below). The project proposes widening the existing sidewalks along Maple Street and making appropriate sidewalk and street improvements on the perimeters of the project site. Proposed streetscape improvements would include enhanced sidewalk and entry paving, approximately 4,500 square feet of planting, light fixtures, sidewalk bulb-outs, bike racks, and new street trees.

STREET TREES

Per Planning Code sections 802-–811, the project would be required to coordinate with San Francisco Public Works for existing tree removal and submittal of a tree planting and protection checklist to comply with the applicable tree removal processes. Planning Code section 138.1 governs regulations for new street tree planting and generally requires one new tree for every 20 feet of street frontage; however, the public works director may waive or modify these requirements as appropriate, based on specific site conditions.

The proposed project would remove 42 of the 77 existing street trees and plant 68 new street trees, for a total of 103 street trees (26 net new street trees). Project landscaping plans have been developed to comply with the San Francisco Better Streets Plan (as discussed below). According to the required ratio, the project site would require 134 street trees. The proposed project would seek a partial waiver for 31 street trees.

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[22] City of San Francisco Planning Department. 2010. *San Francisco Better Streets Plan*.

CURBS

There are no planning code requirements for curb colors, but changes to existing conditions are generally governed by San Francisco Municipal Transportation Agency. Existing curbs at the project site are white, yellow, and blue, and the existing curb cuts and on-street parking spaces are based on current hospital and medical uses. The proposed project would seek an overall evaluation and revision to the curb conditions, based on the new residential uses.

VEHICULAR PARKING, BICYCLE PARKING, AND LOADING

In RH-2 and RM-2 districts, Planning Code section 151 requires one parking space per dwelling unit; it also allows accessory parking at a rate of 150 percent of the required amount of parking where three or more spaces are required. Single-family dwellings are allowed up to two spaces per unit. Parking in excess of the requirement and permitted accessory parking can be approved with a conditional use authorization for private parking-garage uses.[23]

The project would provide a total of 416 parking spaces, including 392 subterranean spaces and 24 at-grade private spaces (for the 12 single-family residences with two-car garages), for an average of 1.5 spaces per unit. The single-family residences would include two spaces per unit. The project would comply with the City's parking configurations (Planning Code section 155) and the TDM requirements (as discussed below). In addition, 16 parking spaces are designed and dedicated for persons with disabilities, in accordance with the Americans with Disabilities Act and Planning Code section 155. The project would exceed the City's-car share parking space requirements by providing seven car share spots where only two are required. The project would provide 411 Class I bike storage spaces (where 143 would be required based on number of dwelling units), 22 Class II bike storage spaces (where 14 are required), and 13 spaces for cargo bikes. Therefore, the proposed project exceeds the bicycle parking requirements in Planning Code section 155.2. In addition, the project would provide four loading spots (three in the central garage in Block B and one in Block C), thereby exceeding the three-loading-spot minimum for compliance with City's off-street loading requirement (Planning Code sections 152, 154, and 155). The project would also comply with all screening for vehicular use areas (Planning Code section 142). Given the above, the proposed project would not conflict with the parking or loading requirements outlined in the planning code.

TRANSPORTATION DEMAND MANAGEMENT PLAN

The San Francisco Planning Code requires certain new development projects to incorporate design features, incentives, and tools that reduce vehicle miles traveled (VMT) (section 169). Development projects must choose measures from a menu of options to develop an overall

[23] Ordinance No. 311-18, which changed parking requirements and allowances throughout the city, is not applicable because the application for the proposed project was submitted to the planning department prior to January 21, 2019, which is when the ordinance became effective.

TDM plan. Some options in the menu 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.

The project has submitted a TDM plan that complies with the City requirement by encouraging a reduction in the number of person trips by automobile through key design features that promote walking as well as transit and bicycle use in general. Section 2.5.7 in Chapter 2, *Project Description*, outlines the proposed project's TDM plan. Measures include improvements to the pedestrian environment at the project site; onsite bike parking, a bike repair station, and bike maintenance vouchers; car-share memberships for each dwelling and car-share parking spaces; delivery support amenities; onsite sale of transit passes and reduced rates for residents; and way-finding maps and transit planning tools.

GREEN BUILDING CODE

The Green Building Ordinance (ordinance 97-2) was approved in 2017 and was informed by the recommendations of the Mayor's Task Force on Green Buildings to reduce the impacts that buildings in San Francisco have on the environment, local infrastructure, and public health. Green building requirements were updated in 2010 to combine the mandatory elements of the 2010 California Green Building Standards Code with stricter local requirements, and updated again in 2013 and 2016 to incorporate changes to California's Green Building Standards and Energy Efficiency Standards (title 24 part 6).

New construction in San Francisco must meet all applicable California codes; install solar electric, thermal, or a green roof for all new buildings ten floors in height or less; provide on-site facilities for recycling and composting; and meet City green building requirements tied to the Leadership in Energy and Environmental Design (LEED) and GreenPoint-Rated green building rating systems. Starting January 1, 2018, new construction is required to have electrical infrastructure capable of supplying electricity for electric vehicle charging at 100 percent of new off-street parking spaces.

The proposed project has been designed to comply with the Green Building Code.

B. REGIONAL PLANS AND POLICIES

2017 BAY AREA CLEAN AIR PLAN

The Bay Area Air Quality Management District adopted the *2017 Bay Area Clean Air Plan: Spare the Air, Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area,* on April 19, 2017, to provide a regional strategy for improving Bay Area air quality and meeting public health goals.[24] The control strategy described in the 2017 Bay Area Clean Air Plan includes a wide range of control measures to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reducing greenhouse gas (GHG) emissions to protect the climate.

The 2017 Bay Area Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, reactive organic gases and oxides of nitrogen; particulate matter, primarily particulate matter 2.5 microns in diameter or less ($PM_{2.5}$) and precursors to secondary $PM_{2.5}$; air toxics; and GHGs. The control measures are categorized according to an economic sector framework that includes stationary sources as well as sectors related to transportation, energy, buildings, agriculture, natural and working lands, waste management, and water. Refer to Draft EIR Section 4.4, *Air Quality* (Impact AQ-4), for a discussion of the proposed project's compliance with the 2017 Bay Area Clean Air Plan.

PLAN BAY AREA 2040

Plan Bay Area 2040[25] is a state-mandated, integrated long-range transportation and land use plan. As required by Senate Bill 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 GHG 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 (MTC) and the Association of Bay Area Governments (ABAG) adopted the latest plan in 2017. MTC and ABAG forecast that the Bay Area will see increases in population as well as the number of jobs and households between 2010 and 2040. The population is estimated to increase from 7.2 million to 9.6 million, the number of jobs is forecast to increase from 3.4 million to 4.7 million, and the number of households is expected to increase from 2.6 million to 3.4 million. To meet the GHG reduction targets, the plan identified priority development areas (PDAs). The proposed project is not located in a PDA; however, the project's objectives (i.e., to create housing in an existing neighborhood and near transit) would be consistent with the goals of Plan Bay Area 2040.

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24 Bay Area Air Quality Management District. 2017. *2017 Bay Area Clean Air Plan: Spare the Air, Cool the Climate, A Blueprint for Clean Air and Climate Protection in the Bay Area*. April 19. Available: 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: October 2, 2018.

25 Metropolitan Transportation Commission and the Association of Bay Area Governments. 2017. *Plan Bay Area 2040 Final Plan*. Available: http://www.2040.planbayarea.org/what-is-plan-bay-area-2040. Accessed: April 24, 2019.

WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY BASIN

The San Francisco Bay Basin (Region 2) Water Quality Control Plan[26] guides planning within the San Francisco Bay Basin. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes implementation programs to achieve water quality objectives. As described in Section E.16, *Hydrology and Water Quality*, in the initial study (Appendix B), the proposed project would not result in substantial water quality effects; therefore, the proposed project would not conflict with the basin plan.

C. OTHER LOCAL PLANS AND POLICIES

CLIMATE ACTION PLAN

The climate action plan[27,28] presents estimates of San Francisco's baseline GHG emissions inventory and reduction targets, and it indicates that burning fossil fuels in vehicles and for energy use in buildings and facilities is a major contributor to San Francisco's GHG emissions. The climate action plan includes GHG-reduction strategies such as targeting emission reductions from fossil fuel use in cars, power plants, and commercial buildings; developing renewable energy technologies like solar, wind, fuel cells, and tidal power; and expanding residential and commercial recycling programs. According to the plan, achieving these goals will require the cooperation of a number of different City agencies.

On September 8, 2016, Governor Jerry Brown signed Senate Bill 32, which requires the state to reduce GHG emissions to 40 percent below 1990 levels by 2030. However, the City's 2008 GHG reduction ordinance had already established a citywide reduction goal of 40 percent below 1990 levels by 2025.[29] The City's 2013 Update to the Climate Action Strategy[30] demonstrates that the GHG reduction strategies will reduce San Francisco's carbon footprint to 44 percent below the 1990 level by 2025, thereby exceeding the reduction requirements of the ordinance, which has a target date that precedes the new state law by five years.

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26 Regional Water Quality Control Board, San Francisco Region. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan.*

27 City of San Francisco Department of the Environment and San Francisco Public Utilities Commission. 2004. *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*. Available: https://sfenvironment.org/sites/default/files/fliers/files/climateactionplan.pdf. Accessed: September 19, 2018.

28 City of San Francisco Department of the Environment. 2013. *San Francisco Climate Action Strategy, 2013 Update.* Available: http://sfenvironment.org/sites/default/files/engagement_files/sfe_cc_ClimateActionStrategyUpdate2013.pdf. Accessed: November 6, 2018.

29 San Francisco Environment Code, chapter 9, sections 900 through 908, "2008 GHG Reduction Ordinance," Ordinance No. 81-08, approved April 29, 2008.

30 City of San Francisco Department of the Environment. 2013. *San Francisco Climate Action Strategy*, *2013 Update*. October, p. vii. Available: http://sfenvironment.org/sites/default/files/engagement_files/sfe_cc_ClimateActionStrategyUpdate2013.pdf. Accessed: January 11, 2019.

An analysis of the proposed project's potential effects on global warming and GHGs is provided under Section E.8, *Greenhouse Gas Emissions*, in the initial study (Appendix B), which determined that impacts would be less than significant and would not require further analysis in this EIR. As explained more thoroughly in the initial study, the project would not conflict with San Francisco's climate action plan and regional and statewide actions to reduce GHGs.

SAN FRANCISCO BICYCLE PLAN

In August 2009, the board of supervisors approved the San Francisco Bicycle Plan. The plan outlines 60 improvement projects and long-term opportunities for bicycle route upgrades. The bicycle plan includes a citywide bicycle transportation plan ("Policy Framework") and identifies specific bicycle improvements ("Network Improvement"). The bicycle plan includes objectives and suggests policy changes to enhance the city's bike-ability. It describes the existing bicycle route network (a series of interconnected streets in which bicycling is encouraged) and identifies key gaps within the citywide bike network that require attention.

As described in Chapter 2, *Project Description*, the proposed project does not include any changes to the existing bicycle network. However, the proposed project seeks to encourage a reduction in the number of person trips by automobile and would provide onsite amenities to support biking as an appealing and convenient form of transportation. The project's proposed bike-related amenities under the TDM plan (as described above) include secure onsite bicycle parking for residents, secure storage for family cargo bikes, sidewalk bicycle lockers, an onsite bike repair station, and bike maintenance services for residents in the form of vouchers for local bike shops or on-call maintenance. The proposed project would not conflict with the bicycle plan.

SAN FRANCISCO BETTER STREETS PLAN

In 2006, the 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 to be 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.

The Better Streets Plan consists of policies and guidelines for San Francisco's pedestrian realm. Major concepts related to streetscape and pedestrian improvements include (1) pedestrian safety and accessibility features, such as enhanced pedestrian crossings, corner or midblock curb extensions, pedestrian countdown and priority signals, and other traffic calming features; (2) universal pedestrian-oriented design, with incorporation of street trees, sidewalk plantings, furnishing, lighting, efficient utility location for unobstructed sidewalks, shared single surface for small streets/alleys, and sidewalk/median pocket parks; (3) integrated pedestrian/transit functions using bus bulb-outs and boarding islands (bus stops in medians within the street); (4) opportunities for new outdoor seating areas; and (5) improved ecological performance with incorporation of stormwater management techniques and urban forest maintenance.

The requirements of the San Francisco Better Streets Plan are incorporated into the planning code as section 138.1. The proposed project would be consistent with the Better Streets Plan by complying with Planning Code section 138.1 through the implementation of the following measures: (1) sustainability in project design; (2) streetscape features for pedestrian safety and comfort on all edges of the project site, such as enhanced paving, street trees and plantings, lighting, and sidewalk bulb-outs; and (3) a new crosswalk with flashing lights across California Street from west of Commonwealth Avenue to east of Maple Street. All such streetscape improvements would require coordination with relevant City departments, such as the San Francisco Public Utilities Commission, the public works department, and the fire department to ensure no disruption of service. Also, the project site is more than 0.5 acre in size and would require submittal of a streetscape plan (section 138.1). Project plans were specifically developed for consistency with the Better Streets Plan requirements and would not be inconsistent with them. Refer to Section 4.2, *Transportation and Circulation*, of this EIR for an analysis of the proposed project's impact on pedestrian circulation and safety as well as consistency with specific Better Streets Plan requirements.

VISION ZERO

In 2014, the board of supervisors adopted a resolution to implement an action plan to reduce traffic fatalities to zero by 2024 through engineering, education, and enforcement (resolution 91-14). Numerous San Francisco agencies responsible for the aforementioned aspects of the action plans adopted similar resolutions. In 2017, the board of supervisors amended the transportation and urban design elements of the general plan to implement Vision Zero (ordinance 175-17).

Vision Zero identifies Arguello Boulevard between Conservatory Drive in Golden Gate Park and West Pacific Avenue in the Presidio as a high-injury corridor. It also identifies California Street between Second Avenue and 18th Avenue as a high-injury corridor. These two corridors provide access to the project site from the west and southwest. Refer to Section 4.2, *Transportation and Circulation*, of this EIR for an analysis of the proposed project's impacts on bicycle and pedestrian safety at study intersections within these two corridors.

TRANSIT FIRST POLICY

In 1973, the board of supervisors declared that public transit be given priority over other vehicles on San Francisco streets. In 1998, the San Francisco voters amended the City Charter (charter article 8A, section 8A.115) to include a transit first policy. The San Francisco General

Plan incorporates that policy, which requires all City boards, commissions, and departments to implement principles that, among others, encourage the use of public rights-of-way by people walking, bicycling, and riding public transit above the use of the personal automobile.

Many of the trips associated with the proposed project are anticipated to be made via public transportation because of the project site's proximity to numerous local San Francisco Municipal Railway routes and many routes that connect to the larger regional transit system, such as Golden Gate Transit and Bay Area Rapid Transit. The project's pedestrian-friendly improvements are also aimed at encouraging walking and biking from the project site to local and regional transit. Therefore, implementation of the proposed project would not obviously conflict with the Transit First Policy; this is discussed further in Section 4.2, *Transportation and Circulation*, of this EIR.

TRANSPORTATION SUSTAINABILITY PROGRAM

The Transportation Sustainability Program is a joint effort by the Mayor's Office, the San Francisco Planning Department, the San Francisco Municipal Transportation Agency, and the San Francisco County Transportation Authority. The Transportation Sustainability Program is an initiative aimed at improving and expanding the transportation system to help accommodate new growth and create a policy framework for private development to minimize its impact on the transportation system, including helping to pay for the system's enhancement and expansion. The program is composed of the following three objectives:

- **Fund Transportation Improvements to Support Growth.** The Transportation Sustainability Fee set forth in Planning Code section 411A is assessed on new development, including residential development, to help fund improvements to transit capacity and reliability as well as bicycle and pedestrian improvements. The new Transportation Sustainability Fee replaces the Transit Impact Development Fee that was levied on most new non-residential developments citywide to offset a new development's impacts on the transit system. The Transportation Sustainability Fee is applicable to the proposed project.

- **Modernize Environmental Review.** This component of the Transportation Sustainability Program changes how the City analyzes impacts of new development on the transportation system under CEQA. This reform has been helped by California Senate Bill 743, which requires the State Office of Planning and Research (OPR) to develop revisions to the CEQA Guidelines and establish criteria for determining the significance of transportation impacts from 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, 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. OPR issued its final guidelines on December 28, 2018, recommending that transportation impacts be measured by VMT, which is a measure of the distance that a project causes potential residents, tenants, employees, and visitors of a project to drive. The Planning Commission adopted Resolution 19579 regarding this reform on March 3, 2016.

- **Encourage Sustainable Travel.** This component of the Transportation Sustainability Program would help manage demand on the transportation network through a TDM plan, ensuring new developments are designed to make it easier for new residents, tenants, employees, and visitors to get around by sustainable travel modes such as transit, walking, and biking. Each measure included in the TDM plan is intended to reduce VMT from new development. The TDM plan is applicable to the proposed project.

The board of supervisors approved Planning Code section 169 on February 17, 2017, to require TDM plans as part of most new development, as defined in Planning Code section 169.

The proposed project would comply with Planning Code section 169, as described above. Section 2.5.7 of Chapter 2, *Project Description*, outlines the proposed project's TDM plan. Therefore, the proposed project would generally comply with the Transportation Sustainability Program.

D. SUMMARY

As discussed above, the proposed project implements various policies of the general plan, particularly those related to infill development and residential housing production close to transit. The project application includes requests for conditional use/planned unit development authorization. The staff report for the Planning Commission will evaluate the consistency of the proposed project with general plan policies and applicable planning code regulations, and the Planning Commission will make a consistency determination as part of the project approval process, separate from the environmental review. The physical environmental impacts of the proposed project are evaluated in Chapter 4, *Environmental Setting and Impacts*.

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4 ENVIRONMENTAL SETTING AND IMPACTS

4.1 INTRODUCTION

4.1.1 OVERVIEW

This chapter provides a project-level impact analysis of the physical environmental impacts of implementing the 3700 California Street Project, as described in Chapter 2, *Project Description*. It describes the environmental setting, assesses impacts (offsite, onsite, construction-related, operational, direct, and indirect) and cumulative impacts, and identifies mitigation measures to reduce or avoid identified significant environmental impacts.

4.1.2 SCOPE OF ANALYSIS

The project sponsor, TMG Partners, filed an environmental evaluation application for the proposed project with the planning department on March 17, 2017. A revised application for environmental evaluation of the proposed project was filed on June 1, 2018. The environmental impact report (EIR) process provides an opportunity for the public to review and comment on the proposed project's potential environmental effects and further inform the environmental analysis. The San Francisco Planning Department published a notice of preparation (NOP) of an EIR on September 19, 2018, requesting that agencies and interested parties comment on environmental issues that should be addressed in the EIR. The initial study, which is published as an appendix to this draft EIR, concluded that many of the physical environmental impacts of the proposed project would result in less-than-significant impacts or that mitigation measures agreed to by the project sponsor and required as conditions of project approval would reduce significant impacts to a less-than-significant level. The California Environmental Quality Act (CEQA) does not require further assessment of the project's less-than-significant impacts or impacts determined to be less than significant with inclusion of mitigation measures that have been identified, including impacts related to the following topics: land use and planning, population and housing, cultural resources (historic architectural resources, archaeological resources, human remains), tribal cultural resources, noise (aviation-related topics), air quality (odors), greenhouse gas 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, agriculture and forestry resources, and wildfire.

The initial study (refer to Appendix B) determined that the proposed project could result in potentially significant impacts related to the following topics, which are addressed in this EIR:

- Transportation and circulation (all topics)
- Noise (all topics except aviation-related topics)
- Air quality (all topics except odors)

4.1.3 SENATE BILL 743 AND PUBLIC RESOURCES CODE SECTION 21099

AESTHETICS AND PARKING ANALYSIS

California Public Resource Code section 21099(d) states that "aesthetic and 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." [1] Accordingly, aesthetics and parking are no longer to be considered in determining whether a project has the potential to result in significant environmental effects if the project meets the following criteria:

a) The project is in a transit priority area[2]

b) The project is on an infill site[3]

c) The project is residential, mixed-use residential,[4] or an employment center.[5]

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1 Refer to Public Resources Code section 21099(d)(1).

2 Public Resources Code section 21099(a)(7) defines a "transit priority area" as an area within 0.5 mile of an existing or planned major transit stop. A "major transit stop" is defined in Public Resources Code section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

3 Public Resources Code section 21099(a)(4) defines an "infill site" as a lot within an urban area that has been previously developed or a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated by only an improved public right-of-way from, parcels that are developed with qualified urban uses.

4 Public Resources Code section 21159.28(d) defines a "mixed-use residential" project as one where at least 75 percent of the total building square footage of the project consists of residential use or a project that is a transit priority project, as defined in Public Resources Code section 21155. Public Resources Code section 21155 defines a "transit priority project" as one that (1) contains at least 50 percent residential use, based on total building square footage, or, if it contains between 26 and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provides a minimum net density of at least 20 dwelling units per acre; and (3) is within 0.5 mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.

5 Public Resources Code section 21099(a)(1) defines an "employment center" as a project located on property zoned for commercial uses, with a floor area ratio of no less than 0.75, and within a transit priority area.

The proposed project would meet each of the above criteria because it would (1) be located within 0.5 mile of several Muni bus lines; (2) be located on an infill site that is already developed with two parking garages, a six-story hospital, two medical office buildings, a residential building, an outpatient/research building, and a vacant hospital; and (3) include residential uses. Thus, this EIR, as documented in the 3700 California Street CEQA Section 21099 checklist prepared on July 18, 2018, does not consider aesthetics and the adequacy of parking in determining the significance of project impacts under CEQA.

Public Resources Code section 21099(e) states that a lead agency maintains the authority to consider aesthetic impacts, pursuant to local design review ordinances or other discretionary powers, and that aesthetic impacts do not include impacts on historical or cultural resources. Therefore, there has been no change in the planning department's methodology related to design and historic review. This EIR presents parking demand information in Section 4.2, *Transportation and Circulation,* and considers any secondary physical impacts associated with constrained parking supply (e.g., queuing by drivers waiting for scarce onsite parking spaces that affects the public right-of-way) in the transportation, air quality, greenhouse gas emission, noise, and pedestrian safety analyses in the EIR and initial study.

AUTOMOBILE DELAY AND VEHICLE MILES TRAVELED

California Environmental Quality Act (CEQA) section 21099(b)(1) requires the Office of Planning and Research (OPR) to 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 its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, recommending that the transportation impacts of projects be measured using a vehicle-miles-traveled (VMT) metric. On March 3, 2016, based on compelling evidence in that document and the planning department's independent review of literature on level of service and VMT, the Planning Commission adopted OPR's recommendation to use the VMT metric instead of automobile delay in evaluating the transportation impacts of projects (resolution 19579). In December 2018, OPR released its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, finalizing these recommendations. Also in December 2018, the Natural Resources Agency finalized updates to the CEQA Guidelines that replaced level of service with VMT as a transportation threshold in the Appendix G initial study checklist. Accordingly, this EIR does not contain a discussion of automobile delay impacts. Instead, a VMT and induced automobile travel impact analysis is provided in Section 4.2, *Transportation and Circulation*. Nonetheless, automobile delay may be considered by decision makers, independent of the environmental review process, as part of their decision to approve, modify, or disapprove the proposed project.

4.1.4 CEQA Methodological Requirements

CEQA Guidelines section 15151 describes standards for the preparation of an adequate EIR. The specific standards under section 15151 are listed below.

- An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision that intelligently takes into account environmental consequences
- An evaluation of the environmental impacts of a project need not be exhaustive; rather, the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts

In practice, the above points indicate that EIR preparers should adopt a reasonable methodology upon which to estimate impacts. This approach means making reasonable assumptions, using the best information available. In some cases, when information is limited or there are variations in project characteristics, EIR preparers will employ a "reasonable worst-case analysis" to capture the largest expected change from existing baseline conditions resulting from implementation of a project.

4.1.5 Format of Environmental Analysis

Each of the resource areas provided in Sections 4.2, *Transportation and Circulation* (all topics); 4.3, *Noise* (all topics except aviation-related topics); and 4.3, *Air Quality* (all topics except odors), includes the subsections listed below.

Introduction

This subsection includes a brief description of the types of impacts that are analyzed as well as a summary of the impacts that were scoped out in the initial study (i.e., impacts that were determined to result in a less-than-significant impact).

Environmental Setting

This subsection presents a description of existing baseline physical conditions on the project site and in the surroundings (e.g., existing land uses, noise environment, transportation conditions) at time of issuance of the NOP (with respect to each resource topic), with enough detail and breadth to allow a general understanding of the environmental impacts of the proposed project.

REGULATORY FRAMEWORK

This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.

IMPACTS AND MITIGATION MEASURES

The Impacts and Mitigation Measures subsection describes the physical environmental impacts (i.e., the changes to baseline physical environmental conditions) that could result from implementation of the proposed project, as well as any mitigation measures that could avoid, eliminate, or reduce identified significant impacts. This subsection begins with a listing of the significance criteria that have been developed by the planning department for use in determining whether an impact is significant. Environmental topic sections also include an "Approach to Analysis" subsection. This discussion explains the parameters, assumptions, and data used in the analysis. A "Project Features" discussion summarizes the particular aspects of the proposed project that are relevant to each topic.

Under the "Impact Evaluation" discussion, the project-level impact analysis for each topic begins with an impact statement that reflects one or more of the applicable significance criteria. Some significance criteria may be combined in a single impact statement, if appropriate. Each impact statement is keyed to a subject area abbreviation (e.g., TR for Transportation and Circulation) and an impact number (e.g., 1, 2, 3) for a combined alpha-numeric code (e.g., Impact TR-1, Impact TR-2, etc.).

When potentially significant impacts are identified, mitigation measures are presented that would avoid, eliminate, or reduce significant adverse impacts of the project. All mitigation measures will be required as conditions of project approval. Each mitigation measure corresponds to the impact statement and has an "M" in front to signify it is a mitigation measure (e.g., Mitigation Measure M-TR-1 for a mitigation measure that corresponds to Impact TR-1). If there is more than one mitigation measure for the same impact statement, the mitigation measures are numbered with a lowercase letter suffix (e.g., Mitigation Measures M-TR-1a and M-TR-1b).

Improvement measures are recommended actions, agreed to by the project sponsor, which would reduce or avoid impacts found to be less than significant. Identification of improvement measures is not required under CEQA, but they are often presented in San Francisco environmental documents to inform decision makers of additional actions that could improve the proposed project by reducing the magnitude of less-than-significant effects. Improvement measures are designated with an "I" to signify "improvement measure," the topic code, and a letter (e.g., I-TR-A, I-TR-B, etc.).

Each impact statement describes the impact that would occur without mitigation. The level of significance of the impact is indicated in parentheses at the end of the impact statement based on the following terms:

- No Impact – No adverse physical changes (or impacts) to the environment are expected.
- Less than Significant – Impact that would not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations.
- Less than Significant with Mitigation – Impact that is reduced to a less-than-significant level through implementation of the identified mitigation measures.
- Significant and Unavoidable with Mitigation – Impact that exceeds the defined significance criteria and cannot be reduced to less-than-significant levels through compliance with existing local, state, and federal laws and regulations and/or implementation of all feasible mitigation measures.
- Significant and Unavoidable – Impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations and for which there are no feasible mitigation measures.

4.1.6 CUMULATIVE IMPACTS

Cumulative impacts, as defined in CEQA Guidelines section 15355, refer to two or more individual effects that, when taken together, are "considerable" or that compound or increase other environmental impacts. A cumulative impact from several projects is the change in the environment that would result from the incremental impact of the project when added to the impact of closely related past, present, and reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is provided in CEQA Guidelines section 15130:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (e.g., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as the discussion of effects attributable to the project alone.
- The focus of the analysis should be on the cumulative impact to which the identified other projects contribute rather than the attributes of the other projects that do not contribute to the cumulative impact.

The cumulative impact analysis for each individual resource topic is described in each resource section immediately following the description of the direct project impacts and identified mitigation measures.

APPROACH TO CUMULATIVE IMPACT ANALYSIS

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines section 15130(b)(1):

- The analysis can be based on a list of reasonably foreseeable future projects that could produce closely related impacts and combine with those of a proposed project, or
- A summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts.

The following factors were used to determine an appropriate level for cumulative analysis in this EIR:

- **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is "reasonably foreseeable," such as a project with an application on file at the approving agency or approved funding.
- **Geographic Scope and Location.** A relevant project is within the geographic area where effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects on regional air quality consists of the affected air basin, whereas the cumulative effects of construction noise are limited to combined noise from the project and nearby projects.
- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or demolition, long-term operations) would most likely coincide with the timing of related effects from the proposed project.

The analyses in this EIR employ both a list-based approach and a projections approach, depending on which approach best suits the individual resource topic being analyzed. For instance, the cumulative analysis of noise impacts considers individual projects that are anticipated in the vicinity. Such projects in combination with the proposed project may result in cumulative noise effects. By comparison, the cumulative transportation and circulation analysis relies on a projection of overall citywide growth, along with consideration of reasonably foreseeable projects. This is the methodology the planning department typically applies to the analysis of transportation impacts.

The cumulative impact analysis for an individual resource topic is presented in each resource section, immediately after the description of the project impacts and identified mitigation measures.

CUMULATIVE SETTING

Reasonably foreseeable development projects within a 0.25-mile radius of the project site are listed below and mapped in Figure 4.1-1. The three identified projects are:

- **3333 California Street (Case No: 2015-014028ENV):** The 10.25-acre project site is currently developed with a four-story, 455,000-square-foot office building; a below-grade parking garage; a one-story annex building; three surface parking lots; two circular garage ramp structures; and landscaping. The existing office building would be partially demolished and expanded to include new levels. The mixed-use project would include the following uses, depending on the variant: 558 to 744 residential dwelling units in 15 buildings, 0 to 49,999 square feet of office space, 48,593 to 54,117 square feet of retail space, a 14,690-square-foot child care center, 895 to 971 parking spaces, and 236,000 square feet of open areas.
- **3641 California Street (Case No. 2018-007764ENV):** This project consists of demolition of a two-story institutional building (currently used as office space by doctors) and a surface parking lot and construction of a four-story building with six dwelling units, six off-street parking spaces, seven class 1 bicycle spaces, and ground-floor retail space. The building would be 18,030 square feet in area, with 872 square feet of retail, 3,058 square feet of parking, and 14,100 square feet of residential uses.
- **3637–3657 Sacramento Street (Case No. 2007.1347E):** This project consists of the demolition of three existing one- to three-story buildings and the construction of a new 40-foot-tall four-story mixed-use building containing 18 dwelling units, 6,500 square feet of retail use, 10,000 square feet of medical office use, and 64 vehicle parking spaces.

As discussed above, the cumulative analysis may consider the impact of the proposed project in combination with the impact of these projects alone, or in addition to effects from other projects, or reasonably foreseeable growth.

4.1.7 RELATIONSHIP TO CPMC LONG-RANGE DEVELOPMENT PLAN EIR

As discussed in Chapter 2, *Project Description*, the project site is occupied by CPMC, an acute-care hospital located at 3700 California Street. In March 2019, CPMC began relocating to a new hospital campus at Geary Street and Van Ness Avenue; the California Campus will close by the end of 2019.[6] The new hospital at Geary Street and Van Ness Avenue and the proposed 3700 California Street residential project are separate projects that are independently analyzed

[6] San Francisco Chronicle. 2019. *CPMC Van Ness Hospital Opens Saturday*. March 1. Available: https://www.sfchronicle.com/health/article/CPMC-Van-Ness-hospital-opens-Saturday-13653944.php. Accessed: April 18, 2019.

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3700 California Street
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Figure 4.1-1
Cumulative Projects within 0.25-Mile Radius of the Project Site

under CEQA. The environmental impacts associated with the new hospital were analyzed in an EIR prepared by the San Francisco Planning Department and certified by the San Francisco Planning Commission on April 26, 2012.[7] The project evaluated in that EIR, referred to as the CPMC Long-Range Development Plan (LRDP), did not include demolition of the existing hospital at 3700 California Street. The LRDP Draft EIR states that "no substantial changes are proposed at the California Campus in the near term; no demolition or alternation of existing structures is proposed," and "it is assumed that a prospective purchaser would ultimately seek to renovate and/or redevelop the California Campus; however, the nature, timing, and extent of development are unknown at this time and are therefore beyond the scope of this EIR."[8] Because the future of the existing hospital was unknown at the time, the LRDP EIR did not subtract, or "net out," environmental effects associated with the existing hospital in the impact analysis, with the exception of certain utilities.[9]

The proposed 3700 California Street project would demolish the existing hospital on the project site; thus, this EIR and the initial study subtract existing hospital impacts from quantitative analyses. Exceptions to this approach are made for certain utilities. The LRDP EIR did account for reduction in the existing hospital's water use and solid waste generation and, therefore, the 3700 California Street initial study does not apply a reduction in water use or solid waste generation. This approach is discussed in more detail in Section E.12 of the initial study (Appendix B) and in the *Recommendation for Accounting for Existing Hospital Use* memo.[10]

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[7] San Francisco Planning Department, *California Pacific Medical Center Long-Range Development Plan Final Environmental Impact Report*, Case No. 2005.0555E, State Clearinghouse No. 2006062157, 2010, *https://sf-planning.org/cpmc-documents-download.*

[8] Ibid., pp. 2-131–2-132.

[9] ICF memorandum to San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019.

[10] Ibid.

4.2 TRANSPORTATION AND CIRCULATION

4.2.1 INTRODUCTION

This section summarizes and incorporates by reference the results of the transportation analysis prepared by the transportation consultant for the proposed project in accordance with the San Francisco Planning Department's *2002 Transportation Impact Analysis Guidelines for Environmental Review* (SF Guidelines) or subsequent updates.[1,2] The transportation analysis and supporting calculations are included in Appendix F of this environmental impact report (EIR). The transportation analysis examines project impacts on vehicle miles traveled (VMT), traffic hazards, transit, pedestrians, bicycles, loading, and emergency vehicle access as well as the transportation-related impacts of construction activities. All of these transportation subtopics are considered in the discussions of existing conditions, existing-plus-project conditions, and 2040 cumulative conditions. Although parking is no longer considered in determining if a project has the potential to result in significant environmental impacts, this section presents the proposed project's parking demand in relation to the proposed parking supply. This information is used to analyze potential secondary impacts of parking.

4.2.2 ENVIRONMENTAL SETTING

Figure 4.2-1 shows the location of the project site and study intersections within the transportation study area. Access routes within a block of the site are presented in Figure 4.2-2 (p. 4.2-3) along with the existing site plan. The following conditions were considered for this analysis:

- **Transit Conditions:** San Francisco Municipal Railway (Muni) operations within 0.25 mile of the project site, Muni screenlines into the Downtown business district, and regional transit providers;
- **Walking/Accessibility and Bicycling Conditions:** Facilities adjacent to the project site as well as routes to and from nearby transit lines;

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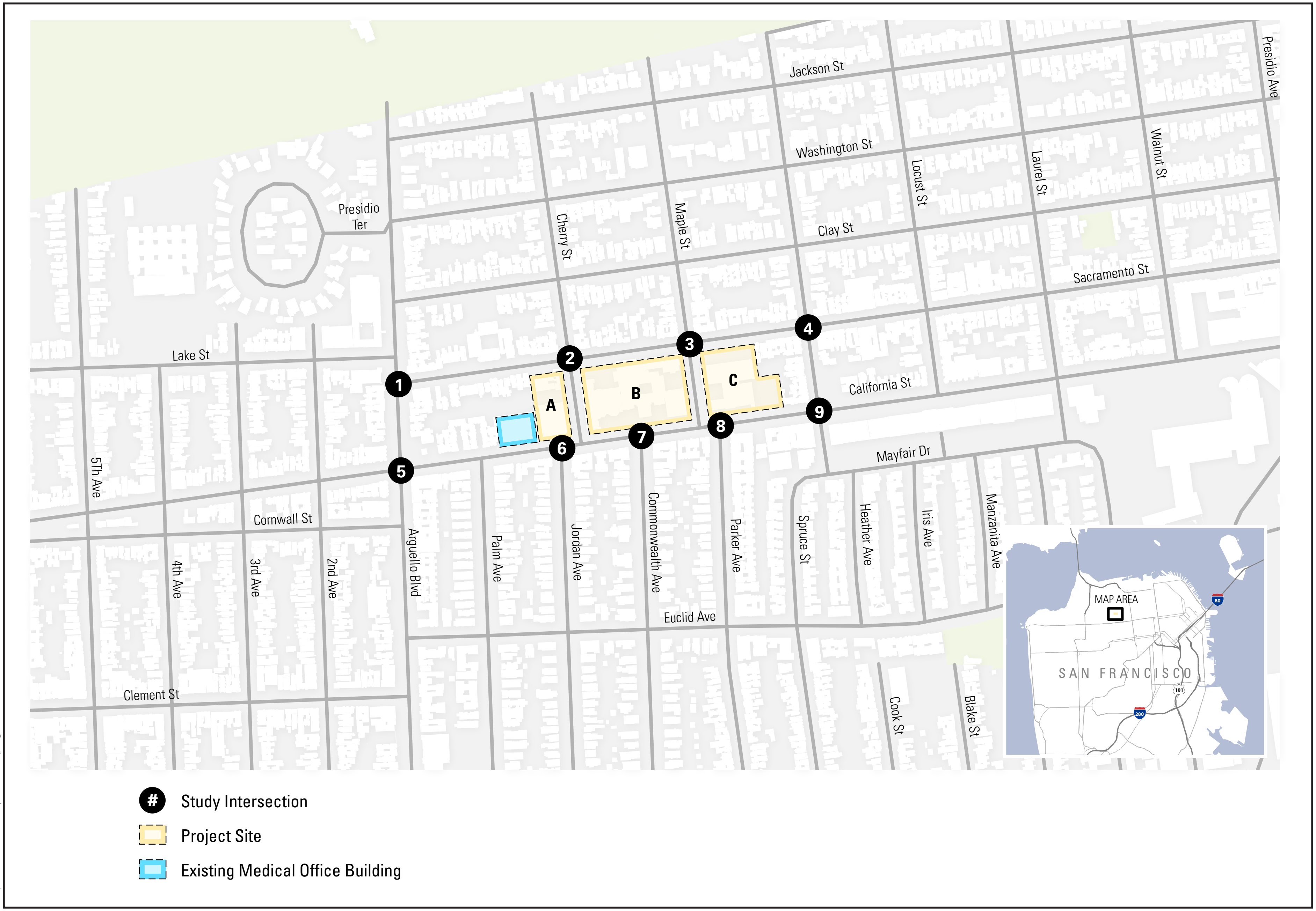
1 *Memorandum #1: Final Travel Demand Estimates for 3700 California* (Fehr & Peers, October 2, 2018) and *Memorandum #2: Transportation Impact Analysis for 3700 California* (Fehr & Peers, October 17, 2018), Case No. 2017-003559ENV, October 2018.

2 In February 2019, the planning department published an update to the 2002 *Transportation Impact Analysis Guidelines for Environmental Review.* The update, which generally clarified prior evaluation criteria and methodology, does not change the impact conclusions in this document. The transportation scope of work for the 3700 California Street Project addresses project issues and is consistent with department guidance.



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3700 California Street
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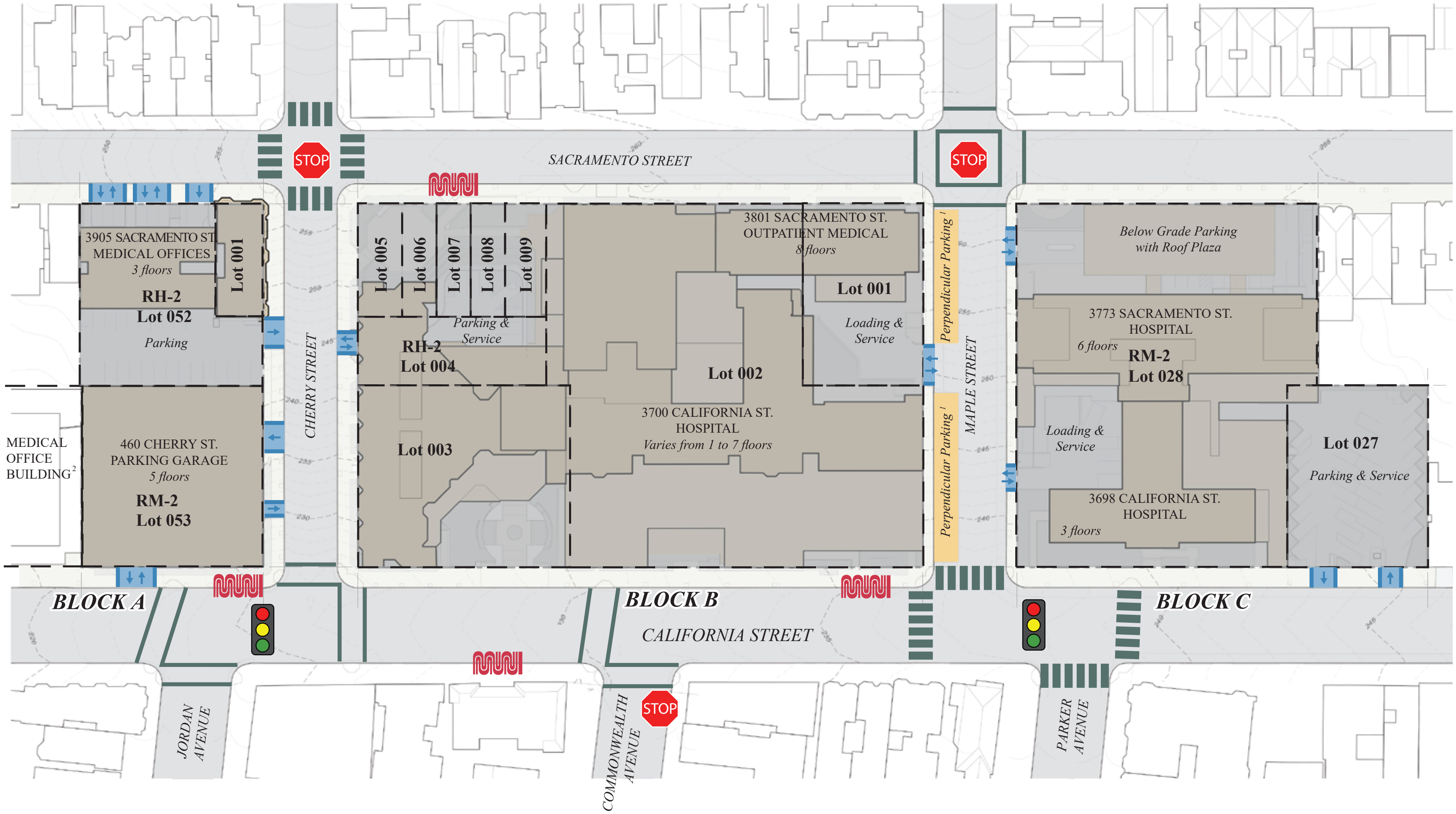
Figure 4.2-1
Project Site and Study Intersections



Driveway

MUNI Stop

Standard Crosswalk

ContinentalCrosswalk

Notes:

[1] The remainder of the curb space includes parallel access for parking or loading. The Project would change most curb space designations fronting the project site, and therefore the specific curb designations are not shown.

[2] Medical office building at 3838 California St. is not part of project site, and will continue to provide medical services.

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Figure 4.2-2
Existing Site Plan and Access Routes

- **Motor Vehicle/Traffic Conditions:** Vehicle operations near the project site;[3] and
- **Loading Conditions:** On-street commercial and passenger loading facilities near the site.

Emergency service conditions at and adjacent to the project site are also discussed. An assessment of parking supply and occupancy is included for the area within one block of the proposed project, generally bounded by Arguello Boulevard, Clay Street, Spruce Street, and Euclid Avenue.

ROADWAY NETWORK

This section describes the regional and local roadway systems in the vicinity of the project site.

REGIONAL ACCESS

Vehicle travel to and from the project site typically involves use of the regional highway transportation facilities that link San Francisco with other parts of the Bay Area as well as Northern and Southern California. The project site is accessible from local streets with connections to and from regional freeways and highways in the state system.

U.S. 101 provides access to both the South Bay and North Bay via the Golden Gate Bridge. In the northern part of San Francisco, surface streets (i.e., Richardson Avenue, Lombard Street, Van Ness Avenue) that are proximate to the project site are part of U.S. 101. From the North Bay, the project site can be accessed from a variety of surface streets, including Park Presidio Boulevard. From the South Bay, the project site can be accessed from U.S. 101 exit 434A to South Van Ness Avenue or a variety of surface streets.

I-80, which is east of the project site, provides regional access to the East Bay from the project site via the San Francisco-Oakland Bay Bridge. I-80 joins U.S. 101 southeast of the project site. The project site can be accessed from any of the San Francisco exits via surface streets, including I-80 exit 1B to US 101. Vehicles traveling from the project site to the East Bay via I-80 would access U.S. 101 primarily from the on-ramp at 13th Street and South Van Ness Avenue, although a range of surface street options exist that connect to other San Francisco U.S. 101 on-ramps.

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3 A draft report by the San Francisco County Transportation Authority, *TNCs & Congestion* (October 2018), studied the factors that increased congestion between 2010 and 2016. The existing transportation conditions analysis for this EIR relies on data collected consistent with or subsequent to the later period in the *TNCs & Congestion* report. Transportation network company vehicles (e.g., Lyft/Uber) that passed through study area intersections during the collection period are included in the counts and thus are included as part of the existing conditions.

LOCAL ACCESS

Local access to the project site is provided from the urban street network.

This section describes key local roadways adjacent to and near the project site. Definitions of local roadway classifications, as described in the transportation element of the San Francisco General Plan, are provided in Appendix F1.

EAST–WEST ROADWAYS

California Street runs east–west from the Financial District to Lincoln Park. California Street is a two-way, four-lane roadway with minimal bicycle facilities along the corridor. California Street is a designated *class 3* bicycle route in both directions between Polk Street and Taylor Street.[4] California Street services many Muni bus routes, including, but not limited to, 1-California, 1BX-California B Express, 2-Clement, and 28R-19th Avenue Rapid. California Street is included in the 2017 Vision Zero High-Injury Network east of Lyon Street and west of Second Avenue.[5] The segment of California Street within the study area is not part of the high-injury network.

Sacramento Street runs east–west from the Financial District to Presidio Heights. Sacramento Street is a one-way, two-lane roadway in the eastbound direction from Drumm Street to Larkin Street, with the northern lane dedicated to taxis only. West of Larkin Street, Sacramento Street transitions to a one-way, two-lane roadway until Gough Street. West of Gough Street, Sacramento Street is a two-way, two-lane roadway until it terminates at Arguello Boulevard. Sacramento Street is designated as a class 3 bicycle route in both directions between Arguello Boulevard and Cherry Street. It also has a designated class 3 bicycle route between Sansome Street and Drumm Street. Sacramento Street serves multiple Muni bus routes, such as the 33-Ashbury/18th and 1-California.

Lake Street is a two-way, two-lane street that runs east–west from Arguello Boulevard to El Camino Del Mar. Lake Street has permitted parking on both sides of the street. There are no Muni bus routes along Lake Street. The nearest Muni bus routes are 28-19th Avenue, 28R-19th Avenue Rapid, and 33-Ashbury/18th. Lake Street has designated *class 2* bicycle lanes in both the east and west directions.

NORTH–SOUTH ROADWAYS

Spruce Street is a north–south roadway that runs between Pacific Avenue and Anza Street. The two-way, two-lane roadway has permitted parking on both sides of the street. Although there are no designated bicycle routes along Spruce Street, multiple class 3 bicycle routes intersect

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[4] See page 4.2-13 for definitions of the various types of bicycle facilities.

[5] City and County of San Francisco, *SF Enterprise GIS Program,* https://sfgov.maps.arcgis.com/apps/webappviewer/index.html?id=fa37f1274b4446f1bdddd7bdf9e708ff; Fehr & Peers visited on August 20, 2018.

Spruce Street. No Muni bus lines travel north–south along Spruce Street; however, there is a Muni bus stop on Geary Boulevard at the corner of Spruce Street that serves the 38-Geary and 38BX-Geary B Express. In addition to serving Muni lines at the Spruce Street and Geary Boulevard intersection, the bus stop also serves the Golden Gate Transit (GGT) 92-Marin City-San Francisco line.

Maple Street is a two-way, north–south roadway that runs between Pacific Avenue and California Street. No direct transit lines stop on Maple Street, but Muni line 33-Ashbury/18th travels southbound on Maple Street between Sacramento Street and California Street. Parking is permitted on both sides of Maple Street, leaving one travel lane in each direction. There are no bicycles facilities on Maple Street.

Cherry Street, which runs north–south for five blocks between Jackson Street and California Street, is perpendicular to Maple Street and adjacent to the project site. Cherry Street is a two-way, two-lane roadway with permitted parking on both sides of the street. Between Sacramento Street and Jackson Street, Cherry Street is a designated class 3 bicycle route in both directions. No Muni lines run along Cherry Street, but there are Muni bus stops on the southeast corner of Sacramento Street and Cherry Street, on the northwest corner of California Street and Cherry Street, and on the south side of Cherry Street west of Commonwealth Avenue.

Arguello Boulevard runs north–south from within the Presidio until Fulton Street. Arguello Boulevard is a two-way, two-lane roadway with permitted parking on both sides of the street. Between Jackson Street and Fulton Street, Arguello Boulevard is a designated two-way class 2 bicycle route. North of Jackson Street, Arguello Boulevard becomes a class 3 bicycle route for one block until the entrance to the Presidio where it transitions back into a class 2 bicycle route. Within the Presidio, Arguello Boulevard becomes a class 3 bicycle route north of Washington Boulevard in the northbound direction. In the southbound direction, Arguello Boulevard stays as a class 2 bicycle lane. Arguello Boulevard serves Muni routes south of Lake Street. Muni routes running on Arguello Boulevard include 33-Ashbury/18th and 2-Clement. Arguello Boulevard is included in the 2017 Vision Zero High-Injury Network through the study area.[6]

Parker Avenue, which runs north–south between Fulton Street and California Street, provides additional access to the north, across California Street, via the off-set intersection with Maple Street. Parker Avenue is a two-way, two-lane roadway with permitted parking on both sides of the street. There are no Muni routes or bus stops on Parker Avenue. Parker Avenue is not a designated street within the city bicycle network; however, it does provide one connection between the project site and the class 2 bicycle lane on Euclid Avenue.

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[6] City and County of San Francisco, *SF Enterprise GIS Program,* https://sfgov.maps.arcgis.com/apps/webappviewer/index.html?id=fa37f1274b4446f1bdddd7bdf9e708ff; Fehr & Peers visited on August 20, 2018.

Commonwealth Avenue, which runs north–south for two blocks between California Street and Geary Boulevard, is a two-way, two-lane roadway with permitted parking on both sides of the street. There are no Muni routes or bus stops on Commonwealth Avenue. Commonwealth Avenue is not a designated street within the city bicycle network; however, it does provide one connection between the project site and the class 2 bicycle lane on Euclid Avenue.

Jordan Avenue, which runs north–south for two blocks between California Street and Geary Boulevard, provides additional access to the north, across California Street, via the off-set intersection with Cherry Street and to the south, across Geary Boulevard, via the off-set intersection with Stanyan Street. Jordan Avenue is a two-way, two-lane roadway with permitted parking on both sides of the street. There are no Muni routes or bus stops on Jordan Avenue. Jordan Avenue is not a designated street within the city bicycle network; however, it does provide one connection between the project site and the class 2 bicycle lane on Euclid Avenue.

TRANSIT CONDITIONS

Public transit access to the project site is provided by Muni's bus service. The North Bay, East Bay, Peninsula, and South Bay are accessible from Muni connections to GGT (North Bay), AC Transit (East Bay), Bay Area Rapid Transit (BART) (East Bay and San Mateo County), Caltrain (Peninsula and South Bay), and San Mateo County Transit District (SamTrans) (San Mateo County). Transit routes near the project site are shown in Figure 4.2-3.

MUNI

Muni operates buses, cable cars, and light-rail lines within San Francisco. Muni routes in the study area and their characteristics as of August 2018 are summarized in Table 4.2-1, p. 4.2-9**.** This transportation analysis uses a 0.25-mile radius as the walking distance for transit access.

Recent changes to transit access adjacent to the project site include the removal of the outbound Muni stop at the northwest corner of California Street at Maple Street. This change was completed in August 2018 as part of Muni Forward to improve transit travel times and reliability.[7] With the removal of this stop, transit riders use the stop at Cherry and California streets when riding in the outbound direction.

DOWNTOWN SCREENLINES

Because the city's transit system is designed to carry passengers into and out of downtown San Francisco, the screenlines that surround downtown were considered. Downtown screenlines represent passengers on a group of similar transit routes near or at their maximum

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[7] San Francisco Municipal Transportation Agency, *Muni Service Changes*, https://www.sfmta.com/alerts/muni-service-changes-august-25-2018; accessed by Fehr & Peers on August 27, 2018.

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Figure 4.2-3
Existing Transit Network

TABLE 4.2-1. LOCAL MUNI OPERATIONS

Route	AM Peak[a]	PM Peak[b]	Hours of Operation	Neighborhoods Served by Route
1-California	4 min	5 min	5:20 a.m.–12:30 a.m. (+1)	Chinatown, Downtown/Civic Center, Financial District, Inner Richmond, Nob Hill, North Beach, Outer Richmond, Pacific Heights, Presidio, Presidio Heights, Russian Hill, Seacliff, Western Addition, Haight Ashbury
1AX-California A Express[c]	10 min	15 min	6:45 a.m.–10:00 a.m., 4:05 p.m.–7:00 p.m.	Express from Inner Richmond, Outer Richmond, Presidio, Seacliff to Financial District
1BX-California B Express	7 min	15 min	6:45 a.m.–10:00 a.m., 4:05 p.m.–7:00 p.m.	Express from Inner Richmond, Pacific Heights, Presidio, Presidio Heights, Western Addition to Financial District
2-Clement	15 min	18 min	6:25 a.m.–7:15 p.m.	Chinatown, Downtown/Civic Center, Financial District, Inner Richmond, Nob Hill, Outer Richmond, Pacific Heights, Presidio Heights, South of Market, Western Addition
28R-19th Avenue Rapid[c]	10 min	10 min	7:00 a.m.–7:00 p.m., weekdays	Crocker Amazon, Golden Gate Park, Inner Richmond, Inner Sunset, Lakeshore, Ocean View, Outer Mission, Outer Richmond, Outer Sunset, Parkside, Presidio, Presidio Heights, West of Twin Peaks
33-Ashbury/ 18th	15 min	15 min	6:00 a.m.–12:30 a.m. (+1)	Bayview, Bernal Heights, Castro/Upper Market, Golden Gate Park, Inner Richmond

Source: Muni, 2015; prepared by Fehr & Peers, 2018.

Notes:

a. Weekday AM peak period: 7:00–9:00 a.m.

b. Weekday PM peak period: 4:00–6:00 p.m.

c. All routes stop along California Street at Cherry Street adjacent to the project site, except for the 1AX-California A Express and the 28R-19th Avenue Rapid. The 1AX-California A Express runs past the project site to 8th Avenue, which is approximately 0.6 mile west of the project. Because the 1BX-California B Express provides duplicative service but stops adjacent to the project site, the 1AX-California A Express is not discussed further in this section. The 28R-19th Avenue Rapid line is not shown in Figure 4.2-3 (p. 4.2-8) because it is outside the 0.25-mile walkshed, with the nearest stop approximately 0.5 mile west of the project site at Sixth Avenue. It is shown in this table because it is the primary route to southwestern San Francisco from the project site and accessible with a 10-minute walk or transfer from the 1-California.

load point traveling in the peak direction between downtown and other parts of San Francisco during commute periods (see Appendix F2 for a map of San Francisco transit screenlines). Four downtown screenlines represent peak-period travel (inbound in the weekday AM peak period and outbound in the weekday PM peak period) between the downtown area (Superdistrict 1) and Superdistricts 2, 3, and 4.[8] Lines that operate in the study area were analyzed as part of the northwest screenline, specifically, along the California corridor, as shown in Appendix F2.

Capacity utilization on the northwest screenline is currently 76 percent during the AM and PM peak hours, while utilization on the California corridor is 80 percent during the AM peak hour and 75 percent during the PM peak hour.[9]

Regional Transit Service

In addition to Muni operations, regional transit service was considered. The regional transit services discussed below operate within San Francisco and are accessible from the project site via Muni or other modes of travel. See Appendix F2 for a map of regional screenlines.

Bay Area Rapid Transit

BART provides regional commuter rail service between the East Bay (from Antioch, Richmond, Dublin/Pleasanton, and South Fremont/Warm Springs), San Mateo County (from San Francisco International Airport and Millbrae), and San Francisco, with operating hours between 4:00 a.m. and midnight. Within San Francisco, BART operates underground below Market Street from Embarcadero Station to Civic Center Station and through the Mission District to Daly City. During the weekday PM peak period, headways are generally 5 to 15 minutes for each line. The BART stations most accessible to the project site are Embarcadero Station or Civic Center Station, located at Market Street and Drumm or Eighth streets. These stations are approximately 3 miles from the project site and accessible via the 1-California or 1BX-California B Express to reach Embarcadero Station or a transfer from the 33-Ashbury/18th to the 5-Fulton or 5R-Fulton Rapid to reach Civic Center Station. Other direct connections to BART from the project site include the connections between the 2-Clement and Montgomery BART station as well as the connection via the 28R-19th Avenue Rapid to the Balboa Park BART station.

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8 Superdistricts are regional aggregations of the travel analysis zones established by the Metropolitan Transportation Commission. These superdistricts provide geographic subareas for planning purposes in San Francisco. Superdistrict 1 in the northeast quadrant of the city is generally bounded by Van Ness Avenue, 11th Street, Townsend Street, and the San Francisco Bay.

9 San Francisco Planning Department, *Transit Screenlines Memorandum*, May 15, 2015.

Golden Gate Transit

The Golden Gate Bridge, Highway, and Transportation District, which owns GGT, provides bus and ferry service between the North Bay (Marin and Sonoma counties) and San Francisco. GGT operates 22 commuter bus routes, nine basic bus routes, and 16 ferry feeder bus routes. The 22 commuter bus routes serve stops in San Francisco; the other GGT bus routes do not enter the city. No GGT buses go directly to the project site; the closest route that services the project site is the 92, with stops on Geary Boulevard at the intersection with Arguello Boulevard and the intersection with Spruce Street (both approximately 0.5 mile south of the project site). The district also operates ferry service between the North Bay and San Francisco between 5:00 a.m. and 10:00 p.m. on weekdays, with headways between 30 and 90 minutes, depending on the time of the day and day of the week. The ferry service connects Larkspur and Sausalito with the Ferry Building, which is approximately 3.6 miles east of the project site and accessible via the 1-California, 1BX-California B Express, and 2-Clement.

Caltrain

Caltrain provides passenger rail service on the Peninsula between San Francisco and downtown San José, with stops in San Mateo and Santa Clara counties. Limited service is available south of San José. Within San Francisco, Caltrain terminates at the Fourth/King station in the South of Market (SoMa) neighborhood. The project site is approximately 4.7 miles west of the Fourth/King station, which is accessible via the 1-California, with stops at the intersection of Clay Street and Stockton Street and transfers to the 30 Stockton, which stops at the intersection of Fourth Street and King Street. Caltrain service headways during the AM and PM peak periods are between 5 and 60 minutes, depending on the type of train. The Fourth/King station is served by local, limited, and express "Baby Bullet" trains. In the weekday AM and PM peak periods, the station is served four times per hour by a mix of limited and Baby Bullet trains. Caltrain also provides service to the 22nd Street station, located between Indiana Street and Pennsylvania Avenue. This station can be reached by bus from the project site via the 1-California or 2-Clement, with a transfer to the 22-Fillmore, or the 33-Ashbury/18th, with a transfer to the 48-Quintara/24th.

Alameda-Contra Costa County Transit District (AC Transit)

AC Transit operates bus service in western Alameda and Contra Costa counties as well as the city of San Francisco and San Mateo County. AC Transit operates 27 "Transbay" bus routes between the East Bay and the temporary terminal at Folsom and Howard streets in downtown San Francisco (until the Salesforce Transit Center at First and Mission streets re-opens), which is about 3 miles east of the project site.[10] The Salesforce Transit Center is

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[10] At the time of the writing of this document, the Salesforce Transit Center was temporarily closed because of structural issues; transit riders are being served from the temporary transit center on Mission Street between Beale and Main streets.

accessible via the 2-Clement. Most Transbay service is provided only during commute periods, with headways of approximately 15 to 20 minutes. Limited service is provided during off-peak hours.

San Mateo County Transit District

SamTrans operates bus and rail service in San Mateo County, with select routes providing transit service outside the county. SamTrans Routes 292, 397, and 398 serve downtown San Francisco, providing connections to San Mateo County destinations. In general, SamTrans service to downtown San Francisco operates along Mission Street to the Salesforce Transit Center at First and Mission streets. The closest stop to the project site is at the Salesforce Transit Center, which can be accessed via the 2-Clement. Route 292 operates with 20- to 30-minute headways during the day, Route 398 operates with 60-minute headways during the day, and Route 397 operates with 60-minute headways during late-night hours. SamTrans cannot pick up northbound passengers or drop off southbound passengers within San Francisco.

Water Emergency Transportation Authority

The Water Emergency Transportation Authority (WETA), a regional agency, is authorized by the state to operate a comprehensive San Francisco Bay Area public water transit system. WETA ferries provide service from the Ferry Building to Alameda, Oakland, and Vallejo. The Ferry Building is approximately 3.5 miles east of the project site and accessible via the 1-California, 1BX-California B Express, and 2 Clement. Ferry routes operate with 30- to 60-minute headways, depending on the time and day of the week.

Regional Transit Screenlines

Similar to Muni, transit service into and out of San Francisco on regional service providers is examined on a screenline basis. The existing regional transit screenlines, as described in the *SF Guidelines*, were used to analyze regional transit capacity near the project site. The ridership and capacity utilization at the maximum load point (MLP) for the regional screenlines during the weekday PM peak hour is presented in Appendix F2. For regional operators, the MLP is typically at the San Francisco city limit (i.e., the East Bay MLP is the Transbay Tube and the Bay Bridge; the North Bay MLP is the Golden Gate Bridge; and the South Bay MLP is the southern city border).

For regional transit providers, the established capacity utilization threshold is equal to the number of available seats (and, in the case of BART, includes the standing area as well), or 100 percent of capacity. BART operates at 107 percent of capacity to the East Bay during the weekday PM peak hour; utilization is less than 100 percent to the South Bay.[11] The North Bay and South Bay regional screenlines, including all relevant transit providers, currently operate at less than 100 percent utilization.

PRIVATE OPERATORS

Private operators, such as employer-operated shuttles, provide commuting services across the entire San Francisco Bay Area. These operators do not have designated bus stops; rather, they use city bus stops. Many private shuttles were observed on adjacent streets at the project site. Several commuter shuttle buses run east–west along California Street and north–south along Arguello Boulevard.

CALIFORNIA PACIFIC MEDICAL CENTER CAMPUS SHUTTLE

Existing shuttle service includes the C-Line's California Pacific Medical Center (CPMC) shuttle for CPMC patients and employees. This shuttle operates every 30 minutes, from 6:30 a.m. to 6:15 p.m., and provides service from the project site to the CPMC Pacific Campus at 2333 Buchanan Street. This shuttle makes stops on California Street at Maple Street and Cherry Street.

COMMUTER SHUTTLES

Private commuter shuttles were observed traveling along California Street during both AM and PM peak hours; however, no pickups or drop-offs were observed in the study area.

Larger shuttles and vehicles are prohibited on side streets, including Palm Avenue, Jordan Avenue, Commonwealth Avenue, and Parker Avenue, all of which are south of the project site.[12]

BICYCLE CONDITIONS

Bicycle facilities consist of bicycle roadway markings, bicycle lanes, and multi-use trails or paths. They are grouped into the following four categories:

- ***Class 1*** facilities provide a completely separated right-of-way for the exclusive use of people walking and bicycling, with cross-flow minimized. Class 1 facilities consist of off-street bicycle paths that are generally shared with people walking. Class 1 facilities may be adjacent to an existing roadway or may be entirely independent of existing vehicular facilities.
- ***Class 2*** facilities provide a striped lane for one-way travel on a street or highway. These facilities reserve a minimum of 4 to 5 feet of space for bicycle traffic.

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[11] For additional details, see the October 2016 *BART Regional Screenline* and May 2015 *Transit Screenlines Memorandum* prepared by the San Francisco Planning Department.

[12] Details on the citywide commuter shuttle program can be found at https://www.sfmta.com/projects/commuter-shuttle-program.

- ***Class 3*** facilities provide for shared use with motor vehicle traffic. Class 3 facilities consist of designated and signed bicycle routes where bicyclists share the roadway with vehicles. They may or may not be marked with "sharrows," but they are usually signed.
- ***Class 4*** facilities provide a separated bikeway for exclusive use by bicyclists 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.

The study area's existing bicycle facilities, as designated on the latest San Francisco Bike Network Map,[13] are shown in Figure 4.2-4.

The project site is within the Presidio Heights neighborhood, which has a mix of hilly and flat terrain. Within the project site, Maple and Cherry streets have a 9 to 11 percent grade, which is challenging for most people bicycling uphill without electrical assistance. However, relatively flat connections exist via an established network of bicycle routes in the surrounding neighborhood, although dedicated bicycle lanes are not provided on all routes. Along some routes, bicyclists share the road with high volumes of vehicular traffic, particularly during peak commute periods.

The following bicycle facilities are in the vicinity of the project site:

- **The Embarcadero to Sutro Heights:**[14,15] This class 2/class 3 bicycle route runs east–west across San Francisco from The Embarcadero to the Cliff House. Adjacent to the project site, the route has class 2 bicycle lanes on Lake Street and a class 3 bicycle route on Clay Street. This route connects to The Embarcadero north of downtown via Webster Street and Broadway. At the Broadway Tunnel, westbound bicyclists are routed around the tunnel via Mason Street, Pacific Street, and Polk Street before reconnecting to Broadway. Eastbound bicyclists are routed through Pacific Avenue to Powell Street where it reconnects to Broadway.
- **The Presidio to San Francisco State University:** Class 2 bicycle lanes run north–south on Arguello Boulevard between the Presidio and Golden Gate Park. Northbound bicyclists travel along the class 2 bicycle route until Jackson Street where it transitions into a class 3 bicycle route. The route continues into the Presidio where it transitions back into a class 2 bicycle route. Southbound bicyclists travel on Arguello Boulevard until reaching Golden Gate Park where the route connects to Bowling Green Drive.

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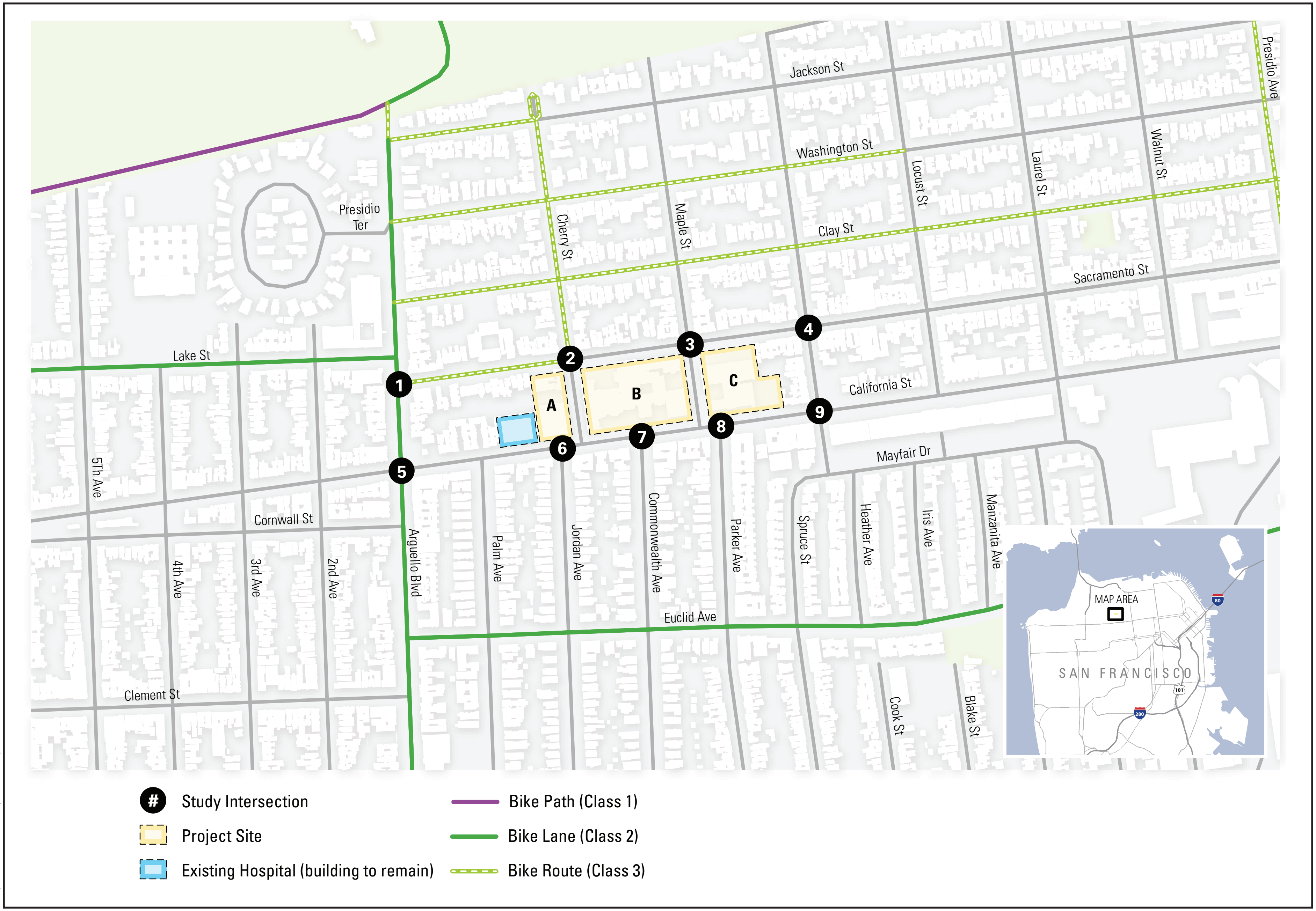
13 San Francisco Municipal Transportation Agency, *San Francisco Bike Map*, https://www.sfmta.com/sites/default/files/maps/2016/SFMTA%20Retail%20Map%20-%207.7.16-Online.pdf.

14 Bicycle route names sourced from the San Francisco Bicycle Plan, Appendix 2: Bicycle Route Network.

15 City and County of San Francisco, *SF Enterprise GIS Program*, https://sfgov.maps.arcgis.com/apps/webappviewer/index.html?id=b2ab90f2a52543b3b081abd791d90e41; San Francisco Municipal Transportation Agency, *Bikeway Network GIS Map*, accessed by Fehr & Peers on August 20, 2018.



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3700 California Street
Case No. 2017-003559ENV

Figure 4.2-4
Existing Bicycle Network

- **Sacramento Street and Cherry Street Neighborways:** This class 3 bicycle route with green-backed sharrows connects the class 3 bicycle route on Clay Street to the class 2 bicycle lanes on Lake Street via Arguello Boulevard and the Presidio class 3 route via Jackson Street and Arguello Boulevard.
- **Euclid Avenue Bicycle Lane:** Class 2 bicycle lanes were recently striped on Euclid Avenue from Arguello Boulevard to Presidio Avenue as a part of the Laurel Heights/Jordan Park Traffic-Calming Plan. This facility provides a local connection between the class 2 bicycle lanes on Arguello Boulevard and the class 3 bicycle route on Presidio Avenue. This project, completed in 2018, included a variety of traffic-calming measures, such as speed humps, traffic circles, and pedestrian refuges on the streets directly south of the project site.[16]

In addition to these designated routes, the streets south of the project site have low traffic volumes. During the field visits, there were no observed issues with speeding, which may have been influenced by the traffic-calming features that were recently added as a part of the Laurel Heights/Jordan Park Traffic-Calming Plan. These streets provide access to the south for bicyclists who prefer not to ride on California Street.

Existing on-street bicycle racks adjacent to the project site include one in front of 3838 California Street and two on Sacramento Street between Cherry and Maple streets.

Arguello Boulevard is the one street within the study area that is part of the 2017 Vision Zero High-Injury Network. The bicycle counts show that all intersections have between six and 16 bicyclists during peak hours, except for intersections along Arguello Boulevard, which have between 59 and 109 bicyclists during peak hours (the counts are presented in Appendix F3). The bicycle counts on Arguello Boulevard are much higher than those in the rest of the study area because Arguello Boulevard has class 2 bicycle lanes and is the primary north–south route for bicyclists traveling from Golden Gate Park to the Presidio. In general, there were few locations where potential conflicts between bicyclists and other modes of transportation were observed.

One location that is challenging for bicyclists near the project site is the offset intersection at Arguello Boulevard, Lake Street, and Sacramento Street where two routes with class 2 bicycle lanes and a class 3 route meet. This location has the highest bicycle volumes in the study area, with approximately 110 and 70 people biking through this intersection in the AM and PM peak hours, respectively (counts are presented in Appendix F3). The “green wave” signal timing along Arguello Boulevard gives bicyclists priority and slows vehicles through this section by having the lights timed to 15 miles per hour. Navigating the turn from Lake Street to Sacramento Street or Clay Street can be difficult because of the offset intersection that requires

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16 San Francisco Municipal Transportation Agency, *Laurel Heights/Jordan Park Traffic-Calming Project*, https://www.sfmta.com/projects/laurel-heightsjordan-park-traffic-calming-project; Fehr & Peers visited on August 20, 2018.

turning bicyclists to merge with vehicles prior to making the left turn and continuing east or west. Generally, bicyclists and motorists are cognizant of the shared space, and no issues were observed. However, the offset intersection and mixing of bicycles and vehicles does result in a higher number of bicycle/vehicle conflicts compared with other locations in the study area. No substantial conflicts between bicyclists and people traveling by other modes were observed at other locations in the study area.

Walking/Accessibility Conditions

A qualitative evaluation of existing conditions for people walking in the immediate vicinity of the project site (the area bounded by Sacramento Street, California Street, Cherry Street, and Maple Street) was conducted during field visits in March and May 2018. Inventoried facilities for people walking include sidewalks, Americans with Disabilities Act– (ADA-) compliant curb ramps, intersection crossing treatments (e.g., crosswalks), and traffic control devices.

Observations indicate that facilities surrounding the project site for people walking are generally complete. Sidewalks adjacent to the project site are 10 to 15 feet wide on all sides, although the effective widths vary, based on the location of tree wells, street furniture, utility or streetlight poles, traffic and parking signage, parking meters, and transit shelters. Sidewalks on Sacramento Street are generally 12 to 15 feet wide, with an effective width of 7 to 9 feet. The sidewalk narrows to 10 feet between Cherry and Maple streets, with 5 feet of effective width. At the transit shelter on the southeast corner of Sacramento Street and Cherry Street, the effective width is 2 feet, 10 inches, which is too narrow for some wheelchairs.[17] Sidewalks on California Street range from 10 to 16 feet wide, with the narrowest portions west of Cherry Street and on the eastern half of the block between Cherry and Maple streets where the effective widths are 7 to 9 feet. Sidewalks on Cherry Street are 15 feet wide, with tree wells or plantings on both sides of the sidewalk and 6 feet of effective width. The sidewalks on Maple Street are 8 feet wide on the west side of the street and 10 feet wide on the east side of the street. The effective widths on both sides of Maple Street are 5 feet.

All intersections adjacent to the project site have pedestrian amenities such as traffic control devices, marked crosswalks, and curb ramps. Sacramento Street has four-way stop-controlled intersections at Cherry, Maple, and Spruce streets. All other intersections are signal controlled, except for California Street/Commonwealth Avenue, which has stop signs for traffic on Commonwealth Avenue, a rectangular rapid-flash beacon for people walking across the west leg of California Street, and a prohibited pedestrian crossing on the east leg (with signs noting that the east leg is prohibited for people walking). All crosswalks include continental striping,

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[17] The Americans with Disabilities Act requires a minimum effective width of 3 feet for accessible pathways (2010 ADA Standards for Accessible Design, 403.5.1), with an exception that allows pathways to narrow to 32 inches in certain circumstances. The sidewalk complies with the ADA design standards at this location but may nonetheless present a challenge for some people in wheelchairs.

except at the intersections of Sacramento Street/Cherry Street (unsignalized/stopped controlled) and Sacramento Street/Maple Street (unsignalized/stop controlled), which have standard striping. The signalized crossings all have pedestrian countdown timers. The signalized intersections of California Street with Cherry Street/Jordan Avenue and Maple Street/Parker Avenue have split phasing, with separate phases for northbound and southbound traffic because of the offset orientations of the north–south streets. People walking can cross California Street during only one of the signal phases because the crosswalks are spaced too far from the offset leg to allow crossings during both north and south signal phases. This configuration is similar to that of the intersection of Arguello Boulevard with Sacramento Street and Lake Street. Finally, the intersection of California Street and Maple Street is the only intersection with a pedestrian-actuated push button that requires people to push the button to get the signal to cross the street.

Other challenges to people walking are the slopes between California and Sacramento streets and curb cuts for driveways leading to hospital parking. Although the 9 to 11 percent slope on Cherry and Maple streets from California Street to Sacramento Street may be difficult for some people while walking, the sidewalks on Cherry and Maple streets are well paved and generally free of obstructions, making them more accessible. Existing driveways and curb cuts are shown in Figure 4.2-2 (p. 4.2-3). The most heavily utilized parking garage driveways for the hospital are on Cherry and California streets. The 460 Cherry Street parking garage receives more than two-thirds of all short-term parking at the site and therefore has the highest turnover and vehicle volumes. Other garages are smaller and have longer-term parking. Fewer vehicles were observed entering or exiting these garages during the peak periods. Sight lines are clear between people driving and people walking at the driveways, and no conflicts were observed.

The pedestrian counts show that all study area intersections have between 100 and 250 people walking during the peak hours (counts are presented in Appendix F3). The highest pedestrian volumes adjacent to the project site are associated with people walking between the different hospital buildings on California, Maple, and Cherry streets. Other key generators include the commercial and institutional uses on Arguello Boulevard as well as California and Sacramento streets west of Spruce Street and the Claire Lilienthal Elementary School on Sacramento Street between Arguello Boulevard and Cherry Street. Several legs of intersections along California Street have up to 100 people walking per hour between the hospital and the nearby Laurel Village commercial districts. Observed foot traffic along Sacramento Street during both AM and PM peak hours was also particularly high because of the Claire Lilienthal Elementary School, which included parents walking with kids to and from the school.

Based on field observations, there were no substantial conflicts between people walking and other modes of travel because there are clear sight lines around intersections and driveways, and the amenities for people walking are generally adequate for the surrounding context. As noted previously, Arguello Boulevard is the only street within the study area that is on the 2017 Vision Zero High-Injury Network. The rectangular rapid-flash beacon at the intersection of

California Street/Commonwealth Avenue meets the California Manual on Uniform Traffic Control Devices standards for a four-lane unsignalized crossing with the observed traffic volumes and speeds on California Street.

For people walking to transit, the primary transit stops near the project site are at the intersection of California and Cherry streets. People walking to transit have sidewalks, ADA-compliant curb ramps, intersection crossing treatments (e.g., crosswalks), and traffic control devices between the transit stop and their origin or destination.

Several projects that affect conditions for people walking have been completed within the last year near the project site. The California Laurel Village Improvement Project included pedestrian safety improvements to California Street east of Spruce Street; that project was completed in January 2019.[18] It included new sidewalk bulb-outs, curb ramps, pedestrian median refuges, upgraded traffic signals and street lights, and street furnishings such as bike racks. As noted in the bicycle and transit conditions sections, the Laurel Heights/Jordan Park Traffic-Calming Plan and Muni Forward included pedestrian safety improvements and transit access changes in the study area.

INTERSECTION OPERATING CONDITIONS

The traffic analysis qualitatively evaluated intersection operating conditions at nine study intersections during the weekday AM and PM peak hours; this analysis is used to help assess potential hazards. The weekday AM and PM peak hours are the 60-minute periods with the highest traffic volumes during the 2-hour peak periods from 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. The nine study intersections are listed below and shown in Figure 4.2-1 (p. 4.2-2). They were chosen in coordination with City and County of San Francisco (City) staff members because of their proximity to the project site and importance for local access.

1. Sacramento Street/Lake Street/Arguello Boulevard
2. Sacramento Street/Cherry Street
3. Sacramento Street/Maple Street
4. Sacramento Street/Spruce Street
5. California Street/Arguello Boulevard
6. California Street/Cherry Street/Jordan Avenue
7. California Street/Commonwealth Street
8. California Street/Maple Street/Parker Avenue
9. California Street/Spruces Street

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[18] San Francisco Public Works, *California Laurel Village Improvement Project*, https://sfpublicworks.org/laurel-village; Fehr & Peers visited on January 22, 2019.

The existing AM and PM peak-hour traffic volumes, lane configurations, and traffic controls (signals or stop signs) for the study intersections are presented in Appendix F3. Intersection turning movement volumes were collected in April 2018. The intersection turning movement count summary sheets are provided in Appendix F3.

The operating characteristics of intersections were evaluated qualitatively through intersection performance observations during the AM and PM peak hours. Overall, vehicle operations progressed smoothly, with minimal vehicle queues at most study intersections, particularly at stop-controlled intersections along Sacramento Street.

At intersections along California Street, occasional vehicular queues were observed in the eastbound direction during the AM peak hour and in the westbound direction during the PM peak hour. The queues typically cleared within one signal cycle, indicating that reoccurring vehicle queues that would block downstream intersections would be unlikely.

Arguello Boulevard is the one street in the study area that is part of the 2017 Vision Zero High-Injury Network. California Street is also part of the High-Injury Network east of Lyon Street and west of Second Avenue, which is outside the study area. However, no speeding issues or substantial hazards for motorists were observed during the field visit. The offset intersections where two different street grids intersect adjacent to the project site are the most difficult locations for drivers to navigate. This includes the intersections of Sacramento Street/Lake Street/Arguello Boulevard, California Street/Cherry Street/Jordan Avenue, and California Street/Maple Street/Parker Avenue. These intersections have offset signal timing that reduces confusion and conflicts because only one of the offset legs receives the green light at one time. Queues occasionally develop on California Street or Arguello Boulevard behind vehicles turning left onto side streets. During field observations, the vehicle queues cleared within one signal cycle and did not cause reoccurring congestion or hazards for other roadway users.

Loading Conditions

Existing on-street loading zones fronting the project site are provided on Sacramento Street, California Street, and Cherry Street. Sacramento Street between Cherry and Maple streets has 30-foot and 45-foot passenger loading (white) zones (both reserved for loading from 7:00 a.m. to 7:00 p.m.) that are separated by three ADA-compliant loading (blue) zones totaling 75 feet. California Street has a 64-foot passenger loading zone (reserved for loading from 8:00 a.m. to 6:00 p.m.) in front of 3838 California Street (the medical office building that would remain with the proposed project), two 20-foot commercial (yellow) metered loading spaces at the northwest corner of California and Cherry streets, a 100-foot passenger loading zone (reserved for loading from 5:00 a.m. to 9:00 p.m.) between Cherry Street and Commonwealth Avenue, and a 45-foot passenger loading zone (reserved for loading from 5:00 a.m. to 9:00 p.m.) east of Parker Avenue. Finally, there is a 70-foot passenger loading zone on the east side of Cherry Street north of California Street (reserved for loading from 5:00 a.m. to 9:00 p.m.). Not counting the 64-foot space in front of 3838 California Street, which would remain under the proposed project, these existing passenger loading zones could accommodate approximately 11 or 12 loading vehicles at one time, with three additional loading spaces for ADA-compliant vehicles, for a total of 14 to 15 vehicles.

In addition to the on-street passenger loading zones, there are two off-street freight loading zones on both sides of Maple Street. Observations indicated that these off-street loading zones were used primarily for storage rather than freight loading.

Qualitative observations of loading zones fronting the project site were conducted during the AM and PM peak hours. The highest level of loading activity occurred during the PM peak period in front of 3838 California Street, just west of the project site. This was a popular location for passenger loading because of the number of patients who visit the medical office building. The loading zone was often observed to be near 100 percent full during the PM peak period, with family members or caretakers waiting for 5 minutes or more to pick up their passengers. Because the zone was close to fully occupied, for-hire vehicles (such as taxis, Lyft, and Uber) and shuttle services associated with the hospital were observed to frequently double park or use the bus zone while engaging in loading activities. In addition, for-hire vehicles were observed occasionally making illegal U-turns on California Street.

On average, the remaining loading zones were approximately 50 percent occupied, with almost all activity involving short-term vehicle parking, CPMC passenger van activity, or family members or caretakers waiting 5 minutes or more to pick up their passengers. Passenger loading activities involving for-hire vehicles at these remaining loading zones were infrequent; when they did occur, they occurred within the passenger loading zones.

Loading activity related to non-hospital uses occurs infrequently in the surrounding neighborhood. The highest level of loading activity within one block of the project site occurred at the laundry services/package delivery location at 3701 Sacramento Street. Two green commercial loading spaces with high turnover on Sacramento Street were often fully utilized, which caused other vehicles to occasionally double park during the PM peak period. Traffic volumes were low at the corner of Sacramento Street and Spruce Street, allowing vehicles to easily navigate around the double-parked vehicles. Additional loading zones surrounding the project site include a yellow zone at 3870 Sacramento Street, which was occupied by a parked commercial vehicle during the entirety of the site observation in the PM peak period, and a white zone in front of the Claire Lilienthal Elementary School at 3950 Sacramento Street, just west of Cherry Street, which was well utilized during the AM peak period.

EMERGENCY VEHICLE ACCESS

Emergency transport vehicles in the area typically use major streets when heading to and from an emergency and/or emergency facility. Arterial roadways allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. Non-emergency vehicles are required to yield to emergency vehicles, as stated in the California Vehicle Code.[19]

The closest San Francisco Fire Department stations to the project site are:

- Station 10 (Presidio Avenue at Bush Street) – approximately 0.6 mile away
- Station 31 (12th Avenue at Geary Boulevard) – approximately 1.1 miles away
- Station 51 (Lincoln Boulevard at Keyes Avenue) – approximately 1.5 miles away

The closest San Francisco Police Department stations to the project site are:

- Richmond Station (Sixth Avenue at Geary Boulevard) – approximately 0.8 mile away
- Park Station (Waller Street at Stanyan Street) – approximately 1.4 miles away

The closest hospitals to the project site are (not counting the CPMC hospital on the project site, which CPMC refers to as its *California Campus*):

- St Mary's Hospital (Hayes Street at Stanyan Street) – approximately 1 mile away
- Kaiser Permanente San Francisco Medical Center (Geary Boulevard at St. Joseph's Avenue) – approximately 1 mile away
- University of California, San Francisco Medical Center at Mount Zion (Divisadero Street at Sutter Street) – approximately 1 mile away

Emergency vehicles were observed using California Street, Presidio Avenue, Jordan Avenue, and Arguello Boulevard to access the existing CPMC hospital. They were not observed on smaller side streets, such as Cherry Street, Maple Street, Parker Avenue, or Commonwealth Avenue.

PARKING CONDITIONS

ON-STREET PARKING

Existing parking conditions were observed within one block of the project site (bounded by Arguello Boulevard, Clay Street, Spruce Street, and Euclid Avenue) during field visits in March 2018. On-street parallel parking in the area is provided on both sides of all streets in the study area, except on Maple Street, which has perpendicular parking on the west side of the street.

[19] Per California Vehicle Code Section 21806, all vehicles must yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicle has passed.

Parking meters are present on the north side of California Street, west of Cherry Street, and on the west side of Maple Street. Parking meters serving the nearby commercial corridors are also present on the south side of California Street, east of Parker Avenue, and on both sides of Sacramento Street, east of Spruce Street. The south side of Sacramento Street between Maple and Cherry streets and the east side of Maple Street between California and Sacramento streets have 2-hour restricted parking Monday through Saturday. Cherry Street between California and Sacramento streets has all-day unrestricted parking. The remaining block faces within the study area have 2-hour restricted parking in the “Zone F,” or residential parking permit area.

Parking spaces surrounding the existing hospital are 85 to 100 percent full during hospital operating hours. Parking demand drops in the evening, after approximately 5:00 p.m., on the blocks fronting the project site, although most spaces are filled by overnight residential parking. In general, most block faces surrounding the project site were observed to have at least one space available per block, indicating that there is some on-street parking available during the evening. Observations indicated that parking conditions have not changed substantially since completion of the *California Pacific Medical Center Long-Range Development Plan Environmental Impact Report* (2010 CPMC EIR).[20] Existing parking conditions are summarized in Appendix F4.

OFF-STREET PARKING

Off-street parking within one block of the project site is provided at several private parking lots and garages, which are managed by the hospital. These parking facilities are used primarily by patients, visitors, and hospital personnel. Most of these garages would be removed by the proposed project, including the garages at 460 Cherry Street, 3773 Sacramento Street, and 3905 Sacramento Street. The parking garage at 3838 California Street, which serves the 3838 California Street medical office building (not part of the proposed project), would remain. The primary parking facility for visitors and patients is the five-floor parking garage at 460 Cherry Street, on the corner of Cherry Street and California Street. There are also two surface parking lots, one on California Street east of Maple Street and one on Cherry Street; one subterranean lot is located at 3773 Sacramento Street, with access on the west side of Maple Street.

According to the 2010 CPMC EIR, the parking garages are at least 75 percent occupied during the day (2:00 p.m.). The parking garage that serves the medical office building at 3838 California Street and is to remain under the proposed project was between 90 and 100 percent occupied. A summary of the parking data is presented in Appendix F4.

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[20] Case No. 2005.0555E.

VEHICLE MILES TRAVELED

VMT per person (or per capita) is a measurement of the amount of driving and distance that a resident, employee, or visitor drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount of driving and distance a person might drive. In particular, the built environment affects how many places a person can access within a given distance, time, and cost, using different ways of travels (e.g., private vehicle, public transit, bicycling, walking). Typically, low-density developments located great distances from other land uses, in areas with few options for ways to travel, provide less access than locations with a high-density mix of land uses and numerous ways to travel. Therefore, low-density development typically generates more VMT compared with a similarly sized development located in an urban area.

Given these travel behavior factors, on average, persons living or working in San Francisco have a lower level of VMT per person than persons living or working elsewhere in the nine-county San Francisco Bay Area region. In addition, on average, persons living or working in some areas of San Francisco have a lower level of VMT per person than persons living or working elsewhere in San Francisco. The city displays different levels of VMT per capita geographically through transportation analysis zones (TAZs).[21]

The San Francisco County Transportation Authority (transportation authority) uses the chained activity modeling process for San Francisco to estimate VMT by private automobiles and taxis in different TAZs. The transportation authority's calibration of travel behavior in the model is based on observed behavior from the California Household Travel Survey, 2010–2012; census data regarding automobile ownership rates and county-to-county worker flows; and observed vehicle counts and transit boardings. The chained activity model uses a synthetic population, which is a set of individual actors that represents the Bay Area's actual population and makes 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 tour-based analysis. A tour-based analysis examines the entire chain of trips over the course of a day, not just trips to and from a site. For retail uses, the transportation authority uses trip-based analysis. A trip-based analysis counts VMT from individual trips to and from a site (as opposed to the entire chain of trips). A

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[21] 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 such as the Hunters Point Shipyard area.

trip-based approach, as opposed to a tour-based approach, is necessary for retail sites because a tour is likely to consist of trips stopping in multiple locations. Summarizing tour VMT to each location would over estimate VMT.[22,23,24]

Table 4.2-2 presents existing average daily VMT per capita for residents in the nine-county San Francisco Bay Area and TAZ 323 and TAZ 713, the zones in which the project site is located. The boundaries of TAZ 323 are generally California Street, Maple Street, Washington Street, and Arguello Street. The boundaries of TAZ 713 are Maple Street, Sacramento Street, Laurel Street, and California Street. Existing average daily VMT per capita for the various land uses at the project site is less than the regional Bay Area averages.

TABLE 4.2-2. DAILY VEHICLE MILES TRAVELED PER CAPITA FOR RESIDENTIAL LAND USES

VMT per Capita	Existing
Bay Area Regional Average	17.2
TAZ 323	7.9
TAZ 718	7.7
Source: San Francisco Planning Department, 2018.	

4.2.3 REGULATORY FRAMEWORK

This section provides a summary of the plans and policies of the City as well as regional, state, and federal agencies that have transportation-related policy and regulatory control over the project site. These plans and policies include the San Francisco General Plan, the San Francisco Bicycle Plan, and the Transit-First Policy

FEDERAL PLANS AND POLICIES

There are no federal transportation plans, policies, or regulations that are applicable to the proposed project.

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22 To state another way, a tour-based assessment of VMT at a retail site considers 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.

23 Retail travel is not explicitly captured in San Francisco chained activity modeling process; rather, there is a generic "other" purpose that 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" 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” travel.

24 San Francisco Planning Department, *Executive Summary: Resolution Modifying Transportation Impact Analysis*, Appendix F, Attachment A, March 3, 2016.

State Plans and Policies

CEQA Section 21099(b)(1) (Senate Bill 743)

California Environmental Quality Act (CEQA) Section 21099(b)(1) requires the Office of Planning and Research (OPR) to 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 its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, recommending that transportation impacts for projects be measured with use of a VMT metric. On March 3, 2016, based on compelling evidence in that document and the planning 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, OPR released its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, finalizing these recommendations. Also, in December 2018, the Natural Resources Agency finalized updates to the CEQA Guidelines that replaced level of service with VMT as a transportation threshold in the Appendix G initial study checklist.

Regional Plans and Policies

There are several regional planning agencies whose plans and policies guide growth and development in the nine-county San Francisco Bay Area. Some of these plans and policies are advisory, and 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 in determining the proposed project's potential impacts on transportation are discussed below.

Plan Bay Area 2040

Plan Bay Area 2040 is a state-mandated integrated long-range transportation and land use plan. As required by Senate Bill 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 where jobs and housing growth are planned to be concentrated. These priority development areas tend to be centrally located, with high levels of transit service and lower-than-average VMT generation per capita. Although the proposed project is not in a PDA, the project would create housing in a neighborhood that is near transit, consistent with the goals of Plan Bay Area 2040. In addition, the project is in an area with lower-than-average VMT per capita.

LOCAL PLANS AND POLICIES

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 that are responsible for the aforementioned aspects of the action plan adopted similar resolutions. In 2017, the Board of Supervisors amended the transportation and urban design elements of the general plan to implement Vision Zero (ordinance 175-17).

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 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.

SAN FRANCISCO GENERAL PLAN

The transportation element of the 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, including objectives related to locating development near transit facilities and encouraging transit use.

BETTER STREETS PLAN

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.

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 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 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 transportation demand management 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). The planning code requirements for loading spaces depend on the size of the development project. The minimum dimensions for off-street freight loading are specified in section 154(b).

4.2.4 IMPACTS AND MITIGATION MEASURES

This section provides the impact analysis related to transportation for the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact.

SIGNIFICANCE THRESHOLDS

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 Appendix G of the CEQA Guidelines. 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.
- Result in inadequate emergency access.

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the proposed project would result in a significant transportation impact. The planning department separates the significance criteria into two categories: construction and operation.

CONSTRUCTION

Construction of the project would have a significant effect on the environment if it would create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations; interfere with accessibility for people walking or bicycling; or substantially delay public transit.

OPERATION

The operational impact analysis addresses the five significance criteria below. 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 for people walking or bicycling to and from the project site, as well as 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 (e.g., by adding new mixed-flow travel lanes or new roadways to the network).
- Result in a loading deficit, with secondary effects that would create potentially hazardous conditions for people walking, bicycling, or driving or substantially delay public transit.

APPROACH TO ANALYSIS

This section presents the methodology for analyzing transportation impacts. Information considered in developing travel demand forecasts for the proposed project is presented in the following section. The impacts of the proposed project on the surrounding roadways were analyzed using the guidelines set forth in the SF Guidelines, Planning Commission resolution 19579, and supporting materials, which provide direction for analyzing transportation conditions and identifying the transportation impacts of a proposed project in San Francisco.

ANALYSIS SCENARIOS

Analysis of the proposed project considered existing, existing-plus-project, and 2040 cumulative conditions, as applicable. “Existing-plus-project” conditions reflect the near-term impacts of the proposed project, while “2040 cumulative” conditions reflect the long-term impacts of the proposed project in combination with other reasonably foreseeable development and transportation network changes.

Under existing-plus-project and 2040 cumulative conditions, appropriate adjustments are made to the project’s travel demand to account for removal of the existing hospital at the project site. Operational impacts associated with the new CPMC Cathedral Hill hospital are analyzed in the

2010 CPMC EIR, which is included in the 2040 cumulative-conditions scenario. The 2010 CPMC EIR assumed that the hospital at the project site would maintain its existing land use classification with ongoing hospital operations after CPMC opens the Cathedral Hill Hospital. The proposed project analyzed in this EIR would demolish the hospital at 3700 California Street to allow construction of the proposed project. Therefore, a credit associated with removal of the 3700 California Street hospital's operational impacts is taken under existing-plus-project and 2040 cumulative conditions.[25]

Methodology for Analysis of Construction Impacts

The assessment of potential short-term construction impacts was based on preliminary construction information for the project provided by the project sponsor. The construction impact evaluation considers staging and the duration of construction activities, estimated daily truck volumes, truck routes, and roadway and/or sidewalk closures. It also evaluates the effects of construction on transit facilities and service, bicycle circulation, travel lanes, and pedestrians.

Methodology for Analysis of Operational Impacts

VMT Analysis

VMT Assessment

The discussion below identifies the thresholds of significance and screening criteria used to determine if a residential project would result in significant impacts under the VMT metric.

A project would generate substantial additional VMT if it would exceed regional household VMT per capita minus 15 percent.[26] As documented in OPR's recommended transportation impact guidelines, a 15 percent threshold below existing development is "both generally achievable and supported by evidence that connects this level of reduction to the state's emissions goals."[27]

OPR's recommended transportation impact guidelines provide screening criteria to identify the types, characteristics, or locations of land use projects that would not exceed the VMT thresholds of significance. According to OPR, if a project or land use proposed as part of a

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[25] ICF memorandum to San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019. This memorandum includes an additional discussion of the relationship between the proposed project and the 2010 CPMC EIR.

[26] OPR's proposed transportation impact guidelines state that a project would cause substantial additional VMT if it were to exceed both 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, city average VMT is irrelevant for the purposes of the analysis.

[27] OPR, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018, page 12.

project meets any of the screening criteria below, then VMT impacts are presumed to be less than significant for that land use, and a detailed VMT analysis is not required.[28] The screening criteria applicable to the project, and how they are applied in San Francisco, are described below.

- **Map-Based Screening for Residential Projects.** OPR recommends mapping areas 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, office, and retail land uses, based on the 2012 San Francisco Chained Activity Model Process (SF-CHAMP) 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.** According to OPR, residential projects proposed within 0.5 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 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) be inconsistent with the applicable Sustainable Communities Strategy.[29]

INDUCED AUTOMOBILE TRAVEL ASSESSMENT

The proposed project is a residential development project that includes an internal network of walkways and paths, bicycle and pedestrian facilities, and offsite improvements, including sidewalk widening and crosswalk upgrades.

Transportation projects may substantially induce additional automobile travel. However, OPR's recommended transportation impact guidelines include a list of transportation project types that would not be likely to lead to a substantial or measurable increase in VMT. If a project fits within the general types of projects (including combinations of types) described below, then it is presumed that VMT impacts due to induced automobile travel would be less than significant, and a detailed VMT analysis is not required:

- Active Transportation, Rightsizing (aka Road Diet), and Transit Projects:
    - Infrastructure projects, including safety and accessibility improvements, for pedestrians and bicyclists.

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28 OPR, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018, page 12.

29 A project is considered to be inconsistent with the Sustainable Communities Strategy if development is located outside of areas contemplated for development in the Sustainable Communities Strategy.

- Installation or reconfiguration of traffic-calming devices.
- Creation of new or addition to roadway capacity on local or collector streets, provided the project also substantially improves conditions for people walking, bicycling, and, if applicable, riding transit (e.g., by improving neighborhood connectivity or improving safety).

- Other Minor Transportation Projects:
    - Rehabilitation, maintenance, replacement, and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and bicycle and pedestrian facilities) that do not add additional motor vehicle capacity.
    - Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left-turn lanes, right-turn lanes, U-turn pockets, or emergency breakdown lanes that are not used as through lanes.
    - Installation, removal, or reconfiguration of traffic control devices, including transit signal priority features.
    - Timing of signals to optimize vehicle, bicycle, or pedestrian flow on local or collector streets.
    - Addition of transportation wayfinding signage.
    - Removal of off- or on-street parking spaces.
    - Adoption, removal, or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs).

TRAFFIC HAZARDS

In assessing traffic hazards, the proposed buildings and changes to the transportation network within and near the project site were reviewed to determine whether they would obstruct, hinder, or impair views for drivers traveling on the same street or restrict the ability of a driver to stop a motor vehicle short of a collision.

TRANSIT

The impact of additional weekday AM and PM peak-hour transit ridership generated by the proposed project on local and regional transit providers was assessed by comparing the projected ridership to the available transit capacity, using the screenline and corridor analysis used to describe existing conditions (see Environmental Setting). Transit "capacity utilization" refers to transit riders as a percentage of the capacity of a transit line or group of lines, combined and analyzed as screenlines across which transit lines travel. In addition, the impact of the proposed project's vehicular access to onsite garages and loading areas on Muni transit routes that run adjacent to the project site were assessed qualitatively.

For service provided by Muni, capacity includes seated passengers and an appreciable number of standing passengers per vehicle (the number of standing passengers is between 30 and 80 percent of the seated passengers, depending upon the specific transit vehicle configuration). Muni has established a capacity utilization standard of 85 percent. The 85 percent capacity utilization includes seated and standing passengers. Therefore, at 85 percent capacity utilization, all seats are taken, and there are many standees. The transit analyses were conducted for the peak directions of travel, which include inbound travel toward downtown San Francisco during the AM peak hour and outbound travel from downtown San Francisco during the PM peak hour.

Weekday AM and PM peak-hour ridership and capacity for the regional transit service providers at the three regional screenlines were based on the regional screenline data from the SF Guidelines. All regional transit providers have a peak-hour capacity utilization standard of 100 percent. For regional transit service providers, capacity is based on seated capacity for buses and a combination of seated and standing passenger capacity for ferry and rail transit vehicles.

The proposed project would have a significant transit impact if project-generated transit trips would cause Muni routes serving the project site, or the regional screenlines that operate at less than their capacity utilization standards under existing conditions, to operate above their capacity utilization standards with implementation of the project. For routes or screenlines operating at more than the capacity utilization standard under existing conditions, the proposed project's contribution to that condition was assessed to determine whether the project would contribute considerably to ridership at the maximum load point (i.e., a contribution of 5 percent or more to the transit ridership on the route or screenline).

Under 2040 cumulative conditions, the proposed project would have a significant cumulative impact if its implementation would contribute considerably to a route or screenline projected to operate at greater than the capacity utilization standard under 2040 cumulative conditions (i.e., a contribution of 5 percent or more to the transit ridership on the route or screenline). In addition, under existing-plus-project conditions, if significant impacts are identified, the project would contribute substantially to significant cumulative conditions.

WALKING/ACCESSIBILITY

Walking/accessibility conditions were assessed qualitatively. The qualitative assessment considered safety and right-of-way issues, potential worsening of existing or creation of new safety hazards, and conflicts with bicycles, transit, and vehicles and whether the project would interfere with the accessibility of people walking to the site or adjoining areas.

BICYCLING

Bicycle conditions were assessed qualitatively as they relate to the project area, including bicycle routes, safety and right-of-way issues, potential worsening of existing or creation of new safety hazards, and conflicts with vehicles and commercial vehicle loading activities.

LOADING

The loading analysis was conducted by comparing the proposed commercial vehicle loading supply to the projected demand that would be generated by the proposed project; the proposed passenger loading/unloading supply was assessed qualitatively. If the project's supply meets the estimated demand, no further assessment is necessary. If not, then the effects of commercial vehicle and passenger loading supply on safety and right-of-way issues, potential worsening of existing or creation of new safety hazards, and conflicts with bicycle, transit, and vehicles were assessed qualitatively.

EMERGENCY ACCESS METHODOLOGY

Potential impacts on emergency access were assessed qualitatively. Specifically, the analysis assessed whether the proposed street network changes and/or travel demand associated with the proposed project would impair, hinder, or preclude adequate emergency vehicle access.

PARKING

A parking assessment was conducted by comparing the proposed parking supply to the parking demand generated by proposed project's land uses to determine if the project would result in a substantial parking deficit. If the project would not result in a substantial parking deficit, no further assessment is necessary. If the project would result in a substantial parking deficit, the effects of the proposed street network changes on the on-street parking supply and area-wide parking conditions were assessed, along with the effects of increased parking demand and changes in on-street parking supply on safety and right-of-way issues.

As discussed in section 4.1.3, Senate Bill 743 states that the parking impacts of a residential project on an infill site within a transit priority area shall not be considered significant impacts on the environment. The proposed project meets this criterion; thus, the transportation impact analysis does not consider the adequacy of parking in determining the significance of project impacts under CEQA. As such, this EIR presents a parking demand analysis that considers secondary physical impacts associated with constrained supply (e.g., queuing by drivers waiting for scarce onsite parking spaces that affects the public right-of-way), as applicable in the transportation impact analysis below.

Project Features

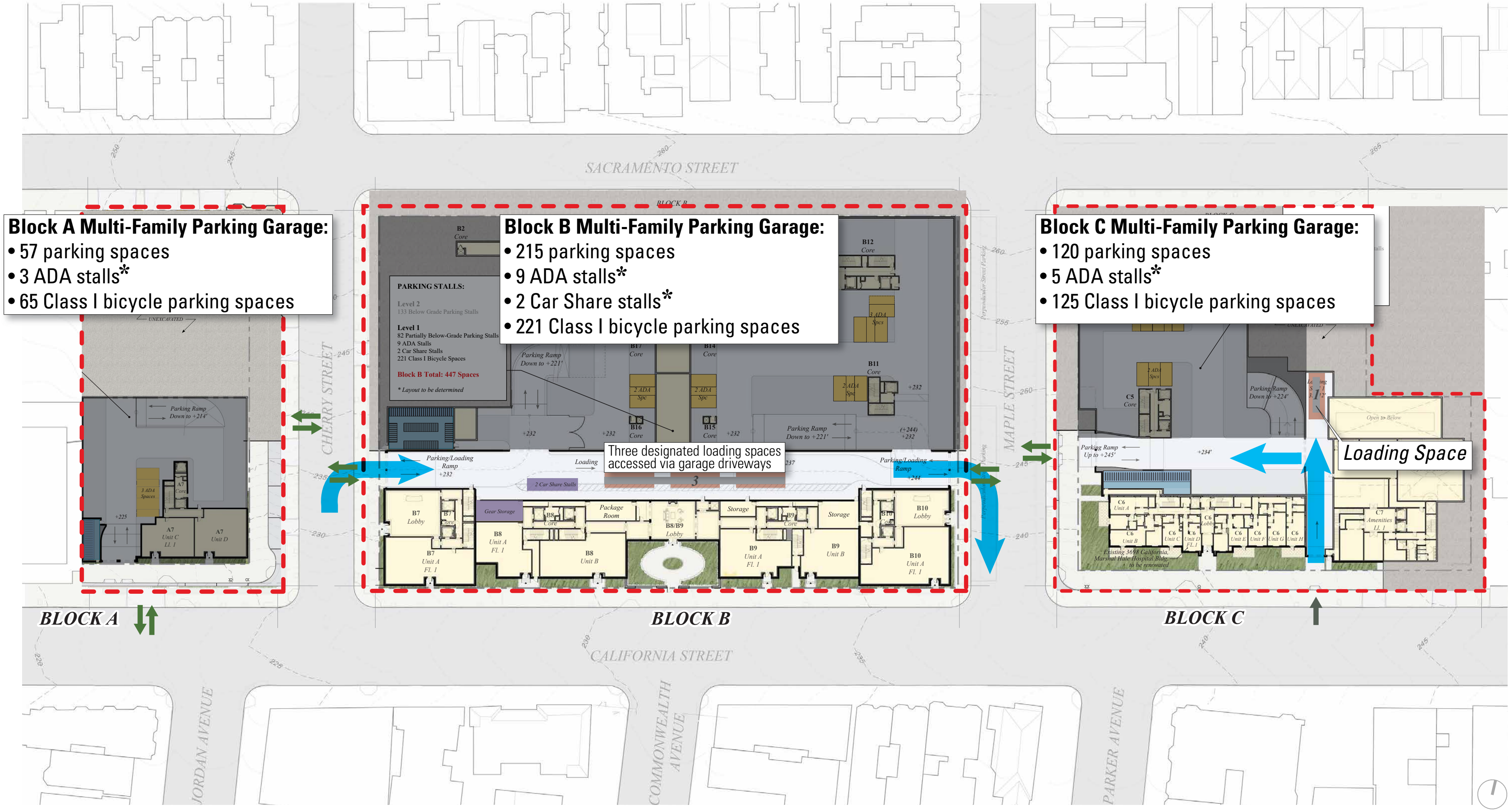
Proposed Development Program

The proposed project would demolish five of the seven buildings on the project site's 14 parcels. The five buildings are a three-story medical office (3905 Sacramento Street), a five-story parking garage with 290 parking spaces (460 Cherry Street), a one- to seven-story hospital (3700 California Street), an eight-story outpatient medical building (3801 Sacramento Street), and a six-story hospital (3773 Sacramento Street). The proposed project would retain the four-story, nine-unit residential building (401 Cherry Street) and convert the three-story Marshal Hale Memorial Hospital into a 24-unit residential building (3698 California Street). The proposed project would construct 31 new buildings, including 12 separate single-family homes and 19 multi-family buildings containing studios and one-, two-, three-, and four-bedroom units (including two additional single-family row homes). Approximately 75 percent of the units would include two or more bedrooms. In total, the proposed project would consist of 33 buildings, ranging from three to seven stories and containing 273 residential units, 416 below-grade vehicle parking spaces, 411 class 1 bicycle parking spaces, 22 class 2 bicycle parking spaces, 13 cargo bicycle parking spaces, and one bicycle repair station. The proposed project would also include four off-street loading spaces and 11 on-street passenger (white) loading spaces.

Proposed Transportation Changes

Figure 4.2-5 shows the proposed project's site plan and private vehicle access to the multi-family parking garages. Each block includes a two-level underground parking garage for the residents of the multi-family buildings on that block, as described below. The plans and the number of parking spaces for each individual garage are presented in Appendix F5.

- **Block A** – Vehicular access to the proposed project's subsurface garage on Block A would be provided via the existing driveway on California Street located approximately 90 feet west of Cherry Street. One of the existing driveways on the west side of Cherry Street would remain with the proposed project to provide vehicular access to the 3838 California Street garage through Block A to maintain the existing easement. Block A's parking garage would not be accessible from this driveway. One private driveway for a proposed single-family home on Block A would be accessible via Cherry Street, and four private driveways for proposed single-family homes on Block A would be accessible via Sacramento Street.
- **Block B** – The subsurface garage on Block B would be accessible for residents from either the Cherry Street driveway or the Maple Street driveway. Although residential vehicles would be able to enter and depart from either driveway, larger vehicles would enter from Cherry Street and exit to Maple Street. Four private driveways for proposed single-family homes on Block B would be accessible via Cherry Street.



Project Site

Parking Garage Access Point

Loading Only

Garage Access Movement

Below Grade On-Site Commercial Loading Space
(x = number of spaces)

*Remaining 5 car share spaces would be located within Blocks A, B, and C within the multi-family residential garages in a manner consistent with Planning Code. These locations will be determined during the final garage designs.

ADA stalls are included in total parking spaces

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3700 California Street
Case No. 2017-003559ENV

Figure 4.2-5
Multi-Family Parking Garage and Onsite Loading Access

- **Block C** – Vehicle access to the subsurface garage on Block C would be provided via a driveway on Maple Street. One freight loading space would be provided on the ground level of Block C, with access provided via a one- way route between the California Street freight-only driveway and the Maple Street driveway. Three private driveways for proposed single-family homes on Block C would be accessible via Sacramento Street.

Although the project does not propose any new bus stops or changes to existing bus stops, the proposed project would change transit amenities in areas surrounding the project site in several ways. The Muni 33-Ashbury/18th line terminates at Sacramento and Cherry streets; Muni operators use existing CPMC restroom facilities. The proposed project would include a restroom facility for Muni operators in Building A5 (at the northwest corner of Sacramento and Cherry streets), contingent on maintaining driveway access to Block A, as presented in the proposed site plans.[30] The proposed project would also shift the overhead wires for the Muni 33-Ashbury/18th line at Sacramento and Maple streets to allow Muni vehicles to make a tighter turn onto Maple Street, given the new corner bulb-out at the southeast corner of this intersection.

The proposed project would reuse seven of the existing 14 curb cuts and remove seven others; 11 new curb cuts would be added, for a total of 18 curb cuts. Twelve of the 18 curb cuts would be for the single-family homes. The proposed project's driveways would include one 10-foot-wide curb cut for each of the single-family homes, two 10-foot-wide curb cuts for the multi-family garage on Block A (for passenger vehicles only), one 18-foot-wide curb cut for each end of the multi-family parking garage on Block B (for passenger and freight vehicles), and one 18-foot-wide curb cut along Maple Street and one 18-foot-wide curb cut along California Street for the multi-family parking garage on Block C.[31]

The curb cuts would be designed in a manner consistent with the Better Streets Plan and planning code requirements regarding access for passenger vehicles and freight loading. The curb cuts to remain are shown in Figure 4.2-6, and details regarding all curb cut changes and widths are provided in Appendix F5.

Figure 4.2-5, p. 4.2-37, shows the location of the onsite commercial loading spaces within the project site and the route for trucks traveling through the site. Commercial and freight loading would occur within Blocks B and C for the proposed multi-family residential units. Access to the three freight loading spaces in the center of Block B would be provided via the one-way route for trucks entering from Cherry Street and exiting to Maple Street. Freight loading at the space in Block C would be provided via a one-way route from the loading-only driveway on

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30 Should the proposed driveway for Block A be moved to another location, no bathroom would be provided. In addition, per the March 14, 2019, agreement between CPMC and Muni, a portable restroom unit would be provided at 401 Cherry Street during project construction.

31 Curb-cut widths include both the driveway width and the 18-inch wings on either side of each driveway, per the recommended practices presented in the City of San Francisco's Better Streets Plan.

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3700 California Street
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Figure 4.2-6
Proposed Project Curb Colors and Street Parking

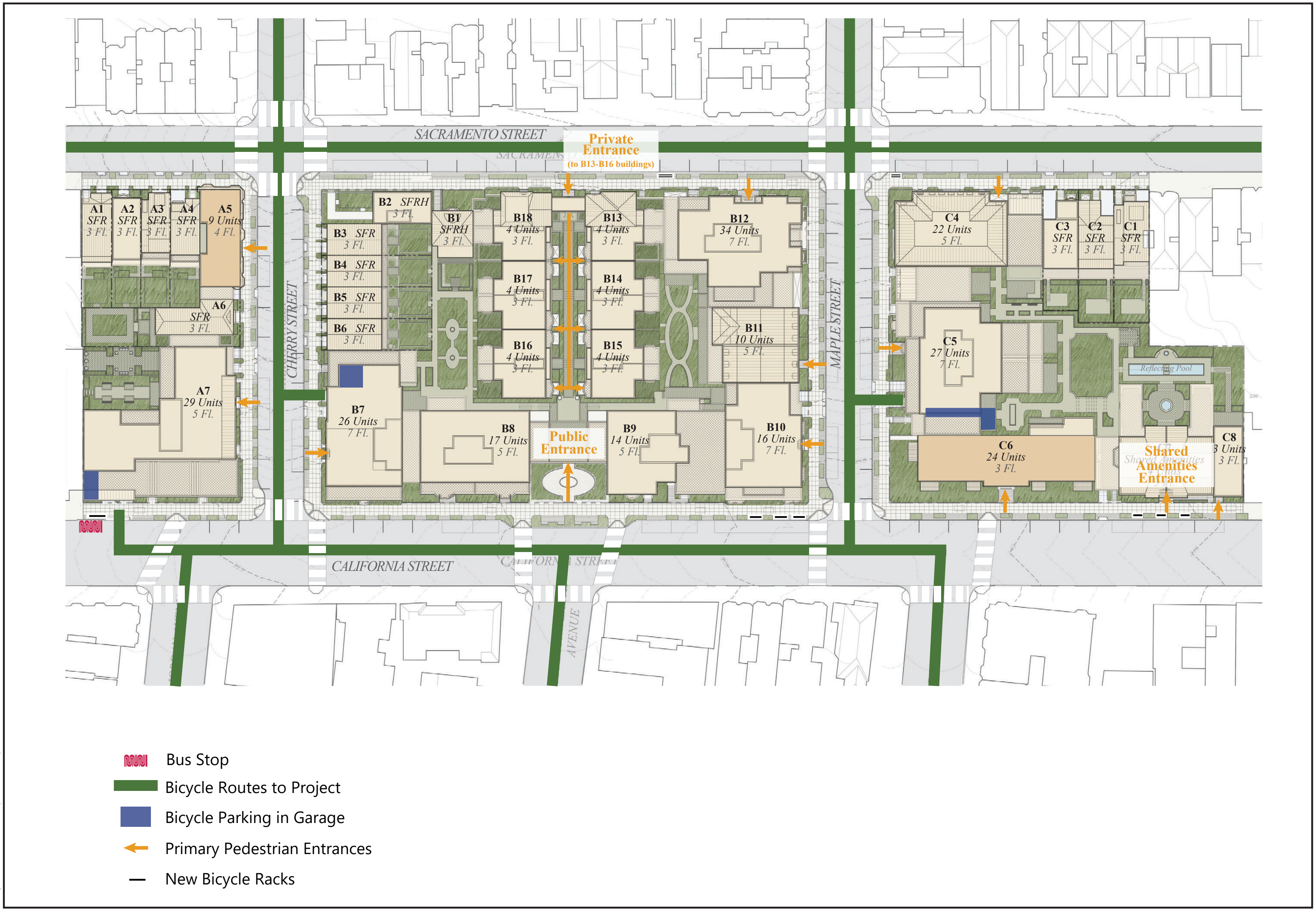
California Street to the Maple Street exit. All four of the off-street freight loading spaces would meet the minimum size requirement of 35 feet by 12 feet wide and the minimum vertical clearance requirement, including entry and exit, of 14 feet.

Figure 4.2-6, p. 4.2-39, shows the proposed project's on-street parking and color curb plan. The proposed project would reconfigure the curb space fronting the project site to reflect the change from hospital to residential use, including replacing the perpendicular parking on Maple Street with parallel parking to widen the sidewalk, removing existing commercial (yellow) and blue (ADA) zones, and maintaining or reallocating passenger (white) loading zones. The 11 proposed on-street passenger loading zones would be located adjacent to the primary entrances for the multi-family buildings or common/shared amenity spaces.

Figure 4.2-7 shows the proposed project's access for people bicycling and walking. People bicycling would access the proposed project through the public entry court on California Street or the parking garage entrances. The proposed project includes class 1 bicycle storage directly adjacent to the garage entrances, with convenient access on California Street for Block A, Maple Street for Block B, and Cherry Street for Block C. Additional on-street class 2 bicycle parking would be located along California and Sacramento streets, near primary entrances for the multi-family buildings or common spaces.

As shown in Figure 4.2-7, people walking to and from the proposed project would enter through the public entry court on California Street at Commonwealth Avenue, the private gate on Sacramento Street, or the lobby of the multi-family buildings on California Street, Cherry Street, Maple Street, and Sacramento Street. The proposed project would upgrade all sidewalks immediately adjacent to the project site to meet City Better Streets Plan standards for sidewalk widths, as shown in Table 4.2-3, p. 4.2-42. Pursuant to Planning Code section 138 and the Better Streets Plan, California Street is required to have a minimum sidewalk width of 12 feet, with a recommended width of 15 feet, while Sacramento, Maple, and Cherry streets are subject to a minimum sidewalk width of 10 feet and a recommended width of 12 feet. This would include replacing the existing perpendicular parking with parallel parking along Maple Street to meet Better Streets Plan standards for sidewalk width on this block. All sidewalks would include planting and furnishing zones, consistent with Better Streets Plan standards. Finally, the proposed project would provide the following amenities for people crossing streets surrounding the site:

- Corner bulb-outs to reduce pedestrian crossing distances across Cherry and Maple streets at California and Sacramento streets.
- A new high-visibility crosswalk and rectangular rapid-flash beacon on the east leg of the unsignalized intersection of California Street and Commonwealth Avenue (to match the design of the west leg of the intersection).
- A new sidewalk extension (approximately 100 feet wide) at Commonwealth Avenue to reduce the crossing distance for people walking across California Street.



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3700 California Street
Case No. 2017-003559ENV

Figure 4.2-7
Proposed Pedestrian and Bicycle Circulation

TABLE 4.2-3. EXISTING AND PROPOSED SIDEWALK WIDTHS

Block	Street	Existing Sidewalk Width	Proposed Sidewalk Width
A	Sacramento Street	15 feet	15 feet
B	Sacramento Street	10 feet	15 feet
C	Sacramento Street	12 feet	15 feet
A and B	Cherry Street	15 feet	15 feet
B and C	Maple Street	8 to 10 feet	15 feet
A	California Street	10 feet	15 feet
B	California Street	12 to 16 feet	15 to 16 feet
C	California Street	15 feet	15 feet

Source: TMG Partners and RAMSA, 2017; Fehr & Peers, 2018.

TRAVEL DEMAND ANALYSIS

"Project travel demand" refers to new vehicle, transit, walking, and bicycle trips that would be generated by the proposed project. The freight and passenger loading demand and parking demand for the proposed project are also presented in this section. The travel demand estimates were based on observed data and information contained in the SF Guidelines. The project site is in Superdistrict 2, which was used for trip distribution and mode share, per the SF Guidelines. Appendix F6 contains the travel demand calculations and assumptions.

The proposed project would replace all of the active hospital uses at the project site; therefore, a trip credit was applied for these existing land uses to determine the net new trips generated by the proposed project. As discussed above in the *Analysis Scenarios* section (p. 4.2-30), physical demolition of the existing hospital is part of the currently proposed project. It was not part of the CPMC Long-Range Development Plan, nor was a credit taken for removal of vehicle trips and operational impacts associated with the 3700 California Street hospital in the 2010 CPMC EIR.[32] The trip estimates prepared for the 2010 CPMC EIR were compared against existing data provided by CPMC and collected in April 2018 to confirm their applicability for this analysis.[33]

32 ICF memorandum to San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019. This memorandum includes an additional discussion of the relationship between the proposed project and the scenarios studied in the 2010 CPMC EIR.

33 Prior counts and estimates were compared to more recent garage entry data and mode-share data from CPMC; this process is documented in *Memorandum #1: Final Travel Demand Estimates for 3700 California* (Fehr & Peers, October 2, 2018), as presented in Appendix F6.

Trip Generation

The daily and PM peak-hour person-trip generation for the proposed project includes residents and visitors to the buildings and is based on rates provided in Table C-1 of the SF Guidelines. The AM peak-hour trips were estimated by applying a factor derived by comparing the AM peak-hour trips to the PM peak-hour trips for residential uses, as presented in the Institute of Transportation Engineers *Trip Generation Handbook*, ninth edition. Table 4.2-4 presents the daily, AM, and PM peak-hour person-trip generation for the proposed project. The proposed project would generate 2,558 person trips on a daily basis, including 363 trips during the AM peak hour and 442 trips during the PM peak hour.

Table 4.2-4. Project Person Trip Generation

Land Use	Unit Size	Daily Trip Rate	PM Peak Hour	AM Peak Hour (% of PM)[a]	Daily	AM Peak Hour	PM Peak Hour
Residential Land Use	13 studio units	7.5 per unit	17%	82%	98	14	17
	56 one-bedroom units	7.5 per unit	17%	82%	420	60	73
	204 two- (or more) bedroom units	10 per unit	17%	82%	2,040	289	352
Total[b]	**273 units**	**--**	**--**	**--**	**2,558**	**363**	**442**

Source: San Francisco Planning Department, *Transportation Impact Analysis Guidelines for Environmental Review*, 2002; Fehr & Peers, 2018.

Notes:

a. AM peak-hour vehicle and transit trips were estimated by applying a factor derived from comparing the AM peak-hour trips to the PM peak-hour trips for residential uses, as presented in the Institute of Transportation Engineers Trip Generation Handbook, ninth edition.

b. Totals may not sum because of rounding

Mode Split

The person trips generated by the proposed project were allocated among different travel modes to determine the number of auto, transit, walking, and other trips to and from the project site; the results are shown in Table 4.2-5. The “other” category includes bicycle, motorcycle, and additional modes. The additional modes include for-hire vehicles, although a portion of vehicle trips may be for-hire vehicle trips, too. Mode split assumptions for work and non-work trips were based on the methods contained in the SF Guidelines, such as the 2009–2013 American Community Survey estimates for census tract 133 for residential trips at the project location.

TABLE 4.2-5. PERSON AND VEHICLE TRIP GENERATION BY MODE

	Daily Trips			AM Peak Hour			PM Peak Hour		
Trip Mode	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Person Trips in Vehicles	1,448	724	724	205	41	164	250	166	84
Other Trips	272	136	136	39	8	31	47	31	16
Transit Trips	732	366	366	104	21	83	126	84	42
Walk Trips	108	54	54	15	3	12	18	12	6
Total Person Trips	***2,560***	***1,280***	***1,280***	***363***	***73***	***290***	***442***	***294***	***148***
Vehicle Trips	*1,389*	*694*	*694*	*198*	*40*	*158*	*240*	*160*	*80*

Source: San Francisco Planning Department, *Transportation Impact Analysis Guidelines for Environmental Review*, 2002; Fehr & Peers, 2018.
Note: Trips by mode may not sum to total person trips because of rounding.

The net change in the number of trips by mode are important for assessing the proposed project's impact on the existing environment, including the surrounding transportation network, with respect to hazards, accessibility, and transit capacity. Therefore, a comparison between the existing removed land uses and the proposed project is presented below.

TRIP CREDITS/NET NEW TRIPS

The proposed project's net new trip estimates for each mode were derived by subtracting the trip credit associated with the removal of the CPMC hospital from the estimated trip generation for the proposed project.[34] As presented in Table 4.2-6, replacement of the existing hospital with the proposed project would generally result in fewer person and vehicle trips in the surrounding transportation network compared with existing conditions.

The proposed project would generate nearly 5,000 fewer weekday daily vehicle trips than the existing hospital use. During the PM peak hour, the proposed project is estimated to generate 367 fewer vehicle trips than the existing hospital use, with fewer trips in both the inbound and outbound direction. During the AM peak hour, the proposed project is estimated to generate 318 fewer vehicle trips than the existing hospital use, with fewer trips in both the inbound and outbound direction.

[34] The trip credits, which are from the travel demand information presented in the *CPMC Long-Range Development Plan EIR* (Adavant Consulting, 2010), were validated through comparison to 2017 garage entry data and travel survey results.

TABLE 4.2-6. PROJECT TRIP GENERATION

	Daily Trips			AM Peak Hour			PM Peak Hour		
Land Use	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**
Vehicle Trips									
Proposed Project	1,389	694	694	198	40	158	240	160	80
CPMC Trip Credit[a]	-6,262	-3,131	-3,131	-516	-324	-192	-607	-219	-388
Net New Trips	**-4,873**	**-2,437**	**-2,437**	**-318**	**-284**	**-34**	**-367**	**-59**	**-308**
Transit Trips									
Proposed Project	732	366	366	104	21	83	126	84	42
CPMC Trip Credit	-1,494	-747	-747	-121	-78	-43	-140	-50	-90
Net Trips	**-762**	**-381**	**-381**	**-17**	**-57**	**40**	**-14**	**34**	**-48**
Walking Trips									
Proposed Project	108	54	54	15	3	12	18	12	6
CPMC Trip Credit	--[b]	--[b]	--[b]	-7	-6	-1	-12	-2	-9
Net New Trips	**108**	**54**	**54**	**8**	**-3**	**11**	**6**	**10**	**-3**
Other Trips									
Proposed Project	272	136	136	39	8	31	47	31	16
CPMC Trip Credit	-455	-228	-227	-32	-26	-5	-41	-6	-35
Net New Trips	**-183**	**-92**	**-91**	**7**	**-18**	**26**	**6**	**25**	**-19**

Source: Fehr & Peers, 2018; Adavant Consulting, *CPMC EIR*, 2010.

Notes: Totals may not sum precisely because of rounding.

a. Transit, Walking, and Other categories show person trips, while Vehicle Trips represents the number of vehicles.

b. Daily external walk trips are not available from the 2010 CPMC EIR, therefore, no credit taken; peak-hour credits are based on travel survey data and the corresponding mode share.

The proposed project would generate 762 fewer daily transit trips than the existing hospital use at the site. During the AM and PM peak hours, the proposed project would generate slightly more transit trips in the peak direction (40 new outbound in the AM peak hour and 34 inbound in the PM peak hour), with a slight decrease in total transit trips during each period. This directionality shift between inbound and outbound trips is due to residents leaving home to go to work in the AM peak hour and returning home from work in the PM peak hour.

The proposed project would generate 108 more daily walking trips than the existing hospital use. During the AM peak hour, the proposed project would generate up to eight new walking trips and up to six new walking trips in the PM peak hour. This indicates that the number of peak-hour trips by walking would not noticeably change with the proposed project.

The proposed project would generate 183 fewer daily trips by other modes than the existing hospital use. During the AM peak hour, the proposed project would generate up to seven new “other” trips, with up to six new “other” trips in the PM peak hour This slight increase would be split between bicycle, motorcycle, and for-hire vehicles, resulting in approximately one new trip by these other modes every 10 minutes across the whole project site. Therefore, the number of peak-hour trips by other modes would not noticeably change with the proposed project.

TRIP DISTRIBUTION

The distribution of trips for the proposed project was obtained from the SF Guidelines for residential uses within Superdistrict 2. The distribution is based on the origins and destinations of work and non-work trips, which are assigned to the four quadrants of San Francisco (Superdistricts 1 through 4), East Bay, North Bay, South Bay, and internal district trips. Trip distributions for the credited trips associated with the CPMC land uses are from the 2010 CPMC EIR.

The results for the trip distribution are summarized in Table 4.2-7. Generally, the change in land use from hospital to residential at the site would result in a substantial increase in the share of trips destined for locations within San Francisco, with 84 percent of residential trips ending within the city of San Francisco compared to 53 percent of CPMC employee trips. This pattern is due to the relatively high number of San Francisco residents who also work in San Francisco compared to the number of San Francisco employees who also live in San Francisco. This increase is particularly large when comparing trips to and from Superdistrict 1, which includes downtown San Francisco. The proposed project would result in fewer trips between the project site and the East Bay, North Bay, and South Bay compared to the existing land use.

TABLE 4.2-7. PROPOSED PROJECT PERSON TRIP DISTRIBUTION

Place of Trip End	Residential Trips	CPMC Trips		
		Employees	**Patients**	**Visitors**
San Francisco	84%	53%	79%	71%
Superdistrict 1 (Northeast Quadrant)	*51%*	*3%*	*19%*	*6%*
Superdistrict 2 (Northwest Quadrant)	*11%*	*23%*	*29%*	*34%*
Superdistrict 3 (Southeast Quadrant)	*11%*	*10%*	*15%*	*16%*
Superdistrict 4 (Southwest Quadrant)	*11%*	*17%*	*16%*	*15%*
East Bay	4%	10%	5%	3%
North Bay	1%	17%	7%	8%
South Bay	9%	20%	8%	16%
Other	1%	0%	1%	2%

Source: Fehr & Peers, 2018; San Francisco Planning Department, *SF Guidelines*, 2002; Adavant Consulting, *CPMC Long-Range Development Plan EIR*, 2010.

Notes: Totals may not sum precisely because of rounding.

TRIP ASSIGNMENT

The vehicle and transit trips generated by the proposed project and existing CPMC hospital were assigned to the project driveways, study intersections, and transit lines, as presented below.

VEHICLE TRIP ASSIGNMENT

The trip assignments for the proposed project and the CPMC trip credit were divided amongst the various driveway locations, based on the number of units for the proposed project and the current supply of parking for the CPMC trip credit. The resulting driveway volumes summarized by street are shown in Table 4.2-8. As shown in Table 4.2-8, the proposed project would result in an increase in driveway vehicle trips on Maple Street and Cherry Street in the peak direction for residential uses (outbound during AM peak hour and inbound during PM peak hour) while reducing driveway vehicle trips on Sacramento and California streets. These vehicle trips were then assigned to the roadway network, based on the trip distribution patterns shown in Table 4.2-7, p. 4.2-46. The resulting vehicle trips at intersections within the study area are shown in Figure 4.2-8 (p. 4.2-49).

Overall, the proposed project would result in a net decrease in the number of vehicle trips for most turning movements during both the AM and PM peak hours. There are small increases in the AM peak hour along Sacramento Street in the eastbound direction (up to 21 new eastbound vehicles on Sacramento Street at Spruce Street) and along Maple Street in the southbound direction (with 37 net new southbound vehicle trips at Maple Street and California Street). In the PM peak hour, a similar pattern shows an increase of up to 16 vehicles in the westbound direction on Sacramento Street, 19 net new vehicles making the westbound right movement from California Street to Maple Street, and 18 net new vehicles making the northbound through movement from Parker Avenue onto Maple Street at California Street.

TRANSIT TRIP ASSIGNMENT

As presented in Table 4.2-6 (p. 4.2-45), the proposed project would result in a net decrease of 17 transit trips at the site in the AM peak hour and 14 transit trips in the PM peak hour. However, it would result in a net increase of AM trips outbound from the project site and PM trips inbound to the project site and, thus, would add additional transit demand to Muni and regional transit in the peak period and peak direction (40 new AM trips and 34 new PM trips across all screenlines). These trips would be distributed primarily to the 1-California and 1BX-California B Express, with most of these peak-hour trips crossing the downtown San Francisco screenline. The existing hospital generates more regional transit trips in both directions; therefore, the proposed project would reduce ridership on regional routes.[35] The transit assignment calculations are presented in Appendix F2.

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[35] See *Analysis Scenarios* (p. 4.2-30) and *Trip Credits/Net New Trips* (p. 4.2-44) for discussions regarding treatment of the hospital and the planned new CPMC facilities as well as trip generation from both vehicles and transit.

TABLE 4.2-8. PROPOSED PROJECT DRIVEWAY VOLUMES

	AM Peak Hour		PM Peak Hour	
Driveway Location (side of street)	**In**	**Out**	**In**	**Out**
Cherry Street				
Block B Garage/Single-Family homes (east)	13	47	47	23
CPMC Trips Removed (both)[a, b]	-66	-38	-44	-77
Net Trips	***-53***	***9***	***3***	***-54***
Maple Street				
Block B Garage (west)	11	39	40	20
Block C Garage (east)	9	45	48	24
CPMC Trips Removed (both)	-40	-24	-28	-48
Net Trips	***-20***	***60***	***60***	***-4***
Sacramento Street				
Single-Family Homes (south)	0	4	4	0
CPMC Trips Removed	-13	-8	-9	-16
Net Trips	***-13***	***-4***	***-5***	***-16***
California Street[c]				
Block A Garage	6	23	23	11
CPMC Trips Removed (Block A)	-171	-103	-117	-206
CPMC Trips Removed (Block C)	-33	-19	-23	-39
Net Trips	***-198***	***-99***	***-117***	***-234***
Total Net Trips	***-284***	***-34***	***-59***	***-308***

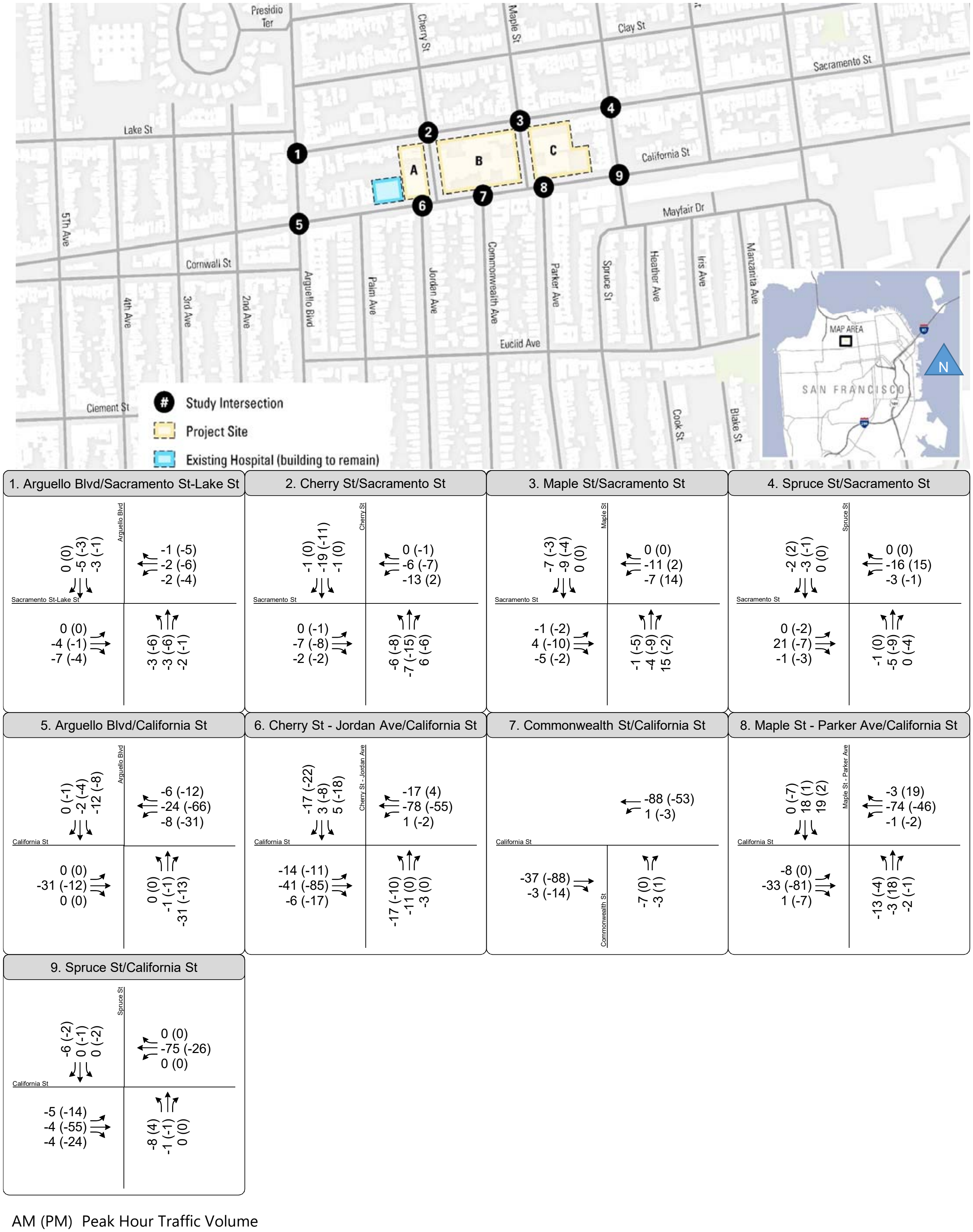
Notes:

a. Existing CPMC driveway vehicle trips are estimated based on the trip distribution and assignment of trips from the 2010 CPMC EIR.

b. Cherry Street volumes represent the net decrease in CPMC vehicle trips. The easement to the 3838 California garage will remain.

c. Vehicle trips to the loading-only entrance on California Street east of Maple Street would be infrequent; less than one trip would occur on average during peak hours.

Source: Fehr & Peers, 2018; Adavant Consulting, *CPMC Long-Range Development Plan EIR*, 2010.



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3700 California Street
Case No. 2017-003559ENV

Figure 4.2-8
Peak Hour Traffic Volumes
Net Change in Project Trips

FREIGHT DELIVERY AND SERVICE VEHICLE DEMAND

Freight delivery and service vehicle loading demand was estimated in terms of the total number of daily trips and the number of required loading spaces during peak-hour truck trip generation, which typically occurs between 10:00 a.m. and 1:00 p.m. (unrelated to the PM peak hour for other transportation analyses).

Freight delivery and service vehicle demand was not analyzed in the 2010 CPMC EIR; thus, the methodology from the SF Guidelines to estimate the level of daily and peak-hour truck trip generation was used to estimate them for the existing condition for comparison purposes. As noted above, travel behavior has not changed substantially since the 2010 CPMC EIR, based on employee and patient survey data and garage entry data.[36] Therefore, the information presented in the SF Guidelines remains valid for the purposes of this analysis.

The freight delivery and service vehicle loading demand is presented in Table 4.2-9. The proposed project would generate 54 fewer truck trips than existing conditions each day and require three fewer loading spaces to accommodate peak-hour truck loading demand.

TABLE 4.2-9. FREIGHT DELIVERY AND SERVICE VEHICLE LOADING DEMAND

Land Use	Daily Truck Trips	Peak-Hour Loading Demand (Spaces)[a]
Proposed Project[b]	*19*	*1*
CPMC Trip Credit	*-73*	*-4*
Net Loading Demand	**-54**	**-3**

Source: San Francisco Planning Department, *Transportation Impact Analysis Guidelines for Environmental Review*, 2002; Fehr & Peers, 2018.

Notes:

a. Peak hour of truck trip generation generally occurs between 10:00 a.m. and 1:00 p.m. and is unrelated to the PM peak hour used in other transportation analyses.

b. Includes 618,200 gross square feet of residential space per June 1, 2018, project application.

PASSENGER LOADING DEMAND

Overall, the proposed project would generate up to seven new "other" trips during the AM peak hour and six in the PM peak hour. This slight increase would be split between bicycle, motorcycle, and passenger loading activities, which include for-hire vehicles. Similar to other modes, the proposed project would generate more "other" trips than the existing hospital use in the outbound direction in the AM peak hour and the inbound direction in the PM peak hour because of the shift from hospital to residential land use. However, the inbound and outbound

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36 The validation process is documented in *Memorandum #1: Final Travel Demand Estimates for 3700 California* (Fehr & Peers, October 2, 2018), presented in Appendix F6.

nature to these trips would not matter for passenger loading activity because they each require an inbound and outbound trip. Therefore, under the conservative assumption that all new "other" trips are passenger loading trips, the proposed project would result in approximately one new passenger loading trip every 10 minutes during the peak hour.

PARKING DEMAND

The daily parking demand generated by the proposed project was forecast using the methodology described in the SF Guidelines. The actual demand for parking that a proposed project may generate is not necessarily the same as what is required by the planning code.

The calculated residential parking demand is based on an evening demand rate of 1.1 spaces for each market-rate studio/one-bedroom unit (of which there are 69) and 1.5 spaces for each market-rate two- (or more) bedroom unit (of which there are 204), as directed in the SF Guidelines. These rates are somewhat higher than the average rates of car ownership in the surrounding neighborhood and may therefore overestimate parking demand. The proposed project would generate a total long-term parking demand of 382 spaces during the evening peak period.[37]

IMPACT EVALUATION

CONSTRUCTION IMPACTS

Impact TR-1: Construction of the proposed project would not result in substantial interference with people walking, biking, riding transit, or driving, nor would it result in potentially hazardous conditions. *(Less than Significant)*

The discussion of construction impacts is based on currently available information from the project sponsor, as summarized in Chapter 2, *Project Description*; 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.[38] The authority established within the Blue Book is derived from the San Francisco Transportation Code. The Blue Book, which concerns primarily construction activities that affect the public

[37] The project is assumed to consist entirely of market-rate housing. Should the project include affordable units on the site, parking demand would be lower than that presented here.

[38] San Francisco Municipal Transportation Agency, *City and County of San Francisco Regulations for Working in San Francisco Streets,* eighth edition, January 2012, https://www.sfmta.com/sites/default/files/reports-and-documents/2018/09/blue_book_8th_edition_pdf.pdf, accessed November 15, 2018.

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, the contractor would need to apply for a special traffic permit from SFMTA, which would specify conditions to ensure the safety of all travel modes in and around 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.[39] To that end, the public works code includes requirements related to excavation in the public right-of-way; this may require development and implementation of a contractor's parking plan. In addition to Blue Book and public works regulations, contractors are responsible for complying with all City, state, and federal codes, rules, and regulations.

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 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. In addition, all traffic controls implemented as part of any special traffic permit would be required to conform to the *California Manual of Uniform Traffic Control Devices*.[40]

It is anticipated that project construction would be conducted in three distinct phases by block, beginning at Block C and moving west, with the potential for construction phases to overlap. The exact construction schedule would be dictated by market conditions at the time of project construction. Completion of project construction is expected to occur in 2024.

Construction activities would include demolition of existing uses, site preparation and grading, excavation and shoring, building construction, and site finishing work. The duration of construction for the entire project is estimated to be approximately 40 months. Construction on Block C would begin first and occur over 29 months. Construction on Block B would begin 2 months after the start of construction on Block C and occur over 35 months. Construction on Block A would begin 15 months after the start of construction on Block B and occur over 23 months. After the entire project is constructed, the streetscape elements (e.g., sidewalk

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[39] San Francisco Public Works, *Guidelines for the Placement of Barricades at Construction Sites* (Order No. 167,840), 2008, http://sfpublicworks.org/sites/default/files/Guidelines_for_Placement_of_ Barricades_0.pdf, accessed November 15, 2018.

[40] 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 15, 2018.

widening, corner bulb-outs, and landscaping) would be constructed. If construction of each block were to occur in separate phases (e.g., non-overlapping construction periods spread out over a longer period), then the streetscape elements would be constructed following the completion of each block.

During overlapping construction of Blocks A, B, and C, the peak number of daily trips by construction trucks would be approximately 50, with the average being approximately 25. The peak number of daily construction workers, 130, would be expected to occur approximately halfway through construction (the 21st month), during the construction phases for Blocks B and C and the excavation and shoring phase for Block A. During the entire construction period, there would be an average of approximately 80 daily construction workers at the project site. Details regarding construction truck and worker trips are shown in Appendix F7.

Throughout the construction period, there would be construction-related trucks entering and exiting the site. Construction-related trucks would access the project site from major arterials such as California Street and enter and exit the site primarily via Maple and Cherry streets. The impact of construction truck traffic would be a temporary lessening of the capacities of local streets due to the size, slower acceleration, and larger turning radii of trucks, which may temporarily affect traffic and transit operations and increase conflicts with people walking, biking, riding transit, or driving near the project site.

Staging of construction equipment would occur within the project site during each phase of construction. The phasing by block would allow for staging to also occur within the adjacent block if the timing works out such that other blocks are available. When construction activities are occurring within each block, pedestrian sidewalk sheds would be provided to protect people walking around the project site. Construction activities may occasionally require sidewalk and/or travel lane closures, such as for staging of vehicles or equipment during constrained construction periods or construction of the streetscape improvements. All closed sidewalks would be replaced with temporary pedestrian walkways and those fronting construction areas would be covered; temporary fencing would be installed as needed. All temporary sidewalk, parking, or traffic lane closures would be coordinated with City agencies to minimize impacts on traffic and other modes of travel.

Construction would generally occur between the hours of 7:00 a.m. and 8:00 p.m. up to 7 days a week. Limited construction activities could occur outside the hours of 7:00 a.m. to 8:00 p.m. to minimize disruptions to people walking, bicycling, riding transit, or driving while making improvements to the public right-of-way.

Compliance with City codes and regulations typically ensures that construction activities would not result in potentially hazardous conditions for people walking, bicycling, riding transit, or driving and/or transit operations. According to the Blue Book, California Street between Gough Street and 14th Avenue is a major Muni route. Any construction activities affecting travel lanes on California Street would need to stop Monday through Friday between 7:00 a.m. and 9:00 a.m. for the eastbound lanes and 4:00 p.m. and 7:00 p.m. for the westbound lanes.[41] The project contractor would be required to coordinate with Muni's Street Operations and Special Events Office to coordinate construction activities and reduce impacts on transit operations. Key items may include potential disruptions to the overhead wires and the transit stop at the northwest corner of California and Maple streets, which are critical to the function of 1-California, 1BX-California B Express, 2-Clement, and 33-Ashbury/18th.

The mode split of construction worker trips is unknown, but given the project site location, workers would most likely arrive predominantly by transit or private vehicle. It is anticipated that the addition of worker-related vehicle or transit trips would not substantially affect transportation conditions because impacts on local intersections or the transit network would most likely be less than those impacts associated with the existing CPMC hospital use or the proposed project and would be temporary in nature.

To the extent that parking is not available onsite at the existing 460 Cherry Street garage or in other areas, construction workers who drive to the site would be directed to park at an offsite location from which they would be transported by bus to the project site. The phasing of project construction would allow construction workers to use the existing five-story garage at 460 Cherry Street, at least during construction of the project on Blocks B and C. Potential temporary parking restrictions along the building frontage during project construction would cause a temporary decrease in supply. However, parking shortfalls would be temporary and would not be expected to affect transit, pedestrian, or bicycle conditions.

Construction activities under the proposed project would be temporary and limited in duration. They would be conducted in compliance with the Blue Book and other City requirements and therefore would not interfere substantially with accessibility to adjacent areas or result in hazardous conditions for people walking, bicycling, riding transit, or driving. Therefore, construction-related activities for the proposed project would have a less-than-significant impact on transportation, and no mitigation measures are necessary. However, Improvement Measure I-TR-A, Project Construction Updates, is identified to further minimize less-than-significant construction impacts on nearby residents, institutions, and businesses.

Improvement Measure I-TR-A: Project Construction Updates

To minimize construction impacts on access for nearby residences, institutions, and businesses, the project sponsor should provide nearby residences and adjacent businesses with regularly updated information regarding construction, including construction activities, peak construction vehicle activities (e.g., concrete pours), travel or parking lane closures, and sidewalk closures through a newsletter and/or website.

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41 *San Francisco Blue Book*, eighth edition, Appendix C, Table 1, January 2012.

OPERATIONAL IMPACTS

VMT IMPACTS

Impact TR-2: The proposed project would not cause substantial additional VMT or substantially induce automobile travel. (*Less than Significant*)

Table 4.2-10 presents VMT per capita for residents in the TAZs in which the project site is located, TAZs 323 and 718, and compares it to the Bay Area regional average and the established threshold of 15 percent below that regional average. However, high rates of parking provision have been shown to increase both vehicle ownership and total VMT associated with a project, although the direct connection is inconclusive with respect to the magnitude of those increases.

TABLE 4.2-10. DAILY VEHICLE MILES TRAVELED PER CAPITA FOR RESIDENTIAL LAND USE

VMT per Capita	Existing	Cumulative 2040
Bay Area Regional Average	17.2	16.1
Significance Threshold (Regional Average minus 15%)	14.6	13.7
TAZ 323	7.9	7.5
TAZ 718	7.7	7.2

Source: San Francisco Planning Department, 2018.

The TAZs have an average parking supply of around 0.9 parking space (including off-street and on-street spaces but not driveway or apron spaces) per dwelling unit.

In order to ascertain whether the project would have a significant impact on VMT, typical patterns of households are analyzed, with comparisons of auto ownership in the neighborhood, existing parking rates in the neighborhood (inclusive of on-street parking), and current commute modes of households in the neighborhood by vehicle availability. Census data indicate that households in the project area own, on average, 1.5 vehicles;[42] therefore, this analysis shows that:

- Auto availability for households residing at the project site would not be substantially higher than that in the existing neighborhood, to the extent that driving behavior would lead to VMT per capita in excess of 15 percent below the regional average;
- Total parking rates of the project, including changes to available street parking, would not exceed the neighborhood average to the extent that the project would have a significant impact on VMT; and

[42] This calculation is based on census data regarding household access to a vehicle, as documented in *Memorandum #1: Final Travel Demand Estimates for 3700 California* (Fehr & Peers, October 2, 2018), presented in Appendix F6.

- Expected auto mode share of new residents, based on auto availability, is not expected to exceed the neighborhood auto mode share to an extent that would lead to a significant impact on VMT.[43]

This analysis concludes that, based on available data, the proposed project would not generate VMT per capita at a level that would cause a significant impact. Therefore, impacts on VMT due to the project would be less than significant, and no mitigation measures are necessary.

INDUCED TRAVEL

The proposed project is not a transportation project. However, the proposed project would include features that would alter the transportation network. These features include sidewalk widening, on-street loading zones, bicycle parking, curb cuts, internal walkways, bulb-outs, and a rectangular rapid-flash beacon, as described in Chapter 2, *Project Description.* These features fit within the general types of projects identified that would not substantially induce automobile travel. Therefore, impacts related to induced travel due to the project would be less than significant, and no mitigation measures are necessary.

TRAFFIC HAZARDS

Impact TR-3: The proposed project would not cause any major traffic hazards. *(Less than Significant)*

Project-related trip generation and changes to the transportation network were reviewed to determine whether the proposed project would create or contribute to a major traffic hazard in the study area. In general, the proposed project would be expected to decrease the overall number of vehicle trips in surrounding areas (as noted in Table 4.2-6, p. 4.2-45), although there are a few locations where the number of vehicles on the roadways would be expected to increase at certain times of the day because of parking garage locations and the different travel patterns for the hospital versus the proposed uses.[44] However, a general increase in traffic would not be considered a traffic hazard. Traffic hazards would generally result, for example, from the introduction of design features such as sharp roadway curves or dangerous intersections, none of which would result from the proposed project.

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43 Detailed information regarding travel characteristics that affect VMT and parking demand is presented in *Memorandum #1: Final Travel Demand Estimates for 3700 California* (Fehr & Peers, October 2, 2018), presented in Appendix F6.

44 For example, the proposed project would most likely generate more vehicle trips on southbound Maple Street at California Street during the AM peak hour because it would provide access to more parking on Maple Street compared with the existing CPMC hospital. However, the proposed project would also generate fewer vehicle trips on California or Parker streets during this period, resulting in a net decrease in traffic at this intersection.

The project proposes the installation of corner bulb-outs at Cherry and Maple streets as well as California and Sacramento streets to reduce pedestrian crossing distances. The bulb-outs would not result in blocked sightlines for drivers and would generally reduce the exposure of pedestrians to traffic while crossing the roadway. The bulb-outs, which would be designed per the Better Streets Plan, would not impede driver or pedestrian sightlines in areas adjacent to the project site.

The proposed project would reuse seven of the 14 existing curb cuts and remove seven others; 11 new curb cuts would be added, for a total of 18 curb cuts. Twelve of the 18 curb cuts would be for the single-family homes. The proposed project's driveways would include one 10-foot-wide curb cut for each of the single-family homes, two 10-foot-wide curb cuts for the multi-family garage on Block A (for passenger vehicles only), one 18-foot-wide curb cut for each end of the multi-family parking garage on Block B (for passenger and freight vehicles), and one 18-foot-wide curb cut along Maple Street and one 18-foot-wide curb cut along California Street for the multi-family parking garage on Block C, thereby meeting the Better Streets Plan's recommended widths. Each block of the proposed project includes a two-level underground parking garage, serving the residents of the multi-family buildings on that block.[45] The existing driveway on Block A that currently provides access to the parking garage at 3838 California Street would be maintained under the proposed project, per an easement agreement between the project sponsor and CPMC. This parking garage is for the staff of the medical office at 3838 California Street only; visitors would continue to enter the garage at 3838 California Street (which is not part of the project site) via the existing driveway on California Street.

The vehicle traffic generated by the proposed project would be dispersed to the multi-family garage entrances on California, Cherry, and Maple streets and the single-family driveways on Sacramento and Cherry streets. The only location with a net increase in vehicle traffic compared to existing conditions would be on Maple Street because of the location of driveways that provide access to the multi-family garages on Block B and C. This block of Maple Street currently provides access to fewer off-street parking spaces than Cherry Street, which provides access to the primary parking garage for visitors to the CPMC hospital at 460 Cherry Street.

Maple Street is a local neighborhood street with lower traffic volumes compared with Sacramento or California streets (approximately 200 total vehicles per peak hour). The proposed project would add 40 to 50 net new vehicle trips to Maple Street during the AM and PM peak hours, representing a new vehicle traveling on Maple Street every 1 to 2 minutes during these hours. These additional vehicles would not substantially affect traffic operations on Maple

[45] Block B also provides parking for two of the single-family homes.

Street or at the adjacent intersections at Sacramento and California streets. The proposed project would reduce the amount of traffic on other streets in the study area following the removal of the existing CPMC hospital.

The Maple Street driveways for Blocks B and C are located across the street from each other. As shown in Table 4.2-8 (p. 4.2-48), the proposed project would generate approximately 40 to 50 vehicle trips both in the outbound direction in the AM peak hour and in the inbound direction in the PM peak hour. Although there would be occasional conflicts with vehicles turning into or out of the driveway, these volumes do not represent a substantial amount of traffic that would cause extensive vehicle queues or block people walking, biking, or driving along Maple Street.

The location of a project driveway does not in itself cause a hazard. The project's streetscape would be designed to ensure that there would continue to be clear sight lines on the street for people turning into or out of driveways, which would undergo detailed review to ensure that they are designed to City standards. In addition, street designs would be subject to approval by SFMTA, San Francisco Public Works, and the San Francisco Fire Department, along with other City agencies, to ensure that they are consistent with City policies and design standards and would not result in traffic hazards. Therefore, the proposed project would not result in major traffic hazards. This impact would be less than significant, and no mitigation measures are necessary.

Although traffic hazard impacts would be less than significant, Improvement Measure I-TR-B, Monitoring and Abatement of Queues, would further minimize the less-than-significant impacts with respect to automobile traffic in the project vicinity, specifically, on Maple Street. The recommended improvement measure is described below.

Improvement Measure I-TR-B: Monitoring and Abatement of Queues

A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks or travel lanes for a consecutive period of 3 minutes or longer on a daily basis. It will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to the project site. If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods would vary, depending on the characteristics and causes of the recurring queue as well as the characteristics of the parking and loading facility, the street(s) to which the facility connects, and the associated land uses (if applicable).

Suggested abatement methods include, but are not limited to, the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; ingress/egress restrictions, such right-in/right-out access limitations; employment of parking attendants to facilitate parking garage ingress and egress; and additional transportation demand management strategies.

> If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than 7 days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.

Implementation of Improvement Measure I-TR-B would help to ensure that recurring vehicle queues would not occur at the project driveways or on the public right-of-way. Therefore, the less-than-significant impacts related to traffic hazards would be further reduced.

TRANSIT

Impact TR-4: The proposed project would not cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity or cause a substantial increase in delays or operating costs such that significant adverse impacts on transit could result. (*Less than Significant*)

The evaluation of transit impacts is based on the ability of the transit system to accommodate existing and projected ridership demands as well as the proposed project's impacts on nearby transit operations. The proposed project would be located along a major transit corridor (California Street routes 1-California and 1BX-California A Express), with additional service provided by 2-Clement, 28R-19th Avenue Rapid, and 33-Ashbury/18th. Transit riders traveling to or from the project site would use nearby Muni lines, then transfer to or from other local lines or regional transit providers, including BART, SamTrans, AC Transit, Golden Gate Transit, and Caltrain, as needed. The evaluation of transit impacts is also based on the potential for increased delays or operating costs that would result in adverse impacts on transit service.

Transit screenline tables are presented in EIR Appendix F2. With the addition of project-generated transit trips, transit screenlines and corridors would operate within Muni's 85 percent capacity utilization standard. The proposed project would generate 23 transit trips during the weekday AM peak hour along the California Street corridor crossing the downtown screenline in the inbound direction. This change represents less than a 2 percent change to the screenline, which currently operates at 80 percent. During the PM peak hour, the proposed project would generate 33 transit trips to the California Street corridor crossing the downtown transit screenline in the outbound direction. The addition of these PM peak-hour transit trips represents a change of less than 3 percent along the corridor. Transit trips generated by the proposed project represent less than a 0.5 percent change to the northwest screenline, which currently operates at 76 percent in both the AM and PM peak hours. The addition of the proposed project's transit trips would not cause Muni screenlines to exceed the SFMTA 85 percent capacity utilization threshold. Three route bundles, Fulton/Hayes, T Third Street, and the Subway lines, currently exceed the SFMTA 85 percent operating threshold under existing conditions.[46] Transit trips generated by the proposed project would contribute less than 1 percent to ridership across those routes. Therefore, the proposed project's impact on Muni transit capacity would be less than significant, and no mitigation measures are necessary.

Existing regional transit screenline conditions are presented in EIR Appendix F2. BART to and from the East Bay currently exceeds the 100 percent capacity utilization standard during both the AM and PM peak hours. The proposed project would reduce the number of trips on regional transit (17 fewer boardings in the AM peak hour, and 14 fewer boardings in the PM peak hour) through replacement of the CPMC hospital with a residential land use at the site. Although many CPMC-related trips may shift to the hospital's new location in Cathedral Hill, this analysis assumes continued operation of a hospital at the former location for consistency with the 2010 CPMC EIR. As noted in *Analysis Scenarios* (p. 4.2-30) and *Trip Credits/Net New Trips* (p. 4.2-44), the proposed project would demolish the hospital at the project site and replace it with residential land uses. Therefore, the total number of transit trips would be reduced with the proposed project. It is also important to note that, at the time of the notice of preparation, the Cathedral Hill hospital was not open; therefore, it is not included under the existing-plus-project analysis. The operational impacts of the new CPMC Cathedral Hill hospital were assessed separately in the 2010 CPMC EIR and included in the 2040 cumulative analysis with other reasonably foreseeable land use and transportation changes. Therefore, the proposed project would result in a less-than-significant impact on BART transit capacity (see Table 4.2-6, p. 4.2-45).[47]

The proposed project would not create hazards or delays for transit service. The proposed project would reduce the number of vehicles using streets with transit service, such as California Street or Sacramento Street. The parking garage serving Block A would be directly adjacent to the stop at Cherry and California streets. However, fewer vehicles would be using the proposed project's parking garage driveway at this location compared to the existing driveway serving the 460 Cherry Street parking garage. The only location where traffic volumes may increase is at the southbound Maple Street approach during the AM peak hour, with an additional 37 vehicles at that time. The addition of one vehicle every 1 to 2 minutes at this approach during the peak hour would not substantially affect transit operations because there would be adequate roadway capacity, and this level of change in traffic volume would be imperceptible to other people driving.

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[46] See transit screenline tables presented in EIR Appendix F2.

[47] Additional discussion of the relationship between CPMC-related trip generation and project-related trips is provided in the ICF memorandum to the San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019.

The proposed project would change transit amenities in areas surrounding the project site in several ways. First, subject to the project retaining the Block A driveway on California Street at its proposed location, the proposed project would replace the existing Muni driver layover bathroom for the 33-Ashbury/18th line in the hospital at Sacramento and Cherry streets with a new driver bathroom at 401 Cherry Street (Building A5 at the northwest corner of Sacramento and Cherry streets).[48] This bathroom would be closer to the layover stop than the existing bathroom. Second, the proposed project would shift the overhead wires for the Muni 33-Ashbury/18th line at Sacramento and Maple streets to allow Muni vehicles to make a tighter turn onto Maple Street, given the new corner bulb-out at the southeast corner of this intersection and the changes to Maple Street sidewalk widths and the right-of-way/parking configuration. These changes would not result in a substantial change to transit operations. Therefore, the proposed project would result in a less-than-significant impact related to transit service, and no mitigation measures are necessary.

WALKING/ACCESSIBILITY

Impact TR-5: The proposed project would not result in potentially hazardous conditions or interfere with accessibility to the project vicinity. (*Less than Significant*)

The evaluation of walking and accessibility impacts is based on the effect the proposed project would have on the environment for people walking to and from the project site and within adjoining areas. Figure 4.2-7 (p. 4.2-41) displays the proposed project's access and circulation routes for people walking to and from the project site. The proposed project would provide an internal circulation system for people walking, connecting the units within the center of Block B to Sacramento and California streets. People walking to and from the proposed project would enter through the public entry court on California Street at Commonwealth Avenue, the private gate on Sacramento Street, or the residential lobby to the multi-family buildings on California Street, Cherry Street, Maple Street, and Sacramento Street.

As documented in Table 4.2-3 (p. 4.2-42), the proposed project would widen the non-conforming sidewalks adjacent to the project site that are currently less than 15 feet to a minimum width of 15 feet, thereby meeting Better Streets Plan and planning code standards.[49] This includes locations that are currently constrained for people walking, including the sidewalks on Sacramento Street at Cherry Street and California Street at Maple Street that have

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48 Should the proposed driveway for Block A be moved to another location, no bathroom would be provided for Muni bus operators. In addition, per the March 14, 2019, agreement between CPMC and Muni, a portable restroom unit would be provided at 401 Cherry Street during project construction.

49 Pursuant to Planning Code section 138 and the Better Streets Plan, California Street is required to have a minimum sidewalk width of 12 feet, with a recommended width of 15 feet, while Sacramento, Maple, and Cherry streets are subject to a minimum sidewalk width of 10 feet and a recommended width of 12 feet.

less than 5 feet of effective width because of bus shelters that block a portion of the passable walkway. The proposed project would widen the sidewalks at these locations to ensure that the minimum effective widths at constrained locations surrounding the project site would meet Better Streets Plan and planning code standards. In addition, the proposed project would provide the following amenities for people crossing streets in areas surrounding the project site:

- Corner bulb-outs to reduce crossing distances for people walking across Cherry and Maple streets at California and Sacramento streets.
- A new high-visibility crosswalk and rectangular rapid-flash beacon on the east leg of the unsignalized intersection of California Street and Commonwealth Avenue (to match the design of the west leg of the intersection).
- A new sidewalk extension (approximately 100 feet wide) at Commonwealth Avenue to reduce the crossing distance for people walking across California Street.
- Alignment of the sidewalks along Maple Street with the sidewalks north of Sacramento Street to provide a more direct path of travel for people walking.

The proposed project would reuse seven of the 14 existing curb cuts and remove seven others; 11 new curb cuts would be added, for a total of 18 curb cuts. Twelve of the 18 curb cuts would be for the single-family homes. These additional curb cuts would serve only one house each, similar to curb cuts on the surrounding residential streets, and would not be substantial enough to affect walking or accessibility. All curb cuts would be designed in a manner that would be consistent with City standards.

Major routes for people walking to, from, or within the project site would be ADA compliant, with the exception of Cherry and Maple streets, which have 9 to 11 percent slopes. The proposed project's streetscape plan provides sidewalks on all frontages that meet Better Streets Plan guidance for effective widths and are free of obstructions to ensure that they are accessible. These features would improve conditions for people with disabilities relative to existing conditions.

The proposed project would not substantially change the number of people walking on streets surrounding the project site. As presented in Table 4.2-6 (p. 4.2-45), the proposed project would generate slightly more walking trips than the existing CPMC hospital (eight trips in the AM peak hour and six trips in the PM peak hour) but slightly fewer transit trips than the existing hospital (17 trips in the AM peak hour and 14 trips in the PM peak hour). People walking to surrounding destinations or transit would use mostly California and Sacramento streets because of the concentration of transit service and retail uses on these streets.

The proposed project would generate overall fewer vehicle trips in both the AM and PM peak hours, although there would be a slightly higher number of vehicle trips in the peak residential directions (outbound in AM peak hour and inbound in PM peak hour). Driveways to the multi-family parking garages would be located on California Street, Cherry Street, and Maple Street. These driveways would be positioned similar to existing driveways but would generally generate fewer vehicle trips compared to the existing CPMC hospital. As noted in the traffic hazards section, Maple Street would experience the largest increase in traffic under the proposed project, with 40 to 50 net new vehicle trips during the AM and PM peak hours. This represents approximately one new vehicle exiting the driveways every 1 to 2 minutes. These additional vehicles would not be added to nearby intersections with existing hazards for people walking, nor would the driveways cause potentially hazardous conditions for people walking. The driveways would also accommodate freight loading, which is also proposed to occur within the garages. Adequate off-street loading is provided to prevent vehicles from blocking people while walking.

The only intersection surrounding the project site without a signalized or stop-controlled crossing is at California Street and Commonwealth Avenue. The proposed project would add a new sidewalk extension to reduce the crossing distance for people walking across California Street and a new high-visibility crosswalk and rectangular rapid-flash beacon on the east leg of the intersection. In addition, the proposed project would not add a substantial number of vehicle trips to the unsignalized crossings at Commonwealth Avenue. Because of the design improvements and the lack of additional vehicle trips, the proposed project would not exacerbate existing hazards for people walking at this location.

The only concentrations of vulnerable populations in the immediate vicinity of the project site are children at Claire Lilienthal Elementary School, located west of Cherry Street on the north side of Sacramento Street, and patients who visit the remaining medical office building at 3838 California Street, which most likely includes seniors or those with medical conditions that hinder walking. The proposed project would reduce overall traffic on streets adjacent to these vulnerable populations.

Project features for people walking, including people who belong to vulnerable populations, would represent an improvement compared with existing conditions by improving accessibility. The proposed project would not result in potentially hazardous conditions for people walking. Therefore, the proposed project would have a less-than-significant impact for people walking, and no mitigation measures are necessary. However, as noted above, although the multi-family parking garage driveways would comply with appropriate design standards, implementation of Improvement Measure I-TR-B, Monitoring and Abatement of Queues, would further reduce the less-than-significant impacts related to vehicle queuing across sidewalks.

BICYCLING

Impact TR-6: The proposed project would not result in potentially hazardous conditions for people bicycling and would not interfere with bicycle accessibility to the project site or adjoining areas. (*Less than Significant*)

As presented in Figure 4.2-4 (4.2-15), bicycle routes adjacent the project site include the *class 3* bicycle routes along Sacramento and Cherry streets. The major bicycle routes with class 2 bicycle lanes closest to the project site are on Arguello Boulevard, Lake Street, and Euclid Avenue.

The proposed project would include class 1 bicycle storage directly adjacent to garage entrances for convenient access on California Street for Block A, Maple Street for Block B, and Cherry Street for Block C. Additional on-street class 2 bicycle parking would be located along California and Sacramento streets, near primary entrances for the multi-family buildings or common spaces. Bicyclists would reach the project site primarily via Sacramento Street or local neighborhood streets to the north and south (Cherry and Maple streets and Jordan, Commonwealth, and Parker avenues).

Counts indicate that there are few people bicycling on the streets directly adjacent to the project site. The highest bicycle volumes are on Arguello Boulevard. As presented in Table 4.2-6 (p. 4.2-45), the proposed project would generate slightly more "other" trips than the existing CPMC hospital (seven trips in the AM peak hour and six trips in the PM peak hour). This slight increase would be split between bicycle, motorcycle, and for-hire vehicles, resulting in approximately one new trip by these other modes every 10 minutes across the whole project site. Therefore, the number of peak-hour trips by bicycle would not noticeably change with the proposed project.

The proposed project would not include any design features that would constitute potentially hazardous conditions or interfere with accessibility for people bicycling. On Sacramento Street, project driveways would serve only single-family homes; therefore, few vehicles would use a driveway on the existing bicycle route. In addition, the proposed project would generate fewer overall vehicle trips in both the AM and PM peak hours, thereby decreasing vehicle traffic on streets surrounding the project site. This includes locations such as Arguello Boulevard, Lake Street, and Sacramento Street, which can be challenging for bicyclists to navigate.

Secure bicycle parking would be located at convenient locations near the entrance to the project parking garages. Short-term bicycle parking would be located adjacent to major entrances to the project site on California and Sacramento streets. Adequate on-street and off-street freight and passenger loading would be provided so that vehicles would not block people bicycling adjacent to the project site. Therefore, the proposed project would have a less-than-significant impact on bicycle facilities and accessibility, and no mitigation measures are necessary.

Furthermore, with implementation of Improvement Measure I-TR-B, Monitoring and Abatement of Queues, the less-than-significant effect of vehicle queuing on streets would be minimized.

LOADING

Impact TR-7: The proposed project would accommodate its commercial vehicle and passenger loading demand, and proposed project loading operations would not create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking. (*Less than Significant*)

FREIGHT LOADING

As presented in Table 4.2-9 (p. 4.2-50), the proposed project would generate a freight loading demand of one delivery/freight space during the peak loading hour. This demand would consist of residential move-in/move-out activities and residential deliveries (e.g. UPS or FedEx). This peak loading demand represents a net reduction from the existing CPMC hospital's demand.

The proposed project would provide three freight and service loading spaces in the level 1 garage of Block B and one additional loading space in the level 1 garage of Block C. All four of the off-street freight loading spaces shown in Figure 4.2-5 (p. 4.2-37) would meet the minimum length of 35 feet, minimum width of 12 feet, and minimum vertical clearance, including entry and exit, of 14 feet. The parking garage driveways on Blocks B and C would include an 18-foot-wide curb cut for truck access. Freight trucks would access the Block B loading zones by entering at Cherry Street and exiting to Maple Street. Freight trucks would access the Block C loading zone by entering at California Street and exiting to Maple Street. The proposed project's loading space supply would exceed freight and service loading demand during the peak hour of loading activities. Therefore, the proposed project would have a less-than-significant impact on freight loading, and no mitigation measures are necessary.

PASSENGER LOADING

As presented in Table 4.2-6 (p. 4.2-45), the proposed project would generate up to seven net new "other" trips during the AM and PM peak hours. These "other" trips would be split between bicycle, motorcycle, and passenger loading activities. Under a scenario in which all new trips would be for passenger loading activities, this would result in approximately one new passenger loading trip every 10 minutes. The project proposes 11 on-street passenger loading spaces along the project frontage adjacent to the entryways for the multi-family buildings. This represents approximately the same number of loading spaces as under existing conditions, although they would be reallocated to more convenient locations adjacent to main entrances to the proposed project. These convenient locations for the loading zones would allow passenger loading to occur at the curb adjacent to the entrances to the main buildings. All passenger loading zones would need to be approved by SFMTA.

The only location where existing passenger loading demand exceeds passenger loading capacity is at 3838 California Street, just west of the proposed project. This is currently a popular location for passenger loading because of the number of patients who visit the medical office building throughout the day. The 3838 California Street building is not a part of the proposed project, and the proposed project would not include any major residential entrances on this block. The proposed project would include two loading zones on Cherry Street that could serve this building, one adjacent to the main entrance to the multi-family building on Block A and one across the street at the corner of California Street. Therefore, the proposed project would not exacerbate the existing over-capacity passenger loading condition at 3838 California Street or create hazards due to passenger loading activity at this location. Because proposed loading demand would remain similar to existing conditions and the existing passenger loading zones serving the project site are not over capacity, the proposed project's streetscape plan would provide adequate capacity for future passenger loading activities. Therefore, passenger loading activities associated with the proposed project would not create hazardous conditions or delay transit activity. The proposed project would result in less-than-significant impacts related to passenger loading, and no mitigation measures are necessary.

EMERGENCY ACCESS

Impact TR-8: The proposed project would not result in significant impacts on emergency access to the project site or adjacent locations. (*Less than Significant*)

Emergency vehicle access to the project site would be similar to existing conditions. Emergency vehicles would have access to the site and the vicinity along the adjacent frontages. The proposed project would modify the overhead wires at Sacramento Street and Maple Street, allowing the 33-Ashbury/18th to turn from Sacramento Street onto Maple Street with the new corner bulb-outs at this location. This change would be coordinated with SFMTA and the San Francisco Fire Department to ensure that it would not result in inadequate emergency vehicle access.

In the future, without the existing CPMC hospital, emergency vehicles would use primarily California Street, Presidio Avenue, Jordan Avenue, or Arguello Boulevard to reach the project site from the nearest hospitals, fire department stations, or police department stations. On all streets surrounding the project site, non-emergency vehicles would continue to yield the right-of-way, per the California Vehicle Code.

The proposed project would not include elements that would conflict with adopted codes regarding street widths and turning movements. Furthermore, the proposed project would not include any design features that would affect emergency vehicle access. Therefore, the proposed project's impact on emergency access would be less than significant, and no mitigation measures are necessary.

PARKING

Impact TR-9: The proposed project would not result in a substantial parking deficit, and thus, the project's parking supply would not create potentially hazardous conditions or significant delays that would affect transit, bicyclists, or people walking. (*No Impact*)

This section presents a parking demand analysis and considers any secondary physical environmental impacts associated with a constrained supply that could affect other transportation modes.

The proposed project would provide 1.5 parking spaces per dwelling unit for multi-family units and two parking spaces per unit for detached single-family residences, yielding a total of 423 parking spaces for residential use, including 404 vehicle parking spaces, 17 ADA-compliant accessible spaces, and two car-share spaces. The proposed project would also remove 439 existing off-street parking spaces and 19 on-street parking spaces. The on-street parking spaces would be removed because of the change from perpendicular to parallel parking on Maple Street. In addition, parking spaces would be removed for the proposed corner bulb-outs and new curb cuts.

The parking demand generated by the proposed project was forecast using the methodology described in the SF Guidelines. Although the proposed project would provide fewer parking spaces than the existing land uses, the parking supply proposed exceeds the long-term parking demand of 382 parking spaces during the evening peak period. Therefore, the proposed project would not result in a substantial parking deficit and would have no impact with respect to creating hazardous conditions as a result of a parking deficit.

CUMULATIVE IMPACTS

The cumulative impact analysis evaluates long-term effects associated with full buildout of the proposed project, based on future 2040 conditions. The estimation of 2040 cumulative conditions was based on development and growth identified by the SF-CHAMP travel demand model, using a model output that represents existing conditions and a model output for 2040 conditions.

The transportation and land use projects that are relevant to the cumulative analysis are described briefly below.

RELEVANT PLANS AND PROJECTS

As noted in the existing conditions discussion, there are several recently completed streetscape projects near the project site, such as the California Laurel Village Improvement Project, Laurel Heights/Jordan Park Traffic-Calming Plan, and Muni Forward changes. These projects are accounted for in the existing conditions assessment. Currently, there are no planned infrastructure or Vision Zero projects immediately adjacent to the project site.[50]

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[50] San Francisco Municipal Transportation Agency, *Interactive Projects Map*, https://maps.sfmta.com/tppd/citywide/full/Index.html; Fehr & Peers visited on August 20, 2018.

The most substantial change to land uses within the study area is the mixed-use development project at 3333 California Street that would replace the University of California, San Francisco Laurel Heights Campus with 558 residential units, 54,117 gross square feet of retail space, 49,999 gross square feet of office space, and 14,690 gross square feet of childcare space (Case No. 2015-014028ENV). This project would provide 896 vehicle parking spaces in four below-grade garages and six individual two-car garages. A variant to the 3333 California Street project would include 744 residential units, 48,593 gross square feet of retail space, 14,650 gross square feet of childcare space, and 970 parking spaces. A notice of preparation for an EIR was released in September 2017; the initial study for the project was published in April 2018. The draft EIR was published November 7, 2018.[51]

In addition to the development project at 3333 California Street, there are two other reasonably foreseeable development projects within the study area. A project at 3641 California Street would replace a two-story medical office building and surface parking lot with a four-story building containing six dwelling units and 872 square feet of retail use (Case No. 2018-007764ENV). A project at 3637–3657 Sacramento Street would replace an existing parking garage and medical office building with a mixed-use project, consisting of 18 residential units, 6,500 square feet of retail, and 10,000 square feet of medical office space (Case No. 2007.1347E).[52]

Table 4.2-11 presents the near- or long-term changes to the transportation network near the project site that were assumed to be in place under 2040 cumulative conditions.

Cumulative Transportation Demand

Future 2040 cumulative roadway volumes were derived from outputs from the transportation authority's travel demand forecasting model (SF-CHAMP). The SF-CHAMP model is an activity-based travel demand model that has been validated to represent existing and future transportation conditions in San Francisco. The model predicts all person travel for a full day (a typical weekday), based on total population, locations, housing units, and employment, which are then allocated to different periods throughout the day, using time-of-day sub-models. The SF-CHAMP model predicts person travel by mode (auto, transit, walking, and bicycle trips). The SF-CHAMP model also provides forecasts of vehicular traffic on regional freeways, major arterials, and the study area's local roadway network, considering available roadway capacity, origin-destination demand, and travel speeds when assigning future travel demand to the roadway network.

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[51] 3333 California Street Mixed-Use Project, Draft EIR, Case No. 2015-014028ENV, November 7, 2018.

[52] Case No. 2018-007764ENV.

TABLE 4.2-11. CUMULATIVE 2040 TRANSPORTATION NETWORK CHANGES NEAR THE PROJECT SITE

Plan/Project	Notes
Muni Forward[a]	• 1-California commute frequency would increase from every 7 minutes to every 6 minutes. • Transit priority projects along California Street for 1-California and 1BX-California B Express are still in early ("proposed") stages. • 1BX-California B Express would have a new transit stop on Pine Street (PM) and Bush Street (AM) at Van Ness Avenue to improve transit connections to the Civic Center and the northern waterfront. • The route alignment for 2-Clement would change east of Arguello Boulevard. • PM peak-hour frequency changes approved for 1-California and 33-Ashbury/18th. A route alignment change has been approved for 33-Ashbury/18th on the southern end of the route outside of the study area.
Geary Rapid Project (Phase 1 of Geary Corridor BRT) [b]	• Extension of transit-only lanes from Gough Street west to Stanyan Street. • Traffic signal priority for buses. • Reconfigured stop locations and upgraded transit stops from Market Street to Gough Street, with transit bulb-outs, new amenities, crossing improvements for people walking, and new lighting, landscaping, and trees. • The related Geary Boulevard Improvement Project would continue improvements west of Stanyan Street.

Source: Fehr & Peers, 2018; SFMTA, 2018.

Notes:

a. Based on information presented for these routes at https://www.sfmta.com/projects/muni-forward; accessed by Fehr & Peers, August 23, 2018.

b. SFMTA board approved the proposed street changes on August 21, 2018. More information is available at https://www.sfmta.com/projects/geary-rapid-project. Additional improvements are proposed for Geary Boulevard west of the study area as a part of the Geary Boulevard Improvement Project (Phase 2 of Geary Corridor BRT), with more information at https://www.sfmta.com/projects/geary-boulevard-improvement-project; accessed by Fehr & Peers, August 23, 2018.

Because the 2040 SF-CHAMP model did not include the nearby 3333 California Street development project, vehicle and transit trips from that project were manually added to the 2040 forecasts for the purposes of the cumulative 2040 assessment of traffic hazards and transit ridership. The cumulative analysis does include changes related to CPMC operations, including opening of the CPMC Cathedral Hill campus. As noted under *Analysis Scenarios* (p. 4.2-30), the SF-CHAMP 2040 cumulative model runs assume continued medical land uses at the project site under the 2020 cumulative scenario without the project. The cumulative intersection turning movement volumes and the cumulative transit ridership information is presented in Appendix F3 and F2, respectively.

NO FURTHER ANALYSIS IS REQUIRED FOR THE FOLLOWING CUMULATIVE TRANSPORTATION TOPICS

As noted above, few land use or transportation changes are proposed for the area immediately surrounding the project site that would cause the proposed project, in combination with cumulative projects, to contribute considerably to significant cumulative transportation impacts. Land use projects such as the 3333 California Street project or transit service changes associated with Muni Forward would contribute to changing traffic and transit conditions surrounding the project site under future 2040 cumulative conditions. However, the addition of vehicles to the surrounding roadway network or transit riders to Muni service adjacent to the site would not substantially contribute to changing conditions related to other transportation topics, as discussed below.

- **VMT** – There are no roadway capacity-enhancing projects adjacent to the project site that would encourage higher levels of VMT under cumulative conditions. The project's 2040 VMT per capita is anticipated to be more than 15 percent below the regional average and, as such, would not have a cumulative VMT impact.
- **Walking/Accessibility** – Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative projects, this would not create new hazards or interfere with accessibility for people walking around the project site. As such, there would be no cumulative impact on walking/accessibility within the study area.
- **Bicycling** – Although traffic volumes would increase somewhat under cumulative conditions because of the cumulative projects, this would not create new hazards or interfere with accessibility for people biking around the project site. As such, there would be no cumulative impact on bicycling within the study area.
- **Loading** – There are no cumulative projects that would generate additional overlapping passenger or freight loading demand on the streets immediately adjacent to the project site where loading activity for the proposed project would occur. Loading at 3461 California Street would most likely occur only on the south side of California Street, while loading at 3637–3657 Sacramento Street would occur in front of that site, approximately one block away. Therefore, there would be no cumulative impact on loading.
- **Emergency Access** – There are no cumulative projects that would restrict or inhibit emergency access to the project site. As such, there would be no cumulative impact on emergency access within the study area.
- **Parking** – There are no cumulative projects that would generate additional parking demand on the streets immediately adjacent to the project site where parking activity for the proposed project would occur. As such, there would be no cumulative impact related to the creation of hazardous conditions as a result of a parking deficit within the study area.

The proposed project, in combination with other reasonably foreseeable future projects, would not result in significant cumulative impacts related to the transportation topics above. However, the nearby cumulative projects have the potential to generate new vehicle and transit trips through the study area or result in overlapping construction activity. Therefore, further cumulative analysis related to construction, traffic, and transit is provided below.

CUMULATIVE CONSTRUCTION

Impact C-TR-1: The proposed project, in combination with reasonably foreseeable future projects, would not result in cumulative construction-related transportation impacts. ***(Less than Significant)***

Construction of the proposed project may overlap with the construction of other nearby projects, including projects at 3641 California Street, 3637–3657 Sacramento Street, and 3333 California Street. Development at 3641 California Street would be directly across from Block C of the proposed project, while the projects at 3637–3657 Sacramento Street and 3333 California Street would be approximately 0.2 and 0.25 mile east of the project site, respectively. The timing for construction of the 3641 California Street and 3637–3657 Sacramento Street developments is currently unknown; however, because construction of the proposed project would extend until 2024, it is likely that the 3641 California Street and 3637–3657 Sacramento Street developments could receive approval and start construction during that time. Construction of the 3333 California Street project is expected to commence around the same time as the proposed project and last 7 to 15 years. Therefore, it is likely that construction of the proposed project and the three reasonably foreseeable projects could run concurrently for several years. Construction impacts from nearby planned development projects would not combine with construction impacts from the proposed project.

It is anticipated that construction of the proposed project would occur over a period of approximately 40 months, concluding by 2024. Construction of the reasonably foreseeable future projects in the vicinity of the project site could temporarily increase traffic at the same time as the proposed project and on the same roads (e.g., California Street and Sacramento Street). Although the 3641 California Street and 3637–3657 Sacramento Street projects would be directly across the street or one block away from the proposed project, given the smaller scale of these projects (i.e., demolition and construction of one building), a construction-related cumulative impact would not be expected. As part of the construction permitting process, similar to the requirements for the proposed project, each development project would be required to work with various City departments to develop detailed and coordinated construction logistics and contractor parking plans to address issues related to construction vehicle routing, traffic control, transit vehicles, and accessibility plans for people walking and biking adjacent to the construction area. Overall, because construction activities associated with the proposed project and other projects would be temporary and limited in duration, and conducted in accordance with City requirements, the proposed project, in combination with reasonably foreseeable developments in the general area, would result in less-than-significant cumulative construction-related transportation impacts, and no mitigation measures are necessary. As noted above under Impact TR-1, the proposed project would implement Improvement Measure I-TR-A to further reduce its less-than-significant construction-related impact.

CUMULATIVE TRAFFIC HAZARDS

Impact C-TR-2: The proposed project, in combination with reasonably foreseeable future projects, would not cause any major traffic hazards. ***(Less than Significant)***

Transportation network projects are currently under way or planned to enhance the transportation network in the project vicinity, particularly for people walking and cyclists. These include Muni Forward along California Street and the Geary Rapid Project, located approximately 0.5 mile south of the project site. These projects would include streetscape changes that would be designed to meet City standards, including the Better Streets Plan. Other development projects, such as the 3333 California Street project, that propose street changes in the area would be subject to these requirements as well.

Traffic volumes are expected to increase in the future on California Street and other streets under 2040 cumulative conditions because of the 3333 California Street project. Because of their size, the effects of the 3641 California Street and 3637–3657 Sacramento Street projects on cumulative traffic volumes would be negligible. However, traffic volumes generated by the 3333 California Street project could increase conflicts between people driving. The 3333 California Street project would add approximately 200 vehicle trips to California Street in the AM and PM peak hours (see Appendix F3 for the cumulative traffic volumes). This represents an approximately 20 percent increase in traffic volumes compared to existing counts. Based on the SF-CHAMP model runs, other citywide land use changes are expected to increase traffic volumes in the area by a very nominal amount (2 to 3 percent). Most of the additional vehicle trips under 2040 cumulative conditions would be traveling on California Street through the study area to citywide or regional destinations. Therefore, the increase in vehicle traffic would not substantially increase traffic volumes or turning movements onto other streets adjacent to the project site, such as Cherry, Maple, or Sacramento streets. Overall, the increased potential for conflicts would be small and would not be considered a new hazard. In addition, the proposed project would reduce the overall amount of traffic on other streets throughout the study area following removal of the existing CPMC hospital.

The street changes proposed by cumulative projects would be consistent with City policies and design standards. The additional vehicle traffic would not result in significant cumulative impacts related to traffic hazards, and no mitigation measures are necessary. Therefore, the proposed project, in combination with reasonably foreseeable development projects, would result in a less-than-significant cumulative traffic hazard impact.

CUMULATIVE TRANSIT IMPACTS

Impact C-TR-3: The proposed project, in combination with reasonably foreseeable future projects, would not result in significant transit impacts. (*Less than Significant*)

Transportation network projects are currently under way or planned that would enhance the transportation network in the project vicinity, particularly for people who ride transit. These include the Muni Forward service improvements for the California Street routes and the Geary Rapid Project, located approximately 0.5 mile south of the project site. These projects would improve transit service in the study area.

Under 2040 cumulative conditions, including the proposed development at 3333 California Street, capacity utilization for the northwest screenline and California corridor within the screenline would increase and exceed Muni's 85 percent capacity utilization standard during the PM peak hour. Capacity utilization for the northwest screenline and California corridor during the AM peak hour would continue to be under Muni's 85 percent capacity utilization standard. The proposed project would add 33 PM transit trips to the California corridor (1.7 percent contribution) and the northwest screenline (0.4 percent contribution). Therefore, the project would not make a considerable cumulative contribution to the California corridor or to the northwest screenline. The proposed project would add one or two transit riders to the southeast screenline and no trips to the other screenlines. Under 2040 conditions, the southeast screenline would operate under Muni's 85 percent capacity utilization standard during the AM and PM peak hours (see Appendix F2 for details regarding the cumulative transit screenline analysis). Therefore, the proposed project, in combination with cumulative projects, would result in less-than-significant cumulative transit impacts, and no mitigation measures are necessary.

As noted under project-level conditions, the proposed project would reduce the number of trips on regional transit slightly through replacement of the existing CPMC hospital with residential land uses at the site. The 2040 cumulative conditions also include the CPMC Cathedral Hill hospital, consistent with the *2010 CPMC EIR*. Therefore, the proposed project would not combine with other projects to result in cumulative impacts on regional transit capacity.

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4.3 NOISE

4.3.1 INTRODUCTION

This section describes the existing noise environment in the project area and identifies the potential for noise and vibration associated with implementation of the proposed project to adversely affect noise-sensitive land uses or land use activities. The impact analysis evaluates the potential noise and vibration impacts of the proposed project and identifies mitigation measures to avoid or reduce adverse impacts. As indicated in Appendix B, initial study topic 6, impacts related to private airstrip and public airport noise and airport land use plans were determined to not be applicable to the proposed project and are not discussed in this section. For the complete dataset of measured noise levels, please refer to Appendix G.

4.3.2 ENVIRONMENTAL SETTING

The following section includes an introduction to the key concepts and terms that are used in the evaluation of noise. The environmental setting of the project area and a description of the existing noise environment are also included below.

NOISE AND VIBRATION DEFINITIONS AND SCALES

The definitions that follow are in general agreement with those contained in publications of various agencies and professional organizations, including the American National Standards Institute, the Governor's Office of Planning and Research, the World Health Organization, and the U.S. Department of Transportation and Federal Transit Administration (FTA). The terminology used in this document is summarized below.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water that is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used for environmental noise assessment.
- **Ambient.** The lowest sound level repeating itself during a specified period, usually a minimum of a 10-minute period. The minimum sound level shall be determined with the noise source at issue silent and from the same location where the noise level of the source or sources at issue was measured. Under most conditions, the level of noise exceeded 90 percent of the time (L_{90}) is a conservative representation of ambient conditions.

- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during a given measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady-state sound level containing the same total acoustical energy as a time-varying signal over a given sample period. L_{eq} is typically computed over 1-, 8-, and 24-hour sample periods. The 1-hour A-weighted equivalent sound level (LA_{eq} 1 hr) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-Night Average Sound Level (L_{dn} or LDN).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7 p.m. to 10 p.m. and 10 dB added to the sound levels occurring during the period from 10 p.m. to 7 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and interchangeable for the purposes of this document.
- **Exceedance Level (L_n).** The A-weighted noise levels that are exceeded 1, 10, 50, and 90 percent of the time (L_{01}, L_{10}, L_{50}, L_{90}, respectively) during the measurement period.
- **Root-Mean-Square (RMS).** Ground-borne vibration can be quantified by the root-mean-square velocity amplitude. The RMS amplitude is expressed in terms of VdB, a metric that is typically used to assess human annoyance.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root-mean-square velocity amplitude for measured ground motion expressed in dB.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration, the maximum speed at which a particle in the ground is moving, expressed in inches per second.

OVERVIEW OF NOISE

SOUND FUNDAMENTALS

Sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound. The decibel (dB) scale is used to quantify sound intensity. Because the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called “A-weighting,” expressed as “dBA.” The dBA, or A-weighted decibel, refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. Because sound can vary in intensity by more than 1 million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level by approximating a range of sensitivity that extends from 0 dBA to approximately 140 dBA. A 10 dBA increase in the level of a continuous noise represents a perceived doubling of loudness.

With respect to traffic noise, a 3 dBA increase is barely perceptible to people, while a 5 dBA increase is readily noticeable. An increase of less than 3 dBA is generally not perceptible outside of controlled laboratory conditions.[1] Traffic noise typically produces a noticeable increase in noise (i.e., 3 decibels) when there is a doubling of the existing traffic volumes on a roadway.

Noise is generally defined as sound that is loud, disagreeable, unexpected, or unwanted. Sound is mechanical energy transmitted in the form of a wave by a disturbance or vibration that causes pressure variation in air detectable by the human ear. Variations in noise exposure over time are typically expressed in terms of a steady-state energy level (called L_{eq}) that represents the acoustical energy of a given measurement or, alternatively, a statistical description of what sound level is exceeded over some fraction (10, 50 or 90 percent) of a given observation period (i.e., L_{10}, L_{50}, L_{90}). L_{eq} (24) is the steady-state acoustical energy level measured over a 24-hour period. Because many receptors are more sensitive to noise at night, a 24-hour noise descriptor, called the day-night noise level (L_{dn}), adds an artificial 10 dBA increment to nighttime noise levels (10:00 p.m. to 7:00 a.m.) to more heavily weight nighttime noise in calculating average (24-hour) noise levels. Table 4.3-1 presents representative noise sources and their corresponding noise levels in dBA at varying distances from the noise sources.

Noise may also be described in terms of its tonality. Tonal noise is defined as noise containing a prominent frequency and characterized by a definite pitch. It may be associated with the whine of an industrial fan or the hum emanating from an electricity transformer. A source that emits continuous or, in certain circumstances, intermittent or cyclical tonal noise may disturb sleep or result in other health-related impacts. The impact of tonal noise varies with the level of background broadband noise;[2] that is, the louder the broadband noise environment is, the more difficult it is for a receptor to distinguish certain tones.[3] Currently, there are no guidelines or published quantitative data that establish limits for tonal noise in different levels of frequency and strength. If tones are detected using a one-third octave band measurement technique,[4] then a 5 dB penalty is often applied to the noise.[5]

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1 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, pp. 2-44 and 2-45, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf, accessed: October 30, 2018.

2 Broadband noise is noise with components over a wide range of frequencies. (California Department of Transportation, Division of Environmental Analysis, *Technical Noise Supplement,* November 2009.)

3 Lee, Joonhee, Jennifer M. Francis, and Lily M. Wang, How Tonality and Loudness of Noise Relate to Annoyance and Task Performance, *Noise Control Engineering Journal* 65 (2), University of Nebraska, Lincoln, 2017, http://digitalcommons.unl.edu/archengfacpub/103/, accessed: October 30, 2018.

4 International Organization for Standardization, *Acoustics – Description, Measurement, and Assessment of Environmental Noise,* Part 2, Determination of Environmental Noise Levels, 1996–2:2017.

5 Lee, Joonhee, Jennifer M. Francis, and Lily M. Wang, How Tonality and Loudness of Noise Relate to Annoyance and Task Performance, *Noise Control Engineering Journal* 65 (2), University of Nebraska, Lincoln, 2017, http://digitalcommons.unl.edu/archengfacpub/103/, accessed: October 30, 2018.

TABLE 4.3-1. TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

Examples of Common, Easily Recognized Sounds	Decibels (dBA)	Subjective Evaluations
Nearby jet engine	140	Deafening
Threshold of pain	130	
Threshold of feeling – hard rock band	120	
Accelerating motorcycle a few feet away[a]	110	
Loud automobile horn (10 feet away)	100	Very loud
Noisy urban street	90	
Noisy factory	85[b]	
School cafeteria with untreated surfaces	80	Loud
Near freeway auto traffic	60	Moderate
Range of speech	50–60	
Average office	50	
Soft radio music in apartment	40	Faint
Average residence without stereo playing	30	
Average whisper	20	Very faint
Rustle of leaves in wind	10	
Human breathing	5	
Threshold of audibility	0	

Source: U.S. Department of Housing and Urban Development, *The Noise Guidebook.* Chapter 1, Figure 1, p. 1, March 2009, https://www.hudexchange.info/resource/313/hud-noise-guidebook/, accessed: October 30, 2018.

Notes:

a. A distance of 50 feet from a motorcycle equals noise at about 2,000 feet from a four-engine jet aircraft.

b. Continuous exposure above this level is likely to degrade the hearing of most people.

NOISE FROM MULTIPLE SOURCES

Because the measurement of sound pressure levels in decibels is based on a logarithmic scale, decibels cannot be added or subtracted in the usual arithmetical way. Adding a new noise source to an existing noise source, with both producing noise at the same level, will not double the noise level. For instance, if two identical noise sources each produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Table 4.3-2, *Rules for Combining Sound Levels by Decibel Addition,* demonstrates the result of adding noise from multiple sources.

TABLE 4.3-2. RULES FOR COMBINING SOUND LEVELS BY DECIBEL ADDITION

When two decibel values differ by	Add the following amount to the higher decibel value	Example
0 to 1 dB	3 dB	60 dB + 61 dB = 64 dB
2 to 3 dB	2 dB	60 dB + 63 dB = 65 dB
4 to 9 dB	1 dB	60 dB + 69 dB = 70 dB
10 dB or more	0 dB	60 dB + 75 dB = 75 dB

Source: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf, accessed: October 5, 2018.

ATTENUATION OF NOISE

Noise attenuates (decreases) with distance. Roadway noise tends to be arranged linearly such that roadway traffic attenuates at a rate of 3.0 dBA to 4.5 dBA per doubling of distance from the source, depending on the intervening surface (paved or vegetated, respectively).[6] Point sources of noise, such as stationary equipment or construction equipment, typically attenuate at a rate of 6.0 dBA to 7.5 dBA per doubling of distance from the source.[7] For example, a sound level of 80 dBA at 50 feet from the noise source will be reduced to 74 dBA at 100 feet, 68 dBA at 200 feet, and so on. Noise levels can also be attenuated by shielding the noise source or providing a barrier between the source and the receptor.[8] With respect to the transmission of exterior noise to interior environments, noise attenuation effectiveness depends on exterior wall insulation, a window's sound transmission class (STC) rating, and whether windows are closed or open. STC ratings indicate how well wall, ceiling, floor, door, and window assemblies attenuate airborne sound. It is not, however, a measurement of how many decibels of sound a wall can stop. For example, an exterior wall with an STC 45 rating does not result in a 45 dB reduction of exterior-to-interior sound transmission. Generally, the higher the STC rating, the more sound is attenuated.[9]

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[6] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf, accessed: October 5, 2018.

[7] The 1.5 dBA variation in attenuation rate (6 dBA vs. 7.5 dBA) can result from ground-absorption effects, which occur as sound travels over soft surfaces such as soft earth or vegetation (7.5 dBA attenuation rate) versus hard ground such as pavement or very hard-packed earth (6 dBA rate). See U.S. Housing and Urban Development, *The Noise Guidebook*, March 2009, p. 24, https://www.hudexchange.info/onecpd/assets/File/Noise-Guidebook-Chapter-4.pdf, accessed: October 30, 2018.

[8] Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, January 2006, Washington, D.C., http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

[9] There is not a straightforward linear relationship between increasing STC and a reduction in exterior-to-interior noise because the amount of reduction varies considerably with the frequency range of noise.

The age of a structure is not necessarily a good predictor of the amount of attenuation an exterior can provide. However, residential structures have a wide range of noise reduction because of differences in materials, building techniques, and individual building plans.[10] Typical residences would reduce noise from outside to inside in a range of 24 to 27 dB (with an average of 25 dB) with windows closed and a range of 12 to 18 dB[11] (with an average of 15 dB) with windows open.[12] For typical residential buildings within San Francisco, a 25 dBA noise reduction with windows closed and a 15 dBA noise reduction with windows open can assumed for most noise studies.

HEALTH EFFECTS OF NOISE

Human sensitivity to noise is generally a function of three measurable physical qualities: loudness, pitch, and duration. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The health effects of noise can be organized into six broad categories: short- and long-term hearing loss; sleep interference; speech/audio interference; interference with communication; various physiological effects, such as pain, heart rate and blood pressure increases, and increased production of stress hormones; and annoyance.[13] Short-term hearing loss can occur with exposures to high noise levels (115 dB or more) for periods of 15 minutes or less. Long-term or permanent hearing loss may result from the cumulative effects of exposure to temporarily high noise levels. The permissible levels of noise exposure established by the Occupational Health and Safety Administration are provided in Table 4.3-3.

Sleep disturbance can occur when continuous indoor noise levels exceed 30 dBA or when intermittent interior noise levels reach 45 dBA, particularly if the background noise level is low.[14] Thus, sleep disturbance would not occur with a bedroom window slightly open (a reduction of noise from outside to inside of 15 dB), with exterior continuous (ambient) nighttime noise levels of 45 dBA or less, and exterior short-term noise levels of 60 dBA or less. Maintaining the recommended levels during the first part of the night is believed to be effective for the ability of people to initially fall asleep.

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10 U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, p. B-4, March 1974.

11 Governor's Office of Planning and Research, *State of California 2017 General Plan Guidelines,* Appendix D, Noise Element Guidelines, p. 378, 2017, http://www.opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed: October 30, 2018.

12 U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety,* Appendix B, Table B-4, p. B-6, March 1974.

13 John R. Goldsmith, M.D., and Erland Jonsson, Ph.D., Health Effects of Community Noise, *American Journal of Public Health*, September 1973, Vol. 63, No. 9, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1775252/pdf/amjph00822-0020.pdf, accessed: November 10, 2017.

14 World Health Organization, *Guidelines for Community Noise,* Chapter 3, p. 46, April 1999, http://www.who.int/docstore/peh/noise/guidelines2.html, accessed: October 30, 2018.

TABLE 4.3-3. PERMISSIBLE NOISE EXPOSURE

Duration per Day (Hours)	Sound Level[a] (dBA, Slow Response)[b]
8	90
6	92
4	95
3	97
2	100
1.5	102
1.0	105
0.5	110
0.25 or less	115

Source: California Department of Transportation, Division of Environmental Analysis, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

Notes:

[a.] When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered rather than the individual effect of each.

[b.] Slow response or, equivalently, a dose of 50 percent.

The World Health Organization has identified other potential health effects of noise, including decreased performance for complex cognitive tasks, such as reading, problem solving, and memorizing; physiological effects, such as hypertension and heart disease; and hearing impairment. Noise can disrupt face-to-face communication and telephone communication as well as the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools as well as other places, such as theatres, auditoriums, hospitals, or nursing homes, and can cause fatigue and vocal strain for those who communicate in spite of the noise. Finally, noise can cause annoyance and trigger emotional reactions, such as anger, depression, and anxiety. During daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, and few people are moderately annoyed with noise levels below 50 dBA. For short-term conditions, such reactions are considered welfare rather than health effects. Were such conditions to persist, the long-term effects of annoyance may be considered a health impact.[15]

NOISE-SENSITIVE RECEPTORS

Some land uses are more sensitive to noise impacts than others. Consistent with the Governor's Office of Planning and Research's *General Plan Guidelines 2017*, noise-sensitive receptors are defined in this document as residential land uses, hospitals, convalescent homes, schools,

15 Ibid.

churches, and sensitive wildlife habitat (e.g., habitat for nesting birds, marine mammals, protected fish species [for projects that generate underwater noise, such as pile driving in San Francisco Bay], and rare, threatened, or endangered species).[16] In addition, the planning department considers hotels and motels to be noise-sensitive receptors. As noted, sensitivity to noise may vary with the source of the noise and the land use context. An important way of predicting a human reaction to a new noise environment is to compare it with the existing ambient noise level. In general, the more a new noise source exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

Overview of Vibration

Vibration and Ground-borne Noise

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. Construction-related vibration results primarily from the use of impact equipment, such as pile drivers (both impact and vibratory), hoe rams, vibratory compactors, and jack hammers, although heavily loaded vehicles may also result in substantial ground-borne vibration. Operations-related vibration results primarily from the passing of trains, buses, and heavy trucks. Vibration is measured by PPV, defined as the maximum instantaneous peak of the vibration signal in inches per second. PPV is the metric typically used to describe vibration from sources that may result in structural stresses in buildings.[17] Ground-borne vibration can also be quantified by the RMS velocity amplitude, which is useful for assessing human annoyance. The RMS amplitude is expressed in terms of the velocity level in decibel units,[18] a metric that is typically used in evaluating human annoyance resulting from ground-borne noise and vibration.

The operation of heavy construction equipment, particularly pile-drivers and other heavy-duty impact devices (such as pavement breakers), creates seismic waves that radiate along the surface of the ground and downward. These surface waves can be felt as ground vibration and result in effects that range from annoyance for people to damage to structures. Ground-borne vibration generally attenuates rapidly with distance from the source of the vibration. This

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[16] Governor's Office of Planning and Research, *State of California 2017 General Plan Guidelines*, p. 136, 2017, http://www.opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf, accessed: October 30, 2018.

[17] 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: January 23, 2019.

[18] PPV and VdB are mathematically related. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal about the zero point. VdB is the root mean square of the vibration signal described by PPV (that is, the root mean square of a signal is the square root of the average of the squared amplitude of the signal, as expressed in PPV). For more discussion, see the Federal Transit Administration*'s Transit Noise and Vibration Impact Assessment* manual, cited immediately above.

attenuation is a complex function of how energy is imparted into the ground as well as the subsurface soil and/or rock conditions through which the vibration is traveling. Variations in geology can result in different vibration levels, with denser soils generally resulting in more rapid attenuation over a given distance. The effects of ground-borne vibration on buildings include rumbling sounds as well as the movement of floors, rattling of windows, and shaking of items on shelves or hanging on walls. Ground-borne noise is the rumbling sound generated by the vibration of building surfaces, such as floors, walls, and ceilings that radiate noise from the motion of the room surfaces.[19] Ground-borne noise can also occur because of the low-frequency components from a specific source of vibration, such as a rail line.

Vibration traveling through typical soil conditions may be estimated at a given distance by the following formula, where PPV_{ref} is the reference PPV at 25 feet:[20]

$$PPV = PPV_{ref} \times (25/\text{distance})^{1.5}$$

The background vibration velocity level in residential areas is usually around 50 VdB or lower. The vibration velocity level of perception for humans is approximately 65 VdB; human response to vibration is not usually substantial unless the vibration exceeds 70 VdB.[21] A substantial human reaction is annoyance, disruption of sleep, or interference with activities at vibration-sensitive land uses, such as churches or schools. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, the movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are heavy construction equipment, steel-wheeled trains, and traffic on rough roads. Ground-borne noise and vibration are the most significant problems for tunnels that are under residential areas or other noise-sensitive structures. Table 4.3-4 provides the FTA guidelines for human response to various levels of vibration.

VIBRATION-SENSITIVE RECEPTORS

Receptors that are sensitive to vibration include structures (especially older masonry structures), people (especially residents, the elderly, and the sick), and equipment (e.g., magnetic resonance imaging equipment, high-resolution lithographic, optical, and electron microscopes).[22] In addition, vibration may disturb nesting and breeding activities for biological resources.

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19 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: January 23, 2019.

20 Ibid.

21 Ibid.

22 Ibid., p. 8-3.

TABLE 4.3-4. HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUND-BORNE NOISE AND VIBRATION

Vibration Velocity Level	Noise Level		Human Response
	Low Frequency [a]	Mid-Frequency[b]	
65 VdB	25 VdB	40 VdB	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 VdB	50 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 VdB	60 VdB	Vibration acceptable only for infrequent events. Low-frequency noise annoying for sleeping areas; mid-frequency noise annoying, even for infrequent events at institutional land uses such as schools and churches.

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: January 23, 2019.

Notes:

a. Approximate noise level when vibration spectrum peak is near 30 hertz (Hz).

b. Approximate noise level when vibration spectrum peak is near 60 Hz.

High levels of vibration can damage fragile buildings. Depending on the age of the structure and type of vibration (transient, continuous, or frequent intermittent sources), vibration levels as low as 0.5 to 2.0 inches per second PPV can damage structures.[23]

Regarding the potential effects of ground-borne vibration and noise on people, except for long-term occupational exposure, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect concentration or disturb sleep. People may tolerate infrequent, short-duration vibration levels, but human annoyance to vibration becomes more pronounced if the vibration is continuous or occurs frequently.

[23] California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* September 2013, Table 9, p. 23, http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf, accessed: October 30, 2018.

EXISTING NOISE SOURCES

Ambient noise in urban areas is typically dominated by vehicle traffic on local roadways. The existing ambient noise environment in the project area is characterized by vehicular traffic on roadways surrounding the project site, particularly California Street and, to a lesser extent, Sacramento Street. San Francisco Municipal Railway (Muni) bus noise, hospital-related noise sources (e.g., loading/unloading of trucks, human voices, cars idling, ambulance sirens), and construction activities on nearby parcels also contribute to the ambient noise environment at the project site. In addition, ventilation equipment at the existing hospital uses results in air and machinery noise in some locations, as discussed further in the results of the noise measurement survey below. There are also three stationary generators at Blocks B and C associated with of the existing hospital uses, which are used only occasionally.

The San Francisco General Plan includes a transportation noise map of the city, based on modeled traffic volumes derived from the San Francisco County Transportation Authority Travel Demand Model and the FHWA Traffic Noise Model.[24] The map indicates the modeled

L_{dn} noise level on each street in the city. According to the map, the project site is exposed to noise from transportation sources that is more than 70 dBA L_{dn} on California Street and between 60 and 70 dBA L_{dn} on Sacramento, Cherry, and Maple streets.[25]

NOISE-SENSITIVE LAND USES

Existing noise-sensitive land uses in the vicinity of the project site include the single-and multi-family residences on the south side of California Street, approximately 80 feet from the project site (across the street), and on the north side of California Street, abutting Blocks A and C (same side of the street as the project site). Similarly, there are residences on the north side of Sacramento Street, approximately 70 feet from the project site (across the street), and on the south side of Sacramento Street, abutting Blocks A and C (same side of the street as the project site). Many other residences in the project vicinity extend outward concentrically; however, the aforementioned residences on California and Sacramento streets are closest to the project site. Non-residential noise-sensitive land uses include Claire Lilienthal Elementary School at 3950 Sacramento Street, across from Block A and approximately 80 feet from the project site, and Presidio Hill School at 3839 Washington Street and approximately 550 feet north of the project site. Additionally, there are medical offices in the commercial zones on California Street, located adjacent to the project site at 3838 California Street; 80 feet from the project site at 3635–3643

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24 San Francisco Planning Department, *San Francisco General Plan Environmental Protection Element: Map 1 Background Noise Levels – 2009,* http://generalplan.sfplanning.org/images/I6.environmental/ENV_Map1_Background_Noise%20Levels.pdf, accessed: December 27, 2018.

25 Ibid.

California Street; and 250 feet from the project site at 3580 California Street. Medical office buildings are not considered to be noise-sensitive land uses, because the duration of time that visitors to these facilities spend on-site is typically limited to a few hours. Although medical office buildings are not considered sensitive land uses from a noise standpoint, these types of buildings can contain equipment that may be sensitive to ground-borne vibration. The 3838 California Street building may include equipment that is potentially sensitive to ground-borne vibration, such as optical microscopes, cell probing devices, scanning electron microscopes, and other equipment present in hospital operating rooms.[26] Because 3838 California Street is adjacent to the project's property plane, vibration-generating equipment could be located as close as 15 feet to the project's property plane in the horizontal dimension. The medical office buildings at 3635–3643 California Street and 3580 California Street are for conventional medical uses and are not hospital or research facilities with specialized equipment. Therefore, these buildings are unlikely to contain vibration-sensitive equipment.

Figure 4.3-2, p. 4.3-14, shows the extent of residential land uses, in addition to schools and daycare facilities, in the project vicinity. This figure applies to both the air quality and noise resource areas because residential and educational uses can be adversely affected by both air pollutant and noise emissions.

Noise Measurement Survey

To quantify existing ambient noise levels in the project area, long-term (24-hour) and short-term (15-minute) ambient noise measurements were conducted in preparation of this analysis. For the complete dataset of measured noise levels, please refer to Appendix G.

Long-term measurements were conducted between Wednesday, October 3, and Thursday, October 4, 2018; short-term measurements were conducted on Tuesday, October 9, 2018. Measurements were conducted at locations within and adjacent to the project site. Short- and long-term measurement locations were selected to capture noise levels in areas that are sensitive to noise, with ambient levels that are representative of noise levels in the project area throughout the day.

The noise measurement sites are shown in Figure 4.3-1. Tables 4.3-5 and 4.3-6, pp. 4.3-15, and 4.3-16, summarize the results of the noise measurement survey. Existing noise levels in the project area are generally relatively loud and characteristic of an urban/city environment, with all long-term measurements having an L_{dn} of more than 65 dBA.

[26] California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* Table 19, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf, accessed: January 14, 2019.

Graphics... 00140.18 (11/6/18) AB

3700 California Street
Case No. 2017-003559ENV

Figure 4.3-1
Noise Measurement Locations

Graphics... 00140.18 (5-24-2019) TG

3700 California Street
Case No. 2017-003559ENV

Figure 4.3-2
Sensitive Receptor Locations in the Immediate Vicinity of Project Site

TABLE 4.3-5. LONG-TERM NOISE LEVEL MEASUREMENTS IN AND AROUND 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	Adjacent to the northwest corner of Block A, in front of 3925 Sacramento Street. Adjacent to existing residential buildings.	10/03/18–10/04/18	67.3 65.7 68.0	Traffic on Sacramento Street. Pedestrian voices.
LT-2	North of Block C, in front of 3764 Sacramento Street. Adjacent to existing residential buildings.	10/03/18–10/04/18	67.7 64.1 65.9	Traffic on Sacramento Street. Pedestrian voices.
LT-3	Adjacent to southwest corner of Block C, in front of 3624 California Street. Adjacent to existing residential buildings.	10/03/18–10/04/18	71.1 67.9 69.6	Traffic on California Street. Muni vehicles with electric motors.
LT-4	South of Block B, on the southern side of California Street, in front 1 Jordan Avenue. Adjacent to existing residential buildings.	10/03/18–10/04/18	72.6 69.1 70.8	Traffic on California Street. Delivery vehicles loading/unloading at existing medical uses.

Note: See Appendix G 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. San Francisco Municipal Code permits construction to occur between 7:00 a.m. and 8:00 p.m. (i.e., 13 hours); therefore, the L_{eq} noise level was calculated using hourly noise level measurement data for the hours between 7:00 a.m. and 8:00 p.m. for a direct comparison.

TABLE 4.3-6. SHORT-TERM NOISE LEVEL MEASUREMENTS NEAR THE PROJECT SITE

Site	Site Description	Date and Time	Primary Noise Sources	Measured Noise Level (dBA)		
				L_{eq}	L_{max}	L_{min}
ST-1	3745 Sacramento Street, on the south side of the roadway. Located adjacent to and across the street from single- and multi-family residences. Also near existing project site medical uses.	10/09/2018 at 11:01 a.m.	Traffic noise from Sacramento Street. Some light talking from pedestrians walking near the measurement equipment.	58.6	73.9	51.4
ST-2	3827 California Street, on the southern side of the roadway. Located near multi-family residential land uses and across from existing project site medical uses.	10/09/2018 at 11:50 a.m.	Traffic noise from California Street, Muni vehicles with electric motors, delivery vehicles, pedestrians.	64.4	77.2	48.5
ST-3	349 Cherry Street, west side of roadway, in front of and across the street from single- and multi-family residences.	10/09/2018 at 11:25 a.m.	Traffic noise from Cherry Street and Sacramento Street, and other vehicle noise including Muni electric bus motors, honking, car alarms, truck back-up beeping. Construction saws, and stationary equipment noise in the distance, and occasional pedestrian voices.	58.0	71.3	48.9
ST-4	2 Commonwealth Avenue, south side of roadway. Location of measurement on California Street, in front of multi-family residences and across from existing project site medical uses.	10/09/2018 at 10:34 a.m.	Traffic noise from California Street, Muni vehicles with electric motors, delivery vehicles, pedestrians, and stationary equipment at 3700 California Street.	66.3	75.2	60.0

Note: See Appendix G for data.
ST = short-term (~15-minute) ambient noise measurement.

4.3.3 Regulatory Framework

Federal

This section identifies applicable federal guidelines and regulations related to noise and vibration.

U.S. Environmental Protection Agency

In 1972, the Noise Control Act (42 United States Code [U.S.C.] section 4901 et seq.) was passed by Congress to promote noise environments that support public health and welfare. It also established the U.S. Environmental Protection Agency Office of Noise Abatement and Control to coordinate federal noise control activities. The Office of Noise Abatement and Control established guidelines for noise levels that are considered safe for community exposure, without the risk of adverse health or welfare effects. However, in 1982, the U.S. Environmental Protection Agency phased out Office of Noise Abatement and Control funding as part of a shift in federal noise control policy that transferred primary responsibility for regulation to state and local governments.

Based on the US Environmental Protection Agency's recommendations for noise-sensitive areas, the yearly average (L_{eq}) should not exceed 70 dBA to prevent measurable hearing loss over a lifetime, and the daily average (L_{dn}) should not exceed 55 dBA outdoors and 45 dBA indoors to prevent substantial interference of activities and annoyance in noise sensitive areas.[27] In addition to the identified noise levels to protect public health, the US Environmental Protection Agency identifies an increase of 5 dBA as an adequate margin of safety relative to a baseline noise exposure level of 55 dBA L_{dn} before a noticeable adverse community reaction would be expected. These criteria are consistent with the City and County of San Francisco's (City's) noise ordinance section 2909(d), which establish residential interior noise limits from fixed noise sources of 45 and 55 dBA during the night and daytime, respectively (discussed further below in *Local*).

Federal Transit Administration

Noise

The FTA has developed general assessment criteria for analyzing construction noise. This assessment is based on the simultaneous operation of the two noisiest pieces of equipment. The general assessment criteria set construction noise limits, as summarized in Table 4.3-7. To evaluate a reasonable worst-case scenario, the analysis assumes that the two loudest pieces of equipment would operate simultaneously at the same location.

[27] U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF. Accessed January 23, 2019.

TABLE 4.3-7. FTA GENERAL ASSESSMENT CRITERIA FOR CONSTRUCTION NOISE

	One-hour L_{eq} (dBA)	
Land Use	**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: January 23, 2019.

VIBRATION

The Federal Transit Administration has also developed guidelines for the assessment of vibration impacts. As indicated in Table 4.3-8, the transit administration's general assessment criteria for evaluating potential construction-generated vibration impacts parses annoyance related to interference with interior operations, sleep, and institutional daytime use as a function of the frequency of the vibration event according to three land use categories.

TABLE 4.3-8. FEDERAL TRANSIT ADMINISTRATION GENERAL ASSESSMENT CRITERIA FOR GROUND-BORNE VIBRATION

	Impact Levels (Vdb; relative to 1 micro-inch/second)		
Land Use Category	**Frequent Events[a]**	**Occasional Events[b]**	**Infrequent Events[c]**
Category 1: Buildings where vibration would interfere with interior operations	65[d]	65[d]	65[d]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

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: January 23, 2019.

[a] "Frequent events" is defined as more than 70 vibration events from the same source per day.

[b] "Occasional events" is defined as 30 to 70 vibration events from the same source per day.

[c] "Infrequent events" is defined as fewer than 30 vibration events from the same source per day.

[d] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define the acceptable vibration levels.

Department of Housing and Urban Development

The Department of Housing and Urban Development has set the following guidelines[28] for acceptable exterior noise levels in residential areas:

- Acceptable – 65 dBA L_{dn} or less
- Normally unacceptable – exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn}
- Unacceptable – exceeding 75 dBA L_{dn}

These guidelines are consistent with those provided in the Land Use Compatibility Chart for Community Noise from the environmental protection element of the City's general plan (see below). Housing and Urban Development regulations also include a goal (not a standard) that interior noise levels not exceed 45 dB L_{dn}.[29] Sound attenuating features such as barriers or sound attenuating building materials shall be used to achieve the interior noise goal where feasible. As noted in *Attenuation of Noise,* p. 4.3-5, an acoustically well-insulated building with windows and doors closed can provide 35 dB of noise attenuation, while more-conventional residential construction provides 25 dB of noise reduction with windows closed and only about 15 dB of noise reduction when windows are open; therefore, if the exterior noise environment is classified as "acceptable," according to Housing and Urban Development standards, the interior noise environment should not exceed 45 dB L_{dn}. These criteria are consistent with the City's noise ordinance section 2909(d), which establish residential interior noise limits from fixed noise sources of 45 and 55 dBA during the night and daytime, respectively (discussed further below). Housing and Urban Development regulations also encourage the use of quieter construction equipment and methods.[30]

State

This section identifies California guidelines and regulations related to noise and vibration.

Title 24 of the California Code of Regulations, Noise Insulation Standards

California Code of Regulations (CCR) Title 24, Part 2, Sound Transmission, establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under this regulation, interior noise levels attributable to exterior noise sources cannot exceed 45 dB in any habitable room. The noise metric is either the L_{dn} or the CNEL, consistent with the environmental protection element of the general plan. Compliance with Title 24 interior noise

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[28] Code of Federal Regulations, Title 24, Part 51.

[29] 24 CFR, Section 51.103(c).

[30] 24 CFR, Section 51.101(7).

standards, which is determined during the permit review process by the Department of Building Inspection, would protect the proposed project's users from existing ambient outdoor noise levels. If determined necessary by the building department, a detailed acoustical analysis of the exterior wall and window assemblies may be required.

CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) provides guidelines regarding the vibration associated with construction and operation of transportation infrastructure. Table 4.3-9 provides Caltrans' vibration guidelines for potential damage to different types of structures.

TABLE 4.3-9. CALTRANS VIBRATION GUIDELINES FOR POTENTIAL DAMAGE TO STRUCTURES

	Maximum Peak Particle Velocity (PPV, inch per second)	
Structure Type and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings	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: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* Table 19, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf, accessed: October 30, 2018.

Note: Transient sources create a single, isolated vibration event (e.g., 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.

People are generally more sensitive to vibration during nighttime hours, when sleeping, than they are during daytime hours, when awake. Because ground-borne vibration and noise can disturb people, studies have been conducted to characterize the human response to vibration. Table 4.3-10 provides Caltrans' guidelines regarding vibration annoyance potential (expressed here as PPV).

TABLE 4.3-10. CALTRANS GUIDELINES FOR VIBRATION ANNOYANCE POTENTIAL

Human Response	Maximum PPV (inch per second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, Table 20, September 2013, http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf, accessed: October 30, 2018.

Note: Transient sources create a single, isolated vibration event (e.g., 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.

LOCAL

This section lists noise and vibration regulations and guidelines applicable to projects located within San Francisco.

SAN FRANCISCO GENERAL PLAN

The San Francisco General Plan contains policies for avoiding or ameliorating transportation noise and urban noise in the environmental protection and urban design elements of the general plan. Policy 11.1 of the environmental protection element includes the Land Use Compatibility Chart for Community Noise, which lists the acceptable, conditionally acceptable, conditionally unacceptable, and unacceptable noise levels for a variety of land uses in the city. The land use compatibility chart provides guidance as to when, depending on the existing background noise level and the type of land use proposed for development, a detailed analysis of noise reduction requirements should be made and needed noise insulation features included in a project's construction. According to these guidelines, the maximum "satisfactory, with no special insulation requirements" exterior noise level for residential land uses (including transient lodging, such as hotels) is approximately 60 dBA L_{dn}. (These limits reflect California's Title 24 interior noise standard of 45 dBA and an assumption that structures generally attenuate exterior-to-interior sound by about 25 dB.) For residential and hotel uses, this detailed analysis of noise reduction measures is required by Title 24. The general plan guidelines are shown in full in Table 4.3-11. Relevant objectives and policies in the environmental protection and urban design elements of the general plan pertaining to noise include the following.[31,32]

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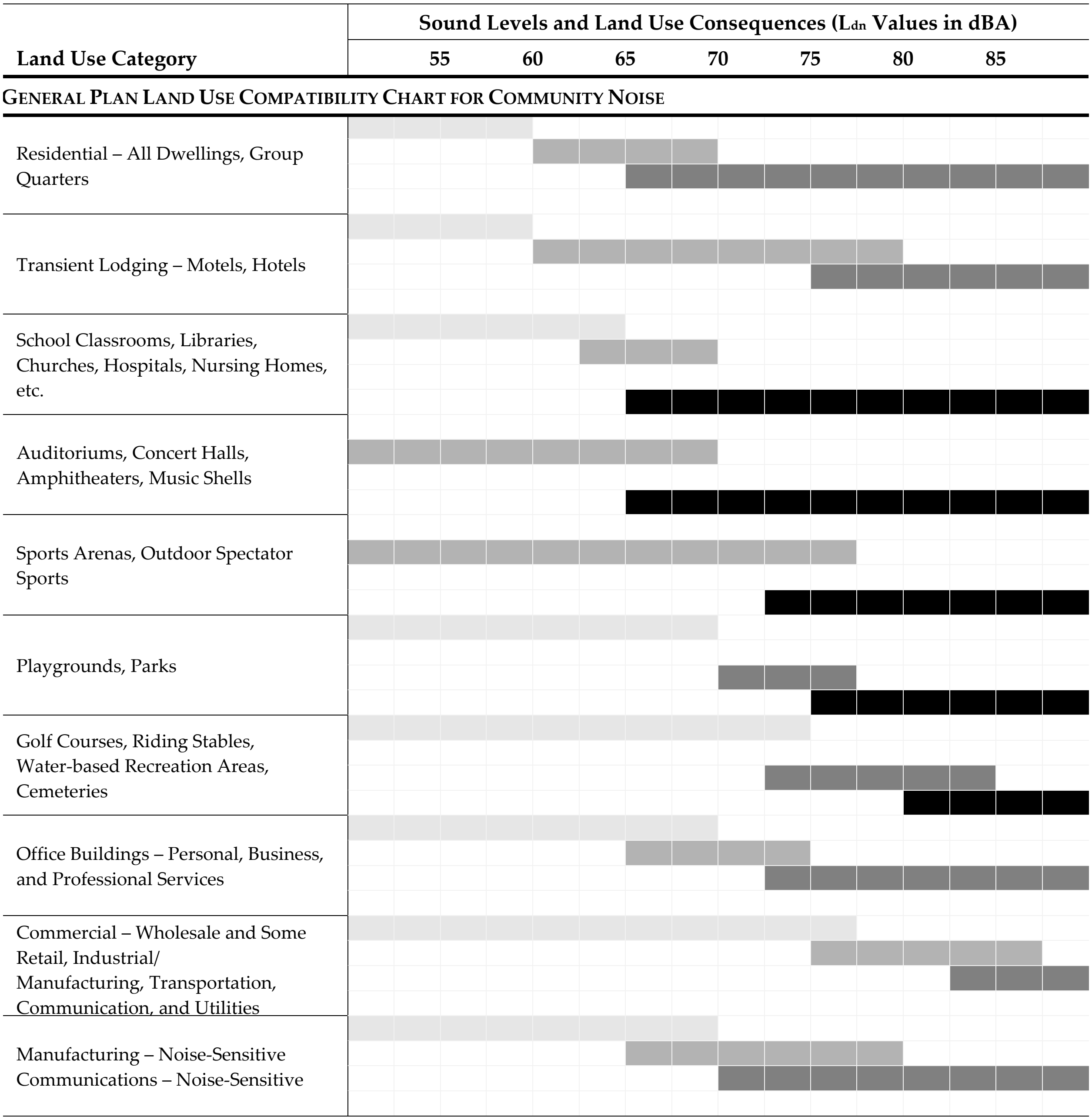
[31] San Francisco Planning Department, *San Francisco General Plan*, Environmental Protection Element, August 1995, updated in 2004.

[32] San Francisco Planning Department, *San Francisco General Plan*, Urban Design Element, September 1990, updated in 2010.

TABLE 4.3-11. SAN FRANCISCO GENERAL PLAN LAND USE COMPATIBILITY GUIDELINES



Source: San Francisco Planning Department, *San Francisco General Plan*, adopted on June 27, 1996, http://generalplan.sfplanning.org/I6_Environmental_Protection.htm#ENV_TRA_11, accessed April 17, 2019.

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."

- Objective 4: Improvement of the Neighborhood Environment to Increase Personal Safety, Comfort, Pride, and Opportunity
  - Policy 4.1: Protect residential areas from the noise, pollution, and physical danger of excessive traffic.
  - Policy 4.2: Provide buffering for residential properties when heavy traffic cannot be avoided.
- Objective 9: Reduce Transportation Noise
  - Policy 9.6: Discourage changes in streets which will result in greater traffic noise in noise-sensitive areas.
- Objective 10: Minimize the Impact of Noise on Affected Areas
  - Policy 10.1: Promote site planning, building orientation and design, and interior layout that will lessen noise intrusion.
  - Policy 10.2: Promote the incorporation of noise insulation materials in new construction.
- Objective 11: Promote Land Uses that are Compatible with Various Transportation Noise Levels
  - Policy 11.1: Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use (as shown in Table 4.3-11, p. 4.3-22).

San Francisco Noise Ordinance

In the city, the regulation of noise is addressed in article 29 of the San Francisco Police Code (the noise ordinance), which affirms a policy to prohibit unnecessary, excessive, and offensive noises from all sources subject to police power. Section 2900 makes the following declaration about community noise levels: "In order to protect public health, it is hereby declared to be the policy of San Francisco to prohibit unwanted, excessive, and avoidable noise. It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise" (essentially the same as the Land Use Compatibility Chart for Community Noise discussed above).

Construction Noise

Construction noise includes noise from equipment involved in demolition, site preparation, rough framing, and finish work. Section 2907 of the noise ordinance, enforced by the Department of Building Inspection, regulates construction noise. Section 2907(a) limits noise from a single piece of construction equipment to 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance (such as 86 dBA at a distance of 50 feet). Section 2907(b) provides exemptions to the section 2907(a) limit for impact tools and other equipment (e.g., jack hammers, hoe rams, pile drivers, etc.), provided that they are fitted with intake and exhaust mufflers as well as the acoustically attenuating shields or shrouds recommended by their manufacturers and approved by the Director of Public Works (for public works projects) or the Director of Building Inspection (for construction on private property). Section 2908 of the noise ordinance prohibits nighttime construction (between 8 p.m. and 7 a.m.) that generates noise exceeding the ambient noise level by 5 dBA at the nearest property plane, unless a special permit has been granted by the Director of Public Works or the Director of Building Inspection.

Operational Noise

Section 2909 of the noise ordinance, enforced by the Department of Public Health during the day and the police department during the night, limits stationary-source noise and generally prohibits noise levels from any machine, device, music or entertainment venue (or any combination of same) 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; and

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).

The criteria provided in section 2909(a)–(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 7 a.m. to 10 p.m. and 45 dBA 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.

The noise ordinance contains additional limits for specific types of noise sources, such as trash compactors. For more information see article 29 of the San Francisco Police Code, Regulation of Noise, Guidelines for Noise Control Ordinance Monitoring and Enforcement.[33]

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[33] San Francisco Department of Public Health, *San Francisco Police Code Article 29: Regulation of Noise, Guidelines for Noise Control Ordinance Monitoring and Enforcement*, December 2014, https://www.sfdph.org/dph/files/EHSdocs/ehsNoise/GuidelinesNoiseEnforcement.pdf, accessed: April 27, 2018.

4.3.4 IMPACTS AND MITIGATION MEASURES

This section provides the impact analysis related to noise for the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact.

SIGNIFICANCE THRESHOLDS

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the California Environmental Quality Act (CEQA) Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the proposed project would result in a significant noise or vibration impact. The proposed project would have a significant impact related to noise if it were to result in the:

- Generation of 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; or
- Generation of excessive ground-borne vibration or ground-borne noise levels.

APPROACH TO ANALYSIS

CONSTRUCTION NOISE

Potential construction impacts have been evaluated quantitatively for the proposed project. Noise levels associated with project-related construction activities were evaluated in accordance with FTA guidelines, discussed above. Using FTA's general assessment construction noise criterion (90 dBA daytime 8-hour L_{eq}) and an increase in the ambient noise level of more than 10 dBA (a perceived doubling of loudness), the construction noise analysis below evaluates noise from the two loudest pieces of equipment for each construction phase This is a reasonable worst-case scenario of construction noise because it is unlikely that more than the two pieces of equipment would operate at the same time at the same location. The project sponsor provided a list of the construction equipment that is expected to be used. Noise reference levels in FHWA's *Road Construction Noise Model User's Guide* were used to assess noise from equipment.[34]

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[34] Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, January 2006, Washington, D.C., http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

Noise-level measurements were conducted at representative locations in the vicinity of the project area. Noise measurements were recorded to establish the baseline ambient noise levels that existing noise-sensitive land uses currently experience in the project area. To determine if the project would result in a substantial temporary increase in noise related to construction, the ambient noise levels at the nearest sensitive receptor were first compared to the construction noise level from the two loudest pieces of equipment at that receptor.

If construction noise would result in a level greater than 90 dBA or an increase of more than 10 dBA, then a potentially significant impact could occur, depending on the duration and severity of the noise. Thus, construction noise that would exceed the above criteria was evaluated to determine if the severity and duration would be substantial and prolonged. An exceedance of the FTA and the 10 dBA-above-ambient criteria is not necessarily considered to be a significant impact because there are non-quantitative considerations, such as the severity and duration of construction noise, which are also determinants of whether an impact is significant. The severity of exceedances during construction are discussed in the context of human hearing and the noticeability of noise increases, while construction noise duration, in conjunction with severity, is evaluated in terms of the potential of the noise to adversely affect sensitive receptors. As such, this analysis uses both quantitative and qualitative assessments in the evaluation of construction noise impacts.

Note that the FTA guidelines for construction noise were developed in the context of transportation projects. However, it is reasonable to use these guidelines for the proposed project because the guidelines address noise resulting from construction equipment, regardless of the project context. If the noise level from the two noisiest pieces of equipment exceeds the criteria, there may be an adverse community reaction, depending on severity and duration.

Operational Noise

Traffic

Traffic noise was not quantitatively evaluated because traffic-related noise would generally be reduced relative to existing conditions. Changes in noise levels from the proposed project are thus discussed qualitatively.

Stationary Noise Sources

Non-transportation noise sources include stationary sources, such as heating, air-conditioning, ventilation (HVAC) equipment, at residences on the project site. Stationary noise sources at the project site would be subject to sections 2909(a) of the noise ordinance, which limit noise produced on residential properties to no more than 5 dBA above the ambient condition at any point outside the property plane. Stationary operational noise is also 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 (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). Specific equipment information is not currently known; therefore, this analysis relies on noise levels from typical HVAC equipment.[35] Using the noise levels from typical HVAC equipment, the anticipated noise levels at sensitive receptors is evaluated with respect to the existing ambient noise levels and limits in the noise ordinance. Consideration is also given to the severity and duration of the noise, and, if determined to be substantial and prolonged, then a significant impact would occur.

VIBRATION

With respect to vibration during operations, the project would not involve the use of heavy equipment or impact devices, and all vehicles used during project operations would comprise the same types of on-road vehicles that currently exist at the site. Consequently, the analysis of vibration impacts focuses on construction activities.

Vibration from construction equipment is assessed by using the equipment vibration levels in Table 4.3-12 and the vibration effects criteria discussed in *Regulatory Framework,* p. 4.3-17. A reasonable threshold to assess potential sleep disturbance effects for this analysis is 0.10 in/sec PPV, which is the "strongly perceptible" level for continuous or frequent intermittent sources from Table 4.3-10, p. 4.3-21. The project's construction equipment that may be used during nighttime hours was therefore evaluated for its potential to result in strongly perceptible ground-borne vibration.

TABLE 4.3-12. VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (and VdB) at 25 Feet	PPV (and VdB) at 50 Feet	PPV (and VdB) at 75 Feet	PPV (and VdB) at 100 Feet	PPV (and VdB) at 175 Feet
Large bulldozer	0.089 (87)	0.0315 (78)	0.0171 (73)	0.0111 (69)	0.0048 (62)
Loaded trucks	0.076 (86)	0.0269 (77)	0.0146 (72)	0.0095 (68)	0.0041(61)
Jackhammer	0.035 (79)	0.0124 (70)	0.0067 (65)	0.0044 (61)	0.0019 (54)
Small bulldozer	0.003 (58)	0.0011 (49)	0.0006 (44)	0.0004 (40)	0.0002 (33)

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: January 23, 2019.

[35] Hoover and Keith, Noise Control for Buildings, Manufacturing Plants, Equipment, and Products, 2000, Houston, TX.

With respect to the effects of construction on vibration-sensitive equipment, the project's potential to generate ground-borne vibration was evaluated relative to the FTA's General Assessment criteria for vibration as shown in Table 4.3-8, p. 4.3-18. As discussed in *Noise-Sensitive Land Uses*, p. 4.3-11, there is a nearby building, 3838 California Street, that may contain vibration-sensitive equipment. Consequently, 3838 California Street is considered to be a Category 1 building, where vibration would interfere with interior operations.

The damage threshold used to assess potential damage to buildings varies by building type. Consequently, the buildings in the vicinity of the project site have been assessed to determine if ground-borne vibration during construction could exceed the applicable thresholds for any building type in Table 4.3-8, p. 4.3-18.

PROJECT FEATURES

The project would be a residential development within a residential neighborhood. Figure 2-1, Project Site Location, p. 2-3, in Chapter 2, *Project Description*, shows the location of the proposed project within the neighborhood and the city. The proposed project would replace seven buildings, with 622,000 square feet of hospital/medical office space for CPMC and 105,000 square feet for parking. Table 2-1, *Existing Land Uses at the Project Site*, p. 2-7, in Chapter 2, *Project* Description, provides a detailed overview of the individual buildings currently on the project site. The CPMC hospital building at 3700 California Street includes two diesel emergency generators within the loading and service lot on the west side of Maple Street, within Block B; a third diesel emergency generator is located in the loading and service lot on the east side of Maple Street, within Block C. All three generators would be removed from the project site as part of demolition. Additionally, all HVAC and other stationary noise-generating equipment located at the existing buildings would also be removed, with the exception of 401 Cherry Street.

The locations of noise-sensitive land uses surrounding the project site are presented in Figure 4.3-2, p. 4.3-14. As shown therein, the project is surrounded by both residential and non-residential noise-sensitive land uses. The types of noise-sensitive land uses and their distances from the project site are discussed in more detail above, in *Noise-Sensitive Land Uses*, p. 4.3-11,

The construction phasing program would include three overlapping phases, with the first phase (Block C) commencing in 2021. Construction is expected to last for approximately 40 months. The Block C construction phase is anticipated to last 29 months, the Block B construction phase would last approximately 35 months (and overlap the Block C phase for approximately 27 months), and the Block A construction phase is anticipated to last 23 months (and overlap with Block C construction for 12 months and Block B construction for 20 months). Table 4.3.13 shows the anticipated construction equipment and the associated noise levels at 50 and 100 feet.

TABLE 4.3-13. REPRESENTATIVE CONSTRUCTION EQUIPMENT NOISE LEVELS[a]

Construction Equipment	L_{max} at 50 feet (dBA)	L_{max} at 100 feet (dBA)
Aerial lift	75	69
Bore/drill rig	84	78
Cement and mortar mixer	79	73
Concrete/industrial saw	90	84
Crane	81	75
Crawler tractor	84	78
Crushing/processing equipment[b]	90	84
Dumper/tender	76	70
Excavator	81	75
Forklift[c]	84	78
Generator set	81	75
Grader	85	79
Other general industrial equipment[d]	85	79
Plate compactor	83	77
Pressure washer[e]	82	76
Pump	81	75
Rough-terrain forklift	84	78
Rubber-tired dozer	82	76
Rubber-tired loader	79	73
Signal board	—	—
Skid-steer loader (bobcat)[f]	79	73
Sweeper/scrubber[e]	82	76
Tractor/loader/backhoe	78	72
Trencher	80	74
Welder	74	68

Source: Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, 2006, http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

a. The construction equipment list in this table has been provided by the project sponsor.

b. Represented by "concrete saw" from user's guide.

c. Represented by "tractor" from user's guide.

d. Represented by the "other equipment" category from user's guide.

e. Represented by "vacuum street sweeper" from user's guide.

f. Represented by "front-end loader" from user's guide.

Externally located noise-generating HVAC equipment would be installed on the rooftops of all multi-family project buildings[36] but not on the single-family residences; however, specific equipment size and models have not yet been identified.

Vehicles traveling to and from the project site would also represent potential sources of noise during project operation. Vehicular access and the surrounding roadways are described in detail in Section 4.2, *Transportation and Circulation*. Because the existing hospital uses would be removed from the project site, the traffic associated with the hospital buildings at the site would cease and be replaced by traffic to and from the proposed project buildings. Overall, the proposed project would result in fewer vehicle trips to and from the site compared with existing uses, which would result in generally quieter traffic noise levels.

IMPACT EVALUATION

Impact NO-1: Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. (*Less than Significant with Mitigation*)

The noise ordinance limits noise from individual pieces of powered construction equipment to a level of 80 dBA L_{max} at a distance of 100 feet, except for impact equipment. The proposed project would not include the use of any equipment that is considered to be impact equipment. Piles would be required to construct the buildings, but auger piles would be used, which involve drilling a hole to install the pile rather than driving the pile into the ground forcibly. Most of the construction equipment that would be subject to the noise ordinance would meet noise ordinance limits, with the exception of the concrete saw and crushing/processing equipment. Although the crushing/processing equipment is anticipated to be used for eight days at each of the three blocks, the concrete saw is anticipated to be used for a longer duration (26, 53, and 34 days for Blocks A, B, and C, respectively).

DAYTIME CONSTRUCTION NOISE EVALUATION

As discussed in the *Approach to Analysis* section, above, the daytime construction noise analysis evaluates noise from the two loudest pieces of equipment at sensitive receptor locations to determine if construction noise would exceed 90 dBA or be 10 dBA above the ambient noise level. If so, the evaluation considers the duration and severity of noise levels in determining whether the project would result in a significant noise impact. Table 4.3-14 shows the worst-case noise levels for each major phase of construction for the proposed project. As indicated above, the worst-case noise levels assume that the two loudest pieces of equipment from each construction phase are operating simultaneously. Detailed tables regarding noise from each construction phase are included in Appendix G.

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[36] These buildings include 19 in total: A5, A7, B7 through B18, and C4 through C8.

TABLE 4.3-14. L_{EQ} CONSTRUCTION NOISE LEVELS BY PHASE (DBA)

Distance Between Source and Receiver (feet)	Demo. Work[a]	Site Prep. & Grading[b]	Excavation & Shoring[c]	Drainage/ Utilities/ Subgrade[d]	Building Construction[e]	Site Work[f]
25	91	91	88	87	90	91
50	85	85	82	81	84	85
100	79	79	76	75	78	79
200	73	73	70	69	72	73
250	71	71	68	67	70	71
300	69	70	66	66	69	70
400	67	67	64	63	66	67
500	65	65	62	61	64	65
600	63	64	60	60	63	64
650	62	63	60	59	62	63
700	62	62	59	59	61	62
800	61	61	58	57	60	61
900	60	60	57	56	59	60
1,000	59	59	56	55	58	59

Notes:
See Appendix G for data.
Geometric attenuation based on 6 dB per doubling of distance.
This calculation does not include the effects, if any, of local shielding.
L_{eq} noise is presented in dBA units, which approximate the frequency response of the human ear.
[a] for this activity, the two loudest equipment items are concrete/industrial saw and crawler tractor
[b] for this activity, the two loudest equipment items are crushing/processing equipment and grader
[c] for this activity, the two loudest equipment items are crawler tractor and bore/drill rig
[d] for this activity, the two loudest equipment items are forklift and plate compactor
[e] for this activity, the two loudest equipment items are other general industrial equipment and forklift
[f] for this activity, the two loudest equipment items are crushing/processing equipment and grader

As shown in Table 4.3-14, L_{eq} noise levels would range from 87 to 91 dBA at a distance of 25 feet and 81 to 85 dBA at a distance of 50 feet. For the loudest activities, construction noise would be above the FTA general assessment criterion of 90 dBA for residences 25 feet from the project site.[37] Although noise from some activities would be above 90 dBA, the amount of time that the noise would exceed this level at a sensitive receptor is anticipated to be minimal because the

[37] Although the project's property plane is adjacent to sensitive receptors, there would be a buffer of space between the construction equipment and the adjacent land uses. As such, 25 feet is presumed to be the worst-case separation distance.

two loudest equipment pieces would not frequently operate simultaneously within 25 feet a sensitive receptor. Although the exact duration of this worst-case scenario cannot be determined with certainty, it is reasonably anticipated to occur for less than two weeks at any single sensitive receptor and thus would not be prolonged or excessive. Furthermore, although the two loudest equipment pieces could operate simultaneously at any single location, potentially for up to two weeks, this does not mean that equipment operations would occur uninterrupted for two weeks. In addition, the highest expected noise level at 25 feet from any construction location would be 91 dBA, which is 1 dBA above the FTA criterion of 90 dBA. A difference of 1 dBA is not considered to be a severe exceedance because such an increment is not noticeable to humans. Given these considerations, noise from construction activities would not be significant with respect to the FTA general assessment criterion of 90 dBA.

For the evaluation of noise impacts with respect to the 10 dBA increase above ambient noise levels, construction noise is compared to the 13-hour L_{eq}[38] ambient noise levels in the project area, which range from approximately 66 to 71 dBA. As discussed above, noise levels would range from 87 to 91 dBA at a distance of 25 feet and 81 to 85 dBA at a distance of 50 feet and increase background noise levels by more than 10 dBA. A worst-case scenario would occur if a residence near measurement site LT-2 (where the 13-hour L_{eq} is 65.9) and 25 feet from the proposed project was exposed to construction L_{eq} noise of 91 dBA. This scenario would result in an increase of 25.1 dB. In this scenario, construction noise would need to be attenuated at this residence by at least 15.1 dB to adhere to the 10 dBA increase criteria. Although the time that the worst-case scenario would occur as close as 25 feet from the nearest sensitive receptor would probably be short, likely less than two weeks, sensitive receptors at distances up to 100 feet from construction activity could nevertheless be exposed to a noise increase of 10 dBA or greater. As shown in Table 4.3-14, p. 4.3-31, noise for nearly all activities would be 76 dBA or greater at a distance of 100 feet. Thus, nearly all activities would result in noise levels that are 10 dBA or greater than the existing noise levels near LT-2 (65.9 dBA). Consequently, sensitive receptors within 100 feet of construction activity could be exposed to a noise increase greater than 10 dBA for a duration that could be considered excessive. In addition, as discussed above, the increase could be as high as 25 dBA, which would be substantially greater than 10 dBA and noticeable to sensitive receptors. Because unmitigated construction noise could be as much as 25 dBA greater than ambient noise levels, representing a substantial increase, the proposed project would result in temporary or periodic construction noise that would be substantially above ambient noise levels. This impact is therefore considered to be significant.

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[38] A 13-hour L_{eq} was calculated using the long-term measurement data in 4.D-6 to compare to construction noise levels. article 29 of the Police Code permits construction to occur between 7:00 a.m. and 8:00 p.m. (i.e., 13 hours), so an L_{eq} noise level has been calculated using the hourly noise level measurement data between 7:00 a.m. and 8:00 p.m. for a direct comparison to the permitted construction hours.

Implementation of Mitigation Measure M-NO-1, Construction Noise Control, would reduce daytime construction noise resulting from the proposed project. Components of the construction noise control plan would be implemented to reduce construction noise and its effect on nearby sensitive land uses by requiring measures to control noise and preparation of a noise control plan in response to noise complaints from nearby residents. Measures in the noise control plan would reduce quantitative increases in noise through direct mitigation related to equipment noise, such as measures to ensure that equipment is maintained in a manner that reduces noise, and through the use of improved mufflers, engine enclosures, and acoustically attenuating shields. These measures would serve to mitigate noise increases at sensitive receptor locations; however, it is possible that construction noise could still cause increases in noise that would be greater than 10 dBA. These increases would occur under a worst-case scenario, which would involve simultaneous operation of the two loudest pieces of equipment (e.g., concrete saw and crushing/processing equipment). This is a conservative assessment of noise impacts because, as discussed in *Approach to Analysis*, p. 4.3-25, the two loudest pieces of equipment would not frequently operate at the same time and at the same location. Therefore, implementation of Mitigation Measure M-NO-1 would reduce the impact to a less-than-significant level.

Mitigation Measure M-NO-1: Construction Noise Control

The project sponsor shall develop a set of site-specific noise attenuation measures under the supervision of a qualified acoustical consultant to ensure that maximum feasible noise attenuation will be achieved for the duration of construction activities. Prior to commencement of demolition and construction activities, the project sponsor shall submit the construction noise control plan to the San Francisco Planning Department for review and approval. Noise attenuation measures shall be implemented to meet a goal of not increasing noise levels from construction activities by more than 10 dBA above the ambient noise level at sensitive receptor locations. Noise measures may include, but are not limited to, those listed below.

- Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- Prohibit gasoline or diesel engines from having unmuffled exhaust systems.
- Ensure that equipment and trucks for project construction use the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds) wherever feasible. According to the Federal Highway Administration, the use of shields or barriers around noise sources can reduce noise by 5 to 10 dBA, depending on the type of barrier used.

- Use “quiet” gasoline-powered or electrically powered compressors as well as electric rather than gasoline- or diesel-powered forklifts for small lifting, where feasible.
- Locate stationary noise sources, such as temporary generators, concrete saws, and crushing/processing equipment, as far from nearby receptors as possible; muffle and enclose noise sources within temporary enclosures and shield with barriers, which could reduce construction noise by as much as 5 dB; or implement other measures, to the extent feasible.
- Undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, such as midday or early afternoon when residents are more likely to be at work and less likely to be sleeping, as feasible.
- In response to noise complaints received from people in the project area, monitor the effectiveness of noise attenuation measures by taking noise measurements. A plan for noise monitoring shall be provided to the City for review prior to the commencement of each construction phase.

The construction noise control plan must include the following measures for responding to and tracking complaints pertaining to construction noise:

- A procedure and phone numbers for notifying the Department of Building Inspection, health department, or the police department of complaints (during regular construction hours and off hours).
- A sign posted onsite describing noise complaint procedures and a complaint hotline number that shall be answered at all times during construction.
- Designation of an onsite construction complaint and enforcement manager for the project.
- A plan for notification of neighboring residents and nonresidential building managers within 300 feet of the project construction area at least 30 days in advance of activities that could increase daytime ambient noise levels at sensitive receptor locations by 10 dBA or more. The notification must include the associated control measures that will be implemented to reduce noise levels.

In addition to the use of heavy-duty equipment, construction of the proposed project would require the use of on-road vehicles to deliver and haul away materials and move construction workers to and from the site. Construction would last approximately 40 months. During that time, between 28 and 104 on-road vehicle trips made by construction workers would be required per day at each block, depending on the specific construction activity; up to 16 truck trips for material hauling would be required per day at each block. During periods when construction on multiple blocks overlaps, there could be between 100 and 200 construction-related vehicle trips per day on roadways in the project vicinity. Because the total number of construction trips would be relatively small compared with existing traffic volumes (refer to Table 4.3-15 for existing daily traffic volumes), there would be no substantial increase in noise from construction traffic.

TABLE 4.3-15. TRAFFIC VOLUME INCREASES ASSOCIATED WITH PROPOSED PROJECT

	Average Daily Traffic Volumes		
Roadway Segment	**Existing Daily Volumes**	**Proposed Project Increases in Daily Volumes**	**Percentage Increase from Proposed Project**
Sacramento Street east of Maple Street	2,870	40	1%
Sacramento Street west of Spruce Street	3,030	50	2%
Sacramento Street east of Spruce Street	3,090	30	1%
Maple Street north of California Street	1,800	330	18%
Parker Avenue south of California Street	2,030	50	2%

Source: Goyne, Matt. Associate, Fehr and Peers. August 31, 2018—email to Heidi Mekkelson of ICF regarding peak-hour intersection volumes and the "hourly to daily" calculation method.

Notes:

See Appendix G for data.

Daily traffic volumes have been calculated by multiplying the PM peak hour by a factor of 10, based on the guidance of the traffic engineer evaluating the proposed project.

NIGHTTIME CONSTRUCTION NOISE EVALUATION

The majority of construction activity is expected to occur during daytime hours; however, limited construction activities could occur outside of the permitted hours of 7:00 a.m. to 8:00 p.m. to minimize traffic disruption along the public right-of-way. While the project does not propose nighttime construction work, the City may determine that it is necessary to conduct nighttime construction work for activities within the public right-of-way. In the event that nighttime construction work is necessary, it would only be for minimal, short-term activities such as utility installation or roadway re-paving. These types of activities would generate noise that is less severe than the activities that would occur during regular construction hours, such as the two loudest pieces of equipment operating simultaneously (i.e., a worst-case scenario) during the demolition or grading phases. The duration of nighttime work would be short, and the severity of any resulting noise is anticipated to be substantially less than the daytime construction work, and this impact is therefore considered to be less than significant.

CONSTRUCTION NOISE IMPACTS ON FUTURE USERS

It is possible that some new residences at the project site could be exposed to ongoing construction noise from other parts of the site that remain under construction. For instance, Block C may be completed first and have residents move in while construction on Block B is still ongoing. As discussed above, noise impacts have been evaluated for a worst-case scenario at a distance of 25 feet from existing residences. New project residents may be located as close as 25 feet from construction activities. However, residents that occupy project buildings during construction would be exposed to noise for substantially less time than existing residents surrounding the project site. Furthermore, being new construction, it is anticipated that project buildings would have better noise insulation than older buildings surrounding the project site, and construction noise levels would be better attenuated. In addition, implementation of Mitigation Measure M-NO-1, above, which would reduce construction noise impacts on existing sensitive receptors, would also reduce noise impacts on new sensitive receptors at the project site in the same manner. Therefore, construction noise impacts on both existing and new sensitive receptors would be less than significant with mitigation.

Impact NO-2: Construction of the project could generate excessive ground-borne vibration or ground-borne noise levels. (*Less than Significant with Mitigation*)

As discussed above, ground-borne vibration, which occurs during construction activities, can result in effects ranging from annoyance to structural damage to buildings. The main concerns associated with construction-generated vibration include sleep disturbance, building damage, and interference with vibration-sensitive instruments or machinery, such as that used in research laboratories or hospitals. The potential for construction activities to generate vibration that could affect each of these receptor types is discussed below, following the discussion of vibration levels that may be generated during construction.

VIBRATION LEVELS DURING CONSTRUCTION

The most substantial ground-borne vibration is generated by impact construction equipment, which is equipment that makes forceful, repeated contact with the ground surface. The proposed project would not involve the use of any impact equipment; however, construction would nevertheless require the use of heavy equipment that could generate temporary ground-borne vibration, such as bulldozers or loaded trucks. The proposed project would not require the use of impact pile driving; the foundations for project buildings would require drilled piles, which do not require the use of impact equipment.

Construction-related vibration impacts depend on the proximity of construction activities to sensitive receptors, the presence of intervening barriers, the number and types of construction equipment, and duration of construction equipment use. The proposed project would use heavy-duty equipment, such as a large bulldozer, that could generate ground-borne vibration levels of 0.089 inch per second at 25 feet and 0.0315 inch per second at 50 feet. As shown in Table 4.3-12, p. 4.3-27, a large bulldozer would result in the greatest amount of vibration. Based on Table 4.3-10, p. 4.3-21, this level of vibration would be distinctly perceptible at 25 feet and barely perceptible at 50 feet.

SLEEP DISTURBANCE

Ground-borne vibration could be considered significant if it were to result in sleep disturbances at sensitive receptors near the project site. A reasonable assumption for the amount of vibration needed to induce sleep disturbance is vibration that is considered to be strongly perceptible, the generally acceptable standard of which is 0.10 inch per second for continuous, frequent intermittent sources (see Table 4.3-10, p. 4.3-21). As indicated above, even at extremely close distances to sensitive receptors (i.e., 25 feet), the ground-borne vibration from a large bulldozer would be 0.089 inch per second and below the generally acceptable standard of what is considered to be strongly perceptible vibration (0.10 inch per second). Consequently, it is unlikely that any sensitive receptors near the project site would be exposed to strongly perceptible ground-borne vibration from construction equipment for any appreciable amount of time. In addition, construction work is planned for the daytime hours when fewer people are sleeping. As discussed in Impact NO-1, nighttime construction, if it occurs, would include minor activities, and these types of activities would have a lower ground-borne vibration potential. For these reasons, construction activities would not result in vibration at levels that would disturb sleep. This impact is less than significant.

BUILDING DAMAGE

With respect to structural damage, at 25 feet, ground-borne vibration from construction could exceed the building damage threshold of 0.08 inch per second for extremely fragile historic buildings but would not exceed the damage threshold for any other building types (see Table 4.3-9, p. 4.3-20). There are no buildings in the project area that are characterized as extremely fragile historic buildings. As discussed in Section E.3, *Cultural Resources*, of the initial study (see EIR Appendix B), there is one building on the project site, the Marshal Hale hospital building, that has historic significance. This building was constructed of reinforced concrete in 1939. Its exterior cladding and decorative elements are stucco. Given these characteristics, the building is best categorized as a historic building because it does not feature an unreinforced structural system or fragile ornamentation that would qualify it as either a fragile or extremely fragile building. Therefore, the corresponding damage threshold for a historic building is 0.25 inch per second, which would not be exceeded by project construction activity at any location. Other effects of construction on this building are discussed in Section E.4, *Cultural Resources*, of the initial study (see EIR Appendix B). Because no building damage thresholds would be exceeded, construction activity would not result in structural damage to any surrounding buildings. This impact would be less than significant.

INTERFERENCE WITH VIBRATION-SENSITIVE EQUIPMENT

As discussed in the Noise-Sensitive Land Uses section, p. 4.3-11, 3838 California Street, a medical office building adjacent to the project's property plane, could contain vibration-sensitive equipment for medical uses, such as equipment found in hospital operating rooms, optical microscopes, cell probing devices, and scanning electron microscopes. This type of equipment may be affected by ground-borne vibration produced during project construction. Construction equipment operating near the 3838 California Street building may interfere with the operation of vibration-sensitive equipment in the building, if present at the time of construction. Equipment on the ground floor would be most susceptible to construction-generated vibration. As shown in Table 4.3-8, p. 4.3-18, the vibration impact level for category 1 buildings, which, based on FTA guidance, includes hospitals with vibration-sensitive equipment,[39] is 65 VdB. To determine whether the project could result in an exceedance of this vibration level at the 3838 California Street building, the vibration source levels for construction equipment in Table 4.3-12, p. 4.3-27 are used. Based on the equipment source levels, a large bulldozer and similar equipment (large excavator, etc.) would exceed 65 VdB at a source-receiver distance of approximately 135 feet, while a jackhammer would exceed 65 VdB at a distance of 75 feet. For work involving a small bulldozer, the 65 VdB level would most likely not be exceeded, even at a close distance of 25 feet (58 VdB).[40] Nevertheless, because an existing building at the project site is located directly adjacent to 3838 California Street, demolition of the existing building would require heavy-duty equipment, such as a large bulldozer, at a distance of less than 135 feet. Therefore, interference with the operation of vibration-sensitive equipment could occur. As such, this impact is potentially significant. Mitigation Measure M-NO-2 has been identified to reduce vibration impacts on sensitive equipment at the 3838 California Street building to a less-than-significant level. Because vibration-sensitive equipment would not operate simultaneously with construction equipment that could cause interference or, if operating simultaneously, construction equipment would not exceed the 65 VdB impact level, as verified through vibration monitoring, this impact would be less than significant.

Mitigation Measure M-NO-2: Vibration-Sensitive Equipment at 3838 California Street

If vibration-sensitive equipment at 3838 California Street is not present in the building prior to the start of project construction, the sponsor shall submit documentation to the San Francisco Planning Department, verifying that this equipment is not present, and the remainder of this mitigation measure shall not be required.

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39 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: January 23, 2019.

40 Other considerations that may affect ground-borne vibration propagation, such as rock and soil characteristics; coupling between the ground and building foundation; and amplification from floor, wall, and ceiling resonances, have not been factored into the evaluation of impacts. These effects cannot be quantified with certainty and are not expected to appreciably affect vibration levels.

A community liaison shall be designated and made available to respond to vibration complaints from building occupants at 3838 California Street. Contact information for the community liaison shall be posted in a conspicuous location so that it is clearly visible to building occupants most likely to be disturbed. Through the community liaison, the project sponsor shall provide notification to property owners and occupants of 3838 California Street of construction activities involving equipment that can generate vibration capable of interfering with vibration-sensitive equipment 10 days prior to the start of project construction, informing them of the estimated start date and duration of vibration-generating construction activities. These equipment types include a large bulldozer, or similar equipment, operating within 135 feet of the building; a jackhammer operating within 75 feet of the building; or a loaded truck operating within 125 feet of the building. The community liaison shall manage concerns and complaints resulting from construction vibration. Reoccurring disturbances shall be evaluated by a qualified noise and vibration consultant to ensure that there are no exceedances of the 65 VdB vibration level threshold for vibration-sensitive equipment. If concerns prior to construction or complaints during construction related to equipment interference are identified, the community liaison shall work with the project sponsor and the affected building occupants to resolve the concerns. To resolve concerns raised by building occupants, the community liaison shall convey the details of the complaint(s) to the project sponsor so that specific measures can be implemented, such as scheduling certain construction activities outside the hours of operation of specific vibration-sensitive equipment and/or conducting ground-borne vibration monitoring to document that no exceedances of the 65 VdB impact level occur at specific distances and/or locations. Ground-borne vibration monitoring, if appropriate to resolve concerns, shall be conducted by a qualified noise and vibration consultant.

Impact NO-3: Operation of the proposed project would not result in a substantial periodic or permanent increase in ambient noise levels. (*Less than Significant*)

PROJECT-INDUCED TRAFFIC NOISE

As described above, the existing noise environment in the project area is governed primarily by vehicle traffic. With respect to on-road vehicle traffic, the proposed project would result in a decrease in traffic noise from existing traffic noise levels because there would be a net decrease in the number of vehicle trips to and from the project site with the proposed residential uses compared with the existing hospital uses. As shown in Section 4.2, *Transportation and Circulation,* Table 4.2-6, p. 4.2-45, the proposed project would result in approximately 4,900 fewer vehicle trips each day compared with existing conditions. In addition, there would be nearly 60 fewer daily delivery truck trips to the project site. Nearly all roadways in the project area would experience a net decrease in traffic volumes compared with existing conditions. However, there are five roadways where traffic volumes would increase; as a result, traffic noise could increase on those streets (see Table 4.3-15, p. 4.3-35). At all other roadways in the project area, traffic volumes would be unchanged or would decrease compared with existing conditions.

As discussed above in *Sound Fundamentals*, a doubling in traffic volumes would result in a 3 dBA change in the noise level, which is barely noticeable to the human ear. Thus, any increase in traffic that would be less than the current daily volumes would not be noticeable to existing sensitive receptors in the project vicinity. As shown in Table 4.3-15, p. 4.3-35, the proposed project would result in an increase in traffic noise on five roadways, up to 18 percent greater than existing traffic volumes. An 18 percent increase is well below the doubling of traffic volumes needed to produce a barely noticeable change in traffic noise (i.e., a doubling of traffic volumes, or a 100 percent increase). Consequently, increased traffic on these five roadways would not result in a substantial increase in noise. Traffic volumes on all other roadways would decrease relative to existing conditions. This impact would be less than significant.

FIXED MECHANICAL EQUIPMENT NOISE

Stationary mechanical equipment at the project site, including building equipment (primarily HVAC), contributes to the ambient noise environment. After demolition of the hospital buildings, three stationary generators (two at Block B and one at Block C), as well as other noise-generating equipment, would be removed. The proposed project would introduce new stationary noise sources; these new sources may be located in different areas. No new emergency generators would be required. Operation of HVAC equipment at the project site would be subject to sections 2909(a) of the noise ordinance, which limit noise produced on residential properties to no more than 5 dBA above the ambient condition at any point outside the property plane. In addition, stationary operational noise is 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 (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). Compliance with section 2909 of the municipal code would be required. Because the proposed project would remove existing stationary noise sources and the proposed project's new HVAC systems would be required to comply with the noise ordinance, the proposed project's HVAC systems would not result in a significant permanent increase in ambient noise levels. This impact would be less than significant.

HVAC equipment would operate on the rooftops of all multi-family project buildings, although the precise locations for the equipment within each building footprint are not currently known.[41] To further reduce the less-than-significant operational noise impact, the project sponsor has agreed to implement Improvement Measure I-NO-A, Stationary Equipment Noise Controls.

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41 These buildings include A7, B7 through B18, and C4 through C8.

Improvement Measure I-NO-A: Stationary Equipment Noise Controls

Prior to approval of each building permit, the project sponsor shall submit documentation to the San Francisco Planning Department, demonstrating that the building's stationary equipment (such as HVAC equipment) meets the noise limits specified in section 2909 of the San Francisco Police Code (i.e., a 5 dB increase at the property plane and interior limits of 55 dBA and 45 dBA for daytime and nighttime hours, respectively). Acoustical treatments may include, but are not limited to:

- Enclosing HVAC and other noise-generating mechanical equipment
- Installing relatively quiet models of air handlers, exhaust fans, and other mechanical equipment
- Using mufflers or silencers on equipment exhaust fans
- Orienting or shielding equipment to protect sensitive uses to the greatest extent feasible
- Increasing the distance between stationary equipment and noise-sensitive receptors (residences, schools, and childcare facilities)
- Placing barriers around the equipment to facilitate the attenuation of noise.

Cumulative Impacts

The geographic scope of analysis for cumulative noise and vibration construction impacts, as well as stationary noise sources, encompasses reasonably foreseeable projects within approximately 1,000 feet of the project site. Beyond 1,000 feet, the contributions of noise from other projects would be greatly attenuated through both distance and intervening structures, and their contribution would be expected to be minimal. Three cumulative projects are in the project vicinity: 3333 California Street, 3641 California Street, and 3637–3657 Sacramento Street. The 3333 California Street project site would be approximately 1,320 feet from the proposed project, the 3641 California Street project site would be approximately 80 feet away, across California Street, and the 3637–3657 Sacramento Street project site would be approximately 340 feet east of the project site. Although the 3333 California Street project site would be more than 1,000 feet from the proposed project, it is discussed here because the potential exists for noise sensitive receptors between that project and the proposed project to be affected by both projects.

Impact C-NO-1: Construction activities for the proposed project, in combination with reasonably foreseeable projects, could result in a substantial temporary increase in noise. (*Less than Significant with Mitigation*)

With respect to cumulative construction noise, construction noise from the three reasonably foreseeable projects could overlap with construction noise from the proposed project. Because the 3333 California Street project site would be more than 1,000 feet from the proposed project, construction noise at one site would not be readily detectable at the other site. However, the many residences between Spruce Street and Laurel Street could detect noise from both projects. In addition, the 3641 California Street and 3637–3657 Sacramento Street project sites would be much closer to the proposed project (80 feet and 340 feet, respectively) than the 3333 California Street project site. Noise from the 3641 California Street and 3637–3657 Sacramento Street project sites could affect the same sensitive receptors in the vicinity of the project site.

At 3333 California Street, it is unlikely that noise levels would be 10 dBA above the ambient noise level as a result of project construction in combination with 3333 California Street construction because of the noise attenuation that would occur, given the distance between the two project sites. At approximately half the distance between the sites, 650 feet, noise would be expected to attenuate by approximately 22 dBA, using geometric attenuation. Based on the construction noise levels expected with the proposed project, shown in Table 4.3-14, p. 4.3-31, with attenuation of 20 dBA, noise from construction would be in the mid- to low 60 dBA range, which would be quieter than measured ambient noise levels in the vicinity (see Table 4.3-5, p. 4.3-15). Consequently, construction noise from the proposed project in combination with construction noise from the 3333 California street project would not be considered substantial because the sensitive receptors who could be exposed to noise from both projects would not experience construction noise levels that exceed the ambient noise levels.

At 3641 California Street, a much smaller project than the proposed project, construction would occur much closer to the proposed project. At the nearest location, the 3641 California Street project site would be approximately 80 feet from Block C; however, most of the proposed project would be located much farther away (e.g., the northeast corner of Block A would be more than 800 feet away). Although it is currently unknown when construction for this cumulative project would occur, it is possible that construction activities from that project could overlap with construction activities from the proposed project. If the construction schedules of the two projects do overlap, the resulting cumulative noise is not anticipated to be substantial or occur for an appreciable amount of time in the same immediate area because, as previously discussed, 3641 California Street would be near only one portion of the proposed project. The exact amount of overlap cannot be determined at this time, however.

Similarly, 3637–3657 Sacramento Street is a much smaller project and is located near the project site. At the nearest location, construction could occur 340 feet from the project site, and it is possible that the construction schedules of this foreseeable project and the proposed project could overlap. Although Block C of the project is located 340 feet from 3637–3657 Sacramento Street, this represents the straight line distance between the two projects, and, in between the site of 3637–3657 Sacramento Street and the project site, are existing buildings that would attenuate noise and reduce the potential for a cumulative impact to occur. In addition, construction activity at Block A and Block B would occur at even greater distances, 700 and 1,200 feet, respectively, from this cumulative project. The potential for construction noise generated at these blocks to cause a cumulative impact would be even lower. However, because the closest distance between Block C and 3641 California Street is approximately

80 feet, construction noise from the proposed project, the 3637–3657 Sacramento Street project, and the 3641 California Street project could overlap and be noticeably audible at nearby sensitive receptors, causing an increase in ambient noise levels that would be greater than 10 dBA. Consequently, cumulative noise impacts would be significant. The proposed project's contribution to cumulative construction noise would be considerable because, of the three projects that could combine to result in a cumulative construction noise impact, the impact of the proposed project would be the most substantial in terms of increasing ambient noise levels. In addition, the duration would be longer, approximately 40 months. Because the magnitude of construction noise and the duration of schedule overlap cannot be determined with precision at this time, cumulative noise is conservatively considered to be significant.

With implementation of Mitigation Measure M-NO-1, the project's contribution to cumulative noise impacts would be reduced to a less-than-significant level through the requirement to implement noise control measures and a noise control plan in response to noise complaints from nearby residents. Furthermore, all three projects would be required to comply with the noise ordinance requirements, which limit noise levels from individual pieces of equipment. Therefore, in light of all of the above, the project's contribution to cumulative construction noise impacts would be less than significant with mitigation.

Impact C-NO-2: Construction activities from the proposed project, in combination with reasonably foreseeable projects, would not generate excessive ground-borne vibration. (*Less than Significant*)

As shown in Table 4.3-12, p. 4.3-27, ground-borne vibration attenuates with distance to levels that are not perceptible, even for a large bulldozer at distances greater than 100 feet. In addition, as discussed for Impact NO-2, the project itself would not result in sleep disturbance as a result of construction vibration at any sensitive receptors, even at a distance of 25 feet. Because of the proposed project's distance from the 3333 California Street project site (more than 1,000 feet), the 3641 California Street project site (80 feet), and the 3637–3657 Sacramento Street project site (340 feet), significant cumulative vibration impacts are not expected. With respect to vibration affecting vibration-sensitive equipment, 3641 California Street is the reasonably foreseeable project closest to 3838 California Street, a location where vibration-sensitive equipment could be present. However, construction activity at the 3641 California Street site would occur more than 800 feet away from 3838 California Street. At that distance, ground-borne vibration would attenuate to a level that would not cause interference with vibration-sensitive equipment. Operation of a large bulldozer, for example, would result in a vibration level of 42 VdB at 800 feet, based on the source levels in Table 4.3-12, p. 4.3-27, which is substantially below the 65 VdB FTA threshold. The two other cumulative project sites, which are more than 1,000 feet from 3838 California Street, would also not cause interference with vibration-sensitive equipment. As such, there would be no appreciable potential for ground-borne vibration from the proposed project to combine with that of reasonably foreseeable projects and result in a significant cumulative vibration impact.

Impact C-NO-3: Operation of the proposed project, in combination with reasonably foreseeable projects, would not result in a substantial periodic or permanent increase in ambient noise levels in the project vicinity, above levels existing without the project. (*Less than Significant*)

Because stationary sources of operational noise are highly localized, the potential for stationary sources of noise (e.g., HVAC equipment) from disparate residential projects to overlap would be very unlikely. As discussed above, stationary equipment at the project site and other new development would be required to comply with the noise ordinance; thus, there would be no cumulative noise impacts from these sources of noise. Consequently, this discussion focuses on cumulative traffic noise impacts.

As discussed above for Impact NO-3, the existing noise environment in the project area is governed primarily by vehicle traffic, and this will continue to be the case in future years. The proposed project would result in the same number of vehicle trips in future years as presented in Table 4.3-15, p. 4.3-35, while background vehicle trips would increase with future growth in the city.

The cumulative effect of traffic noise in the project area has been evaluated using traffic data that incorporate projected future growth within the city through 2040, including effects on vehicle trips as a result of the proposed project. Table 4.3-16 shows cumulative traffic volume increases in 2040 relative to existing conditions, along with the percentage increase in volume for each affected roadway.

As shown in Table 4.3-16, future traffic volumes, which include the proposed project and other growth in the city, would result in increases in traffic volumes that would be, at a maximum, 38 percent greater than existing conditions. A 38 percent increase would be below the level needed to produce a 3 dB increase, which is a barely noticeable change in traffic noise (i.e., a doubling of traffic volumes, or a 100 percent increase). Consequently, cumulative traffic noise would not be perceptible, and cumulative traffic noise impacts would be less than significant.

TABLE 4.3-16. CUMULATIVE 2040 TRAFFIC VOLUME INCREASES

	Average Daily Traffic Volumes[a]		
Roadway Segment	**Existing Daily Volumes**	**Cumulative 2040 Daily Volume Increases[b]**	**Percentage Increase Relative to Existing Conditions**
California Street			
west of Arguello	12,710	2,290	18%
east of Arguello	12,780	2,220	17%
west of Jordan	12,670	2,330	18%
east of Cherry	12,330	2,270	18%
east of Commonwealth	11,920	1,980	17%
west of Maple	11,850	2,250	19%
east of Parker	12,100	2,100	17%
west of Spruce	10,650	2,050	19%
east of Spruce	10,570	2,230	21%
Sacramento Street			
west of Arguello	8,170	970	12%
east of Arguello	3,380	510	15%
west of Cherry	4,260	910	21%
east of Cherry	4,000	780	20%
west of Maple	3,900	620	16%
east of Maple	3,260	430	13%
west of Spruce	3,550	570	16%
east of Spruce	3,370	310	9%
Arguello Boulevard			
north of California	7,300	800	11%
south of California	7,710	-210	-3%
north of Sacramento	10,450	610	6%
south of Sacramento	8,740	1,010	12%
Cherry Street			
north of California	1,800	300	17%
north of Sacramento	2,080	580	28%
south of Sacramento	2,400	430	18%
Commonwealth Avenue			
south of California	1,030	-130	-13%
Jordan Avenue			
south of California	1,340	360	27%

Roadway Segment	Average Daily Traffic Volumes[a] Existing Daily Volumes	Cumulative 2040 Daily Volume Increases[b]	Percentage Increase Relative to Existing Conditions
Maple Street			
north of California	1,800	500	28%
north of Sacramento	1,980	490	25%
south of Sacramento	2,480	520	21%
Parker Avenue			
south of California	2,030	770	38%
Spruce Street			
north of California	2,450	750	31%
south of California	3,350	1,150	34%
north of Sacramento	2,300	440	19%
south of Sacramento	3,580	600	17%

Source: Goyne, Matt. Associate, Fehr and Peers. August 31, 2018—email to Heidi Mekkelson of ICF regarding peak-hour intersection volumes and the "hourly to daily" calculation method.

Notes:

See Appendix G for data.

a. Daily traffic volumes have been calculated by multiplying the PM peak hour by a factor of 10, based on the guidance of the traffic engineer evaluating the proposed project.

b. The volume increases include the proposed project trips and non-project trips from background growth in the city.

4.4 Air Quality

4.4.1 Introduction

This section discusses existing air quality conditions in the project area, presents the regulatory framework for air quality management, and analyzes the potential for the proposed project to affect existing air quality conditions, both regionally and locally, from activities that emit criteria and non-criteria air pollutants. It also analyzes the types and quantities of emissions that would be generated both on a temporary basis from construction activities and over the long term from operation of the proposed project. The analysis determines whether the emissions would be significant in relation to applicable air quality standards and identifies feasible mitigation measures for significant adverse impacts, if required. This section also includes an analysis of cumulative air quality impacts. As discussed in Section E.7, *Air Quality*, of the initial study (see EIR Appendix B), construction of the proposed project and operation of the proposed land uses would not be expected to generate substantial odors. Therefore, this issue is not discussed further in this EIR. Emissions of greenhouse gases (GHGs) and potential impacts on climate change, as well as City and County of San Francisco (City) and state goals regarding GHG emissions, are discussed in the initial study (see EIR Appendix B, Section E.8, *Greenhouse Gas Emissions*).

The analysis in this section is based on a review of existing air quality conditions in the Bay Area and air quality regulations administered by the U.S. Environmental Protection Agency (U.S. EPA), the California Air Resources Board (Air Resources Board), and the Bay Area Air Quality Management District (air district). This analysis includes methodologies identified in the air district's updated *CEQA* [California Environmental Quality Act] *Air Quality Guidelines*[1] and its companion documentation. Calculations were prepared to quantitatively assess the air quality contributions of the proposed project (see EIR Appendix H); this information forms the basis of much of the assessment of air quality impacts presented herein.

The air quality impact methodologies and approach to analysis (described under *Approach to Analysis*, p. 4.4-30, and in "Air Quality Scope of Work," included in the EIR as Appendix H)[2] are based on an approximately 40-month construction duration and a three-phase construction

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1 Air District, *CEQA Air Quality Guidelines*, updated May 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed October 2, 2018.

2 Changes to the methodology made since the scope of work was approved include 1) the use of a newer version of AERMOD (version 18081), released after the scope of work was approved; 2) the addition of an exposure scenario for the health risk assessment to ensure the maximally exposed receptor was identified; 3) the removal of the effects of the existing generators from the existing baseline conditions; and 4) a more explicit quantitative evaluation of cumulative 2040 conditions rather than a qualitative discussion. Updated methodologies for these items are discussed in this environmental impact report section and supersede the methodologies described in the scope of work.

program, constituting maximum development on the site, with construction estimated to start in 2021 and continue through 2024 (see Section 2.5.10 in Chapter 2, *Project Description*, p. 2-34, for a detailed discussion of the construction phasing).

4.4.2 Environmental Setting

Climate and Meteorology

The project site is located within the San Francisco Bay Area Air Basin. The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms affect the region from November through April. San Francisco's proximity to onshore breezes stimulated by the Pacific Ocean provides for generally very good air quality in the city.

Annual temperatures in the project area average in the mid-50s (degrees Fahrenheit), generally ranging from the low 40s on winter mornings to the mid-70s during summer afternoons. Daily and seasonal changes in temperature are small because of the moderating effects of the nearby San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation may vary widely from year to year because a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and drought conditions.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The project area is within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor that affects the dispersal of air pollutants within the region. Wind measurements recorded on the San Francisco mainland indicate a prevailing wind direction from the west and an average annual wind speed of 10.1 miles per hour.[3] Increased temperatures create conditions in which ozone formation can increase.

Ambient Air Quality – Criteria Air Pollutants

As required by the 1970 federal Clean Air Act, the U.S. EPA initially identified six criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because it has regulated them by developing specific public-health-based and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and

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3 Western Regional Climate Center, *Prevailing Wind Direction and Average Monthly Wind Speed (2001–2011), https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg* and *https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_speed_avg.2001-2011*, accessed October 2, 2018.

lead were the six criteria air pollutants originally identified by the U.S. EPA. Since adoption of the 1970 act, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (PM_{10}) and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$).

The air district is the regional agency with jurisdiction for regulating air quality within the nine-county San Francisco Bay Area Air Basin. The region's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. Table 4.4-1, *Summary of San Francisco Air Quality Monitoring Data (2013–2017)*, presents a 5-year summary of the highest annual criteria air pollutant concentrations recorded at the air quality monitoring station operated and maintained by the air district at 16th and Arkansas streets (Potrero Hill), approximately 3 miles southeast of the project site. Table 4.4-1 also compares measured pollutant concentrations with the most stringent applicable ambient air quality standards (state and federal). These concentrations are health-based standards established with an ample margin of safety. To determine attainment of air quality standards, exceedances are assessed on a region-wide basis. Concentrations shown in boldface type indicate only a localized exceedance of the standard.

OZONE

Ozone is a secondary air pollutant that is produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as "volatile organic compounds" [VOCs] by some regulatory agencies) and oxides of nitrogen (NO_X) in the presence of sunlight. The main sources of ROG and NO_X, often referred to as "ozone precursors," are combustion processes (including combustion within motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a "regional air pollutant" because its precursors are transported and diffused by wind concurrently with ozone production through a photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema. According to published data, and as shown in Table 4.4-1, the most stringent applicable standards for ozone (state 1-hour standard of 0.09 part per million [ppm] and the federal 8-hour standard of 0.075 ppm) were not exceeded in San Francisco between 2013 and 2017. In 2015, the U.S. EPA strengthened the 8-hour ozone standard to 0.070 ppm, and the new standard became effective December 28, 2015.

TABLE 4.4-1. SUMMARY OF SAN FRANCISCO AIR QUALITY MONITORING DATA (2013–2017)

Pollutant	Most Stringent Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2013	2014	2015	2016	2017
Ozone						
Maximum 1-hour Concentration (ppm)	> 0.09[b]	0.069	0.079	0.085	0.070	0.087
Days 1-hour Standard Exceeded		0	0	0	0	0
Maximum 8-hour Concentration (ppm)	> 0.070[c]	0.059	0.069	0.067	0.057	0.054
Days 8-hour Standard Exceeded		0	0	0	0	0
Carbon Monoxide (CO)						
Maximum 1-hour Concentration (ppm)	> 20[b]	1.8	1.6	1.8	1.7	2.5
Days 1-hour Standard Exceeded		0	0	0	0	0
Maximum 8-hour Concentration (ppm)	> 9.0[b]	1.4	1.2	1.3	1.1	1.4
Days 8-hour Standard Exceeded		0	0	0	0	0
Respirable Particulate Matter (PM_{10})						
Maximum 24-hour Concentration (μg/m^3)	> 50[b]	44	36	47	29	**77**
Days 24-hour Standard Exceeded[d]		0	0	0	0	2
Fine Particulate Matter ($PM_{2.5}$)						
Maximum 24-hour Concentration (μg/m^3)	> 35[c]	**49**	33	**35**	20	**50**
Days 24-hour Standard Exceeded		2	0	0	0	7
Annual Average (μg/m^3)[d]	> 12[b, c]	10	7.7	9.6	7.5	9.7
Nitrogen Dioxide (NO_2)						
Maximum 1-hour Concentration (ppm)	> 0.100[c]	0.07	0.08	0.07	0.06	0.07
Days 1-hour Standard Exceeded		0	0	0	0	0

Source: Air District, *Bay Area Air Pollution Summary, 2013–2017*, http://www.baaqmd.gov/about-air-quality/air-quality-summaries.

Notes:

Bold values are in excess of applicable standard; ppm = parts per million; μg/m^3 = micrograms per cubic meter; > = greater than.

a. Number of days exceeded is for all days in a given year, except for PM_{10}, which has been monitored every 12 days as of January 2013.

b. State standard not to be exceeded.

c. Federal standard not to be exceeded.

d. Based on a sampling schedule of 1 out of every 12 days, for a total of approximately 30 samples per year.

CARBON MONOXIDE

CO is an odorless, colorless gas, usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in Table 4.4-1, p. 4.4-4, the more stringent state CO standards were not exceeded between 2013 and 2017. Measurements of CO indicate hourly maximums ranging between 8 and 10 percent of the more stringent state standard and maximum 8-hour CO levels that are approximately 12 to 16 percent of the allowable 8-hour standard.

PARTICULATE MATTER

Particulate matter is a class of air pollutants that consists of a complex mix of solid and liquid airborne particles from human-made and natural sources. Regulated particulate matter is measured in two size ranges: PM_{10} and $PM_{2.5}$. In the Bay Area, motor vehicles generate about one-half of the San Francisco Bay Area Air Basin's particulates through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the Air Resources Board, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children."[4] The Air Resources Board also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.[5]

Among the criteria pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. As long ago as 1999, the air district was reporting, in its *CEQA Air Quality Guidelines*, that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. $PM_{2.5}$ is of particular concern

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[4] Air Resources Board, *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution*, November 2007, p. 1.

[5] Ibid.

because epidemiological[6] studies have demonstrated that people who live near freeways, especially people who live within 500 feet of freeways or high-traffic roadways, have poorer health outcomes, including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children.[7]

As shown in Table 4.4-1, p. 4.4-4, the state 24-hour PM_{10} standard was exceeded on two monitored occasions between 2013 and 2017 in San Francisco (both in 2017 during the wildfire period in the counties to the north of San Francisco). The federal 24-hour $PM_{2.5}$ standard was exceeded on nine monitored occasions between 2013 and 2017. The federal and state annual average standards were not exceeded between 2013 and 2017. However, with the 2017 fires in the counties to the north of San Francisco, the federal 24-hour $PM_{2.5}$ standard was exceeded on up to seven days just in the first part of the month of October 2017 in certain counties. These levels of $PM_{2.5}$ in many counties have been the highest levels recorded in recent times. As a result, the Air Quality Index (AQI) in several neighboring counties reached the "very unhealthy" designation,[8] ranging from 201 to 300 (see page 4.4-10, for additional discussion of the AQI). During that period the air district issued "Spare the Air" alerts and recommended that individuals stay inside with windows closed and refrain from significant outdoor activity.

Verified monitoring data is not yet available for 2018, but similar air quality patterns due to wildfires occurred in 2018. Based on preliminary data from the air district, the 24-hour $PM_{2.5}$ standard was exceeded 16 times in the Bay Area in 2018.[9] During the November 2018 wildfire period, the Bay Area experienced unhealthy air quality for nearly two weeks.[10] Although final 2018 air quality monitoring data have not yet been released, it is likely that some of these exceedances occurred as a result of the wildfires.

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[6] Epidemiology is a branch of medical science that deals with the incidence, distribution, and control of disease in a population.

[7] San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008, p. 7.

[8] Daily air quality data were queried during the period of fire (approximately November 8 to 25, 2018) for AQI information, with particulate matter concentrations at monitoring stations from the air district's Air Quality Monitoring Data web page. Air District, *Air Quality Monitoring Data*, http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=daily&DataView=aqi&ParameterId=316, accessed April 15, 2019.

[9] Air District, *PM Box Scores*, http://www.sparetheair.org/stay-informed/particulate-matter/pm-box-scores, accessed December 31, 2018.

[10] Air District, *Air District Asks Public to Not Burn Wood Thanksgiving Day*, November 21, 2018, http://www.sparetheair.org/~/media/files/communications-and-outreach/publications/news-releases/2018/2018_096_voluntarythanksgiving_111918-pdf.pdf?la=en.

NITROGEN DIOXIDE

NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of the air on high-pollution days, especially in conjunction with high ozone levels. The current state 1-hour standard for NO_2 (0.18 ppm) is being met in San Francisco. In 2010, the U.S. EPA implemented a new 1-hour NO_2 standard (0.10 ppm), which is presented in Table 4.4-2, *State and Federal Ambient Air Quality Standards and Attainment Status for the San Francisco Bay Area Air Basin*. Currently, the Air Resources Board is recommending that the San Francisco Bay Area Air Basin be designated as an attainment area for the new standard.[11] As shown in Table 4.4-1, p. 4.4-4, this new federal standard was not exceeded at the San Francisco station between 2013 and 2017.

TABLE 4.4-2. STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SAN FRANCISCO BAY AREA AIR BASIN

		State (CAAQS[a])		Federal (NAAQS[b])	
Pollutant	**Averaging Time**	**Standard**	**Attainment Status**	**Standard**	**Attainment Status**
Ozone	1-hour	0.09 ppm	N	NA	[c]
	8-hour	0.070 ppm	N	0.070 ppm[d]	N[e]
Carbon Monoxide (CO)	1-hour	20 ppm	A	35 ppm	A
	8-hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm	A	0.100 ppm	A[f]
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	A	0.075 ppm	[g]
	24-hour	0.04 ppm	A	0.14 ppm	[g]
	Annual	NA	NA	0.03 ppm	[g]
Particulate Matter (PM_{10})	24-hour	50 $\mu g/m^3$	N	150 $\mu g/m^3$	U
	Annual[h]	20 $\mu g/m^3$	N[i]	NA	NA
Fine Particulate Matter ($PM_{2.5}$)	24-hour	NA	NA	35 $\mu g/m^3$	N
	Annual	12 $\mu g/m^3$	N[i]	12 $\mu g/m^3$	U/A
Sulfates	24-hour	25 $\mu g/m^3$	A	NA	NA
Lead	30-day	1.5 $\mu g/m^3$	A	NA	NA
	Calendar quarter	NA	NA	1.5 $\mu g/m^3$	A

11 Air Resources Board, *Recommended Area Designations for the 2010 Nitrogen Dioxide Standards, Technical Support Document*, January 2011, https://www.arb.ca.gov/desig/NO2_Enclosure_1.pdf, accessed October 2, 2018.

Pollutant	Averaging Time	State (CAAQS[a]) Standard	State (CAAQS[a]) Attainment Status	Federal (NAAQS[b]) Standard	Federal (NAAQS[b]) Attainment Status
Lead	Rolling 3-month average	NA	NA	0.15	U[j]
Hydrogen Sulfide	1-hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8-hour	[k]	U	NA	NA

Sources: Air District, *Standards and Attainment Status,* last updated January 5, 2017; U.S. EPA, *National Ambient Air Quality Standards*, last updated December 20, 2016.

Notes:

A = Attainment; N = Non-attainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; μg/m³ = micrograms per cubic meter.

a. CAAQS = California ambient air quality standards. CAAQS for ozone, CO (except Lake Tahoe), SO_2 (1-hour and 24-hour standards), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

b. NAAQS = national ambient air quality standards. NAAQS, other than ozone and particulates and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the 3-year average of the fourth-highest daily concentration is 0.07 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of the 98th percentile is less than the standard.

c. The U.S. EPA revoked the national 1-hour ozone standard on June 15, 2005.

d. This federal 8-hour ozone standard was approved by the U.S. EPA in October 2015 and became effective on December 28, 2015.

e. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. An area will meet the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over 3 years, is equal to or less than 0.070 ppm. The U.S. EPA made recommendations on attainment designations for California on October 3, 2016. After the final designations were made, San Francisco county was determined to be not in attainment.

f. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

g. On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO_2 NAAQS, however, must continue to be used until 1 year following U.S. EPA initial designations of the new 1-hour SO_2 NAAQS. The U.S. EPA classified the San Francisco Bay Area Air Basin as being in attainment/unclassifiable in January 2018 (*Federal Register* Vol. 83, No. 6, pp. 1098–1172).

h. State standard = annual geometric mean; national standard = annual arithmetic mean.

i. In June 2002, the California Air Resources Board established new annual standards for $PM_{2.5}$ and PM_{10}.

j. National lead standard, rolling 3-month average: final rule signed October 15, 2008. Final designations effective December 31, 2011.

k. Statewide standard for visibility-reducing particles (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

The U.S. EPA has also established requirements for a new monitoring network to measure NO_2 concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen new near-roadway monitoring sites are required in California, three of which are in the Bay Area. These monitors are located in Berkeley, Oakland, and San Jose. The Oakland station commenced operation in February 2014, the San José station in March 2015, and the Berkeley station in July 2016. The new monitoring data may result in a need to change area designations in the future. The Air Resources Board will revise the area designation recommendations, as appropriate, once the new monitoring data become available.

SULFUR DIOXIDE

SO_2 is a colorless, acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.[12] Pollutant trends suggest that the San Francisco Bay Area Air Basin currently meets and will continue to meet the state standard for SO_2 for the foreseeable future.

In 2010, the U.S. EPA implemented a new 1-hour SO_2 standard, which is presented in Table 4.4-2, p. 4.4-7. The U.S. EPA initially designated the air basin as an attainment area for SO_2. Similar to the new federal standard for NO_2, the U.S. EPA established requirements for a new monitoring network to measure SO_2 concentrations beginning in January 2013.[13] No additional SO_2 monitors are required for the Bay Area because the air district's jurisdiction has never been designated as a non-attainment area for SO_2, and no state implementation plans or maintenance plans have been prepared for SO_2.[14]

LEAD

Leaded gasoline (phased out from use in automobiles in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacturers of lead storage batteries have been the primary sources of lead in the atmosphere. Lead has a range of adverse neurotoxic health effects, which put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline in automobiles was eliminated.

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12 Air District, *CEQA Air Quality Guidelines,* May 2017, p. C-16, http://www.baaqmd.gov/~/media/files/-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed October 2, 2018.

13 U.S. EPA, *Fact Sheet: Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide*, June 2, 2010, https://www.epa.gov/sites/production/files/2016-05/documents/final_primary_naaqs_factsheet.pdf, accessed October 2, 2018.

14 Air District, *2013 Air Monitoring Network Plan*, July 2014, p. 27, http://www.baaqmd.gov/~/media//Technical%20Services/2013_Network_Plan.ashx?la=en, accessed October 2, 2018.

Ambient lead concentrations are monitored only on an as-warranted, site-specific basis in California. On October 15, 2008, the U.S. EPA strengthened the national ambient air quality standard for lead by lowering it from 1.50 μg/m³ to 0.15 μg/m³ on a rolling three-month average. The U.S. EPA revised the monitoring requirements for lead in December 2010.[15] These requirements focused on airports and large urban areas and increased the number of monitors nationally by 76. In the Bay Area, lead monitoring stations are located at Reid-Hillview Airport and at 158 East Jackson Street, both in San José. Another lead monitoring station, at San Carlos Airport, was discontinued as of April 11, 2017.

AIR QUALITY INDEX

The U.S. EPA developed the AQI to make the public health impacts of air pollution concentrations easily understandable. The AQI, much like an air quality "thermometer," translates daily air pollution concentrations into a number on a scale between 0 and 500, then assigns the number to one of the following six color-coded ranges that rank air quality:

- **Good (Green, AQI = 0–50):** Air quality is considered satisfactory, and air pollution poses little or no risk.
- **Moderate (Yellow, AQI = 51–100):** Air quality is acceptable; however, for some pollutants, there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution. Unusually sensitive people should consider reducing prolonged or heavy outdoor exertion.
- **Unhealthy for Sensitive Groups (Orange, AQI = 101–150):** Although the general public is not likely to be affected at this AQI range, people with lung disease, as well as older adults and children, are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, older adults, and children are at greater risk from the presence of particles in the air. Active children and adults, as well as people with respiratory disease, such as asthma, should limit prolonged or heavy outdoor exertion.
- **Unhealthy (Red, AQI = 151–200):** Everyone may begin to experience some adverse health effects, and members of the sensitive groups may experience more serious effects. Active children and adults, as well as people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.

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[15] U.S. EPA, *Fact Sheet: Revisions to Lead Ambient Air Quality Monitoring Requirements,* https://www.epa.gov/sites/production/files/2016-03/documents/leadmonitoring_finalrule_factsheet.pdf, accessed October 2, 2018.

- **Very Unhealthy (Purple, AQI = 201–300):** The rating of "very unhealthy" air quality would trigger a health alert, signifying that everyone may experience more serious health effects. Active children and adults, as well as people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.
- **Hazardous (Maroon, AQI = 301–500):** The rating of "hazardous" air quality would trigger health warnings regarding emergency conditions. The entire population is more likely to be affected. Everyone, especially children, should limit outdoor exertion.

The AQI numbers refer to specific amounts of pollution in the air. They are based on the federal air quality standards for ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the AQI chart. If the concentration of any of these pollutants rises above its respective standard, the air quality can be unhealthy for the public. In determining the air quality forecast, local air districts, including the Bay Area Air Quality Management District, use the anticipated concentration measurements for each of the major pollutants, convert them into AQI numbers, then determine the highest AQI for each zone in a district.

Readings below 100 on the AQI scale would not typically affect the health of the general public (although readings in the moderate range of 50 to 100 may affect unusually sensitive people). Levels above 300 rarely occur in the United States, and readings above 200 have not occurred in the Bay Area in decades, with the exception of the October 2017 wildfires north of San Francisco and the November 2018 wildfires in Butte County.[16] As a result of both wildfires, the AQI in San Francisco and several neighboring counties reached the "very unhealthy" designation, ranging from 201 to 300.[17] During these period, the air district issued "Spare the Air" alerts and recommended that individuals stay inside with the windows closed and refrain from any outdoor activity.

AQI statistics over recent years indicate that air quality in the Bay Area is predominantly in the "Good" or "Moderate" categories and healthy on most days for most people. AQI ozone statistics for the San Francisco Bay Area Air Basin are shown in Table 4.4-3, *Air Quality Index Statistics for the San Francisco Bay Area Air Basin for Ozone.* The air basin had a total of 13 orange-level (unhealthy for sensitive groups) days in 2013, nine days in 2014, 12 days in 2015, 11 days in 2016, and three days in 2017. In 2013, 2014, and 2016, ozone levels in the air basin were in the unhealthy range one day per year; in 2017, four days had ozone levels that were in the unhealthy range.

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16 Air District, *Spare the Air,* http://sparetheair.org/Stay-Informed/Todays-Air-Quality/Air-Quality-Index.aspx, accessed January 25, 2019.

17 Air District, *Air Monitoring Data,* http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=monthly&DataView=aqi&StartDate=11/1/2018&ParameterId=316, accessed January 25, 2019.

TABLE 4.4-3. AIR QUALITY INDEX STATISTICS FOR THE SAN FRANCISCO BAY AREA AIR BASIN FOR OZONE

	Number of Days by Year				
Air Quality Index Levels	**2013**	**2014**	**2015**	**2016**	**2017**
Unhealthy for Sensitive Groups (Orange)	13	9	12	11	3
Unhealthy (Red)	1	1	0	1	4

Source: Air District, *Air Monitoring Data*, http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=monthly&DataView=aqi&StartDate=11/1/2018&ParameterId=316, accessed January 25, 2019.

TOXIC AIR CONTAMINANTS AND LOCAL HEALTH RISKS AND HAZARDS

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but short term) adverse effects on human health, including carcinogenic effects.[18] Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs are not subject to 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 that estimates human health exposure to toxic substances and, when considered together with information regarding the toxic potency of the substances, provides quantitative estimates of health risks.[19]

Exposures to fine particulate matter ($PM_{2.5}$) are strongly associated with mortality, respiratory diseases, and impaired lung development in children as well as other end results, such as hospitalization for cardiopulmonary disease.[20] In addition to $PM_{2.5}$, diesel particulate matter (DPM), a byproduct of diesel fuel combustion, is also of concern. The Air Resources Board

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18 "Carcinogenic" indicates that scientific studies have shown that exposure to a substance or mixture of substances at certain levels for some period of time has the potential to promote the formation of cancer.

19 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 as well as maximum short-term effects, estimating the increased risk of cancer or hazard index as a result of exposure to one or more TACs.

20 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.

identified DPM as a TAC in 1998, based primarily on evidence demonstrating cancer effects in humans.[21] The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

San Francisco Modeling of Air Pollution Exposure Zones

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with the air district to inventory and assess air pollution and exposures from vehicles, stationary sources, and area sources within San Francisco. Citywide air quality dispersion modeling was conducted using AERMOD[22] to assess emissions from the following primary sources: vehicles on local roadways, permitted stationary sources, port and maritime sources, and Caltrain. Emissions of PM_{10} (DPM is assumed equivalent to PM_{10}), $PM_{2.5}$, and total organic gases (TOGs) were modeled on a 20- by 20-meter receptor grid covering the entire city. The citywide modeling results represent a comprehensive assessment of existing cumulative exposures to air pollution throughout the city. The methodology and technical documentation for modeling citywide air pollution is available in *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*.[23]

Model results were used to identify areas in the city with poor air quality, termed Air Pollutant Exposure Zones (APEZs), based on the following health-protective criteria: (1) cumulative $PM_{2.5}$ concentrations greater than 10 $\mu g/m^3$ and/or (2) an excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per 1 million persons exposed.

An additional health vulnerability layer was incorporated in the APEZ for those San Francisco ZIP codes in the worst quintile of Bay Area health vulnerability scores (ZIP codes 94102, 94103, 94105, 94124, and 94130). In these areas, the standard for identifying areas within the zone were lowered to (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 90 per 1 million persons exposed and/or (2) cumulative $PM_{2.5}$ concentrations greater than 9 $\mu g/m^3$.

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21 Air Resources Board, *Fact Sheet: The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines,* October 1998.

22 AERMOD is U.S. EPA's preferred or recommended steady-state air dispersion plume model. Dispersion modeling uses mathematical formulations to characterize the atmospheric processes that disperse a pollutant emitted by a source. Based on emissions and meteorological inputs, a dispersion model can be used to predict concentrations at selected downwind receptor locations. These air quality models are used to determine compliance with National Ambient Air Quality Standards and other regulatory requirements, such as the New Source Review regulation. For more information on AERMOD, and to download the AERMOD Implementation Guide, see https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models, accessed October 2, 2018.

23 Air District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation,* December 2012, http://www.gsweventcenter.com/Appeal_Response_References/2012_1201_BAAQMD.pdf, accessed October 2, 2018.

Lastly, all parcels within 500 feet of a major freeway were also included in the APEZ, consistent with findings in the Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which suggests air pollutant levels decrease substantially at approximately 500 feet from a freeway.[24]

The project site is not located within an area that meets the APEZ criteria. Background cancer risk values on the project site are between 9.9 and 82 in 1 million, with background values ranging from 0.95 to 86 in 1 million within 1,000 meters of the site.[25] Background $PM_{2.5}$ concentrations range from 8.2 to 8.8 $\mu g/m^3$ on the project site, with background values varying between 8.1 and 9.5 $\mu g/m^3$ within 1,000 meters of the site. The nearest offsite receptors within an APEZ are located approximately 750 meters (2,460 feet) to the northwest. Permitted stationary sources of emissions within or near the 1,000-foot zone of influence[26] of the project site contributing to these risk and $PM_{2.5}$ concentrations include a gas station at the northeast corner of California Street and Arguello Boulevard and the project site itself (i.e., California Pacific Medical Center's (CPMC's) California Campus at 3700 California Street). Vehicle emissions along the following major roadways also contribute to these risk and $PM_{2.5}$ concentrations: California Street, Sacramento Street, Spruce Street, and Arguello Boulevard.[27,28] There are no other sources of mobile activity or otherwise "non-permitted" sources (e.g., rail yards, trucking distribution facilities, and high-volume fueling stations) within 1,000 feet of the project site.

FINE PARTICULATE MATTER

In April 2011, the U.S. EPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*. In this document, the U.S. EPA concludes that the then-current federal annual $PM_{2.5}$ standard of 15 $\mu g/m^3$ should be revised to a level within the range of 13 to 11 $\mu g/m^3$, with evidence strongly supporting a standard within the range of 12 to 11 $\mu g/m^3$. APEZs for San Francisco are based on the health-protective $PM_{2.5}$ standard of

[24] Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, http://www.arb.ca.gov/ch/handbook.pdf, accessed October 2, 2018.

[25] San Francisco Department of Public Health, article 38 of the San Francisco Health Code, https://www.sfdph.org/dph/eh/Air/Article38.asp, accessed October 2, 2018.

[26] For assessing community risks and hazards, an area of influence (i.e., a 1,000-foot radius) buffer around the project site boundary is recommended. The air district recommends that any proposed project that includes the siting of a new source or receptor assess associated impacts within 1,000 feet, taking into account both individual and nearby cumulative sources.

[27] *Memorandum #2: Preliminary Impact Analysis Memo for 3700 California*, Case No. 2017-003559ENV, August 28, 2018.

[28] Air District, *Recommended Methods for Screening and Modeling Local Risks and* Hazards, May 2011, p. 12. According to the air district, roads with fewer than 10,000 vehicles per day do not pose a significant health impact, even in combination with other nearby sources. Thus, only arterial roadways with more than 10,000 vehicles per day were included in this analysis.

11 μg/m^3, as supported by the U.S. 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.

EXCESS CANCER RISK

The 100-per-1-million-persons-exposed (100 excess cancer risk) criterion discussed in *San Francisco Modeling of Air Pollution Exposure Zones*, p. 4.4-13, is based on U.S. EPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[29] As described by the air district, the U.S. EPA considers a cancer risk of 100 per 1 million or less to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants rulemaking, [30] the U.S. EPA states that it "…strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100-per-1-million-excess-cancer-cases criterion is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area, based on the air district's regional modeling.[31]

In addition to monitoring criteria pollutants, both the air district and the Air Resources Board operate TAC monitoring networks in the San Francisco Bay Area Air Basin. These stations measure 10 to 15 TACs, depending on the station. The TACs selected for monitoring are those that traditionally have been found in the highest concentrations in ambient air and therefore can produce significant risk. The air district's ambient TAC monitoring station nearest to the project area is at 10 Arkansas Street, approximately 3 miles southeast of the project site. The ambient concentrations of carcinogenic TACs measured at the Arkansas Street station are presented in Table 4.4-4, *2017 Annual Average Ambient Concentrations of Carcinogenic Toxic Air Contaminants*. The estimated cancer risk from a lifetime exposure (70 years) to these substances is also shown in Table 4.4-4.

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29 Air District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance,* December 2009, p. 67, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en, accessed October 2, 2018.

30 54 *Federal Register* 38044, September 14, 1989.

31 Air District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance,* December 2009, p. 67, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en, accessed October 2, 2018.

TABLE 4.4-4. 2017 ANNUAL AVERAGE AMBIENT CONCENTRATIONS OF CARCINOGENIC TOXIC AIR CONTAMINANTS

Substance		
Gaseous TACs (ppb)	**Concentration[a]**	**Cancer Risk per Million[b]**
Acetaldehyde	0.69	10
Benzene	0.216	56
1,3-butadiene	0.036	39
Carbon tetrachloride	*	*
Chloroform	0.028	2
Para-dichlorobenzene	*	*
cis-1,3-dichloropropene	0.05	10
trans-1,3-dichloropropene	0.05	10
Ethyl benzene	0.11	3
Ethylene dibromide	*	*
Ethylene dichloride	*	*
Formaldehyde	1.64	35
Methyl tertiary-butyl ether (MTBE)	*	*
Methylene chloride	0.114	1
Perchloroethylene	0.009	1
Trichloroethylene	0.010	0.3
Polycyclic Aromatic Hydrocarbons (ng/m^3)		
Benzo(a)pyrene	*	*
Benzo(b)fluoranthene	*	*
Benzo(k)fluoranthene	*	*
Dibenz(a,h)anthracene	*	*
Indeno(1,2,3-cd)pyrene	*	*
Particulate TACs (ng/m^3)		
Arsenic	0.92	9
Beryllium	0.150	1
Cadmium	0.70	9
Chromium (hexavalent)	*	*
Lead	*	*
Nickel	3.2	2
Total Risk for All TACs		188

Source: California Air Resources Board, *Annual Toxics Summaries by Monitoring Site*, 2017.

Notes:

TACs = toxic air contaminants; ppb = part per billion; ng/m^3 = nanograms per cubic meter; *= indicates that insufficient or no data were available to determine the value.

a. Measured at air district monitoring station at 10 Arkansas Street in San Francisco.

b. The potential cancer risk estimates reflect the risk assessment methodology finalized by the Office of Environmental Health Hazard Assessment on March 6, 2015. Information on the agency's new risk assessment methodology can be found at http://www.oehha.ca.gov/air/hot_spots/hotspots2015.html.

When TAC measurements at this station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the San Francisco station does not appear to be any greater than that for the Bay Area as a region.

ROADWAY-RELATED POLLUTANTS

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases, and vehicles also contribute to particulates by generating road dust through tire wear. Epidemiological studies have demonstrated that people living close to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections, and decreased pulmonary function and lung development in children. Air pollution monitoring conducted in conjunction with epidemiological studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and NO_2. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and strongest within 300 feet.[32] As a result, the Air Resources Board recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day.

DIESEL PARTICULATE MATTER

As stated on p. 4.4-12, the Air Resources Board identified DPM as a TAC in 1998, based primarily on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The Air Resources Board estimated that, as of 2000, the average Bay Area cancer risk from exposure to DPM, based on a population-weighted average ambient DPM concentration, is approximately 480 in 1 million, which is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The statewide risk from DPM, as determined by the Air Resources Board, declined from 750 in 1 million in 1990 to 570 in 1 million in 1995; by 2000, the Air Resources Board estimated the average statewide cancer risk from DPM at 540 in 1 million.[33,34]

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32 Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, https://www.arb.ca.gov/ch/handbook.pdf, accessed October 2, 2018.

33 Air Resources Board, *California Almanac of Emissions and Air Quality – 2009 Edition*, Table 5-44 and Figure 5-12, http://www.arb.ca.gov/aqd/almanac/almanac09/chap509.htm, accessed October 2, 2018.

34 This calculated cancer risk value from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States from all causes, which for men is more than 40 percent (based on a sampling of 17 regions nationwide), or more than 400,000 in 1 million, according to the American Cancer Society. American Cancer Society, *Lifetime Risk of Developing or Dying from Cancer,* last revised March 23, 2016, http://www.cancer.org/cancer/cancerbasics/lifetime-probability-of-developing-or-dying-from-cancer, accessed October 2, 2018.

In 2000, the Air Resources Board approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent regulations approved by the Air Resources Board apply to new trucks and diesel fuel. With new controls and fuel requirements, a medium heavy-duty or heavy heavy-duty truck built in 2010 or later would have particulate exhaust emissions that are more than 50 times lower than a medium heavy-duty or heavy heavy-duty truck built before 1990.[35] The regulations are anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Despite notable emission reductions, the Air Resources Board recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The Air Resources Board notes that these recommendations are advisory and should not be interpreted as defined "buffer zones" and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. The position of the Air Resources Board is that, with careful evaluation of exposure and health risks, as well as affirmative steps to reduce risks where necessary, infill, mixed-use, higher-density, and transit-oriented development, as well as other concepts that benefit regional air quality, can be compatible with protecting the health of individuals at the neighborhood level.[36]

SENSITIVE RECEPTORS

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. The population subgroups that are sensitive to the health effects of air pollutants include the elderly and the young; those with higher rates of respiratory disease, such as asthma and chronic obstructive pulmonary disease; and those with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. The air district defines sensitive receptors as children, adults, and seniors who occupy or reside in residential dwellings, schools, daycare centers, hospitals, or senior-care facilities. Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupational Safety and Health Administration to ensure the health and well-being of their employees.[37]

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[35] Pollution Engineering, *New Clean Diesel Fuel Rules Start*, July 2006; Air Resources Board, *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects for Evaluating Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement Projects*, Table 5-A, https://www.arb.ca.gov/planning/tsaq/eval/evalTables.pdf, accessed October 2, 2018.

[36] Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, http://www.arb.ca.gov/ch/handbook.pdf, accessed October 2, 2018.

[37] Air District, *Recommended* Methods for Screening and Modeling Local Risks and Hazards, May 2011, p. 12.

Existing receptors evaluated in this analysis include a representative sample of known residents (children and adults) in the surrounding neighborhood and other sensitive receptors (school children, nursing home patients, etc.) located in the surrounding community and along the expected travel routes of the on-road delivery and haul trucks. The project is adjacent to residential receptors in all directions. In addition to the residential receptors, other sensitive receptors were identified within 1,000 meters of the project site. The closest non-residential sensitive receptors include the Claire Lilienthal Elementary School Presidio Hill School, Temple Emanuel Preschool, Montessori Children's House of the West Coast, JCCSF Louise and Claude Rosenberg Early Childhood Center, San Francisco Boys and Girls Home at the Euclid House, and the Laurel Hill Nursery School. Additionally, there are medical offices in the commercial zones on California Street located close to the project site. Medical office buildings are not considered to be sensitive receptors because the duration of time that visitors to these facilities spend onsite is typically limited to a few hours. The citywide modeling effort, discussed under *San Francisco Modeling of Air Pollution Exposure Zones*, p. 4.4-13, evaluated all sensitive receptors as residential receptors because they have longer exposure durations and are therefore expected to have greater health impacts. The locations of sensitive receptors surrounding the project site are presented in Figure 4.3-2, *Sensitive Receptor Locations in the Immediate Vicinity of Project Site*, in Section 4.3, *Noise*.

4.4.3 REGULATORY FRAMEWORK

FEDERAL REGULATIONS

FEDERAL CLEAN AIR ACT

The 1970 Clean Air Act (last amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants are planned to be controlled in order to achieve all standards by the deadlines specified in the act. These ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an ample margin of safety) to which the public can be exposed without adverse health effects. They are designed in consideration of those segments of the public that are most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people who are weak from other illness or disease, and persons who engage in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards without observing adverse health effects.

The current attainment status for the San Francisco Bay Area Air Basin, with respect to federal standards, is summarized in Table 4.4-2, p. 4.4-7. In general, the air basin experiences low concentrations of most pollutants compared to federal standards, except for particulate matter (PM_{10} and $PM_{2.5}$), for which standards are exceeded periodically (see Table 4.4-1, p. 4.4-4).

Emission Standards for New Off-Road Equipment

Before 1994, there were no standards to limit the amount of emissions from off-road equipment, which includes construction equipment. In 1994, the U.S. EPA established emission standards for hydrocarbons, NO_X, CO, and particulate matter to regulate new pieces of off-road equipment. These emission standards came to be known as Tier 1. Since that time, increasingly more stringent Tier 2, Tier 3, and Tier 4 (interim and final) standards were adopted by the U.S. EPA as well as the Air Resources Board. Each adopted emission standard was phased in over time. New engines built in or after 2015 across all horsepower sizes must meet Tier 4 final emission standards. In other words, new engines cannot exceed the emissions established for Tier 4 final emissions standards.

State Regulations

California Clean Air Act

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and include other pollution sources. California established its own air quality standards when the federal standards were established. Because of the unique meteorological problems in California, there is considerable diversity between the state and national ambient air quality standards, as shown in Table 4.4-2, p. 4.4-7. California ambient standards are as protective as national ambient standards and often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code section 39600 et seq.), which, like its federal counterpart, required the designation of areas as attainment or non-attainment areas, but based these designations on state ambient air quality standards rather than the federal standards. As indicated in Table 4.4-2, p. 4.4-7, the San Francisco Bay Area Air Basin is designated "non-attainment" for state ozone, PM_{10}, and $PM_{2.5}$ standards and "attainment" or "unclassified" for other pollutants.

Toxic Air Contaminants

In 2005, the Air Resources Board approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations limit the idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area to five consecutive minutes or aggregate periods of five minutes in any one hour. Buses or vehicles also must turn off their engines upon stopping at a school and must not turn their engines on more than 30 seconds before beginning to depart from a school. Also, in accordance with Senate Bill 352, adopted in 2003, public schools cannot be located within 500 feet of a freeway or busy traffic corridor (Education Code section 17213; Public Resources Code section 21151.8).

TANNER AIR TOXICS ACT AND AIR TOXICS HOT SPOTS INFORMATION AND ASSESSMENT ACT

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 2588), also known as the Hot Spots Act. To date, the Air Resources Board has identified more than 21 TACs and adopted the U.S. EPA's list of hazardous air pollutants as TACs.

CALIFORNIA AIR RESOURCES BOARD'S IN-USE OFF-ROAD DIESEL-FUELED FLEETS REGULATION

In 2007, the Air Resources Board adopted a regulation to reduce DPM and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California.[38] The regulation imposes limits on vehicle idling and requires fleets to reduce emissions by retiring, replacing, repowering, or installing exhaust retrofits on older engines. In December 2010, major amendments were made to the regulation, including a delay of the compliance date for the first performance standards to no earlier than January 1, 2014.

REGIONAL REGULATIONS AND PLANS

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

The Bay Area Air Quality Management District is the regional agency with jurisdiction over the nine-county region located in the San Francisco Bay Area Air Basin. The Association of Bay Area Governments, Metropolitan Transportation Commission, county transportation agencies, cities and counties, and various non-governmental organizations also participate in efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies as well as implementation of extensive education and public outreach programs.

The air district is responsible for maintaining air quality in the region. Specifically, the air district is responsible for monitoring ambient air pollutant levels and developing and implementing strategies to attain the applicable federal and state standards. However, the air district does not have authority to regulate emissions from motor vehicles.

Specific rules and regulations adopted by the air district limit emissions generated by various stationary sources and identify specific pollution reduction measures that must be implemented in association with various activities. These rules regulate not only emissions of the six criteria air pollutants but also TACs through the air district's permitting process and standards of operation. Through this permitting process, including an annual permit review, the air district monitors the generation of stationary emissions and uses this information to develop its air quality plans. Any sources of stationary emissions constructed as part of the

[38] California Code of Regulations, Title 13, sections 2449, 2449.1, 2449.2, and 2449.3.

proposed project would be subject to air district rules and regulations. Both federal and state ozone plans rely heavily on stationary-source control measures set forth in the air district's rules and regulations.

2017 Bay Area Clean Air Plan

The air district adopted the *2017 Bay Area Clean Air Plan*, Spare the Air, Cool the Climate, on April 19, 2017, to provide a regional strategy to improve Bay Area air quality and meet public health goals.[39] The control strategy described in the 2017 Bay Area Clean Air Plan includes a wide range of control measures to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and reducing GHG emissions to protect the climate.

The 2017 Bay Area Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, ROG and NO_X; particulate matter, primarily $PM_{2.5}$ and precursors to secondary $PM_{2.5}$; air toxics; and GHGs. The control measures are categorized according to an economic sector framework that includes stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, and water measures.

Particulate Matter Plan

To fulfill federal air quality planning requirements, the air district adopted a $PM_{2.5}$ emissions inventory for 2010, which was presented at a public hearing on November 7, 2012. The 2017 Bay Area Clean Air Plan also included several measures for reducing particulate matter emissions from stationary sources and wood burning. On January 9, 2013, the U.S. EPA issued a final rule, determining that the Bay Area had attained the 24-hour $PM_{2.5}$ national ambient air quality standard and thereby suspended federal State Implementation Plan requirements for the San Francisco Bay Area Air Basin.[40] Despite this U.S. EPA action, the air basin will continue to be designated as a non-attainment area for the national 24-hour $PM_{2.5}$ standard until the air district submits a redesignation request and a maintenance plan to the U.S. EPA and the U.S. EPA approves the proposed redesignation.

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39 Air District, *2017 Bay Area Clean Air Plan: Spare the Air, Cool the Climate. A Blueprint for Clean Air and Climate Protection in the Bay Area*, 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 October 2, 2018.

40 U.S. EPA, *Determination of Attainment for the San Francisco Bay Area Nonattainment Area for the 2006 Fine Particle Standard, California, Determination Regarding Applicability of Clean Air Act Requirements,* January 9, 2013, https://www.federalregister.gov/documents/2013/01/09/2013-00170/determination-of-attainment-for-the-san-francisco-bay-area-nonattainment-area-for-the-2006-fine, accessed October 2, 2018.

2001 Ozone Attainment Plan

The air district adopted the *Bay Area Ozone Attainment Plan* in 2001 in response to the U.S. EPA's finding that the Bay Area had failed to attain the national ambient air quality standard for ozone. The plan includes a control strategy for ozone and its precursors to ensure a reduction in emissions from stationary sources, mobile sources, and the transportation sector.[41]

Regulation 2, Rule 5

The air district regulates back-up emergency generators, fire pumps, and other sources of TACs through its New Source Review (Regulation 2, Rule 2)[42] and New Source Review for Air Toxics (Regulation 2, Rule 5[43]) permitting process. Although emergency generators are intended to be used only during periods of power outages, monthly testing of each generator is required; however, the air district limits testing to no more than 50 hours per year. Each emergency generator is assumed to meet a minimum of Tier 2 emission standards (before control measures). As part of the permitting process, the air district requires implementation of best available control technology for toxics and denies permission to construct or operate any new or modified source of TACs that exceeds a cancer risk of 10 in 1 million or a chronic or acute hazard index of 1.0.

Association of Bay Area Governments and Metropolitan Transportation Commission Plan Bay Area

On July 18, 2013, the Metropolitan Transportation Commission and the Association of Bay Area Governments approved *Plan Bay Area,* which includes integrated land use and transportation strategies for the region. Plan Bay Area was developed through OneBayArea, a joint initiative between the Association of Bay Area Governments, the air district, the Metropolitan Transportation Commission, and the San Francisco Bay Conservation and Development Commission. The plan's transportation policies focus on maintaining the extensive transportation network and using the system more efficiently to handle the density in Bay Area transportation cores.[44] Assumptions for land use development are from local and regional

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41 Air District, *Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard*, adopted October 24, 2001, http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2001-ozone-attainment-plan/oap_2001.pdf, accessed October 2, 2018.

42 Air District, *Regulation 2, Permits, Rule 2, New Source Review*, adopted December 6, 2017, http://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-2-new-source-review/documents/rg0202.pdf?la=en, accessed October 2, 2018.

43 Air District, *Regulation 2, Permits, Rule 5, New Source Review of Toxic Air Contaminants*, adopted December 2016, http://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-rule-5-new-source-review-of-toxic-air-contaminants/documents/rg0205_120716-pdf.pdf?la=en, accessed October 2, 2018.

44 Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area, 2013–2040*, adopted July 18, 2013, https://mtc.ca.gov/our-work/plans-projects/plan-bay-area-2040/plan-bay-area, accessed October 2, 2018.

planning documents. Emission forecasts in the 2017 Bay Area Clean Air Plan rely on projections regarding vehicle miles traveled, population, employment, and land use made by local jurisdictions during development of Plan Bay Area.

In July 2017, the Metropolitan Transportation Commission and the Association of Bay Area Governments adopted an update to the 2013 plan: *Plan Bay Area 2040*. The updated plan addresses housing and economic issues and provides strategies concerning the area's transportation and land use goals. The plan's land use and transportation strategies achieve two mandated requirements for reductions in per-capita CO_2 emissions from passenger vehicles and adequate housing for the Bay Area's expected population growth through 2040.[45]

LOCAL REGULATIONS AND PLANS

SAN FRANCISCO GENERAL PLAN AIR QUALITY ELEMENT

The *San Francisco General Plan* includes the 1997 air quality element.[46] The objectives specified by the city include the following:

Objective 1: Adhere to state and federal air quality standards and regional programs.

Objective 2: Reduce mobile sources of air pollution through implementation of the transportation element of the general plan.

Objective 3: Decrease the air quality impacts of development by coordination of land use and transportation decisions.

Objective 4: Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.

Objective 5: Minimize particulate matter emissions from road and construction sites.

Objective 6: Link the positive effects of energy conservation and waste management to emission reductions.

SAN FRANCISCO CONSTRUCTION DUST CONTROL ORDINANCE

In 2008, the city adopted San Francisco Health Code article 22B and San Francisco Building Code section 106.A.3.2.6, which collectively constitute the Construction Dust Control Ordinance.[47] The ordinance requires all site preparation work, demolition, or other

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45 Association of Bay Area Governments and Metropolitan Transportation Commission, *Plan Bay Area 2040: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area, 2017–2040*, adopted July 26, 2017, http://2040.planbayarea.org/reports and http://2040.planbayarea.org/cdn/farfuture/u_7TKELkH2s3AAiOhCyh9Q9QlWEZIdYcJzi2QDCZuIs/1510696833/sites/default/files/2017-11/Final_Plan_Bay_Area_2040.pdf, accessed October 2, 2018.

46 San Francisco Planning Department, *San Francisco General Plan*, air quality element, July 1997, updated in 2000.

47 Ordinance 176-08, effective July 30, 2008, https://www.sfdph.org/dph/EH/Air/Dust.asp, accessed February 21, 2019.

construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards or 500 square feet of soil to comply with specified dust control measures whether or not the activity requires a permit from the Department of Building Inspection. For projects affecting more than 0.5 acre, the Construction Dust Control Ordinance requires that the project sponsor submit a dust control plan for approval by the San Francisco Department of Public Health prior to issuance of a building permit by the Department of Building Inspection.

Building permits will not be issued without written notification from the Director of Public Health stating that the applicant has a site-specific dust control plan, unless the director waives the requirement. The Construction Dust Control Ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site or implement other practices that result in equivalent dust control that are acceptable to the Director of Public Health.

Dust suppression activities may include watering all active construction areas to prevent dust from becoming airborne; increased watering may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by article 21, section 1100 et seq., of the San Francisco Public Works Code.

The project site is approximately 4.9 acres; therefore, the project sponsor would be required to prepare a dust control plan for approval by the San Francisco Department of Public Health.

San Francisco Health Code Provisions for Urban Infill Development (Article 38)

San Francisco adopted article 38 of the Health Code in 2008, with revisions that took effect in December 2014. The revised code requires sensitive land use developments within mapped APEZs to incorporate Minimum Efficiency Reporting Value 13 (MERV-13) or equivalent ventilation systems to remove particulates from outdoor air.[48] This regulation also applies to conversion of uses to a sensitive use (such as a residential use, a senior care facility, or a daycare center). Article 38 is not applicable to the proposed project because the project site is not located within a mapped APEZ, according to the San Francisco Department of Public Health.[49]

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[48] The MERV rating is a measurement scale designed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers to rate the effectiveness of air filters. The scale is designed to represent the worst-case performance of a filter when dealing with particles in the range of 0.3 to 10 micrometers. The MERV rating system ranges from 1 to 16, with higher MERV ratings correspond to a greater percentage of particles captured on each pass.

[49] San Francisco Department of Public Health, *Air Pollution Exposure Zone Maps*, https://www.sfdph.org/dph/files/EHSdocs/AirQuality/AirPollutantExposureZoneMap.pdf, accessed October 2, 2018.

4.4.4 Impacts and Mitigation Measures

This section describes the impact analysis related to air quality for the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact.

Significance Thresholds

The thresholds for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the State CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable thresholds were used to determine whether implementing the proposed project would result in a significant air quality impact:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in non-attainment status under an applicable federal, state, or regional ambient air quality standard; or
- Expose sensitive receptors to substantial pollutant concentrations.

Project Features

The project would be a residential development within in the Presidio Heights neighborhood. Figure 2-1, *Project Site Location*, p. 2-3, in Chapter 2, *Project Description*, shows the location of the proposed project within the neighborhood and the city; Figure 4.4-1, *Project Boundary and Modeling Extent*, shows the extent of the area studied for localized air quality impacts. As discussed on p. 4.4-13, the project site is not within an APEZ, which is an area designated by the San Francisco Department of Public Health as having poor air quality.[50]

The proposed project would replace seven buildings, consisting of 622,000 square feet of hospital/medical office space for CPMC and 105,000 square feet of parking, with approximately 618,200 square feet of residential and residential amenity space, including the renovated building at 401 Cherry Street; approximately 86,200 square feet of open space; and approximately 234,531 square feet of underground parking. Table 2-1, *Existing Land Uses at the Project Site*, p. 2-7, in Chapter 2, *Project Description*, provides a detailed overview of the

[50] San Francisco Department of Public Health and San Francisco Planning Department, *Air Pollutant Exposure Zone Map – Citywide*, April 10, 2014, https://www.sfdph.org/dph/files/EHSdocs/AirQuality/AirPollutantExposureZoneMap.pdf, accessed October 2, 2018.

3700 California Street
Case No. 2017-003559ENV

Figure 4.4-1
Project Boundary and Modeling Extent

individual buildings currently on the project site. The CPMC hospital building at 3700 California Street includes two diesel emergency generators within the loading and service lot on the west side of Maple Street, within Block B; a third diesel emergency generator is located in the loading and service lot on the east side of Maple Street, within Block C. All three generators would be removed from the project site as part of demolition.

The air quality analysis assumes that the residential buildings constructed in each phase of the construction program (i.e., Blocks A, B, and C) would be occupied as subsequent phases of the construction program commence; future residents would therefore be considered onsite sensitive receptors. The locations of sensitive receptors surrounding the project site are presented in Figure 4.3-2, *Sensitive Receptor Locations in the Immediate Vicinity of Project Site,* in Section 4.3, *Noise*. As shown therein, the project is surrounded by both residential and non-residential sensitive receptors. This analysis assumes that all sensitive receptors are residents because residents have longer exposure durations and generally result in worst-case health outcomes.

The existing hospital will move to a new location prior to the start of construction (refer to Section 4.1.7 in Chapter 4, *Environmental Setting and Impacts*, for further discussion).[51] The construction phasing program would include three overlapping phases, with the first phase (Block C) commencing in 2021. Construction is expected to last approximately 40 months. Figure 4.4-2, *Summary of Phasing for Project Construction and Operation*, summarizes the anticipated phasing of project construction and operation.

The Block C phase, including renovation of the Marshal Hale building and demolition of the medical complex parking garage, is anticipated to last 29 months. Subsequent to demolition, Block C would include construction of 83 residential units, amenity space, 126 parking spaces, and portions of the common open space. The Block B phase would last approximately 35 months and overlap the Block C phase for approximately 27 months. Demolition on Block B would include, but not be limited to, the hospital. Block B would include construction of approximately 147 residential units, 223 parking spaces, and portions of the common open space. All existing emergency generators would be removed during this phase of the construction program. The Block A phase, including demolition of medical office buildings and a parking garage, is anticipated to last 23 months. Block A construction would overlap with Block C construction for 12 months and Block B construction for 20 months. Block A would include construction of 43 residential units (with 9 existing units), 67 parking spaces, and portions of the common open space.

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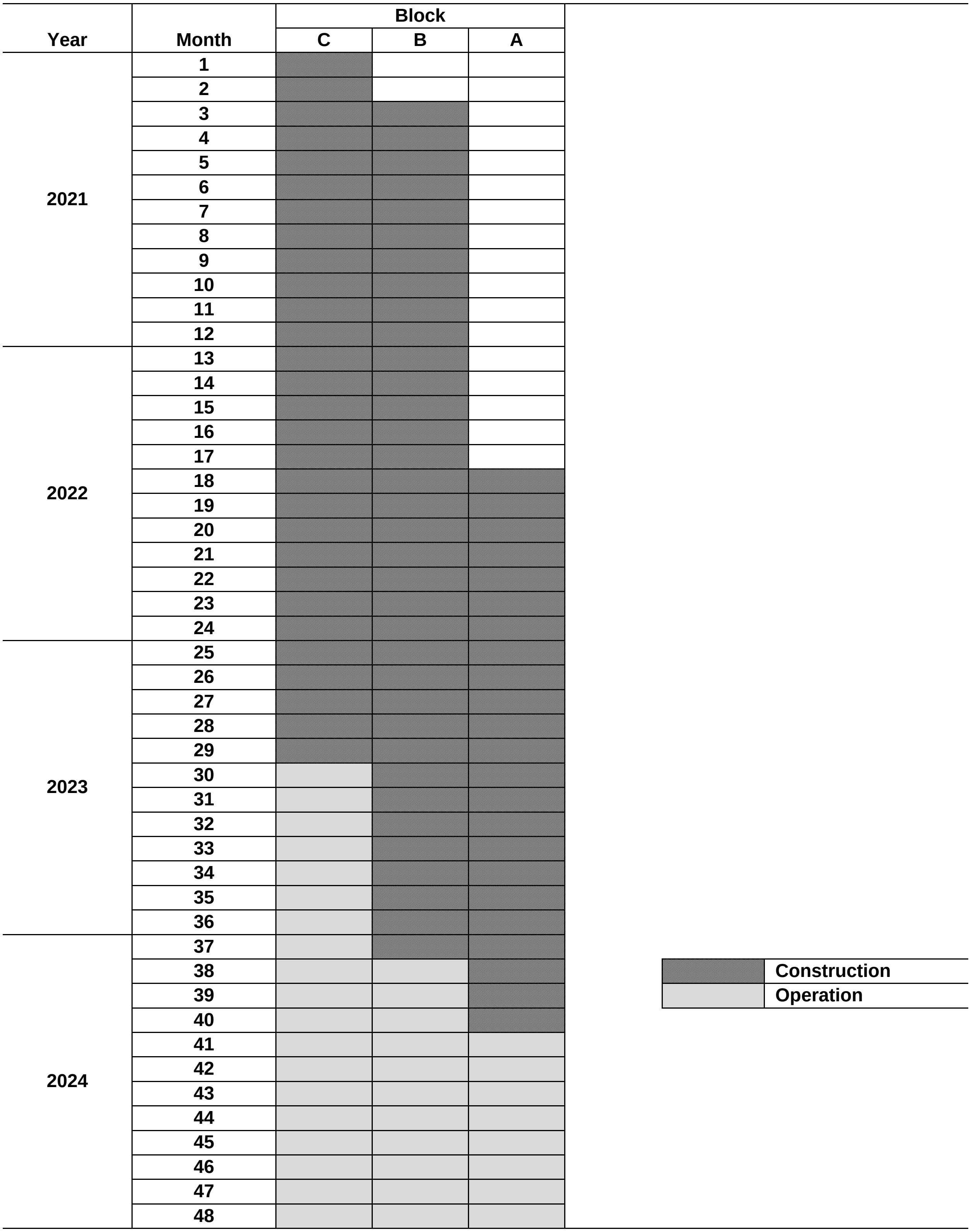
51 Sutter Health, *CPMC 2020 Construction Schedule*, http://www.cpmc2020.org/vn/timeline, accessed December 31, 2018.

FIGURE 4.4-2. SUMMARY OF PHASING FOR PROJECT CONSTRUCTION AND OPERATION



Block C would contain residents for eight months while the adjacent Block B is still under construction and for 11 months while the farther away Block A is under construction. Block B would contain residents for three months while the adjacent Block A is still under construction.

APPROACH TO ANALYSIS

In general, a project could result in two types of potential air quality impacts: impacts from construction activities and impacts from project operations due to increased vehicle travel and new stationary sources (e.g., one or more emergency diesel generators). During the proposed project's approximately 40-month construction period, operation of earlier phases of the project's three-phase construction program would overlap with construction of the later phases.

Direct impacts are separated into impacts from criteria air pollutant emissions, which are generally regional in nature, and impacts associated with exposure to $PM_{2.5}$ and TACs, which are localized health impacts and expressed in terms of exposure to $PM_{2.5}$ concentrations and the probability of contracting cancer per 1 million persons exposed to TAC concentrations. The assessment of criteria air pollutant impacts address the second bulleted significance threshold identified above. The assessment of exposure to $PM_{2.5}$ concentrations and excess cancer risk address the third bulleted significance threshold identified above.

The air quality analysis conducted for this project uses emission factors, models, and tools distributed by a variety of agencies, including the Air Resources Board, the California Air Pollution Officers Association, the California Office of Environmental Health Hazard Assessment (OEHHA),[52] and the U.S. EPA. In addition, the analysis includes methodologies identified in the air district's *CEQA Air Quality Guidelines*.[53]

AIR QUALITY PLAN

The applicable air quality plan is the air district's 2017 Bay Area Clean Air Plan. Consistency with the 2017 Bay Area Clean Air Plan can be determined if the project would support the goals of the plan, would include applicable control measures from the plan, and would not disrupt or hinder implementation of any control measures from the plan. Consistency with the 2017 Bay Area Clean Air Plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan, the first bulleted significance criterion on p. 4.4-26.

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52 CalEPA. 2015. *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, Office of Environmental Health Hazard Assessment, February, http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

53 Air District, *CEQA Air Quality Guidelines,* May 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed October 2, 2018.

CRITERIA AIR POLLUTANTS

As described above under *Regulatory Framework*, p. 4.4-19, the San Francisco Bay Area Air Basin experiences low concentrations of most pollutants with respect to federal and state standards and is designated as either in attainment or unclassified for most criteria pollutants, with the exception of ozone, $PM_{2.5}$, and PM_{10}, which are designated as non-attainment for the state and federal standards.

By definition, regional air pollution is largely a cumulative impact in that no single project is large enough by itself to result in non-attainment of air quality standards. Instead, a project's individual emissions are considered contributors to existing cumulative air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's impact on air quality would be considered significant.[54]

Table 4.4-5, *Criteria Air Pollutant Thresholds*, identifies quantitative criteria air pollutant significance thresholds. The table is followed by a discussion of each threshold. Projects that would result in criteria pollutant emissions that would be below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the air basin. Both of these thresholds (average daily and maximum annual) apply to operational emissions from a given project. Construction emissions are assessed solely with respect to the average daily thresholds, pursuant to the air district's guidance, because of the generally temporary nature of construction-related emissions.[55]

TABLE 4.4-5. CRITERIA AIR POLLUTANT THRESHOLDS

Pollutant	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	10
NO_X	54	10
PM_{10}	82	15
$PM_{2.5}$	54	10
Fugitive Dust	Construction dust ordinance or other best management practices to control fugitive dust emissions	

Source: Air District, *CEQA Air Quality Guidelines*, May 2017.

54 Ibid.

55 Ibid, p. 8-2.

The thresholds of significance for criteria air pollutants are based on substantial evidence, as presented in Appendix D of the air district's 2017 *CEQA Air Quality Guidelines* and 2009 *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*.[56]

The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants that may contribute to an existing or projected air quality violation is based on the emissions limits for stationary sources set by the federal and California Clean Air Acts. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, the air district's Regulation 2, Rule 2, requires any new source that emits criteria air pollutants above a specified emissions limit to offset those emissions. For ozone precursors ROG and NO_X, the offset emissions level is an annual average of 10 tons per year (or 54 pounds per day).[57] These levels represent emissions 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 that could result in increased health effects.

The federal New Source Review program was created under the federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards. For PM_{10} and $PM_{2.5}$, the emissions limit under the New Source Review program is 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels below which a source alone is not expected to have a significant impact on air quality.[58]

Although the regulations specified above apply to new or modified stationary sources, land use development projects generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions as a result of increases in vehicle trips, energy use, the application of architectural coatings, and construction activities. Therefore, the identified thresholds can be applied to the construction and operational phases of land use projects. Projects that would result in emissions that would be below the thresholds would not be considered projects that would contribute considerably to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or particulate matter.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices at construction sites significantly controls fugitive dust,[59] and individual measures have been shown to reduce fugitive dust by anywhere

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56 Ibid., p. 2-1 to 2-3 and Appendix D; Air District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 16-17.

57 Air District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, December 2009, p. 67, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en, accessed October 2, 2018.

58 Ibid, p. 16.

59 Western Regional Air Partnership, *WRAP Fugitive Dust Handbook,* September 7, 2006, wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf, accessed October 2, 2018.

from 30 to 90 percent.[60] The air district has identified eight best management practices to control fugitive dust emissions from construction activities.[61] San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The project would be subject to the requirements of the Construction Dust Control Ordinance, which is the basis for determining the significance of air quality impacts from fugitive dust emissions.

OTHER CRITERIA POLLUTANTS

Regional concentrations of CO and SO_2 in the Bay Area have not exceeded the state standards for more than two decades. The primary source of CO emissions from development projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of total basin-wide emissions, and construction-related CO emissions represent less than 5 percent of the Bay Area's total basin-wide CO emissions. As discussed previously, the Bay Area is in attainment for both CO and SO_2. Furthermore, the air district has demonstrated, based on modeling, that to exceed the California ambient air quality standard of 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited[62]). The transportation analysis indicates that the intersection in the project area with the greatest vehicle volume would be Arguello Boulevard and California Street, with peak-hour traffic volumes of 2,360 vehicles per hour in 2040 with the project and future traffic growth. This is less than 44,000 vehicles per hour. The transportation analysis also indicates that peak-hour morning and afternoon traffic (existing plus project) at three nearby intersections (California Street/Jordan Avenue, California Street/Commonwealth Avenue, and California Street/Maple Street) would range from 891to 1,281 vehicles, which is well below 44,000 vehicles per hour.[63] Therefore, given the Bay Area's attainment status and the limited CO and SO_2 emissions that could result from project implementation, the proposed project would not result in a cumulatively considerable net increase in CO or SO_2, and a quantitative analysis is not required.

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[60] Air District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance,* December 2009, p. 27, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed-thresholds-of-significance-dec-7-09.pdf?la=en, accessed October 2, 2018.

[61] Air District, *CEQA Air Quality Guidelines*, May 2011, p. 8-3.

[62] Such as a tunnel, underpass, or urban canyon between buildings where a free flow of air currents can be impeded.

[63] Fehr & Peers, *Preliminary Impact Analysis Memo for 3700 California*, Case No. 2017-003559ENV, August 28, 2018.

LOCAL HEALTH RISKS AND HAZARDS

In addition to criteria air pollutants, individual projects may emit TACs. The analysis of other toxic substances that may become airborne, such as naturally occurring asbestos, is presented in the initial study (see EIR Appendix B, Section E.15, *Hazards and Hazardous Materials*).

As part of the environmental review for the proposed project, a health risk assessment was conducted to provide quantitative estimates of health risks from exposure to TACs as a result of the proposed project. The health risk assessment examines all sensitive receptors within 1,000 meters of the project boundary. Air pollution dispersion modeling was used to identify areas with elevated air pollutant concentrations and higher exposures.

The proposed project would locate new sensitive receptors (i.e., new residents) at the project site. With the proposed project, residents would occupy all buildings. For purposes of analysis, the entirety of the project site was conservatively assessed as a potential sensitive receptor, using a 20-meter receptor grid that coincided with the Community Risk Reduction Plan's health risk assessment receptor locations. Exposure assessment guidance[64] established the assumption that people in residences would be exposed to air pollution 24 hours per day, 350 days per year for 30 years as the basis for calculating cancer risk in any health risk assessment. Therefore, the assessment of residents' air pollutant exposure typically results in the greatest adverse health outcomes of all population groups.

According to OEHHA guidance,[65] the estimated excess lifetime cancer risk for a resident was adjusted using the age sensitivity factors recommended in OEHHA's *Technical Support Document for Cancer Potency Factors*.[66] This approach accounted for an "anticipated special sensitivity to carcinogens" of infants and children. Cancer risk estimates were weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age (labeled by OEHHA as "3rd trimester" and "0 < 2") and by a factor of three for exposures that occur from 2 through 15 years of age ("2 < 16"). No weighting factor (i.e., an age sensitivity factor of one, which is equivalent to no adjustment) was applied to ages 16 and older.

As discussed previously, neither the proposed project's onsite receptors nor the nearest offsite receptors would be located within an area that currently meets the APEZ criteria. For receptors not located in areas that meet the APEZ criteria, a health risk assessment was conducted to

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64 CalEPA, OEHHA, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments,* March 2015, https://oehha.ca.gov/media/downloads/crnr/2015gmappendices.pdf, accessed October 2, 2018.

65 CalEPA, OEHHA, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments,* March 2015, https://oehha.ca.gov/media/downloads/crnr/2015gmappendices.pdf, accessed October 2, 2018.

66 CalEPA, OEHHA, *Technical Support Document for Cancer Potency Factors*, May 2009, https://oehha.ca.gov/air/crnr/technical-support-document-cancer-potency-factors-2009, accessed October 2, 2018.

determine whether the proposed project would, in combination with other existing sources in the area, result in a given offsite or onsite receptor meeting the APEZ criteria (i.e., expanding the APEZ). If, as a result of the proposed project, a receptor point goes from below the APEZ criteria to above the APEZ criteria, then a significant project-related health risk impact could result. Specifically, this would be the case if the proposed project were to contribute to $PM_{2.5}$ concentrations above 0.3 $\mu g/m^3$ or result in an excess cancer risk greater than 10.0 per 1 million persons exposed. According to the air district, new sources would not result in a considerable contribution to cumulative health risks with levels below the 0.3 $\mu g/m^3$ $PM_{2.5}$ concentration and an excess cancer risk of 10.0 per 1 million persons exposed.[67]

CUMULATIVE IMPACTS

As discussed above, the contribution of a project's individual air emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from reasonably foreseeable future projects in the vicinity would contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be large enough to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality conditions.[68] As described above, the project-level thresholds for criteria air pollutants are based on levels that would not be anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants from new sources. Therefore, if a project's emissions are below the project-level thresholds, the project would not result in a considerable contribution to cumulative regional air quality impacts. Therefore, no separate cumulative impact statement is included for the project's impact with respect to regional air quality.

The health risk assessment takes into account the cumulative contribution of localized health risks for sensitive receptors from sources included in the citywide health risk modeling plus the proposed project's sources. However, the localized health risk assessment, evaluated below in Impact C-AQ-1, also takes into account other future projects whose emissions have not been incorporated into the existing citywide health risk modeling.

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[67] Air District, *CEQA Air Quality Guidelines*, May 2017, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed October 2, 2018.

[68] Ibid, p. 2-1.

IMPACT EVALUATION

Impact AQ-1: During construction, the proposed project would generate fugitive dust and criteria air pollutants, but would not contribute substantially to an existing or projected air quality violation or result in a cumulatively considerable net increase in criteria air pollutants. ***(Less than Significant)***

During the proposed project's construction period, construction activities would result in emissions of ozone precursors and particulate matter in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions), as discussed below in more detail. Emissions of ozone precursors and particulate matter are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve paint, other types of architectural coatings, or asphalt paving.

The construction phasing program for the proposed project is conceptual; however, it is expected to begin in 2021 and be phased over a period of about 40 months. Proposed development is expected to involve three phases, designated as Blocks A, B, and C. The construction phasing program is described in Section 2.5.10 in Chapter 2, *Project Description*, p. 2-34.

The components of each phase of the construction program include demolition, site preparation and grading, excavation and shoring, subgrade installation of drainage facilities and utilities, building construction, and exterior and interior work. Demolition and construction activities would require the use of heavy trucks, excavators, material loaders, cranes, and other mobile and stationary construction equipment.

FUGITIVE DUST

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute particulate matter to the local atmosphere. Despite the established federal standards for air pollutants and ongoing implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country.

Dust can be an irritant, causing watery eyes or irritating the lungs, nose, and throat. Depending on exposure, particulate matter in general can cause adverse health effects, as can specific contaminants such as lead or asbestos, which may be constituents of dust.

In response to concerns with fugitive dust, the San Francisco Board of Supervisors approved a series of amendments to the San Francisco Building and Health Codes, generally referred to as the Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008). The intent was to reduce the amount of dust generated during site preparation, demolition, and overall construction work to protect the health of the general public and onsite workers, minimize public nuisance complaints, and avoid orders to stop work by the Department of Building

Inspection. In addition, the Department of Building Inspection will not issue a building permit without written notification from the Director of Public Health stating that the applicant has an approved site-specific dust control plan.

Because the project site would be within 1,000 feet of sensitive receptors, the site-specific dust control plan submitted to the Director of Public Health would be required to include a map showing the locations of sensitive receptors. This plan also must contain the following measures, as specified in section 106.3.2.6.3 of the building code: designate an individual who will be responsible for monitoring compliance with dust control requirements, water all active construction areas to prevent dust from becoming airborne, use reclaimed water whenever possible, wet sweep or vacuum streets and sidewalks during excavation and dirt-moving activities, cover any inactive stockpiles, and use dust enclosures, curtains, and dust collectors as necessary. In addition, the site-specific dust control plan may require the project sponsor to wet down areas with soil at least three times per day; provide an analysis of wind direction and install upwind and downwind particulate dust monitors; record particulate monitoring results; hire an independent third party to conduct inspections and keep a record of those inspections; establish shut-down conditions, based on wind, soil migration, etc.; establish a hotline for surrounding community members who may be affected by project-related dust; limit the area subject to construction activities at any one time; install dust curtains and windbreaks at the property lines, as necessary; limit the amount of soil in hauling trucks to the size of the truck bed and secure with a tarpaulin; enforce a 15-mile-per-hour speed limit for vehicles entering and exiting construction areas; sweep affected streets with water sweepers at the end of the day; install and use wheel washers to clean truck tires; terminate construction activities when winds exceed 25 miles per hour; and sweep off adjacent streets to reduce particulate emissions. Inactive stockpiles (where no disturbance occurs for more than seven days) with more than 10 cubic yards or 500 square feet of excavated material, backfill material, import material, gravel, sand, road base, or soil must be covered with a 10-millimeter (0.01-inch) polyethylene plastic (or equivalent) tarpaulin that has been secured (equivalent soil stabilization techniques may also be used). Reclaimed water must be used for dust suppression watering, when required by article 21, section 1100 et seq., of the San Francisco Public Works Code. Contractors must provide as much water as necessary to control dust (without creating runoff in any area of land clearing and/or earth movement). The San Francisco Public Utilities Commission operates a recycled water fill station at the Southeast Water Pollution Control Plant, which provides recycled water at no charge.[69]

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[69] City Ordinance 175-91 requires the use of nonpotable water for soil compaction and dust control undertaken in conjunction with any construction or demolition project occurring within the boundaries of San Francisco, unless permission is obtained from the San Francisco Public Utilities Commission.

Implementation of dust control measures, in compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance, would ensure that the potential dust-related construction air quality impacts of the proposed project would be less than significant, and no mitigation measures are necessary.

CRITERIA AIR POLLUTANTS

METHODOLOGY – CONSTRUCTION EMISSIONS

Construction emissions would be generated by many different construction sources, including off-road construction equipment, such as excavators, loaders, backhoes, rollers, and cranes, and on-road trucks. The predominant source of emissions of NO_X, PM_{10}, and $PM_{2.5}$ would be off-road equipment. The predominant source of ROG emissions would be off-gassing emissions from the application of architectural coatings.

Construction-related emissions of criteria air pollutants were calculated using methods that are consistent with the latest CalEEMod emissions calculator model (version 2016.3.2) developed for the California Air Pollution Control Officers Association. CalEEMod is the air district's recommended model for estimating emissions from land use projects.[70] However, construction emissions were calculated outside of CalEEMod using equivalent methods that account for the overlapping construction components of the proposed project's preliminary construction phasing program. In accordance with air district guidance and because the proposed project would be subject to the requirements of the Construction Dust Control Ordinance, fugitive dust emissions were not quantified in this analysis. The analysis used the anticipated project-specific off-road equipment types and hours provided by the project sponsor for each component of each phase of the construction program (included in EIR Appendix H).[71] CalEEMod off-road default horsepower and load factors were used to calculate emissions from each piece of equipment.

On-road haul truck traffic would consist primarily of material deliveries to the site and the removal of demolition and excavation materials. Approximately 61,800 cubic yards of soil and debris would be hauled away from the entire site over all three phases of the construction program, resulting in approximately 6,552 round trips (13,104 one-way trips). These haul trips, which would include excavated soil, demolition spoils, and material removed during site work, were allocated to the demolition, excavation, and site work components of each phase of the construction program. Additional trucks would be required for concrete deliveries during

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70 On August 5, 2013, the air district notified the public through its website that all future CEQA analysis of criteria pollutant emissions should be conducted using CalEEMod. However, this notification is no longer posted.

71 Tzortis, Mike, Plant Construction Company, L.P. September 7, 2018—email correspondence with Sarah Manzano at Ramboll regarding construction data.

building construction. Up to 16 material/vendor trips per day for the duration of each phase of the construction program were assumed. Trucks were assumed to travel to the project site via California Street. Actual routes may vary, but these differences are not expected to result in a material difference in air quality impacts because total criteria air pollutant emissions would be virtually equivalent, regardless of which route is selected. The CalEEMod default trip lengths were used to estimate the distance traveled to and from the construction site.

Emission factors for on-road truck traffic were developed using EMFAC2017, the Air Resources Board's on-road mobile emissions program, with the same methodology used to develop CalEEMod trucking emission factors.

More information on emissions calculations can be found in Appendix H.

Construction of the proposed project would occur in three phases over a period of approximately 40 months. The preliminary phasing program is discussed above on p. 4.4-26, *Project Features*. As discussed in that section, during a portion of construction of Block B, Block C is assumed to be operational. Therefore, the analysis adds together the construction emissions of Block B and the operational emissions of Block C. The same is true for all subsequent phases of the construction program. When a phase of the construction program is being carried out, the previous phases are assumed to be operational and the concurrent operational and construction emissions are added together.

The phases of the construction program may not be undertaken exactly as laid out in the construction phasing program diagram; therefore, the emissions estimates are designed to provide a representative approximation. The analysis results are considered conservative (i.e., high end) because they assume that residents will fully occupy the completed phase immediately.

Total construction emissions by phase and year were calculated for the proposed project using methods consistent with the latest version of CalEEMod. Total emissions were divided by 250 construction days a year to derive average daily emissions for comparison against applicable significance thresholds.

METHODOLOGY – OPERATIONAL EMISSIONS

Because project operations would be phased in at the completion of each construction phase, operational emissions are considered in addition to construction emissions in the evaluation of Impact AQ-1. A discussion of operational impacts at project buildout is included under Impact AQ-2 on p. 4.4-43.

The proposed project would generate operational emissions from a variety of sources, including area sources (consumer products, architectural coatings, and landscape equipment), mobile sources (daily automobile and truck trips), and energy sources (natural gas combustion in boilers/heaters and stoves). The proposed project would also result in the elimination of emissions from the existing hospital and medical office building, which emits area, mobile, energy, and stationary source emissions. The existing project site also includes three diesel emergency generators, which would be removed as part of the proposed project.

Area-source and energy emissions were calculated using CalEEMod, based on the type and size of land uses associated with the proposed project and the existing hospital uses. Area sources include hearths, consumer products, area architectural coatings, and landscaping equipment. San Francisco County–specific consumer product emission rate data were used in the CalEEMod model to estimate daily VOC emissions. Energy sources include natural gas combustion in stoves, furnaces, and hot water heaters.

Mobile-source emissions would result from vehicle trips (auto and truck) associated with the proposed project. Vehicle emissions from the existing hospital uses and the proposed project were also calculated using CalEEMod, based on the number of vehicle trips estimated to be generated by the proposed project and the existing uses.[72] CalEEMod emission factors were updated to use EMFAC2017 emission factors, instead of EMFAC2014 emissions factors that are built into CalEEMod. Trip lengths for the proposed project are consistent with the data regarding daily vehicle miles traveled per capita for residential land uses presented in Table 4.2-2, *Daily Vehicle Miles Traveled per Capita for Residential Land Uses*, in Section 4.2, *Transportation and Circulation*, p. 4.2-25. Operational emissions calculations for entrained road dust are based on San Francisco–specific silt loadings.[73]

Stationary source emissions from operation of the three diesel emergency generators that would be removed as a result of the project were estimated from emissions data provided by the air district for the existing site.

Project operational emissions of criteria pollutants from vehicle trips, energy use, and area sources are summed and subtracted from the emissions associated with the existing land uses to determine total net criteria air pollutant emissions as a result of project implementation. As discussed in *Approach to Analysis*, p. 4.4-30, the CPMC LRDP EIR's air quality analysis assumed that the hospital uses at 3700 California Street would remain in operation. Therefore, it is appropriate in this analysis to subtract emissions from existing hospital uses when determining the net impact of the proposed project on air quality.[74]

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72 Fehr & Peers, *Preliminary Impact Analysis Memo for 3700 California,* Case No. 2017-003559ENV, August 28, 2018.

73 Air Resources Board, *Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust*, revised April 2014, https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2016.pdf, accessed October 2, 2018.

74 ICF memorandum to San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019. This memorandum includes an additional discussion of the relationship between the proposed project and the scenarios studied in the LRDP EIR.

Ultimately, the vast majority of operational NO_X (76 percent) and particulate matter (91 and 97 percent) emissions are from mobile emissions sources. The largest fraction of project-related ROG emissions is generated from area sources, particularly the use of consumer products by building occupants (88 percent). A detailed quantification of operational criteria air pollutant emissions was conducted for the proposed project at project buildout as well as at the completion of each phase of the construction program (see Appendix H). As discussed above, the criteria air pollutant significance thresholds are based on levels above which a project would contribute considerably to significant air quality impacts (the project being the sum of the emissions at any one time, whether the emissions are from operation or construction is inconsequential in comparison to the overall impact in the air basin). Consequently, operational emissions are added to construction emissions when they would occur simultaneously to disclose and analyze the air quality impacts of the whole project.

PROPOSED PROJECT

Table 4.4-6, *Emissions from the Proposed Project during Construction and Operations*, presents the construction-period emissions that would result from the proposed project, along with concurrent operational emissions, and the reduction in emissions from the ceasing of operations associated with the existing hospital uses and decommissioning of the three emergency generators. The maximum average daily emission rate during construction of the proposed project is compared to significance thresholds to establish a significance determination.

The proposed project would result in the elimination of operational emissions from the existing hospital and medical office building uses, which emit area, mobile, and energy emissions. The operational emissions from the existing land uses were subtracted from the emissions of the proposed project. Construction of any single phase of the proposed project's construction phasing program would result in emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ that would be below the thresholds of significance when considered alone. In addition, future phases of the construction program (Blocks B and A) would overlap and occur when operational emissions would be generated by the earlier phases. Emissions from overlapping phases of the construction program were calculated by summing the average daily emissions from each active phase during that calendar year (see Figure 4.4-2, p. 4.4-29, for a representation of overlapping phases). As shown in Table 4.4-6, construction-related emissions during each calendar year of the construction program, including the overlap of phases, would be less than significant, and no mitigation measures are necessary. If the maximum daily construction and overlapping operational emissions for ROG, NO_X, PM_{10}, and $PM_{2.5}$ were converted into annual emissions and reported in tons per year, the results would still be below the annual average criteria air pollutant significance thresholds shown in Table 4.4-5, p. 4.4-31. In addition, because operations would begin at each area of the site as construction is completed, operational emissions were added to the construction emissions; the combined emissions were also found to be below significance thresholds.

TABLE 4.4-6. EMISSIONS FROM THE PROPOSED PROJECT DURING CONSTRUCTION AND OPERATIONS

	Average Daily Emissions from Operation and Construction (lb/day)[a, b, c]			
Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
2021				
Existing Hospital Use	-32	-48	-28	-9.0
Project Construction	2.5	25	1.3	1.0
Year 2021 Net Emissions	-30	-24	-27	-8.0
Significance Threshold	*54*	*54*	*82*	*54*
Above Threshold?	No	No	No	No
2022				
Existing Hospital Use	-32	-48	-28	-9.0
Project Construction	2.0	14	1.0	0.59
Year 2022 Net Emissions	-30	-34	-27	-8.4
Significance Threshold	*54*	*54*	*82*	*54*
Above Threshold?	No	No	No	No
2023				
Existing Hospital Use	-32	-48	-28	-9.0
Project Construction	40	9.1	0.71	0.41
Project Operations	5.1	1.2	1.2	0.38
Year 2023 Net Emissions	13	-38	-26	-8.2
Significance Threshold	54	54	82	54
Above Threshold?	No	No	No	No
2024				
Existing Hospital Use	-32	-48	-28	-9.0
Project Construction	0.20	2.2	0.11	0.072
Project Operations	18	3.8	4.23	1.3
Year 2024 Net Emissions	-14	-42	-24	-7.6
Significance Threshold	*54*	*54*	*82*	*54*
Above Threshold?	No	No	No	No

Source: Ramboll, 2018; Table 8 and Table 13 in EIR Appendix H.

Notes:

a. Operational criteria air pollutant emissions were estimated for Block C operation in 2023 and full project buildout in 2024. Average daily operational emissions were calculated from values listed in EIR Appendix H, Table 13. Emissions from the existing hospital and medical uses were subtracted from the project's emissions for each year, starting at the beginning of construction.

b. Average daily construction emissions were calculated from values listed in EIR Appendix H, Table 8, by summing all emissions in a given phase of the construction program and dividing by 250 construction days in a year.

c. Average daily construction emissions were added together with average daily operational emissions.

Specifically, Table 4.4-6, p. 4.4-42, indicates that maximum average daily emissions (in pounds per day), after accounting for overlapping phases of the construction program plus operation, would amount to an increase of 13 lbs/day for ROG in 2023, a reduction of 24 lbs/day for NO_X in 2021, a reduction of 24 lbs/day for PM_{10} in 2024, and a reduction of 7.6 lbs/day for $PM_{2.5}$ in 2024, each of which is below the respective thresholds of 54 for ROG, NO_X, and $PM_{2.5}$ and 82 for PM_{10}. Net ROG emissions are expected to increase in 2023 because of emissions associated with architectural coatings used during construction; all other pollutants would result in a net reduction in emissions across all construction years. Therefore, criteria pollutant emissions generated from the proposed project during simultaneous construction and operation would result in a less-than-significant criteria air pollutant impact.

Impact AQ-2: At project buildout, operation of the proposed project would not result in emissions of criteria air pollutants at levels that would violate an air quality standard or result in a cumulatively considerable net increase in criteria air pollutants. ***(No Impact)***

Operation of the proposed project would have the potential to create air quality impacts, which would be associated primarily with mobile, area, and energy sources. Motor vehicle traffic would include daily resident-access, visitor, delivery truck, and employee trips. Area sources include landscaping equipment, architectural coatings and the associated off-gassing during reapplication, and consumer products (e.g., solvents, cleaning supplies, cosmetics, toiletries). Energy sources include natural gas combustion for space and water heating. Each of these sources was taken into account in calculating the proposed project's long-term operational emissions.

Compared to existing conditions, the proposed project would reduce emissions from the project site by removing the existing hospital and associated vehicle trips. As discussed in *Approach to Analysis*, p. 4.4-30, the CPMC LRDP EIR's air quality analysis assumed that the hospital uses at 3700 California Street would remain in operation. Therefore, it is appropriate in this analysis to subtract emissions from existing hospital uses when determining the net impact of the proposed project on air quality.[75] Thus, mobile, area, energy, and stationary source emissions from existing land uses would be reduced. Each of these sources was taken into account to analyze the net impact of the project on criteria air pollutant emissions.

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[75] ICF memorandum to San Francisco Planning Department, *Recommendation for Accounting for Existing Hospital Use in 3700 California Street EIR Analysis*, February 28, 2019. This memorandum includes an additional discussion of the relationship between the proposed project and the scenarios studied in the LRDP EIR.

Operational emissions at project buildout were quantified, consistent with the methodology identified above for Impact AQ-1 in build-out year 2024. The daily and annual change in emissions associated with operation of the proposed project at project buildout is shown in Table 4.4-7, *Emissions from the Proposed Project during Operations at Full Buildout*, for ROG (precursor of ozone), NO_X (precursor of ozone), PM_{10}, and $PM_{2.5}$, with results showing the contribution by each source. The change in emissions is a net decrease in due to the large reduction in the number of vehicle trips compared with those generated by the existing hospital and medical uses. Because the proposed project would result in a net decrease in emissions, the project would have no impact with respect to violating an air quality standard, contributing to an existing or projected air quality violation, or resulting in a cumulatively considerable increase in criteria air pollutants.

TABLE 4.4-7. EMISSIONS FROM THE PROPOSED PROJECT DURING OPERATIONS AT FULL BUILDOUT

	Average Daily Emissions[a, b]			
Emissions Source	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Project Emissions				
Area[c] (lb/day)	16	0.29	0.075	0.075
Energy (lb/day)	0.10	0.87	0.070	0.070
Mobile (lb/day)	1.7	2.7	4.1	1.1
Total Project Emissions (lb/day)	18	3.8	4.2	1.3
Existing Emissions at the Site to Be Removed				
Area[c] (lb/day)	-15	-0.0063	-0.0023	-0.0023
Energy (lb/day)	-1.6	-15	-1.1	-1.1
Mobile (lb/day)	-15	-32	-27	-7.8
Generator (lb/day)	-0.086	-1.1	-0.081	-0.081
Total Baseline Emissions (lb/day)	**-32**	**-48**	**-28**	**-9.0**
Net Project Emissions (lb/day)	**-14**	**-43**	**-22**	**-7.3**
Significance Threshold (lb/day)	***54***	***54***	***82***	***54***
Above Threshold?	No	No	No	No
Total Project Emissions (tons/year)	*-2.7*	*-8.1*	*-4.4*	*-1.4*
Significance Threshold (tons/year)	***10***	***10***	***15***	***10***
Above Threshold?	No	No	No	No

Sources: Ramboll, 2018; Table 13 in EIR Appendix H; California Air Resources Board, *ROG Inventory*, 2018, https://www.arb.ca.gov/app/emsinv/emssumcat.php; DataSF, *San Francisco Land Uses,* 2016, https://data.sfgov.org/Housing-and-Buildings/Land-Use/us3s-fp9q/data.

Notes:

a. Emissions were estimated using CalEEMod, version 2016.3.2.

b. Average daily emissions were calculated assuming 365 days of operation per year.

c. San Francisco's ROG emissions from consumer products was 5.67 tons (California Air Resources Board 2018). These emissions were queried from the 2020 inventory for the county of San Francisco. San Francisco's assumed square footage was 539,022,396 square feet (DataSF 2016). Therefore, the emission factor would be (5.67 tons/day * 2000 lbs/ton)/539,022,396 square foot = 2.1e-5 lbs/(sq. ft-day). This was used as the emission factor for ROG for the proposed project.

Impact AQ-3: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations. ***(Less than Significant)***

Demolition, excavation, grading, foundation construction, building construction, and interior and exterior work would affect localized air quality during the construction phases of the proposed project. Short-term emissions from construction equipment during these site preparation activities would include directly emitted particulate matter ($PM_{2.5}$ and PM_{10}) and TACs such as DPM. In addition, the long-term emissions from the proposed project's mobile and stationary sources, as described under Impact AQ-1 and Impact AQ-2 (see pp. 4.4-36 and 4.4-43), would include particulate matter ($PM_{2.5}$) and TACs such as DPM and some compounds or variations of ROGs. A health risk assessment was conducted for the proposed project to evaluate the potential health risks to nearby residents resulting from project implementation.

Because neither the proposed onsite receptors nor the nearest offsite receptors are within an area that currently meets the APEZ criteria (100 in 1 million excess cancer risk or a $PM_{2.5}$ concentration of 10 $\mu g/m^3$), the health risk assessment was conducted to determine whether the proposed project would, in combination with other existing sources in the area, result in a given offsite or onsite receptor meeting the APEZ criteria.

METHODOLOGY

In general, a health risk assessment is used to determine if a particular chemical poses a significant risk to human health and, if so, under what circumstances. For the proposed project, a health risk assessment was conducted to identify maximum onsite and offsite health risks due to inhalation of $PM_{2.5}$ and TACs. The health risk assessment prepared for the proposed project focused on $PM_{2.5}$ and TACs because these types of air pollutants, more so than others, pose substantial health impacts at the local level.[76] A detailed discussion of the methods used for this analysis is provided in the air quality scope of work included in EIR Appendix H. Changes to the methodology made since the scope of work was approved included 1) use of a newer version of AERMOD (version 18081), released after the scope of work was approved; 2) the addition of an exposure scenario for the health risk assessment to ensure the maximally exposed receptor was found; 3) removal of the air quality impact from the existing generators; and 4) changes to the methodology for the review of the 2040 condition (a more explicit quantitative evaluation rather than qualitative discussion). Updated methodologies for these items are discussed in this section, which supersedes the methodologies described in the scope of work dated August 7, 2018.

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[76] Air District, *CEQA Air Quality Guidelines*, May 2011, p. 4-21.

A health risk assessment of emissions from project construction activity and reduction in emissions from the removal of the existing generators was conducted. However, no health risk analysis was conducted for mobile sources related to operation of the proposed project because the project would result in an overall decrease in the amount of traffic on surrounding roadways. There would be no new additional sources of $PM_{2.5}$ or TACs associated with the proposed project.

Using an air dispersion model, concentrations of $PM_{2.5}$ and TACs were estimated at nearby sensitive receptors, including residences, schools/daycare facilities, and senior-care facilities. These concentrations were then used in combination with toxicity and exposure information to estimate inhalation health risks following the most recent air district *Recommended Methods for Screening and Modeling Local Risks and Hazards*.[77]

The health risk analysis estimated DPM from project construction activity using emission factors from EMFAC2017 and CalEEMod. DPM and $PM_{2.5}$ emissions rates were used as AERMOD inputs to predict worst-case DPM and $PM_{2.5}$ concentrations, respectively. AERMOD is also the model that was used by the air district and the City in the citywide health risk assessment modeling discussed above under *Environmental Setting* (see p. 4.4-2). DPM concentrations were then used to determine the excess lifetime cancer risk, based on the health risk assessment methodology published by the Office of Environmental Health Hazard Assessment in 2015. Construction activities were modeled as area sources, haul trips were modeled as adjacent volume sources.[78]

Near-field air dispersion modeling of DPM from project sources was conducted using the U.S. EPA's AERMOD model (version 18081)[79,80] This model requires inputs such as source parameters, meteorological parameters, topography information, and receptor parameters. The exposure parameters were obtained using risk assessment guidelines from the California

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[77] Air District, *Recommended Methods for Screening and Modeling Local Risks and Hazards,* May 2012, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20 Approach.ashx, accessed October 2, 2018.

[78] In dispersion modeling, an area source is a two-dimensional emissions source that is represented by polygon vertices. A volume source is a three-dimensional emissions source that is represented by a location, release height, and initial lateral and vertical plume sizes. A point source is a source emanated from a discrete point on the modeling grid.

[79] On November 9, 2005, the U.S. EPA promulgated final revisions to the Federal Guideline on Air Quality Models, in which it recommended that AERMOD be used for dispersion modeling evaluations of criteria air pollutant and toxic air pollutant emissions from typical industrial facilities. U.S. EPA, *Air Quality Dispersion Modeling – Preferred and Recommended Models*, 2018, https://www.epa.gov/scram/ air-quality-dispersion-modeling-preferred-and-recommended-models#aermod, accessed October 2, 2018.

[80] A newer version of AERMOD was released after the scope of work was approved. The newer version (AERMOD v18081) was used in this analysis.

Environmental Protection Agency (CalEPA)[81] and the air district.[82] Exposure parameters include daily breathing rate, exposure time, exposure frequency, exposure duration, average time, and inhalation intake factors (see Tables 15 to 17 in EIR Appendix H for details regarding the AERMOD modeling inputs, toxics analysis, and exposure parameters).

Offsite residents were assumed to be present at one location for the entire construction period and beginning the third trimester in utero at the beginning of 2021 for one scenario and 2022 for another scenario.[83] Onsite residents were assumed to be present after construction of Blocks C and B and would be exposed to future construction activities of the project. Offsite and onsite residents were assumed to be present at one location for 30 years, consistent with OEHHA guidance.

$PM_{2.5}$ concentrations are evaluated on an annual average basis, and the evaluation of excess cancer risk is based on 30-year exposure to pollutant concentrations.

Local health impacts would be reduced by the removal of the three existing emergency generators. The reduction in health risk and $PM_{2.5}$ concentration from the removal of these generators was estimated using a similar approach to the construction analysis. AERMOD (version 18081) was used to estimate concentrations on onsite and offsite residents. Health risks were estimated using exposure parameters from CalEPA and the air district.

Emissions were estimated using reporting data provided by the air district and shown in Appendix H. Modeling parameters were obtained from the San Francisco Community Risk Reduction Plan: Technical Support Documentation.[84]

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81 CalEPA, OEHHA, *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*, March 2015, https://oehha.ca.gov/media/downloads/crnr/2015gmappendices.pdf, accessed October 2, 2018.

82 Air District, *Air Toxics New Source Review Program Health Risk Screening Analysis Guidelines,* January 2010, http://www.baaqmd.gov/~/media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx, accessed October 2, 2018.

83 The initial scope of work was approved with the assumption that all receptors would be modeled as if the individual began the third trimester in 2021. An additional exposure scenario, in which the third trimester begins in 2022, was added after the scope of work was approved to ensure the maximally exposed receptor was found.

84 Air District, 2012, The San Francisco Community Risk Reduction Plan: Technical Support Documentation, December, Table 13.

The DPM and $PM_{2.5}$ concentrations were modeled separately by year of construction to account for emissions specific to construction activities occurring in specific time periods.[85,86] The excess lifetime cancer risk and $PM_{2.5}$ concentrations from project construction and the sum of existing emissions sources from the citywide health risk assessment database, removing the existing generator health impacts but including ambient concentrations of $PM_{2.5}$, were added at each receptor point to determine the existing plus project cancer risk and $PM_{2.5}$ concentration.

Because the project is expected to reduce operational TAC emissions from mobile sources, this analysis is conservative (i.e., worst case) by excluding operational TAC emissions from mobile sources.

EXCESS CANCER RISK AT OFFSITE RECEPTORS

The locations of modeled offsite receptors are presented in Figure 4.4-1, *Project Boundary and Modeling Extent*, p. 4.4-27. The maximum estimated excess lifetime cancer risk from the project (assuming a receptor was born at the beginning of construction at offsite locations) is presented in Table 4.4-8, *Lifetime Cancer Risk and $PM_{2.5}$ Concentrations at Maximally Exposed Offsite Receptors*.

Existing cancer risk and $PM_{2.5}$ concentrations are available from San Francisco's citywide health risk assessment database, the most recent comprehensive citywide health risk assessment available to date. As shown in Table 4.4-8, health impacts resulting from the proposed project plus existing background health impacts from exposure to air emissions and minus baseline generator health impacts result in a total excess cancer risk at the maximally exposed individual sensitive receptor of 60 in 1 million, which is well below 100 in 1 million, the level that would cause a new location to meet the APEZ excess cancer risk criterion. The project also would not cause any other receptor point to exceed the cancer risk criterion of 100 in 1 million. Therefore, the proposed project would result in a less-than-significant cancer risk impact at offsite sensitive receptors.

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85 Construction information used in this analysis was developed using the typical construction workday (Monday through Friday from 7 a.m. to 3 p.m.) and occasional weekend work. However, work hours are defined as 7 a.m. to 7 p.m. Monday through Friday and 7 a.m. to 4 p.m. on Saturday to provide flexibility, as allowed under the noise ordinance and construction regulations. In order to capture the conservative case, construction activities were modeled for 8 hours a day, from 7 a.m. to 3 p.m. Monday through Friday. This is conservative because of the meteorological conditions in San Francisco in which the average wind speed is typically higher in the later hours of the day, which results in greater dispersion and lower pollutant concentrations.

86 The project does not propose nighttime construction work. However, the City may determine that it is necessary to conduct nighttime construction work for activities within the public-right-of-way. In the event that nighttime construction work is necessary, it would only be for minimal, short-term activities such as utility installation or roadway re-paving. Any nighttime work that may be required would not considerably affect the results of the health risk analysis.

TABLE 4.4-8. LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATION AT MAXIMALLY EXPOSED OFFSITE RECEPTORS

Source	Excess Lifetime Cancer Risk[a] (in 1 million)	$PM_{2.5}$ Concentration[b] ($\mu g/m^3$)
Existing Background	23	8.3
Project Construction	41	0.21
Removal of Existing Generators[c]	-3.4	-0.0046
Total	**60**	**8.5**
APEZ Criteria	*100*	*10*
Above APEZ Criteria?	**No**	**No**

Source: Ramboll, 2018; Tables 18, 19, 20, and 21 in EIR Appendix H; Air District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*, 2012.

Notes:

a. The cancer risks were estimated, using the information specified in EIR Appendix H.

b. Background cancer risk and $PM_{2.5}$ concentrations were estimated from the 2014 values in the citywide health risk assessment database.

c. The three existing generators that are included in the citywide health risk assessment database would be removed as part of the project prior to the commencement of construction activities.

$PM_{2.5}$ CONCENTRATIONS AT OFFSITE RECEPTORS

The maximum estimated $PM_{2.5}$ concentrations from the project at offsite locations are presented in Table 4.4-8. As shown in Table 4.4-8, emissions from the proposed project, in combination with existing background concentrations but without impacts from the existing generators, would result in a $PM_{2.5}$ concentration at the maximally exposed individual sensitive receptor of 8.5 $\mu g/m^3$, which is below 10 $\mu g/m^3$, the level that would cause a new location to meet the APEZ $PM_{2.5}$ concentration criterion. The project also would not cause any other receptor point to exceed 10 $\mu g/m^3$. Therefore, the proposed project would result in a less-than-significant $PM_{2.5}$ impact at offsite sensitive receptors.

EXCESS CANCER RISK AT ONSITE RECEPTORS

The proposed project would include development of residential units, which is considered a sensitive land use for purposes of air quality evaluation. The proposed project would result in construction-related TAC emissions that would affect the occupants of the first phases of the proposed project as construction continues after occupants of the first phases move in. The estimated excess cancer risk from the emissions of this scenario at the onsite maximally exposed individual sensitive receptor is presented in Table 4.4-9, *Lifetime Cancer Risk and $PM_{2.5}$ Concentrations at the Maximally Exposed Onsite Receptors*. Existing background cancer risk

TABLE 4.4-9. LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATIONS AT THE MAXIMALLY EXPOSED ONSITE RECEPTORS

Source	Excess Lifetime Cancer Risk[a] (in 1 million)	$PM_{2.5}$ Concentration[b] ($\mu g/m^3$)
Existing Background	45	8.5
Project Construction	7.0	0.037
Removal of Existing Generators[c]	-2.2	-0.0030
Total	**49**	**8.5**
APEZ Criteria	*100*	*10*
Exceed APEZ Criteria?	**No**	**No**

Source: Ramboll, 2018; Tables 18, 19, 20, and 21 in EIR Appendix H.

Notes:

a. The cancer risks were estimated using the information specified in Tables 18 and 20 in EIR Appendix H.

b. Existing background cancer risk and $PM_{2.5}$ concentrations were estimated using 2014 background values from the citywide health risk assessment database.

c. The three existing generators are included in the citywide health risk assessment database would be removed as part of the project prior to the commencement of construction activities.

information is available from the citywide health risk assessment database. The proposed project's emissions would result in health impacts that would combine with existing background health impacts but without the existing generators, resulting in a cancer risk at the maximally exposed onsite receptor of 49 in 1 million, which is well below 100 in 1 million, the level that would cause a new location to meet the APEZ excess cancer risk criterion.[87] The project also would not cause any other onsite receptor point to meet the APEZ cancer risk criterion. Therefore, the proposed project would result in a less-than-significant cancer risk impact on onsite receptors.

$PM_{2.5}$ CONCENTRATIONS AT ONSITE RECEPTORS

The maximum estimated $PM_{2.5}$ concentrations from the proposed project at onsite locations are presented in Table 4.4-9. The proposed project's emissions would combine with existing $PM_{2.5}$ concentrations, after removing the existing generator impacts, at the maximally exposed onsite receptor of 8.5 $\mu g/m^3$, which is below 10 $\mu g/m^3$, the level that would cause a new location to meet the APEZ $PM_{2.5}$ criterion. The project also would not cause any other onsite receptor point to meet the APEZ $PM_{2.5}$ criterion. Therefore, the proposed project would result in a less-than-significant $PM_{2.5}$ impact for onsite receptors.

87 The health risk assessment approach used in this analysis follows the recommended methodology from OEHHA and the air district, which is protective of children's health and incorporates conservative assumptions for infants and children.

In summary, the proposed project would result in a less-than-significant health risk impact on both offsite and onsite sensitive receptors.

Impact AQ-4: The proposed project would not conflict with implementation of the 2017 Bay Area Clean Air Plan. *(Less than Significant)*

The most recently adopted air quality plan for the San Francisco Bay Area Air Basin is the 2017 Bay Area Clean Air Plan.[88] The 2017 Bay Area Clean Air Plan is a road map that demonstrates how the Bay Area will, in accordance with the requirements of the California Clean Air Act, implement all feasible measures to reduce ozone precursors (ROG and NO_X) and reduce the transport of ozone and its precursors to neighboring air basins. It also provides a climate and air pollution control strategy to reduce ozone, particulate matter, TACs, and GHGs that builds upon existing regional, state, and national programs. In determining consistency with the 2017 Bay Area Clean Air Plan, this analysis considers whether the proposed project would (1) support the primary goals of the 2017 Bay Area Clean Air Plan, (2) include applicable control measures from the 2017 Bay Area Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Bay Area Clean Air Plan.

The goals of the 2017 Bay Area Clean Air Plan are to protect air quality and health at the regional and local scale and protect the climate. Air quality protection and the safeguarding of public health from harmful air pollutants is accomplished through meeting state and national ambient air quality standards. Climate protection is focused on reducing GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.[89] To meet these goals, the 2017 Bay Area Clean Air Plan recommends specific control measures and actions to reduce emissions and decrease concentrations of harmful air pollutants. To this end, the 2017 Bay Area Clean Air Plan includes 85 control measures that are aimed at reducing air pollutants in the air basin.[90] These control measures are grouped into various categories: the stationary-source sector, transportation sector, buildings sector, energy sector, agriculture sector, natural- and working-lands sector, waste sector, water sector, and super-GHG pollutants sector. The 2017 Bay Area Clean Air Plan recognizes that, to a great extent, community design[91]

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88 Air District, *2017 Bay Area Clean Air Plan*, 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 October 2, 2018.

89 The air district's 2030 GHG target is consistent with California's GHG 2030 reduction target, per Senate Bill 32. The air district's 2050 target is consistent with the state's 2050 GHG reduction target, per Executive Order S-3-05.

90 Air District, *2017 Bay Area Clean Air Plan*, Table 5-13.

91 For people who live (and/or work) in low-density, car-oriented developments, the motor vehicle is often the only viable transportation option. In such situations, even the most robust strategy to promote alternative modes of travel can have, at best, only a very modest effect. In contrast, compact communities with a mixture of land uses make it much easier to walk, cycle, or take transit for at least some daily trips.

dictates individual travel modes and that a key long-term control strategy to reduce emissions of criteria pollutants, TACs, and GHGs from motor vehicles is to channel future Bay Area growth into mixed-use, pedestrian-friendly communities that are served by a range of viable transportation options and where goods and services meet the day-to-day needs of residents and workers.

The control measures identified in the 2017 Bay Area Clean Air Plan that are most applicable to the proposed project are related to the transportation sector, building sector, energy sector, natural- and working-lands sector, waste sector, and water sector, some of which would be implemented as part of, but not limited to, the proposed project's compliance with the general plan, planning code, green building code, and local GHG-reducing regulations detailed in the GHG reduction strategy. The proposed project would develop a transportation demand management program that would encourage a reduction in the number of automobiles trips by improving sidewalks to promote walking, encouraging biking by installing secured bike parking, and distributing subsidized *Clipper* cards to encourage use of public transit (see Section 2.5.7 in Chapter 2, *Project Description*, p. 2-29). Other transportation-related features that would be included with the proposed project are car-share parking spaces, pursuant to planning code section 166; shared cargo bikes; utility carts; onsite delivery services and storage facilities; and onsite family-friendly recreational amenities. Many of the transportation demand management measures and other features of the proposed project would align with the transportation control measures identified in Table 5-13 of the 2017 Bay Area Clean Air Plan (e.g., TR2, Trip Reduction Programs; TR3, Local and Regional Bus Service; TR9, Bicycle and Pedestrian Access and Facilities; TR14, Cars and Light Trucks; and TR15, Public Outreach and Education).

Other features of the proposed project that would align with the building sector, energy sector, natural- and working-lands sector, waste sector, and water sector are as follows:

- Ensuring the roof area of new buildings would be 15 percent solar, or 30 percent "living roof," or a combination of the two (BL1, Green Buildings, and BL4, Urban Heat Island Mitigation)
- Planting up to 93 net new trees on the project site and along perimeter sidewalks (NW2, Urban Tree Planting)
- Adhering to local policies that promote composting and recycling construction and demolition material from projects (WA3, Green Waste Diversion, and WA4, Recycling and Waste Reduction)
- Implementing a non-potable water reuse system in all new buildings (WR2, Support Water Conservation)

The proposed project's impact with respect to GHGs is discussed in the initial study (see EIR Appendix B, Section E.8, *Greenhouse Gas Emissions*). As stated there, the proposed project would be compliant with the City's GHG reduction strategy and thus would not result in any significant impacts associated with an increase in GHGs or conflict with measures adopted for the purpose of reducing such emissions. The City's GHG compliance checklist for private projects lists regulatory requirements, many of which are related to transportation, energy conservation, waste reduction, and water conservation and align with those specific sectors of the 2017 Bay Area Clean Air Plan's control measures.

The project site is within one of the city's transit priority areas, indicating that the proposed project would be developed at a site in a walkable urban area and near a concentration of regional and local transit service. There are multiple San Francisco Municipal Railway (Muni) bus stops on California Street and Sacramento Street, adjacent to the project site, as well as Golden Gate Transit bus stops on Geary Boulevard between Masonic and Presidio avenues, less than 0.25 mile from the project site. Other viable transportation options would also be available to the proposed project's residential population and enhanced by the project (e.g., widening sidewalks on Maple Street, improving sidewalks on the perimeter of the site, installing a new crosswalk with flashing lights across California Street [between Commonwealth Avenue and Maple Street]). The project does not propose any changes to existing bus stops.

The proposed development would be an urban infill development with neighborhood-serving uses in the immediate vicinity that would allow for many of the day-to-day needs to be met by walking, bicycling, or taking transit to or from the project site instead of taking trips by private automobile. As discussed above, the proposed project's anticipated net reduction in vehicle trips would result in a commensurate reduction in air pollutant emissions (see also Section 4.2, *Transportation and Circulation*). Furthermore, transportation sector control measures that are identified in the 2017 Bay Area Clean Air Plan would be required under the general plan and the planning code through the City's Transit First Policy, bicycle parking requirements, and transportation sustainability fees, along with the transportation demand management program. The transportation sector, building sector, energy sector, natural- and working-lands sector, waste sector, and water sector control measures would also be required under the general plan, planning code, and green building code. Compliance with these policies, requirements, and fees would ensure that the proposed project would include the relevant transportation sector, building sector, energy sector, natural- and working-lands sector, waste sector, and water sector control measures specified in the 2017 Bay Area Clean Air Plan. Therefore, the proposed project would include applicable control measures identified in the 2017 Bay Area Clean Air Plan and support the primary goals of the 2017 Bay Area Clean Air Plan.

Examples of projects that could disrupt or delay 2017 Bay Area Clean Air Plan sector control measures are projects that would preclude the extension of a transit line or bike path or projects that propose excessive parking, beyond city parking requirements. Parking would be provided for the proposed project's residences in accordance with the parking requirements in the planning code (1.5 to 2.0 stalls per unit). While the proposed project would provide more parking than the long-term demand, the project would result in an overall reduction in the amount of parking compared to existing conditions. The proposed project 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 control measures identified in the 2017 Bay Area Clean Air Plan.

Lastly, the project would support the goals of the 2017 Bay Area Clean Air Plan because the project would result in a net decrease in emissions from the existing conditions. The project would also remove three diesel generators, which emit TACs.

For the reasons described above, the proposed project would not interfere with implementation of the 2017 Bay Area Clean Air Plan. Because the proposed project would be consistent with the applicable air quality plan that demonstrates how the region would improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant, and no mitigation measures are necessary.

CUMULATIVE IMPACTS

This section discusses cumulative impacts on air quality that could result from the proposed project in combination with reasonably foreseeable future projects. The contribution of a project's individual air emissions to regional air quality impacts is, by nature, a cumulative effect. Emissions from reasonably foreseeable future projects in the region would contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be large enough to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions would contribute to existing cumulative air quality conditions.[92] Refer to Impacts AQ-1 and AQ-2, which provide a cumulative criteria air pollutant analysis.

Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts on sensitive receptors. ***(Less than Significant)***

The geographic scope of analysis for cumulative health risks is a distance of 1,000 feet.[93] The air district specifies that cumulative sources represent the combined total risk values of each individual source within the 1,000-foot evaluation zone. The cumulative health risk analysis conservatively includes cumulative projects within approximately 0.25 mile of the project site (or approximately 1,320 feet). The contribution of TACs from the proposed project to health risks beyond the 0.25-mile radius as well as the contribution from projects beyond the 0.25-mile radius to health risks at or near the project site would be greatly attenuated through both distance and intervening structures. Therefore, their contribution would be expected to be minimal. The cumulative health risk assessment takes into account the contribution of existing

[92] Air District, *CEQA Air Quality Guidelines*, May 2011, p. 2-1.
[93] Ibid, p. 5-2.

localized health risks to sensitive receptors from sources included in citywide health risk assessment database plus the proposed project's sources. It also considers the effects of cumulative projects within 0.25 mile of the project site. Each of these sources is described below.

BACKGROUND HEALTH RISKS AND $PM_{2.5}$ CONCENTRATIONS

Citywide modeling of future health risks under 2040 conditions has been conducted by the City. This modeling includes transportation emissions for 2040 and is based on growth projections that have reasonably accounted for the traffic emissions from projects listed in Section 4.1, *Introduction*, p. 4.1-1. In general, cumulative baseline (without the project) cancer risks in 2040 would be expected to decrease because of newer engines and cleaner vehicle fleets. However, with respect to $PM_{2.5}$, it is not as clear whether concentrations would increase or decrease in 2040 as traffic volumes increase and a larger fraction of the overall $PM_{2.5}$ concentrations result from brake and tire wear, which are independent of engine exhaust emissions. The 2040 baseline citywide cancer risks and $PM_{2.5}$ concentrations were compared to the 2014 citywide cancer risks and $PM_{2.5}$ concentrations, as shown in EIR Appendix H. The higher 2014 and 2040 baseline cancer risks and $PM_{2.5}$ concentrations are presented below to determine the most conservative cumulative results.

PROJECT CONTRIBUTIONS

The methodology for analyzing the proposed project's health risk impact and $PM_{2.5}$ contributions at sensitive receptor locations is presented under Impact AQ-3, p. 4.4-45.

OTHER CUMULATIVE PROJECTS

This cumulative analysis also evaluates known construction activities and their future operations within 0.25 miles of the project site that could affect local air quality and health risks.

Projects within an approximately 0.25-mile radius (or 1,320 feet) of the project site are identified in Figure 4.1-1, *Cumulative Projects within 0.25-Mile Radius of the Project Site*, p. 4.1-9. There are three projects within this geographic scope (see Section 4.1, *Introduction*, p. 4.1-1, for the list of future projects reviewed and the figure indicating their location in relation to the project site).

Of the cumulative projects, the 3333 California Street project is largest, but is located more than 1,000 feet from the project site. The project consists of redevelopment of the site to 13 buildings, which would be a mix of residential, retail, office, child care, and associated parking uses. Since a health risk assessment has been conducted for that project for its 2018 draft EIR,[94] the construction and operational health risk impacts from that assessment have been included in the cumulative analysis below. Impacts from construction, increased traffic, and change in generator use were included in this cumulative analysis.

[94] City and County of San Francisco, Draft Environmental Impact Report 3333 California Street Mixed-Use Project. Case No 2015-014028ENV State Clearinghouse No 2017092053, November 2018.

The 3637-3657 Sacramento Street project is located about 325 feet from the project site but is smaller in scale than the 3333 California project. The project would involve the demolition of three buildings and construction of a four-story building containing 18 dwelling units, 10,000 square feet of medical office use, and 6,500 square feet of retail use.

The 3641 California Street project is located about 80 feet from the project site but is much smaller in scale than both projects. This project would involve demolition of a two-story institutional building and construction of a four-story building with six dwelling units and ground-floor retail.

Vehicle-generated emissions from the 3637–3657 Sacramento Street and 3641 California Street projects would be accounted for in the 2040 citywide health risk assessment database and are therefore accounted for in this cumulative analysis. Neither project proposes the use of generators or other stationary sources in their project descriptions;[95,96] therefore, neither project would result in other sources of TACs, aside from construction emissions.

The 3637–3657 Sacramento Street and 3641 California Street projects would have a limited construction duration because of their size and therefore would not be expected to require heavy construction equipment that would negatively affect air quality for a substantial amount of time. Furthermore, these projects are located downwind from the project's MEIR. Emissions from construction of these projects would tend to move away from the MEIR and the impact at the MEIR from these projects would be minimal. Therefore, the emissions from the construction of these projects were thus excluded from further analysis.

CUMULATIVE RESULTS

Cumulative health risks are determined by summing baseline risks, project risks, and risks from cumulative projects that were not already included in the baseline risk assessment. Similarly, cumulative $PM_{2.5}$ concentrations are determined by summing baseline $PM_{2.5}$ concentrations, project $PM_{2.5}$ concentrations, and $PM_{2.5}$ concentrations from cumulative projects that were not already included in the baseline $PM_{2.5}$ assessment. Results of this analysis at the maximum offsite receptor are presented in Table 4.4-10. The cumulative excess lifetime cancer risk at the maximally exposed offsite residential receptor would be 61 in 1 million, and the $PM_{2.5}$ concentration would be 8.6 μg/m^3. Although the analysis does not account for the construction effects of the 3641 California Street project or the 3637–3657 Sacramento Street project, those projects are much smaller in scale, not expected to require much heavy construction equipment,

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[95] San Francisco Planning Department, CUA Supplemental Application – 3641 California Street – 2018-007764CUA, October 15, 2018, https://sfplanninggis.org/planningdocs/?RecordID=2018-007764CUA&RecordName=3641%20CALIFORNIA%20STREET.

[96] San Francisco Planning Department, Executive Summary Conditional Use, 2007.1347CUA, Available at http://commissions.sfplanning.org/cpcpackets/2007.1347CUAVAR.pdf.

TABLE 4.4-10. CUMULATIVE LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATIONS AT THE MAXIMALLY EXPOSED OFFSITE RECEPTORS

Source	Lifetime Excess Cancer Risk (in 1 million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Cumulative Baseline[a]	23	8.4
Project Construction	41	0.21
Removal of Existing Generators[b]	-3.4	-0.0046
3333 California Project[c]	0.84	0.0022
Cumulative Total	**61**	**8.6**
APEZ Criteria	*100*	*10*
Exceed APEZ Criteria?	**No**	**No**

Sources: Ramboll, 2018; Tables 20 and 21 in EIR Appendix H; Air District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*, 2012.

Notes:

a. Baseline cancer risk and $PM_{2.5}$ concentrations were estimated using the maximum cancer risk or $PM_{2.5}$ concentration from either the 2014 and 2040 background values from the citywide health risk assessment database. The 2014 values were used for cancer risk, and the 2040 values were used for $PM_{2.5}$ concentration.

b. The cancer risk and $PM_{2.5}$ concentration from the three emergency generators are negative because the existing onsite generators would be removed during construction.

c. As discussed above, impacts from only 3333 California Street project were quantitatively evaluated here.

and are more than 250 feet from the project's MEIR. Therefore, construction emissions from those projects are unlikely to combine with those of the proposed project and background risk and $PM_{2.5}$ concentrations to result in levels that would exceed the APEZ criteria of an excess cancer risk of 100 in one million or $PM_{2.5}$ concentrations of 10 $\mu g/m^3$.

The results of this analysis at the maximum onsite receptor are presented below in Table 4.4-11. The cumulative excess lifetime cancer risk at the maximally exposed onsite residential receptor would be 50 in 1 million, and the $PM_{2.5}$ concentration would be 8.6 $\mu g/m^3$. Similar to the offsite analysis, the effects of construction of the 3641 California Street project or the 3637-3657 Sacramento Street project are not included. Because those projects are much smaller in scale, not expected to require much heavy construction equipment, and are over 250 feet from the project's MEIR, construction emissions from those projects are unlikely to combine with those of the proposed project and background risk and $PM_{2.5}$ concentrations to result in levels that would exceed the APEZ criteria of an excess cancer risk of 100 in one million or $PM_{2.5}$ concentrations of 10 $\mu g/m^3$. Therefore, cumulative health risk impacts would be less than significant, and no mitigation measures are necessary.

TABLE 4.4-11. CUMULATIVE LIFETIME CANCER RISK AND $PM_{2.5}$ CONCENTRATIONS AT THE MAXIMALLY EXPOSED ONSITE RECEPTORS

Source	Lifetime Excess Cancer Risk (in 1 million)	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Cumulative Baseline[a]	45	8.6
Project Construction	7	0.037
Removal of Existing Generators[b]	-2.2	-0.0030
3333 California Street Project[c]	0.7	0.0019
Cumulative Total	**50**	**8.6**
APEZ Criteria	*100*	*10*
Exceed APEZ Criteria?	**No**	**No**

Sources: Ramboll, 2018; Tables 20 and 21 in EIR Appendix H; Air District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*, 2012.

Notes:

a. Background cancer risk and $PM_{2.5}$ concentrations were estimated using the maximum between the 2014 and 2040 background values from the citywide health risk assessment database. The 2014 values were used for cancer risk, and the 2040 values were used for $PM_{2.5}$ concentration.

b. The cancer risk and $PM_{2.5}$ concentration from emergency generators are negative because the three existing onsite generators would be removed during construction.

c. As discussed above, impacts from only 3333 California Street project were quantitatively evaluated here.

5 OTHER CEQA ISSUES

This chapter discusses the following topics in relation to the proposed project: growth inducement potential, significant environmental effects that cannot be avoided if the project is implemented, significant irreversible environmental changes that would result if the proposed project is implemented, and areas of known controversy and issues to be resolved.

5.1 GROWTH INDUCEMENT

This section analyzes the growth-inducement potential of the proposed project, as required by CEQA Guidelines section 15126.2(d). A project is considered growth inducing if it would directly or indirectly foster substantial employment or population growth or the construction of a substantial number of additional housing units. Examples of projects that would be likely to result in significant adverse growth inducement include extensions or expansions of infrastructure systems, beyond what is needed to serve planned growth, and development of new residential subdivisions in areas that are sparsely developed or undeveloped. The project would be located on an infill site that is surrounded on all sides by urban residential uses and would not result in the extension of infrastructure into undeveloped areas. Population growth that would result from the proposed project would be limited to the project site itself. The project would not directly or indirectly induce growth beyond the project site.

The proposed project would remove existing hospital and medical office uses and construct residential units on the project site, introducing 618,200 feet of residential space and 52,800 square feet of private open space while removing 622,000 square feet of hospital and medical office uses. As discussed in Section E.2, *Population and Housing,* in the initial study (see Appendix B), the proposed project would result in a net increase in housing on the project site. The new residential buildings would directly increase the residential population on the project site. The project would not displace existing housing units at the project site; rather, it would retain and renovate the existing nine units in Block A, which have approximately 20 existing residents. The proposed project would generate approximately 680 new residents, for a total of approximately 701 residents at the project site.

The existing hospital's services and employees began relocating to the new 730,888-square-foot Van Ness and Geary California Pacific Medical Center (CPMC) campus, which is less than two miles from the project site, in the spring of 2019. The proposed project would not introduce employment-generating uses, with the exception of a small amount of employees for the operation of the residential uses, estimated to include up to 10 employees. Therefore, the project would not induce substantial employment growth.

These direct effects of the proposed project on population and housing are within the scope of growth projected by the Association of Bay Area Governments (ABAG). San Francisco has a current population of approximately 850,282.[1] According to ABAG's *Projections 2013*, San Francisco's population will increase by approximately 91,400, from 890,400 in 2020 to 981,800 in 2030, while the Bay Area population will increase by approximately 710,000 people.[2] Therefore, the addition of approximately 680 new residents resulting from the proposed project would account for about 0.74 percent of the residential growth expected in the city and approximately 0.10 percent of the residential growth expected in the Bay Area between 2020 and 2030.[3] Based on ABAG projections for population, this is well within the range of anticipated growth for the city. Therefore, the proposed project would not induce substantial population growth beyond that projected by regional forecasts. Furthermore, the proposed project would contribute to ABAG's regional housing objectives, help meet regional goals that call for growth and development within walking distance of retail/shopping areas and transit, and increase the local and regional housing supply. Therefore, implementation of the proposed project would increase population growth only to the extent already envisioned in existing regional, local, and area plans and would not have a direct or indirect growth-inducing impact. Furthermore, the proposed project would not result in the extension of infrastructure into undeveloped areas, the extension of infrastructure beyond what is needed to serve project-specific demand, the construction of a residential project in an area that is undeveloped or sparsely developed, or the removal of obstacles to population growth (such as provision of major new public services to an area where those services are not currently available).

5.2 Significant and Unavoidable Impacts

In accordance with CEQA section 21067 and CEQA Guidelines sections 15126(b) and 15126.2(b), this section identifies significant environmental impacts that could not be eliminated or reduced to less-than-significant levels by implementation of all identified mitigation measures. The findings of significant impacts are subject to final determination by the San Francisco Planning Commission as part of the certification process for this draft EIR.

Based on the analysis in Chapter 4, *Environmental Settings and Impacts*, of this EIR, development of the proposed project would not result in any significant and unavoidable impacts. All of the project's significant impacts can be mitigated to a less-than-significant level.

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1 U.S. Census Bureau, *2012–2016 Five-Year American Community Survey, San Francisco County, California,* American Community Survey Demographic and Housing Estimates, https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml, accessed: February 5, 2018.

2 Association of Bay Area Governments, *Projections 2013*. December 2013.

3 To calculate the amount of growth in the city and Bay Area, the total number of new residents added under the proposed project (680) is divided by the anticipated growth in the city (91,400) and Bay Area (710,000). City growth: (680 new residents/91,400) x 100 = 0.74; Bay Area growth: (680 new residents/710,000) x 100 = 0.10.

5.3 SIGNIFICANT IRREVERSIBLE IMPACTS

In accordance with sections 15126.2(c) and 15127 of the CEQA Guidelines, an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. Such significant irreversible environmental changes may include current or future uses of non-renewable resources, secondary or growth-inducing impacts that commit future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to CEQA Guidelines section 15126.2(c), irretrievable commitments of resources should be evaluated to ensure that such current consumption is justified. In general, such irreversible commitments include the use of resources such as energy and the materials to construct a project as well as the energy and natural resources (including water) that would be required to sustain the project and its inhabitants or occupants over the usable life of the project.

No significant environmental damage, such as that resulting from accidental spills or the explosion of a hazardous material, is anticipated with implementation of the proposed project. Compliance with federal, state, and local regulations would ensure that construction and operation activities at the project site would not result in the release of hazardous materials into the environment and that associated impacts would be less than significant (refer to Section E.17, *Hazards and Hazardous Materials*, of the initial study in Appendix B). As such, no irreversible changes, such as those that may occur from construction of a large-scale mining project, a hydroelectric dam project, or other industrial project, would result from development of the proposed project.

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in Section E.20, *Agriculture and Forestry Resources*, of the initial study (see Appendix B), the project site is located in an urbanized area of San Francisco. Therefore, no existing agricultural lands would be converted to non-agricultural uses. As discussed in Section E.18, *Mineral Resources*, and Section E.19, *Energy*, of the initial study (see Appendix B), the project site does not contain known mineral deposits and is not a locally important mineral resource recovery site; thus, development of the proposed project would not result in the loss of access to mining reserves. Demolition and construction associated with the proposed project would require the use of energy, including energy produced from nonrenewable resources. Construction activities would use the most energy-efficient equipment available to meet state and local goals for criteria air pollutants and greenhouse gas emissions reductions and would not have a measurable effect on regional energy supplies or on peak energy demand, resulting in a need for additional capacity. Therefore, as a temporary activity, construction of the proposed project would not be considered inefficient or wasteful.

Energy consumption would also occur during operation of the proposed project. As discussed in Section 4.2, *Transportation and Circulation*, the project site has convenient access to public transit and local retail options; it is also pedestrian and bike friendly. In addition, the number of vehicle miles traveled per capita is relatively low compared to the rest of the Bay Area. Notably, the proposed project is expected to result in nearly 5,000 fewer vehicle trips per day compared to existing conditions; it would also increase walking trips (refer to Section 4.2.4 in *Transportation and Circulation*). Thus, implementation of the proposed project would not lead to a wasteful use of fuel as a result of vehicle trips. Based on compliance with the Title 24 conservation standards of the California Code of Regulations and the assessment of projected demand for energy resources, operation of the proposed project would not have a measurable effect on regional energy supplies or on peak energy demand, resulting in a need for additional capacity. As discussed in Section E.8, *Greenhouse Gas Emissions*, of the initial study (see Appendix B), the proposed project would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions because the project would comply with the city's Greenhouse Gas Reduction Strategy. In addition, the proposed project would not require the construction of major new utility lines to deliver energy or natural gas because these services are already provided in the area. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

5.4 Areas of Known Controversy and Issues to Be Resolved

Publication of the notice of preparation (NOP) for the EIR initiated a 30-day public comment period that began on September 19, 2018, and ended on October 19, 2018. During the NOP review and comment period, a total of 14 letters and emails were submitted to the planning department by interested parties, nearly all of which were administrative in nature (e.g., requests for document copies). A letter was also received from the Native American Heritage Commission, summarizing general tribal outreach requirements. No environmental concerns specific to the proposed project or the scope and contents of the EIR were received. The planning department has considered the comments made by the public in preparation of the draft EIR for the proposed project. The comment letters and emails received in response to the NOP are available for review as part of Case No. 2017-003559ENV. The NOP can be found in Appendix A.

As discussed in Chapter 2, *Project Description*, Section 2.4, of this EIR, in August 2013, the City and Sutter West Bay Hospitals (doing business as CPMC) entered into a development agreement regarding redevelopment of some of CPMC's existing facilities, which were no longer needed by CPMC when its new hospital campus at Geary Street and Van Ness Avenue became operational in the spring of 2019. From 2015 through 2017, the project sponsor engaged in a community outreach process to solicit input regarding the neighborhood's vision for redevelopment of the project site, pursuant to the requirements set forth in the development agreement. The project sponsor worked with the Vision Advisory Committee, comprising leaders from several neighborhood associations (see pp. 2-11 and 2-12 for more information), which included quarterly meetings starting in December 2014, with a total of eight official Vision Advisory Committee meetings and a wider community meeting. The project sponsor conducted a neighborhood survey, which received more than 300 responses, and held more than 35 additional neighbor and neighborhood meetings, including presentations and meetings with interested neighborhood associations as well as one-on-one in-home meetings with neighbors, particularly during the spring and summer of 2016. Environmental topics raised during this process included traffic, parking, noise, walkability, and consistency with the quality and character of existing neighborhood architecture. Although the community outreach process is separate from the NOP scoping effort and not part of the environmental review process required by CEQA, the planning department considered each of these topics in preparing the EIR for the proposed project. Refer to Sections 4.2, *Transportation and Circulation*, 4.3, *Noise*, and 4.4 *Air Quality* for discussions of the proposed project's impacts related to traffic, noise, and air quality respectively.

As noted in Section 4.1, *Introduction*, the proposed project is subject to Public Resources Code 21099(d), which eliminates consideration of impacts related to aesthetics and parking in determining the significance of physical environmental impacts under CEQA for residential, mixed-use residential, or employment-center projects on infill sites within transit priority areas. Accordingly, this EIR does not contain a separate discussion of impacts related to aesthetics. The EIR nonetheless provides a rendering of the proposed project in Chapter 2, *Project Description*; parking is discussed in Section 4.2, *Transportation and Circulation*. Overall, the information regarding aesthetics (visual character) and parking provided herein does not relate to the impact significance determinations in the EIR. Although walkability is not an environmental impact in and of itself, the general concept of walkability is discussed throughout the EIR with respect to other environmental topics related to reducing the number of vehicle trips (e.g., Section 4.2, *Transportation and Circulation*, and Section 4.4, *Air Quality*).

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6 ALTERNATIVES

6.1 INTRODUCTION

This chapter presents the alternatives analysis, as required by CEQA, for the proposed project. The chapter includes a discussion of the CEQA requirements for an alternatives analysis and the methodology used for the selection of alternatives, with the intent of developing potentially feasible alternatives that avoid or substantially lessen the significant impacts identified for the proposed project while still meeting most of the basic project objectives. This chapter identifies a reasonable range of alternatives that meet the above criteria.

The alternatives are evaluated for their comparative merits with respect to minimizing adverse environmental effects. After identifying the alternatives, the chapter evaluates the alternatives' impacts compared to existing environmental conditions and compared to the impacts of the proposed project. Based on this analysis, this chapter then identifies the environmentally superior alternative. Finally, it describes other alternative concepts that were considered but eliminated from detailed consideration and the reasons for their elimination.

6.1.1 CEQA REQUIREMENTS FOR ALTERNATIVES ANALYSIS

The CEQA Guidelines require the analysis of a reasonable range of alternatives to the proposed project or to the location of the project that would feasibly attain most of the basic objectives of the project and avoid or substantially lessen any of the significant effects of the project (CEQA Guidelines section 15126.6). The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those potentially feasible alternatives necessary to foster informed public participation and an informed and reasoned choice by the decision-making body (CEQA Guidelines section 15126.6(f)). CEQA generally defines "feasible" to mean the ability to be accomplished in a successful manner within a reasonable timeframe, taking into account economic, environmental, social, technological, and legal factors. The following factors may also be taken into consideration when assessing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the ability of the proponent to attain site control (CEQA Guidelines section 15126.6(f)(1)). An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative but must consider a reasonable range of alternatives that will foster informed decision-making and public participation.

CEQA also requires the evaluation of a No Project Alternative (CEQA Guidelines section 15126.6(e)). The analysis of the No Project Alternative is based on the assumption that the proposed project would not be approved. In certain instances, the No Project Alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the No Project Alternative should identify the practical result of the project's non-approval rather than create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

In addition, an environmentally superior alternative must be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative that would result in the least adverse environmental impacts on the project site and affected environment. If the No Project Alternative is found to be the environmentally superior alternative, the EIR must identify an environmentally superior alternative among the other alternatives (CEQA Guidelines section 15126.6(e)(2)).

CEQA Guidelines section 15126.6(c) also requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process. In identifying alternatives, primary consideration was given to alternatives that would reduce significant impacts while still meeting most of the basic project objectives. Those alternatives that would have impacts identical to or more severe than the proposed project, or would not meet most of the basic project objectives, were rejected from further consideration.

6.1.2 ALTERNATIVES SELECTION

As discussed above, the alternatives to the proposed project are meant to feasibly attain most of the basic project objectives (discussed in more detail below) while avoiding or substantially lessening significant impacts.

SUMMARY OF SIGNIFICANT IMPACTS

The EIR and initial study (see Appendix B) identified 13 significant impacts of the proposed project (see Chapter 4, *Environmental Setting and Impacts,* of the EIR and the initial study in Appendix B). These significant impacts would occur in the areas of cultural resources, tribal cultural resources, biological resources, paleontological resources, and noise. All of the proposed project's significant impacts would be mitigated to a less-than-significant level with implementation of the proposed mitigation measures. The EIR did not identify any impacts that would be significant and unavoidable after mitigation. The significant impacts requiring mitigation are listed below.

CULTURAL RESOURCES (INITIAL STUDY TOPIC)

- Impact CR-1. The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-1 (Historic Preservation Plan and Protective Measures for 3698 California Street).

- Impact CR-2. Project-related activities could cause a substantial adverse change in the significance of an archaeological resource, pursuant to section 15064.5. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-2 (Archaeological Testing).
- Impact CR-3. Project-related activities could disturb human remains, including those interred outside of formal cemeteries. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-2 (Archaeological Testing).
- Impact C-CR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative cultural resource impacts. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-2 (Archaeological Testing).

TRIBAL CULTURAL RESOURCES (INITIAL STUDY TOPIC)

- Impact TCR-1. Project-related activities could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measures M-CR-2 (Archaeological Testing) and M-CR-3 (Tribal Cultural Resources Interpretive Program).
- Impact C-TCR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative tribal cultural resources impacts. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measures M-CR-2 (Archaeological Testing) and M-CR-3 (Tribal Cultural Resources Interpretive Program).

BIOLOGICAL RESOURCES (INITIAL STUDY TOPIC)

- Impact BI-1. The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on 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. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-BI-1 (Preconstruction Nesting Bird Surveys and Buffer Areas).
- Impact BI-2. The proposed project could 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. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-BI-1 (Preconstruction Nesting Bird Surveys and Buffer Areas).

- Impact C-BI-1. The proposed project, in combination with reasonably foreseeable projects, could result in cumulative biological resources impacts. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-BI-1 (Preconstruction Nesting Bird Surveys and Buffer Areas).

Paleontological Resources (Initial Study Topic, Geology and Soils)

- Impact GE-4. The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-GE-4 (Inadvertent Discovery of Paleontological Resources).

Noise (EIR Topic)

- Impact NO-1. Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-NO-1 (Construction Noise Control).
- Impact NO-2. Construction of the project could generate excessive ground-borne vibration or ground-borne noise levels. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-NO-2 (Vibration-Sensitive Equipment at 3838 California Street).
- Impact C-NO-1. Construction activities for the proposed project, in combination with reasonably foreseeable projects, could result in a substantial temporary increase in noise. The impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-NO-1 (Construction Noise Control).

Selected Alternatives

This section describes the project alternatives that were selected and evaluated in this analysis. The first alternative, the No Project Alternative, is required under CEQA Guidelines section 15126.6(e)). Two additional alternatives were developed following identification of significant impacts from the proposed project that would require mitigation to be reduced to less-than-significant levels.

The alternatives selected for detailed analysis in this EIR are as follows:

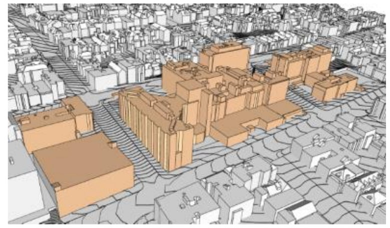
- **Alternative A: No Project Alternative.** The No Project Alternative is based on what would reasonably be expected to occur on the project site if the proposed project is not approved, in accordance with CEQA Guidelines section 15126.6(e). The No Project

Alternative assumes that physical conditions on the project site would remain the same. However, because CPMC moved to a new facility at Geary Street and Van Ness Avenue in the spring of 2019, the No Project Alternative does not assume continuation of existing operational conditions. Rather, it is assumed that the previous hospital facility would be occupied by non-acute medical care and medical office uses.

- **Alternative B: Reduced Construction Alternative.** This alternative was selected based on its ability to reduce construction-related impacts associated with the mass grading and excavation necessary to create below grade parking, loading, and access for the proposed project. This alternative has been specifically included for analysis because of its potential to reduce impacts on cultural resources, tribal cultural resources, paleontological resources, and construction-related noise. Alternative B assumes that all existing uses on the project site would be demolished with the exception of 401 Cherry Street and the Marshal Hale hospital building, and that a new residential development would be constructed that would continue the neighborhood's residential land use pattern of homes with individual garages and driveways at grade level. Alternative B would allow for the construction of 141 new multi-family residential uses, primarily in the form of duplex buildings (including the nine existing units at 401 Cherry Street).
- **Alternative C: Rehabilitation/Reuse Alternative.** The selection of this alternative was based on its ability to reduce construction-related impacts, including impacts related to cultural resources, tribal cultural resources, biological resources (i.e., impacts on nesting birds resulting from tree removal), paleontological resources, and noise (i.e., construction noise). Alternative C assumes retention of all existing hospital buildings and conversion of those buildings into residential uses, with minimal demolition, less excavation, and minimal construction activities during renovations. This alternative would result in 258 residential units.

The selected alternatives are described in further detail below. Table 6-1, *Comparison of Proposed Project and Alternatives*, compares the features of each alternative.

TABLE 6-1. COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

	Proposed Project	No Project Alternative	Reduced Construction Alternative	Rehabilitation/Reuse Alternative
				
Building Heights	36′–80′	25′–112′	36′–40′[a]	25′–112′
No. of Stories	3–7	3–8	3	3–8
Total No. Units	273	9	141	258
Studio	13: 5%	0: 0%	0: 0%	8: 3%
1 Bedroom	56: 21%	9: 100%	13: 9%	65: 25%
2 Bedroom	88: 32%	0: 0%	42: 30%	84: 33%
3 Bedroom	96: 35%	0: 0%	86: 61%	91: 35%
4 Bedroom	20: 7%[b]	0: 0%	0: 0%	10: 4%
Square Footage (sf) by Use	603,200 sf residential; 15,000 sf amenity	7,000 sf residential (401 Cherry); 622,000 sf medical office	235,000 sf residential	462,000 sf residential; 25,000 sf amenity; 142,000 sf storage/unusable (subgrade)
Open Space	86,200 sf (common and private)	25,000 sf (common)	82,600 sf (common)[d]	88,200 sf (common)[d]
Parking	416 spaces; 221,000 sf	439 spaces; 105,000 sf	132 spaces; 52,000 sf[e]	354 spaces; 105,000 sf
Bike Stalls	411 class 1 22 class 2	16	212 class 1 21 class 2	387 class 1 39 class 2
No. of Lots (lot size)	16 (2,500–99,400 sf)	14 (approx. 2,000–59,000 sf)	+/- 60 (+/- 3,000 sf)	Not determined – potentially same/less than existing
Entitlements	CU/PUD	None	Potential PUD	CU/PUD
Excavation Depth	13′–75′ below grade;[c] 61,800 cubic yards (cy)	None	Up to 10′ below grade; approx. 6,600 cy	Approx. 8′ below grade; approx. 1,200 cy

Proposed Project	No Project Alternative	Reduced Construction Alternative	Rehabilitation/Reuse Alternative

Source: TMG Partners 2018.

[a] Forty feet for all new buildings, 40 feet for existing 401 Cherry Street, and 36 feet for existing 3698 California Street (Marshal Hale hospital building).

[b] 12 single-family residential (SFR) units on separate lots and two SFR units on podium lots are included in four-bedroom count; exact bedroom count not yet determined.

[c] Maximum depths of 13 feet on Block A, 75 feet on Block B, and 17 feet on Block C.

[d] Some portion of open space could be made private.

[e] Accounts for one space per unit, except 401 Cherry Street.

Notes: Amenity = common areas, fitness facility, recreation space; CU/PUD = conditional use/planned unit development.

6.2 ALTERNATIVES ANALYSIS

This analysis evaluates the impacts of each of the selected alternatives and identifies whether those impacts would be less than, similar to, or greater than the impacts of the proposed project. The alternatives analysis focuses on the topics analyzed in detail in the EIR (transportation, noise, and air quality) as well as the topics that the initial study determined would require mitigation in order for the project's impacts to be reduced to a less-than-significant level (cultural resources, tribal cultural resources, biological resources, and paleontological resources). A brief analysis is also provided for other topics scoped out from further analysis in the initial study. Following the alternatives analysis, Table 6-2, *Comparison of Significant Impacts of Proposed Project to Impacts of Alternatives*, p. 6-29, compares the significant impacts of the proposed project, No Project Alternative, Reduced Construction Alternative, and Rehabilitation/Reuse Alternative.

6.2.1 ALTERNATIVE A: NO PROJECT ALTERNATIVE

DESCRIPTION

Under the No Project Alternative, the project site would remain substantially in its existing physical condition and the proposed new residential uses would not be developed. Hospital operations and acute care are not included in the No Project Alternative because CPMC moved to a new facility at Geary Street and Van Ness Avenue in the spring of 2019. Thus, for purposes of this analysis, it is assumed that medical uses associated with non-acute care would operate at the project site and that the CPMC buildings and hospital grounds would not become vacant. With land values and construction costs in San Francisco being relatively high, and given that the project site recently operated as a hospital and medical office site, it is assumed that the current buildings, grounds, layout, parking facilities, and medical equipment are valuable resources that would not be abandoned or vacated should this alternative be chosen. The buildings on the project site would not be significantly altered, although some code-required upgrades to the existing buildings would very likely be necessary (such as standard seismic retrofits and shear walls). Conversion or renovation of the existing hospital areas on the project site to general medical or other non-acute care uses is assumed to be minor, mostly interior work, and short in duration. The Marshal Hale hospital building would remain medical offices, as is the current use, although some renovations may be required for building code compliance. It is possible that the use of heavy construction equipment may be needed for short durations to update building systems (such as cranes to install new HVAC systems on the roofs). This alternative includes retention of the existing nine-unit residential building at 401 Cherry Street; however, the building would not be renovated. Existing onsite parking garages and lots would remain unaltered.

ABILITY TO MEET PROJECT OBJECTIVES

Under the No Project Alternative, the physical environment of the project site would remain generally unchanged, and no residential uses would be constructed. Therefore, the No Project Alternative would fail to meet all of the basic project objectives (refer to Section 2.2 in Chapter 2, *Project Description*).

IMPACTS

TRANSPORTATION AND CIRCULATION

Under this alternative, with existing medical uses retained (minus the hospital and acute care), transportation and circulation conditions would generally remain as they are under existing conditions. The total number of people driving and riding transit in the project area would continue to be higher than it would be under the proposed project. The No Project Alternative would not provide the streetscape improvements proposed for the project; therefore, existing deficiencies in the pedestrian network, such as the narrow sidewalks and prohibited crosswalks, would remain. The No Project Alternative would result in no change in operational travel to and from the project site; therefore, it would have no project-specific or cumulative impact on vehicle miles traveled, transit, traffic hazards, walking/accessibility, bicycle travel, loading, or emergency vehicle access. Therefore, Improvement Measure I-TR-B, Monitoring and Abatement of Queues, would not be recommended for the No Project Alternative. Although the No Project Alternative would generate a small number of construction-related truck and worker trips, associated with anticipated minor building renovations, the No Project Alternative would generate fewer construction-related truck and worker trips to and from the project site compared with the proposed project. Therefore, Improvement Measure I-TR-A, Project Construction Updates, would not be recommended for the No Project Alternative. Apart from the relatively small amount of construction activity required for building renovations, no transportation or circulation impacts would occur, based on existing conditions. However, some impacts would be greater than those of the proposed project because a net reduction in vehicle trips would not result from this alternative, and this alternative would not widen sidewalks.

NOISE

Under the No Project Alternative, there would generally be no heavy construction activity and no excavation at the project site; therefore, there would be less impact with respect to construction noise and vibration as compared to the proposed project. While it is possible that the No Project Alternative would use heavy construction equipment for short durations to update building systems (such as cranes to install new HVAC systems on the roofs), it is not anticipated that the No Project Alternative would require the use of loud construction equipment, such as concrete saws or crushing/processing equipment, for a substantial period of time. Thus, the No Project Alternative would not generate substantial temporary or periodic increases in ambient noise levels in the project vicinity. The No Project Alternative would retain the existing parking garage at 460 Cherry Street and therefore would not generate vibration that could affect vibration-sensitive equipment in the adjacent 3838 California Street medical office building or result in building damage at nearby buildings. Overall, construction noise and vibration impacts would be less than significant and implementation of Mitigation Measures M-NO-1 and M-NO-2 would not be necessary.

Regarding operational impacts under the No Project Alternative, medical uses would continue at the project site, but hospital operations and acute care would not, resulting in a reduction in operational noise since there would be fewer ambulance trips, which are particularly noisy during emergency calls. As discussed above, traffic levels and traffic-related noise generation would be generally the same as existing conditions. As discussed in Section 4.3, *Noise*, the existing uses result in more vehicle trips compared with the proposed project. Furthermore, no new stationary or other non-transportation sources of noise would be added to the project site under this alternative. However, under the No Project Alternative, existing emergency backup generators and building HVAC systems would continue to be a source of existing noise. Therefore, although no impact would occur under the No Project Alternative, with respect to existing baseline noise conditions, noise impacts would be greater under the No Project Alternative compared with the proposed project because vehicle trips (and consequent noise) would not be reduced.

For the No Project Alternative, only limited construction would occur, most of which would be interior. Cumulative noise impacts from nearby projects, specifically, 3641 California Street and 3637–3657 Sacramento Street, could temporarily increase ambient daytime noise levels. Construction activities at both of these project sites would be required to comply with the City's noise ordinance requirements, which would limit the magnitude of any noise increases. As discussed above, construction of the No Project Alternative would require the use of construction equipment that would generate noise; however, as with the other cumulative projects, noise levels from individual pieces of equipment would be required to comply with the City's noise ordinance. Given the substantially reduced amount of construction required for the No Project Alternative, the scale of the cumulative projects that could be under construction concurrently with the No Project Alternative, and the noise limits for individual pieces of construction equipment required by the noise ordinance, noise from the No Project Alternative would not combine with that of cumulative projects to result in significant cumulative impacts, and a less-than-significant cumulative construction noise impact would occur. Because there would be no impact regarding operational noise, the No Project Alternative would not have the potential to combine with cumulative projects to result in a cumulative operational noise impact.

AIR QUALITY

Under the No Project Alternative, there would generally be no heavy construction activity at the project site because there would be only minimal construction upgrades and renovations to the existing buildings (except for limited use of cranes that may be required to install new rooftop HVAC systems). During operation of the No Project Alternative, no change in existing emissions would occur because the No Project Alternative would result in equivalent vehicle trips, energy use, and emissions from the existing three emergency back-up generators. Therefore, relative to the proposed project, the No Project Alternative would generally result in greater emissions of criteria air pollutants during operation. Although the proposed project would result in greater emissions than the No Project Alternative during construction, it would result in an operational net decrease in emissions in most years as well as a net decrease in most pollutants[1] due to the reduction of energy consumption and fewer vehicle trips to and from the project site. After completion of construction for the proposed project, all pollutants in all years would be net negative relative to existing conditions. Consequently, while no impact would occur relative to existing conditions, the No Project Alternative would result in overall increased impacts with respect to emissions of criteria air pollutants since no net reduction in emissions would occur.

With respect to toxic air contaminants, the No Project Alternative would not increase the cancer risk or localized concentrations of particulate matter 2.5 microns in diameter or less ($PM_{2.5}$) because only minimal construction activity for a short duration would occur during renovation of hospital use areas to general medical uses. As such, the project site and surrounding areas would continue to be below the Air Pollutant Exposure Zone (APEZ) criteria. The No Project Alternative would result in continued operation of onsite diesel generators; however, as shown in Tables 4.4-8 and 4.4-9 in Section 4.4 *Air Quality* (pp. 4.4-49 and 4.4-50, respectively), the excess cancer risk and $PM_{2.5}$ concentrations associated with project construction activity for onsite and offsite receptors would be greater than the cancer risk and $PM_{2.5}$ concentrations associated with the generators. As such, even with the existing generators still in operation, the No Project Alternative would result in a lower excess cancer risk and $PM_{2.5}$ concentration than the proposed project because it would not require substantial or heavy construction. Neither the proposed project nor the No Project Alternative, however, would result in sensitive receptor locations meeting the APEZ criteria.

As discussed in Section 4.4, *Air Quality*, the proposed project would not interfere with implementation of the *2017 Bay Area Clean Air Plan* because it would include the control measures identified in the plan and result in a net decrease in emissions. Under the No Project Alternative, existing land uses would remain largely unchanged. Therefore, operations under

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1 As shown in Table 4.4-6, p. 4.4-42, in Section 4.4, *Air Quality*, there would be net reductions in all pollutants during the overlap period for construction and operation, except for an increase in reactive organic gas emissions in 2023.

this alternative would not be required to comply with City regulations that also implement the recommendations of the *2017 Bay Area Clean Air Plan*, such as implementation of a transportation demand management (TDM) program and energy-efficiency upgrades. The proposed project, however, would include features in the project design that would specifically implement many of the control measures from the *2017 Bay Area Clean Air Plan*, such as development of a TDM program to encourage a reduction in personal vehicle trips by improving the pedestrian, bicycle, and transit realms at the project site (refer to Section 4.4, *Air Quality*) and a building design that includes modern, up-to-date, and efficient energy and water use, along with tree planting and wastewater recycling. Therefore, with respect to consistency with the *2017 Bay Area Clean Air Plan*, the No Project Alternative would be less consistent with the goals of the plan than the proposed project.

Overall, air quality impacts under the No Project Alternative would be less than significant, but regional air quality impacts would generally be greater than those under the proposed project because a net reduction in operational air emissions would not occur as a result of fewer vehicle trips and removal of the three onsite emergency generators. As with the proposed project, the No Project Alternative would make a less-than-significant contribution to cumulative regional air quality impacts. No mitigation measures are necessary. Regarding cumulative health risks, because the No Project Alternative would have no impact with respect to health risks, the No Project Alternative would not have the potential to combine with cumulative projects and result in a cumulative health risk impact.

Topics Analyzed in the Initial Study

Cultural Resources, Tribal Cultural Resources, Biological Resources, Paleontological Resources

With no excavation required for the No Project Alternative, there would be no construction-related impact and no potential to affect archaeological resources, human remains, tribal cultural resources, or paleontological resources. No impacts on nesting birds would occur because no trees would be removed. With respect to these topics, no impact would occur; Mitigation Measures M-CR-2, M-CR-3, M-BI-1, and M-GE-4 would not apply to the No Project Alternative.

The Marshal Hale hospital building would remain medical offices, as is the current use, although some renovations may be required for building code compliance. Building code renovations would have the potential to alter the character-defining features of the building. Therefore, this impact would remain significant, albeit less than that of the proposed project because construction activities for the No Project Alternative would be minor, mostly interior, and short in duration. Furthermore, they would not include excavation or other construction activities on the rest of the project site. Mitigation Measure M-CR-1 would still be required to reduce the impact to a less-than-significant level.

OTHER INITIAL STUDY TOPICS

Other topics regarding the intensity or location of development identified in the initial study are related to population and housing, greenhouse gas emissions, wind, shadow, utilities and service systems, and public services and recreation. Under the No Project Alternative, there would be no impacts with respect to these topics, given that the No Project Alternative uses would be in the same location as existing uses and the intensity of the uses would be substantially the same as existing conditions.

With no grading or excavation, there would be no potential exposure of construction workers or the public to subsurface contamination. However, the minor renovations of existing buildings under the No Project Alternative could lead to the exposure of construction workers or the public to hazardous materials associated with hospital operations and hazardous building materials, such as lead-based paint, asbestos, and fluorescent light ballasts that could contain polychlorinated biphenyl or diethylhexyl phthalate as well as switches, thermostats, and fluorescent light tubes that could contain mercury vapors. Because compliance with existing hazardous materials regulations is mandatory, such renovation activities are not expected to create a significant hazard for construction workers, the public, or the environment through the routine transport, use, or disposal of hazardous materials. As with the proposed project, the No Project Alternative would result in a less-than-significant impact with respect to the handling of hazardous materials.

The No Project Alternative would result in no change to the footprint and location of development. Therefore, the No Project Alternative would result in no impact related to land use and planning, geology and soils, hydrology and water quality, mineral resources, energy, wildfire, and agricultural/forest resources.

6.2.2 ALTERNATIVE B: REDUCED CONSTRUCTION ALTERNATIVE

The Reduced Construction Alternative would redevelop the project site with a new residential project, similar to the proposed project, but would not include the mass grading and excavation necessary to create the below-grade parking, loading, and access included under the proposed project. Rather, this alternative would continue the residential land use pattern of homes with individual garages and driveways at grade level; below-grade excavation and construction would be minimal because most building areas would be constructed at or above grade level. The Reduced Construction Alternative would result in a much reduced excavation depth (i.e., up to 10 feet under the Reduced Construction Alternative compared with 3 to 75 feet under the proposed project), with a decrease in excavated material totaling approximately 55,200 cubic yards (i.e., approximately 89 percent less excavation compared with the proposed project) (refer to Table 6-1, p. 6-6). Excavation and utility trenching would be necessary up to a depth of approximately 10 feet to install new utility systems on the project site. All other construction activities would be the same as the proposed project, with demolition of all existing buildings, except the buildings at 401 Cherry Street (which would be renovated) and 3698 California Street (the Marshal Hale hospital building, which would be renovated and converted into residential uses similar to the proposed project).

Alternative B would redevelop the site to include 141 residential units, with a mix of two-unit buildings throughout the project site and one four-unit building on Block A. Building heights would be up to 40 feet tall. The proposed density and building heights would be similar to and compatible with the adjacent blocks currently abutting the project site. Parking would be provided in individual garages with driveways, except for the buildings fronting California Street. This alternative assumes that one central below-grade garage would be constructed on Block B to provide parking for the Block B units that front California Street. Other elements of the project design, such as the streetscape elements, would remain the same as the proposed project (e.g., wider sidewalks to meet Better Street Plan standards, corner bulb-outs, and improved pedestrian crossings). Vehicle and bicycle parking would be provided in a manner that meets applicable planning code requirements. Figure 6-1, *Visual Rendering of the Reduced Construction Alternative*, provides a visual simulation of the building façade at Sacramento Street, looking at Block B from the intersection of Sacramento and Cherry streets, under the Reduced Construction Alternative. Figure 6-2, *Conceptual Plan for the Reduced Construction Alternative*, p. 6-16, provides an overview of building structures under the Reduced Construction Alternative.

Ability to Meet Project Objectives

The Reduced Construction Alternative would not meet the project objective to "develop the project site in a manner that is consistent with existing residential neighborhood character and the Neighborhood Vision Plan with the Vision Advisory Committee" because it would not implement the key design principles that were identified during the community visioning process, such as providing varied setbacks at project site edges; locating buildings to reflect existing sight lines; providing a mix of housing types that reflects the existing community, including single-family homes; and providing varied architecture that reflects the existing community character. This alternative would result in 132 fewer residential units (48 percent less) compared with the proposed project; studio and four-bedroom family units would not be constructed. However, 91 percent of the residential units in the Reduced Construction Alternative would be two- or three-bedrooms, meeting the project objective to "create housing that is attractive to families by providing new, adequately sized units with two or more bedrooms." The Reduced Construction Alternative would meet the project objectives to "develop new residential uses that 'knit together' the project site and existing neighborhood through architectural, site, landscape design, and overall development scale, thereby extending the existing neighborhood fabric through the site" and "develop building and landscape designs that reflect the diversity of existing San Francisco neighborhoods" because it would

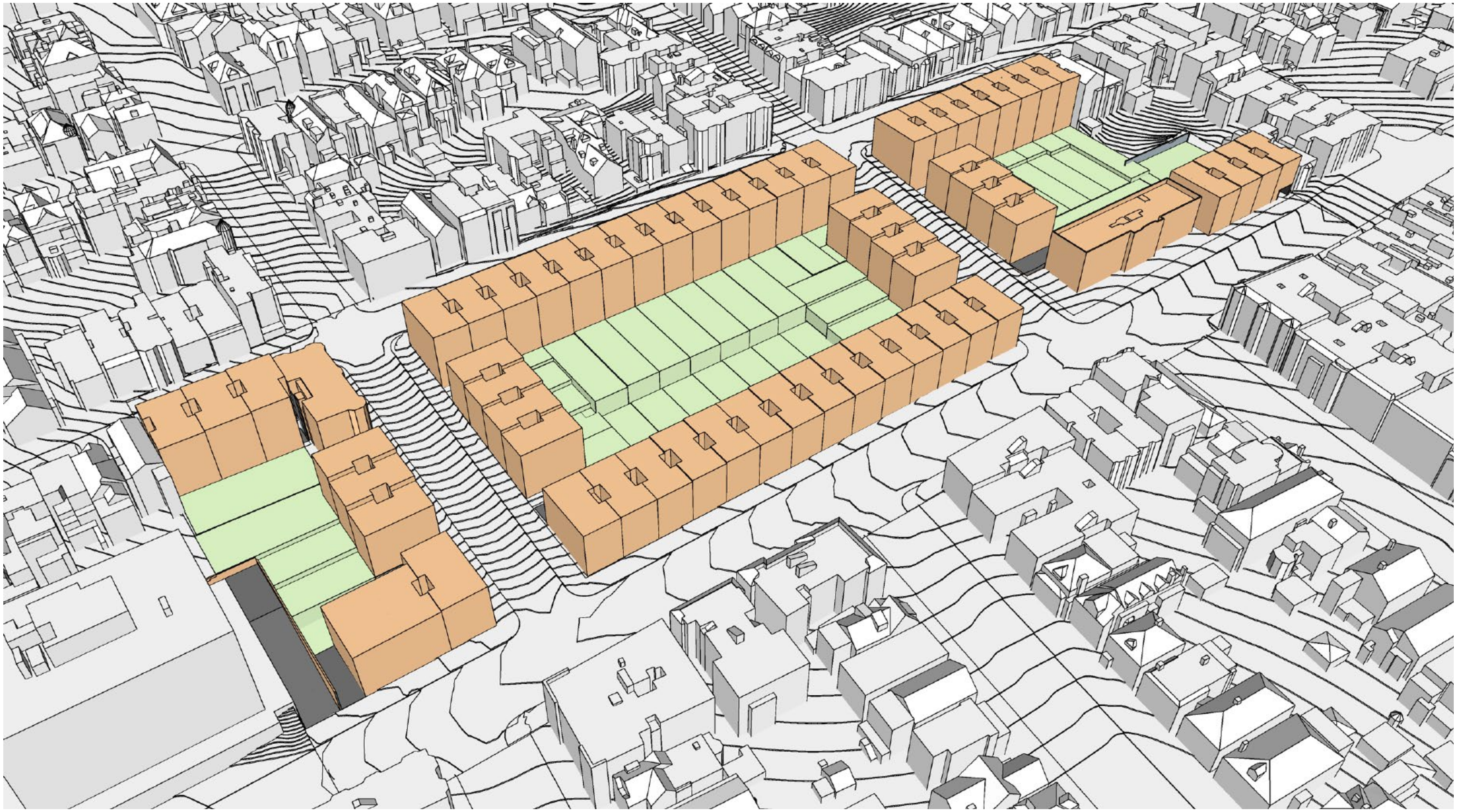
Sacramento Street facade, looking at Block B, from the intersection of Sacramento and Cherry Streets.

Source: TMG Partners 2018

Graphics... 00140.18 (11/1/18) AB

3700 California Street
Case No. 2017-003559ENV

Figure 6-1
Visual Rendering of the Reduced Construction Alternative



Source: TMG Partners, 2018

Figure 6-2
Conceptual Plan for the Reduced Construction Alternative

continue the existing residential land use pattern of the neighborhood, with architecturally designed buildings that would be consistent with the existing development scale but to a lesser extent than that of the proposed project because it would offer less variation in housing types and architecture. The Reduced Construction Alternative would meet the project objectives to include a TDM Plan, "promote sustainability through environmentally sensitive design features," "retain the existing 401 Cherry Street apartment building," "preserve and incorporate the historic portion of the Marshal Hale hospital building (fronting California Street) into the proposed design," and "provide off-street parking that is adequate for the occupancy proposed." Therefore, the Reduced Construction Alternative would meet some but not all of the basic project objectives (refer to Section 2.2 in Chapter 2, *Project Description*).

IMPACTS

TRANSPORTATION AND CIRCULATION

As with the proposed project, the Reduced Construction Alternative would result in fewer people driving automobiles and riding transit compared with the existing hospital and medical uses at the project site. However, there are several important design differences between the Reduced Construction Alternative and the proposed project.

First, the Reduced Construction Alternative would provide individual driveways at each residential unit, except the buildings fronting California Street. Because new curb cuts are not allowed on California Street, per the Better Streets Plan, one central below-grade garage would be constructed in Block B to provide parking for the Block B units that face onto California Street. This garage would be designed with driveways similar to those of the proposed project to meet Better Streets Plan and planning code standards. This design would avoid most of the below-grade excavation required for the large multi-family garages under the proposed project. Although this alternative would have more curb cuts than the proposed project, the design and spacing of the curb cuts would be similar to that found in the surrounding neighborhoods where most homes have driveway curb cuts. The increase in the number of curb cuts under this alternative would not substantially interfere with accessibility for people walking or bicycling or create substantial hazards for other modes of transportation because vehicles would enter or exit at the private driveways infrequently.

Second, passenger and freight loading would occur within the street under the Reduced Construction Alternative. This alternative would also generate far lower demand for passenger or freight loading compared with the existing hospital uses and the proposed project because of the reduced number of residential units. The proposed project would generate one freight vehicle loading activity at a time during the peak hour; freight loading would be more infrequent than this under the Reduced Construction Alternative. The project sponsor would coordinate with the San Francisco Municipal Transportation Authority (SFMTA) color curb coordinator to determine the appropriate number of on-street passenger loading zones and accommodate the Reduced Construction Alternative's demand for loading. Loading spaces would very likely be prioritized for California Street to ensure that loading activities would not interfere with transit service on that street. Therefore, loading activity would not create substantial hazards for other modes of transportation.

Other elements of the project design, such as the streetscape elements would remain the same for the Reduced Construction Alternative (e.g., wider sidewalks to meet Better Street Plan standards, corner bulb-outs, and improved crossings for people walking). Vehicle and bicycle parking would be provided in a manner that meets applicable planning code requirements.

Overall, the Reduced Construction Alternative, as a result of having fewer residential units than the proposed project, would generate fewer trips compared with the proposed project and, therefore, like the proposed project, would have a less-than-significant project-specific and cumulative impact on vehicle miles traveled, transit, traffic hazards, walking/accessibility, bicycle travel, loading, and emergency vehicle access. Construction vehicle worker trips would also be reduced with the Reduced Construction Alternative due to the reduced amount of construction and reduced timeframe necessary to construct fewer units and less parking, although the alternative is still expected to entail a multi-year construction process. All of these impacts were found to be less than significant under the proposed project, both individually and cumulatively, and the same would hold true for the Reduced Construction Alternative. Improvement Measure I-TR-A, Project Construction Updates, would be recommended for the Reduced Construction Alternative but Improvement Measure I-TR-B, Monitoring and Abatement of Queues, would not be recommended for this alternative because of the reduced number of units (and therefore reduced number of vehicle trips) and because individual driveways would be provided at each residential unit.

NOISE

Construction noise and vibration impacts under the Reduced Construction Alternative would be similar to noise and vibration under the proposed project. Although there would be less demolition and construction activity under this alternative compared with the proposed project, the construction of new residential buildings would nevertheless require heavy-duty noise- and vibration-generating equipment. The Reduced Construction Alternative would result in 141 units, which is approximately 52 percent of the number of units that would be constructed for the proposed project. The proposed project would involve a construction period of approximately 40 months; therefore, even with a reduced number of units constructed, it is likely that the Reduced Construction Alternative would result in a multi-year construction process. Consequently, noise levels similar to those discussed for the proposed project could be generated on maximum activity days by construction of the Reduced Construction Alternative. Although less excavation would be needed for the Reduced Construction Alternative, other loud construction activities (see Table 4.3-14, p. 4.3-31), such as demolition and site work, would still be required. In Section 4.3, *Noise*, a worst-case scenario is analyzed where the two loudest pieces of equipment operate simultaneously, and such a scenario could result in an ambient noise increase of up to 25 dBA. The types of construction activity and equipment for the Reduced Construction Alternative would be similar to the types under the proposed project. Therefore, demolition and site work could generate a similar significant increase in noise for a similar duration.

As discussed in Section 4.3, *Noise*, construction would be required to comply with the City's noise ordinance. As with the proposed project, because demolition and site work would require the same types of equipment, simultaneous operation of two pieces of construction equipment could result in more than a 10 dBA increase in ambient noise levels, with a duration similar to that of the proposed project. Consequently, these impacts would be similar to the impacts of the proposed project. Mitigation Measure M-NO-1 would be required to reduce construction noise impacts to a less-than-significant level for the Reduced Construction Alternative. Impacts would be generally similar to those of the proposed project, though the severity and duration may be less substantial under the Reduced Construction Alternative.

Vibration impacts would also be similar to those of the proposed project, because demolition of existing building and construction of new buildings would occur and require a similar fleet of equipment. As discussed in Section 4.3, *Noise*, vibration impacts, with respect to sleep disturbance and building damage, would not be considered substantial under the proposed project. The same conclusion would apply to the Reduced Construction Alternative because any nighttime construction that may be required would be minor in scope and conducted over a very limited duration. As with the proposed project, because the Reduced Construction Alternative would require construction equipment similar to that of the proposed project, the Reduced Construction Alternative would not result in significant impacts related to building damage because of construction vibration. However, demolition of the building near 3838 California Street and other intensive construction activities would be required for the Reduced Construction Alternative. Because 3838 California Street may contain vibration-sensitive medical equipment, operation of large construction vehicles near this building could potentially interfere with the equipment. Consequently, vibration impacts related to vibration-sensitive equipment would be potentially significant. With implementation of Mitigation Measure M-NO-2 from Section 4.3, *Noise*, the impact would be reduced to a less-than-significant level.

As discussed in Section 4.3 *Noise*, the proposed project would not result in noticeable changes in traffic noise on any roadway in the project vicinity. The Reduced Construction Alternative would result in approximately 52 percent of the number of units that would be constructed for the proposed project. Because the Reduced Construction Alternative would result in fewer residents living on site and thus fewer vehicle trips than the proposed project, it too would not result in noticeable increases in traffic noise. Given the reduction in the number of trips for this alternative relative to the existing conditions, it is possible that there may be a noticeable decrease in traffic noise on some roadways, which would be beneficial to existing sensitive receptors. Non-transportation sources of operational noise, such as stationary equipment, would result in approximately the same level of noise as the proposed project, which would be similar to existing conditions because the hospital and medical office HVAC systems would be removed. Although there would be fewer newly constructed buildings, stationary equipment could still be located near existing sensitive receptors. As discussed in Section 4.3, *Noise*, any stationary noise source would be required to comply with section 2909 of the noise ordinance. Therefore, operational noise impacts would be less than significant, similar to the proposed project. To ensure that the new building's HVAC systems would be designed to comply with section 2909 of the noise ordinance, Improvement Measure I-NO-A, Stationary Equipment Noise Controls, would be recommended.

For the reasons discussed above, cumulative noise impacts would be similar to the cumulative impacts discussed for the project in Section 4.3, *Noise*. Overlap of construction noise associated with the Reduced Construction Alternative could combine with noise from nearby projects, specifically, 3641 California Street, and cause a substantial temporary increase in noise for a substantial duration. Cumulative construction noise impacts could be significant but less than significant with implementation of Mitigation Measure M-NO-1. For the reasons discussed in Section 4.3, *Noise*, construction vibration and operational noise under the Reduced Construction Alternative would not combine with vibration and noise from reasonably foreseeable projects to result in significant cumulative impacts.

AIR QUALITY

Relative to the proposed project, this alternative would result in slightly fewer emissions of criteria air pollutants and toxic air contaminants during construction because this alternative would require marginally less heavy-duty diesel equipment and fewer construction vehicles, truck trips, and worker trips. In addition, with reduced excavation, fugitive dust emissions would be reduced during construction compared with the proposed project. However, as with the proposed project, the Reduced Construction Alternative would be required to comply with the construction dust control ordinance, which would ensure that fugitive dust impacts would be less than significant. With respect to toxic air contaminants, compared to the proposed project, the Reduced Construction Alternative would result in a lower cancer risk and lower localized $PM_{2.5}$ concentration from construction because this alternative would require marginally less heavy-duty diesel equipment (i.e., below the levels shown in Tables 4.4-8 and 4.4-9 in Section 4.4, *Air Quality*, pp. 4.4-49 and 4.4-50, respectively). Similar to the proposed project, the Reduced Construction Alternative therefore would not result in sensitive receptor locations meeting the APEZ criteria and would not result in significant impacts related to toxic air contaminants. Construction air quality impacts would be less than significant and less than the less-than-significant impacts of the proposed project.

The Reduced Construction Alternative would result in the construction of fewer residential units and parking at the project site compared with the proposed project, thereby resulting in less energy consumption, fewer vehicle trips, and fewer related air emissions. Although the proposed project would result in fewer vehicle trips than the former hospital and current medical uses at the project site (refer to Section 4.2, *Transportation and Circulation*), the Reduced Construction Alternative would further reduce vehicle trips and their air pollutant emissions. As with the proposed project, this alternative would remove the three existing emergency generators on the project site and would not require any new stationary sources of emissions. Therefore, operational air quality impacts would be less than significant and less than the less-than-significant impacts of the proposed project. In addition, the Reduced Construction Alternative, as with the proposed project, would be required to comply with various local regulations such as the Transportation Demand Management Ordinance and the Construction Dust Control Ordinance. These regulations implement the control measures in the *2017 Bay Area Clean Air Plan*. Therefore, the Reduced Construction Alternative would also not conflict with the *2017 Bay Area Clean Air Plan*.

As with the proposed project, the Reduced Construction Alternative would make a less-than-significant contribution to cumulative regional air quality impacts, and no mitigation measures would be necessary. Regarding cumulative health risks, because the Reduced Construction Alternative would require marginally less construction equipment than the proposed project, it would result in similar less-than-significant cumulative health risk impacts.

Topics Analyzed in the Initial Study

Cultural Resources, Tribal Cultural Resources, Biological Resources, Paleontological Resources

With the reduced excavation and earth movement required for the Reduced Construction Alternative, as described above, the potential for excavation activities to encounter below-ground human remains, archaeological resources, tribal cultural resources, and paleontological resources would be lessened. As discussed in Section 15 in the initial study, in EIR Appendix B, the paleontologically sensitive Colma formation underlies the project site at a depth of 3 to 28 feet below the ground surface; excavation of up to 10 feet could occur under the Reduced Construction Alternative. Therefore, excavation associated with the Reduced Construction Alternative could encounter paleontological resources, resulting in a significant impact. However, this impact would be reduced to less than significant with implementation of Mitigation Measure M-GE-4. As with the proposed project, project and cumulative impacts on human remains, archaeological resources, and tribal cultural resources under the Reduced Construction Alternative would be reduced to less than significant with implementation of Mitigation Measures M-CR-2 and M-CR-3.

Historic resource impacts associated with renovation of the Marshal Hale hospital building would be similar, since the same changes would occur to the building. As with the proposed project, renovation activities have the potential to affect character-defining features of the Marshal Hale building, potentially resulting in a significant impact. However, as with the proposed project, this impact would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-1.

Potential impacts regarding the possible disturbance of nesting birds, some of which may be sensitive species or resident or migratory birds, would be similar to those of the proposed project because the Reduced Construction Alternative would very likely require a similar number of tree removals. Similar to the proposed project, project and cumulative impacts would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-BI-1.

OTHER INITIAL STUDY TOPICS

With the Reduced Construction Alternative, other impacts related to the location of development or the intensity of development would be further reduced compared with those identified in the initial study because fewer dwelling units and parking areas would be constructed under this alternative. These include lesser impacts on population and housing, greenhouse gas emissions, wind, shadow, utilities and service systems, public services and recreation, land use and planning, geology and soils, hydrology and water quality, mineral resources, energy, wildfire, and agricultural/forest resources. These impacts would be less than significant, as with the proposed project. The location of development would be the same as under the project, with the exception of the depth of excavation, which would be less.

With reduced grading and excavation under the Reduced Construction Alternative, there would be less potential for exposure of construction workers or the public to subsurface contamination. However, the renovation and demolition of existing buildings under the Reduced Construction Alternative could lead to the exposure of construction workers or the public to hazardous materials associated with hospital operations and hazardous building materials, such as lead-based paint, asbestos, and fluorescent light ballasts that could contain polychlorinated biphenyl or diethylhexyl phthalate as well as switches, thermostats, and fluorescent light tubes that could contain mercury vapors. Because compliance with existing hazardous materials regulations is mandatory, renovation and demolition activities are not expected to create a significant hazard for construction workers, the public, or the environment through the routine transport, use, or disposal of hazardous materials. As with the proposed project, the Reduced Construction Alternative would result in a less-than-significant impact with respect to the handling of hazardous materials.

6.2.3 ALTERNATIVE C: REHABILITATION/REUSE ALTERNATIVE

The Rehabilitation/Reuse Alternative would retain all existing hospital campus buildings at the project site and convert them to residential uses (including retention of the existing residential building at 401 Cherry Street). Existing building heights, massing, and exterior envelopes would be unchanged. Changes to the Marshal Hale hospital building would be the same as those proposed under the project. As shown above in Table 6-1, *Comparison of Proposed Project and Alternatives*, p. 6-6, this alternative would result in 258 units, with unit sizes similar to those of the proposed project. Construction activities would involve mostly interior demolition, with minimal excavation and grading. Existing above- and below-ground parking structures would be retained. Soil movement at the project site would be reduced by approximately 60,600 cubic yards (approximately 98 percent) compared with the proposed project. Approximately 8 feet of excavation would be required for trenching to update utility systems. During construction, the use of heavy equipment may be needed to update building systems (such as cranes to install new HVAC systems on the roofs) to comply with the current building code requirements. Existing landscaping and trees would remain. Enhanced and widened sidewalks would not be built under the Rehabilitation/Reuse Alternative because the existing angled street parking would be retained and reused at the project site, which would not allow for sidewalk widening.

ABILITY TO MEET PROJECT OBJECTIVES

The Rehabilitation/Reuse Alternative would not meet the project objective to "develop the project site in a manner that is consistent with existing residential neighborhood character and the Neighborhood Vision Plan with the Vision Advisory Committee" because it would not change the existing buildings and layout of the project site and would not reconfigure or redevelop the project site in a way that would make it look and feel consistent with other parts of the existing neighborhood in terms of scale, density, architectural style, or layout recommended through the neighborhood visioning process. This alternative would result in nearly the same number of residences (15 fewer units, or 5 percent less) as the proposed project, with a comparable mix of two- or three-bedroom units. Therefore, this alternative would meet the land use goal of the Neighborhood Vision Plan (i.e., to create housing on the project site) and the project objective to "create housing that is attractive to families by providing new adequately sized units with two or more bedrooms"; however, for the most part, it would fall short of the goal regarding "family-friendly amenities, including onsite recreational facilities, private and shared gardens, and open space," because retaining the existing buildings would not allow for the provision of new outdoor open spaces, although interior amenities could be provided. In addition, this alternative would not meet the project's objective to "develop new residential uses that 'knit together' the project site and existing neighborhood through architectural, site, landscape design, and overall development scale, thereby extending the existing neighborhood fabric through the site" because this alternative would not change most of the existing physical conditions of the project site (including architecture, site and landscape design, and scale), which would be necessary to fulfill this objective. The Rehabilitation/Reuse Alternative would not meet the project objective to "develop building and landscape designs that reflect the diversity of existing San Francisco neighborhoods" because this alternative would generally not change the existing building exteriors and landscaping of the project site. However, the Rehabilitation/Reuse Alternative could still meet some of the objectives of the project that fall under the TDM program. The Rehabilitation/Reuse Alternative would encourage a reduction in the number of person trips by automobile because of its proximity to transit and commercial amenities. Also, the Rehabilitation/Reuse Alternative would provide some of the TDM program strategies listed under the project objectives, such as "shared cargo bikes, shared cars, utility carts, subsidized clipper cards, secure bike parking, onsite delivery services, and storage facilities for delivered goods." However, "enhanced sidewalks" would not be included. The Rehabilitation/Reuse Alternative would not promote sustainability through environmentally sensitive design features because the older, less efficient buildings would be retained. The Rehabilitation/Reuse Alternative would retain the existing 401 Cherry Street apartment building, preserve and incorporate the historic portion of the Marshal Hale building, and provide adequate off-street parking. Therefore, the Rehabilitation/Reuse Alternative would meet a major aspect of the basic project objectives (refer to Section 2.2 in Chapter 2, *Project Description*) regarding the creation of housing at the project site (including the retention of 401 Cherry Street for housing); however, it would not meet the aesthetic, site lay-out, or community-based objectives discussed above.

IMPACTS

TRANSPORTATION AND CIRCULATION

As with the proposed project, the Rehabilitation/Reuse Alternative would result in fewer people driving automobiles or riding transit compared with the former hospital and current medical uses at the project site. The Rehabilitation/Reuse Alternative, as a result of having slightly fewer residential units than the proposed project, would generate fewer trips compared with the proposed project. The Rehabilitation/Reuse Alternative would concentrate parking and loading activities within existing parking structures, which would avoid extensive excavation but generate a larger number of vehicle trips on Cherry Street than the proposed project because of the location of the main parking garage at 460 Cherry Street. For some of the units, off-street parking spaces would not be located on the same lot (or block) because the existing parking spaces are primarily in Blocks A and C. However, because of the change in land use, there would still be fewer vehicles on Cherry Street. The reduction in overall vehicle trips compared with existing conditions would reduce the potential for conflicts with people walking, bicycling, riding transit, or driving around the project site.

Other elements of the project design, such as enhanced landscaping and pedestrian and streetscape improvements, would not occur with the Rehabilitation/Reuse Alternative. Therefore, existing deficiencies in the pedestrian network, such as the narrow sidewalks and prohibited crosswalks, would remain.

Overall, the Rehabilitation/Reuse Alternative, as a result of having slightly fewer residential units than the proposed project, would reduce travel to and from the project site and therefore would have no significant project-specific or cumulative impact on vehicle miles traveled, traffic hazards, transit, walking/accessibility, bicycle travel, loading, or emergency vehicle access. Construction vehicle worker trips would also be reduced with the Rehabilitation/Reuse Alternative due to the reduced amount of construction and reduced timeframe necessary to construct the alternative. All of these impacts were found to be less than significant in the case of the proposed project, either individually or cumulatively, and the same would hold true for the Rehabilitation/Reuse Alternative. Improvement Measure I-TR-A, Project Construction Updates, would be recommended for the Rehabilitation/Reuse Alternative to further minimize construction impacts on access for nearby residences, institutions, and businesses. However, Improvement Measure I-TR-B, Monitoring and Abatement of Queues, would not be recommended for this alternative because there are no existing queuing concerns in the area, and the same general driveway configurations would be maintained.

NOISE

The substantially reduced demolition and construction activity under this alternative would result in reduced construction noise and vibration levels. The conversion of existing buildings to residential uses could require the occasional use of heavy-duty construction equipment on the project site; however, the severity and duration of construction noise from the change in use at existing buildings, from hospital and medical offices to residential uses, would be substantially reduced relative to the noise that would result from demolishing existing buildings, site preparation, and constructing new buildings. In addition, much of the work for this alternative would occur within the buildings' interiors where noise would be largely attenuated by the building shell and thus less noticeable to existing sensitive receptors. It is possible that some loud construction equipment may be required for the Rehabilitation/Reuse Alternative (e.g., to break demolition materials down into pieces that can be hauled off-site), and the simultaneous operation of two loud pieces of construction equipment could generate temporary noise increases (i.e., greater than a 10 dBA increase in ambient noise levels for limited periods of time). However, construction noise impacts would not be considered substantial because noise from individual pieces of equipment is regulated by the noise ordinance. Construction activities required for the Rehabilitation/Reuse Alternative would be much more limited in duration and intensity because activity levels would be reduced and less construction equipment would be required. Consequently, construction noise would be less than significant. Mitigation Measure M-NO-1 would not be required for the Rehabilitation/Reuse Alternative.

Because the Rehabilitation/Reuse Alternative would not involve the demolition or construction of any new structures, heavy-duty equipment, such as large bulldozers, drills, etc., would not be required, and the potential for ground-borne vibration to cause sleep disturbance, interfere with vibration-sensitive equipment, or cause building damage would be very low. For these reasons, ground-borne vibration impacts would be reduced relative to the proposed project and less than significant. Therefore, Mitigation Measure M-NO-2 would not be required for the Rehabilitation/Reuse Alternative.

Operational noise would be reduced somewhat from proposed project levels due to a slight reduction in vehicle trip generation from the proposed project. Noise generated by stationary noise sources would likely remain unchanged relative to the existing stationary source noise levels, because it is probable that the existing HVAC systems on the hospital facilities would continue to be used. If HVAC units are replaced, they would most likely be replaced with more efficient units that would generate less noise. Thus, implementation of the Rehabilitation/Reuse Alternative is not expected to affect ambient noise levels during operation.

Because construction activities for the Rehabilitation/Reuse Alternative would be substantially reduced in terms of scale, required construction equipment, and duration, and because noise from individual pieces of construction equipment is regulated by the noise ordinance, the Rehabilitation/Reuse Alternative, in combination with reasonably foreseeable projects, would not result in a significant cumulative construction noise impact. Similarly, construction vibration and operational noise from the Rehabilitation/Reuse Alternative would not combine with that of reasonably foreseeable projects to result in significant cumulative impacts because no ground-borne vibration would be generated from large construction equipment, operational traffic noise would be reduced relative to existing conditions, and any stationary noise source, such as HVAC systems, would most likely be the same or newer, thereby resulting in the same or lower noise levels compared with existing conditions.

AIR QUALITY

Relative to the proposed project, this alternative would result in fewer emissions of criteria air pollutants and toxic air contaminants during construction because the timeframe for construction renovations would be shortened. In addition, less equipment and fewer construction vehicles, truck trips, and worker trips would be needed to construct fewer units and less parking. With reduced excavation, fugitive dust emissions would be reduced during construction compared with the proposed project, although fugitive dust emissions would be less than significant under both the proposed project and the Rehabilitation/Reuse Alternative because of required compliance with the dust control ordinance. With respect to toxic air contaminants, compared to the proposed project, the Rehabilitation/Reuse Alternative would result in a reduced cancer risk and reduced localized $PM_{2.5}$ concentration from construction, below levels shown in Tables 4.4-8 and 4.4-9 in Section 4.4, *Air Quality* (pp. 4.4-49 and 4.4-50, respectively). The Rehabilitation/Reuse Alternative therefore would not result in sensitive receptors that meet the APEZ criteria and would not result in significant impacts related to toxic air contaminants. In addition, the Rehabilitation/Reuse Alternative, as with the proposed project, would be required to comply with various local regulations such as the Transportation Demand Management Ordinance and the Construction Dust Control Ordinance. These regulations implement the control measures in the *2017 Bay Area Clean Air Plan*. Therefore, the Reduced Construction Alternative would also not conflict with the *2017 Bay Area Clean Air Plan*.

The Rehabilitation/Reuse Alternative would result in the construction of fewer residential units and less parking at the project site compared with the proposed project, resulting in less energy consumption and fewer vehicle trips at the project site once completed. Although the proposed project would also result in fewer vehicle trips than the former hospital and current medical uses at the project site (refer to 4.2, *Transportation and Circulation*), the Rehabilitation/Reuse Alternative would further reduce traffic and air quality impacts associated with energy use and vehicle trips. Therefore, for the same reasons as the proposed project, cumulative air quality impacts would also be less than significant for the Rehabilitation/Reuse Alternative.

TOPICS ANALYZED IN THE INITIAL STUDY

CULTURAL RESOURCES, TRIBAL CULTURAL RESOURCES, BIOLOGICAL RESOURCES, PALEONTOLOGICAL RESOURCES

Limited excavation would be necessary with the Rehabilitation/Reuse Alternative, as described above; therefore, potential impacts regarding the possible disturbance of human remains and archaeological, tribal cultural, and paleontological resources would be lessened. Because ground disturbance would occur at a depth where the paleontologically sensitive Colma formation could be disturbed, excavation for the Rehabilitation/Reuse Alternative could encounter paleontological resources, resulting in a significant impact. However, this impact would be similarly reduced to less than significant with implementation of Mitigation Measure M-GE-4. As with the proposed project, project and cumulative impacts on human remains, archaeological resources, and tribal cultural resources under the Rehabilitation/Reuse Alternative would be reduced to less than significant with implementation of Mitigation Measures M-CR-2 and M-CR-3.

Historic resource impacts associated with renovation of the Marshal Hale hospital building would be similar since the same changes would occur to the building, and would be mitigated to a less-than-significant level with implementation of Mitigation Measure M-CR-1. Potential impacts regarding the possible disturbance of nesting birds would be eliminated under the Rehabilitation/Reuse Alternative because existing trees and landscaping would remain. Therefore, implementation of Mitigation Measure M-BI-1 would not be required.

OTHER INITIAL STUDY TOPICS

The Rehabilitation/Reuse Alternative would renovate existing buildings on the project site to accommodate residential uses at a slightly reduced yet comparable level of intensity as the proposed project. Therefore, other impacts related to the location of development or the intensity of development would be reduced compared with those analyzed in the initial study related to population and housing, greenhouse gas emissions, wind, shadow, utilities and service systems, public services, recreation, land use and planning, geology and soils, hydrology and water quality, mineral resources, energy, wildfire, and agricultural/forest resources. With this alternative, these impacts would be less than significant, as with the proposed project. Also, because fewer dwelling units and parking areas would be constructed, construction impacts under this alternative would be substantially reduced.

With substantially reduced grading and excavation under the Rehabilitation/Reuse Alternative, there would be less potential for exposure of construction workers or the public to subsurface contamination. However, the renovation and demolition activities to reuse the existing buildings under the Rehabilitation/Reuse Alternative could lead to the exposure of construction workers or the public to hazardous materials associated with hospital operations and hazardous building materials, such as lead-based paint, asbestos, and fluorescent light ballasts that could contain polychlorinated biphenyl or diethylhexyl phthalate as well as switches, thermostats, and fluorescent light tubes that could contain mercury vapors. Because compliance with existing hazardous materials regulations is mandatory, renovation and demolition activities are not expected to create a significant hazard for the construction workers, the public, or the environment through the routine transport, use, or disposal of hazardous materials. As with the proposed project, the Rehabilitation/Reuse Alternative would result in a less-than-significant impact with respect to the handling of hazardous materials.

6.2.4 Environmentally Superior Alternative

The CEQA Guidelines require the identification of an environmentally superior alternative (section 15126.6(e)), which is the alternative that best avoids or lessens any significant impacts of the proposed project, even if the alternative would impede to some degree attainment of the project objectives. If it is determined that the "no project" alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other project alternatives (section 15126.6(3)). Table 6-2, *Comparison of Significant Impacts of Proposed Project to Impacts of Alternatives after Mitigation*, compares the significant impacts of the proposed project, No Project Alternative, Reduced Construction Alternative, and Rehabilitation/Reuse Alternative.

No project-specific or cumulatively significant and unavoidable impacts would occur as a result of the proposed project; however, several potential construction-related impacts on noise and cultural, tribal cultural, paleontological, and biological resources would require mitigation to be reduced to less-than-significant levels. Renovation of the Marshal Hale hospital building would also require mitigation to ensure that impacts on historic resources would be less than significant. The No Project Alternative, which would involve no new or heavy construction and no new development on the project site, would eliminate most of the project's significant impacts, and no mitigation measures would be required. Therefore, the No Project Alternative is considered the environmentally superior alternative.

TABLE 6-2. COMPARISON OF SIGNIFICANT IMPACTS OF PROPOSED PROJECT TO IMPACTS OF ALTERNATIVES AFTER MITIGATION

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Construction Alternative	Alternative C: Rehabilitation/ Reuse Alternative
Cultural Resources				
Impact CR-1. The proposed project could cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code.	LSM	LSM <	LSM =	LSM =
Impact CR-2. Project-related activities could cause a substantial adverse change in the significance of an archaeological resource, pursuant to section 15064.5.	LSM	NI <	LSM <	LSM <
Impact CR-3. Project-related activities could disturb human remains, including those interred outside of formal cemeteries.	LSM	NI <	LSM <	LSM <
Impact C-CR-1. The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative cultural resources impacts.	LSM	NI <	LSM <	LSM <
Tribal Cultural Resources				
Impact TCR-1. Project-related activities could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code section 21074.	LSM	NI <	LSM <	LSM <
Impact C-TCR-1: The proposed project, in combination with reasonably foreseeable future projects, could result in cumulative tribal cultural resources impacts.	LSM	NI <	LSM <	LSM <
Biological Resources				
Impact BI-1. The proposed project could have a substantial adverse effect, either directly or through habitat modifications, on 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.	LSM	NI <	LSM =	NI <

Impact Statement	Proposed Project	Alternative A: No Project Alternative	Alternative B: Reduced Construction Alternative	Alternative C: Rehabilitation/ Reuse Alternative
Impact BI-2. The proposed project could 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.	LSM	NI <	LSM =	NI <
Impact C-BI-1. The proposed project, in combination with reasonably foreseeable projects, could result in cumulative biological resources impacts.	LSM	NI <	LSM =	NI <
Paleontological Resources (Geology and Soils)				
Impact GE-4. The proposed project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LSM	NI <	LSM <	LSM <
Noise				
Impact NO-1. Construction of the proposed project could generate substantial temporary or periodic increases in ambient noise levels in the project vicinity.	LSM	LS <	LSM =	LS <
Impact NO-2. Construction of the project could generate excessive ground-borne vibration or ground-borne noise levels.	LSM	NI <	LSM =	LS <
Impact C-NO-1. Construction activities for the proposed project, in combination with reasonably foreseeable projects, could result in a substantial temporary increase in noise.	LSM	LS <	LSM =	LS <

NI (no impact); LS (less than significant); LSM (less than significant with mitigation); = (equal to); < (less than); > (greater than)

Because CEQA requires selection of an environmentally superior alternative other than the No Project Alternative, the Rehabilitation/Reuse Alternative is identified as the environmentally superior alternative. Neither the Reduced Construction Alternative nor the Rehabilitation/Reuse Alternative would eliminate the need for mitigation to address the significant impacts of the project. Although the Rehabilitation/Reuse Alternative would require the same mitigation measures to address impacts on archaeological resources, human remains, tribal cultural resources, and paleontological resources, the potential for impacts would be reduced compared with those of the project because of the reduced amount of excavation and earth movement.

Furthermore, construction noise and vibration impacts, as well as impacts on nesting birds, would be eliminated, and mitigation would not be required. As discussed above, the Rehabilitation/Reuse Alternative would meet a few of the project sponsor's basic objectives (refer to Section 2.2 in Chapter 2, *Project Description*).

6.2.5 Alternatives Considered but Rejected

Three additional alternatives were considered as part of the screening and selection process for the alternatives. As stated in CEQA Guidelines section 15126.6(f)(1), factors that may be considered when a lead agency is assessing the feasibility of alternatives include:

> site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

The three alternatives below have been considered but rejected from further analysis because infeasibility and inability to meet basic project objectives. In addition, they would result in greater impacts than the proposed project.

- **Single-Family-Only Alternative.** An alternative that would only develop single-family residential uses on the project site was considered. This alternative was rejected from further consideration because it would not be consistent with the Neighborhood Vision Plan and would not provide a range of housing types.
- **Increased Density Alternative.** An alternative to develop the project site at an increased density compared to the proposed project was considered because of its potential to assist the City in addressing the citywide housing shortage. This alternative was rejected from further consideration because it would not be consistent with the Neighborhood Vision Plan and would not avoid, and in some topic areas would very likely increase, the project's significant impacts.
- **Alternative Site.** Developing the proposed project on an alternative site was considered. Development on an alternative site is not considered feasible as it would fail to achieve the basic project objectives related to redeveloping the project site following CPMC's relocation. The proposed project is the result of an extensive community outreach process focused on the redevelopment of this particular site, and an alternative site would be fundamentally inconsistent with the goals set forth in the Neighborhood Vision Plan. In addition, an alternative site likely would not avoid the majority of the project's significant impacts. Further, it is not expected that the sponsor can reasonably acquire, control, or obtain access to an alternative site that would provide the same uses and square footage proposed by the project. Therefore, this alternative was rejected from further consideration.

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