

## CHAPTER 6

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# Parnassus Heights Campus Site – Setting, Impacts and Mitigation Measures

## 6.0 Introduction

This chapter considers the existing conditions and describes the potential impacts of 2014 LRDP activities proposed at the Parnassus Heights campus site. The functional zones, space program, average daily population at LRDP horizon and proposed LRDP development activities that would occur at the Parnassus Heights campus site were described in detail in Section 3.8.1 of Chapter 3, *Project Description*, and are summarized briefly below. The remaining 15 major sections of this chapter present the site settings and impacts for each of the 15 environmental topics.

### 6.0.1 Functional Zones

The proposed functional zoning diagram for the Parnassus Heights campus site is shown in **Figure 3-8**, in Chapter 3, *Project Description*. Under the 2014 LRDP, the Housing zone would be enlarged to capture UC Hall and Proctor, which are proposed for housing, from the Instruction and Research zone (which would be reclassified as Research). The Kirkham Child Care Center would be reclassified from Housing to Support. The Environmental Health and Safety Annex on Medical Center Way and the Mechanical Annex (formerly known as Emergency Fire Water Pumphouse and Ammonia Tank) on Parnassus Avenue would be newly classified as Support. The former Campus Community and Logistical Support functional zones would be combined into a single Support zone, with a new, separate Parking zone for structured parking. The sites of the Environmental Health and Safety, Surge and Woods buildings proposed for demolition would be reclassified as Open Space and would become part of the Mount Sutro Open Space Reserve.

### 6.0.2 Space Program

The LRDP proposes an additional 2.39 million gsf in owned and leased buildings across all of UCSF's sites through 2035. The allocation of this growth at the Parnassus Heights campus site at LRDP horizon in 2035 is shown below in **Table 6.0-1**.

### 6.0.3 Average Daily Population

The total projected UCSF population across all campus sites (including population associated with the Phase 2 Medical Center at Mission Bay) would increase by approximately 17,000 at LRDP horizon. As shown in **Table 6.0-2**, below, the projected increase in average daily population at the Parnassus Heights campus site would be only 600 in 2035.

**TABLE 6.0-1  
PARNASSUS HEIGHTS EXISTING AND LRDP HORIZON GSF**

Type of Space	Existing 2014 Total gsf	LRDP Horizon 2035 Total gsf
Instruction	318,600	280,100
Research	802,200	711,200
Clinical	950,500	1,051,300
Support		
Academic Support	217,500	215,000
Academic/Campus Admin	471,200	414,500
Campus Community	146,800	140,900
Logistics	<u>144,700</u>	<u>138,800</u>
<i>Support Subtotal</i>	980,200	909,200
Housing	242,000	510,900
Vacant/Alteration	8,000	6,000
<b>Total</b>	<b>3,301,500</b>	<b>3,468,700</b>

<sup>1</sup> Structured parking is not included.

**TABLE 6.0-2  
PARNASSUS HEIGHTS EXISTING AND PROJECTED AVERAGE DAILY POPULATION**

	Existing (2013)	Projected Population at LRDP Horizon (2035)	Change
Students	3,503	4,133	630
Faculty and Staff	8,323	8,268	(55)
Patients	2,572	2,685	113
Visitors	3,549	3,462	(87)
<b>Total</b>	<b>17,947</b>	<b>18,547</b>	<b>600</b>

## 6.0.4 Parnassus Heights - 2014 LRDP Proposals

As described in Chapter 5, the 2014 LRDP proposals at the four campus sites consist of four general activities: 1) demolition, 2) renovation, 3) construction of new facilities, and 4) circulation, open space, and utilities/infrastructure proposals.

The 2014 LRDP proposals at the Parnassus Heights campus site are listed below:

### **Parnassus Heights - 2014 LRDP Demolition Proposals**

- Surge
- Woods
- Medical Research 4
- Laboratory of Radiobiology
- Proctor
- Environmental Health and Safety

- Koret Vision Research
- Langley Porter Psychiatric Institute (and support structures)

#### **Parnassus Heights - 2014 LRDP Renovation Proposals**

- UC Hall
- Millberry Union towers
- Moffitt Hospital
- Faculty Alumni House seismic retrofit
- Fifth Avenue houses conversion to faculty housing

#### **Parnassus Heights - 2014 LRDP Construction Proposals**

- New Hospital Addition
- Faculty housing at Fifth and Parnassus avenues
- Faculty housing on Proctor site<sup>1</sup>

#### **Parnassus Heights - 2014 LRDP Circulation, Open Space, and Utilities/Infrastructure Proposals**

- Parnassus Avenue Streetscape Plan
- Saunders Court renovation
- Mount Sutro Open Space Reserve trails
- Medical gas storage tanks
- Diesel fuel storage tank replacement
- Retaining wall

### **Parnassus Heights - 2014 LRDP Proposal Construction Time Frames**

Activities at the Parnassus Heights campus site to implement the 2014 LRDP proposals would occur between the year 2015 and the LRDP horizon in 2035. These are presented in **Table 6.0-3**, below. Construction is not now anticipated to occur at the Parnassus Heights campus site during the general 2020-2024 window.

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<sup>1</sup> The Proctor site may alternatively be restored to open space.

**TABLE 6.0-3  
 PROPOSAL CONSTRUCTION TIME FRAMES AT PARNASSUS HEIGHTS**

Proposal Category	Land Use	Gross Square Feet / Number of Residential Units
<b>2015 - 2019</b>		
Demolition	Medical Research 4	12,300 gsf
Demolition	Laboratory of Radiology	18,200 gsf
Demolition	Woods	3,900 gsf
Demolition	Surge	11,400 gsf
Renovation	UC Hall-Phase 1	74,700 gsf / 105 units
Renovation	Faculty Alumni House	7,400 gsf
Construction	Housing at Fifth and Parnassus Avenues	48,400 gsf / 45 units
Other	Parnassus Avenue Streetscape Plan-Phase 1 (PH)	--
Other	Mount Sutro Open Space Reserve trails (PH)	--
Other	Medical gas storage tanks (PH)	--
Other	Retaining wall (PH)	--
<b>2020 -2024</b>		
Other	Parnassus Avenue Streetscape Plan-Phase 2	--
Other	Saunders Court renovation	--
<b>2025 -2030</b>		
Demolition	Langley Porter Psychiatric Institute	111,100 gsf
Construction	New Hospital Addition	308,000 gsf
<b>2031 -2035</b>		
Demolition	Proctor	9,900 gsf
Demolition	Koret Vision Research	43,000 gsf
Demolition	Environmental Health and Safety	6,200 gsf
Renovation	UC Hall-Phase 2	68,300 gsf / 64 units
Renovation	Millberry Union towers	46,600 gsf / 83 units
Renovation	Moffitt Hospital	378,700 gsf
Construction	Proctor housing	30,400 gsf / 32 units

## 6.1 Aesthetics

This section considers the setting and aesthetic impacts at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential Aesthetics effects are contained in Section 4.1 of this EIR. The CEQA Significance Standards presented in Section 4.1.3 are used to evaluate the potential aesthetics impacts of all proposed 2014 LRDP activities.

### 6.1.1 Aesthetics Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Scenic vista.** The proposed New Hospital Addition would be the only activity to have a potential effect on a scenic vista. No additional analysis of this issue is required for other LRDP activities.
- **Scenic resources.** No activities would result in an adverse impact to scenic resources within a state scenic highway. Therefore, no additional analysis of this issue is required.
- **Effects on visual character or quality.** The proposed New Hospital Addition and the Parnassus Avenue Streetscape Plan would be the only activities to have potential effects on visual character or quality. No additional analysis of this issue is required for other LRDP activities.
- **Light and glare.** The proposed New Hospital Addition and the Parnassus Avenue Streetscape Plan would be the only activities to have potential effects on light and glare. Accordingly, no additional analysis of this issue is required for other LRDP activities.
- **Wind or shadow.** The proposed demolition of 8 existing buildings and construction of the New Hospital Addition would be the only activities to have potential effects regarding wind or shadow. Accordingly, no additional analysis of this issue is required for any other LRDP activity.

Finally, the Initial Study also concluded that the proposed renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would result in no impact or less-than-significant impacts regarding any aesthetics issue. Therefore, no additional analysis is required for these building renovation activities.

### 6.1.2 Aesthetics – Parnassus Heights Setting

The Parnassus Heights campus site retains a distinct visual presence due to its design and natural character. The campus site occupies 107 acres on the northern slope of Mount Sutro, which descends over 800 feet from its summit to Parnassus Avenue and Irving and Carl Streets. Due to steep slopes, the developed portion of the campus site is mostly limited to the lower slope and shelf of Mount Sutro, with 61 acres within the Mount Sutro Open Space Reserve (Reserve). Other smaller-scale campus structures are located in the Reserve, hidden in heavily wooded areas on the slopes of Mount Sutro.

The lower campus shelf is a 33-acre area on the lower hillside of Mount Sutro along the north and south sides of Parnassus Avenue, with a visual character that is as urban and institutional. UCSF buildings extend to Irving and Carl Streets to the north. UCSF buildings are densely clustered and generally grouped by functional zone. The largest and most visually prominent buildings are on the south side of Parnassus Avenue and range in height from 7 to 16 stories. These buildings include the Medical Sciences building, the Clinical Sciences building, and Moffitt and Long Hospitals.

The slab-like facades of the Medical Sciences building and Moffitt Hospital are oriented parallel (east-west) along Parnassus Avenue and are interrupted by equally sized, adjacent wings of both buildings oriented perpendicular (north-south) to Parnassus Avenue. Projecting towers partially screen views of other large buildings behind them (e.g., Health Sciences East and West) and contrast with Mount Sutro's forested slopes to the south. At street level, small courts and open spaces at the bases of buildings, some with driveways, are visible, as are comparatively shorter buildings along Parnassus Avenue (e.g., Langley Porter Psychiatric Institute [LPPI], Clinical Sciences building and UC Hall). The presence of large buildings along the south side of Parnassus Avenue creates a solid street wall that screens views of other buildings located behind, such as the eight-story School of Nursing building located behind Clinical Sciences and UC Hall.

The Dental Clinics building is located on the western portion of the campus site, set back behind housing along Fifth Avenue. This building is a contemporary low-rise structure, with five levels stepping back from Fifth Avenue toward Koret Way to the southeast. A surface parking area is located adjacent to its south side along Kirkham Street. Immediately east of the Dental Clinics building is the Koret Vision Research building, which is a contemporary multistory building with setbacks above the second and fourth levels. To the south of these structures is the Medical Research 4 building, an oblong, two-story building oriented in the north-south direction.

The north side of Parnassus Avenue is less densely developed than the south side of the street. Building heights along the north side of Parnassus Avenue vary from nine stories (Ambulatory Care Center) to five stories (Kalmanovitz Library), gradually becoming lower (one to three stories) toward the western edge of the campus site. Parking structures are visible from Irving and Carl Streets and create a podium upon which both the Ambulatory Care Center and Millberry Union sit.

Buildings at the Parnassus Heights campus site are designed in a mix of architectural styles. However, despite variation in architectural style, the character of the buildings is visually consistent and interrelated throughout the campus site, due to the size and tight clustering of the structures.

In general, the campus site boundaries are clearly defined by the strong visual differences in building density, height and institutional character from the surrounding residential neighborhood, which generally consists of small-scale, two- to four-story, single- and multifamily homes, many exhibiting a Victorian or Edwardian architectural style. However, the UCSF campus includes some small-scale residences along Fifth Avenue and Third Avenue primarily for faculty housing. Small-scale commercial uses are intermixed throughout the neighborhood. About two blocks north of the campus site, the topography becomes more level, with a visual character dominated by trees, recreation fields and other facilities in Golden Gate Park.

### 6.1.3 Aesthetics – Parnassus Heights Impacts and Mitigation Measures

**Impact AES-PH-1: The New Hospital Addition and faculty housing at the Proctor site and Fifth and Parnassus avenues at the Parnassus Heights campus site would not have a substantial adverse effect on a scenic vista. (Less than Significant)**

The demolition of the existing LPPI building would alter the view of that area, but its loss would not adversely affect any scenic vistas of the Parnassus Heights campus site. The demolition of the LPPI building would be followed by the construction of the New Hospital Addition on that site. The New Hospital Addition would be adjacent to and visible from Parnassus Avenue, and due to the combination of the elevation of the hillside site and the height of the proposed hospital, would also be visible from a number of distant public view locations, including from Golden Gate Park to the north of the campus site. However, due to the topography of Mount Sutro and the proposed location of the new building at the LPPI site, the only scenic views that would be affected would be of the Reserve itself behind the proposed Hospital Addition. The existing LPPI building consists of the original “L”-shaped building ranging from two to six stories tall and a four-story wing addition constructed in 1959. The proposed Hospital Addition would be seven stories and about 110 feet tall. Although the hospital has not yet been designed, preliminary plans indicate that the height and bulk would be greater than the LPPI building, thus obscuring portions of some views of the Reserve on the hillside to the south as viewed from public streets and areas within Golden Gate Park. However, views of the Reserve behind LPPI from Golden Gate Park and other public areas are currently limited due to topography, existing vegetation and other buildings located in the vicinity of LPPI, including the Ambulatory Care Center and Medical Building 2. Therefore, the demolition of LPPI and construction of the New Hospital Addition at the LPPI site would not result in a substantial adverse effect on views of the Reserve and the impact would be less than significant. Besides the New Hospital Addition, other development proposed at the Parnassus Heights campus site include possible faculty housing at the Proctor site and at Fifth and Parnassus avenues. Both residential buildings would have heights anticipated not to substantially exceed heights of adjacent and nearby structures. Therefore, scenic views of the Mount Sutro Open Space Reserve (Reserve) would not be affected by these residential buildings.

**Mitigation:** None required.

**Impact AES-PH-2: The New Hospital Addition, new faculty housing and the Parnassus Avenue Streetscape Plan at the Parnassus Heights campus site would not substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)**

The proposed New Hospital Addition would be approximately seven stories or about 110 feet in height, excluding rooftop mechanical equipment that could add up to an additional 17 feet. The building has not yet been designed, but it is planned to be set back from Parnassus Avenue with a landscaped strip to provide a passenger drop-off/pickup, parking and loading loop that would exit directly across from Hillway Avenue. Additional loading space may be created at the back of the building. The upper portion of the building would step back from the lower portion to minimize

shading on Parnassus Avenue and to create an attractive appearance and pedestrian scale along this public street. As the eastern gateway to the Parnassus Heights campus site, the corner of the building would be designed to be architecturally prominent. The adjacent Long Hospital would be reconfigured to connect to the New Hospital Addition. A visual simulation showing basic height and bulk of the proposed building from Hill Point Avenue and Parnassus Avenue (viewpoint shown in **Figure 6.1-1**) is depicted in **Figure 6.1-2**.

As viewed in the simulation from this viewpoint, the proposed New Hospital Addition would present a larger building mass than the existing LPPI. It would be sited closer to Parnassus Avenue, generally in line with Moffitt Hospital and other buildings to the west. From this vantage point, Long Hospital would be obscured from views at the street level.

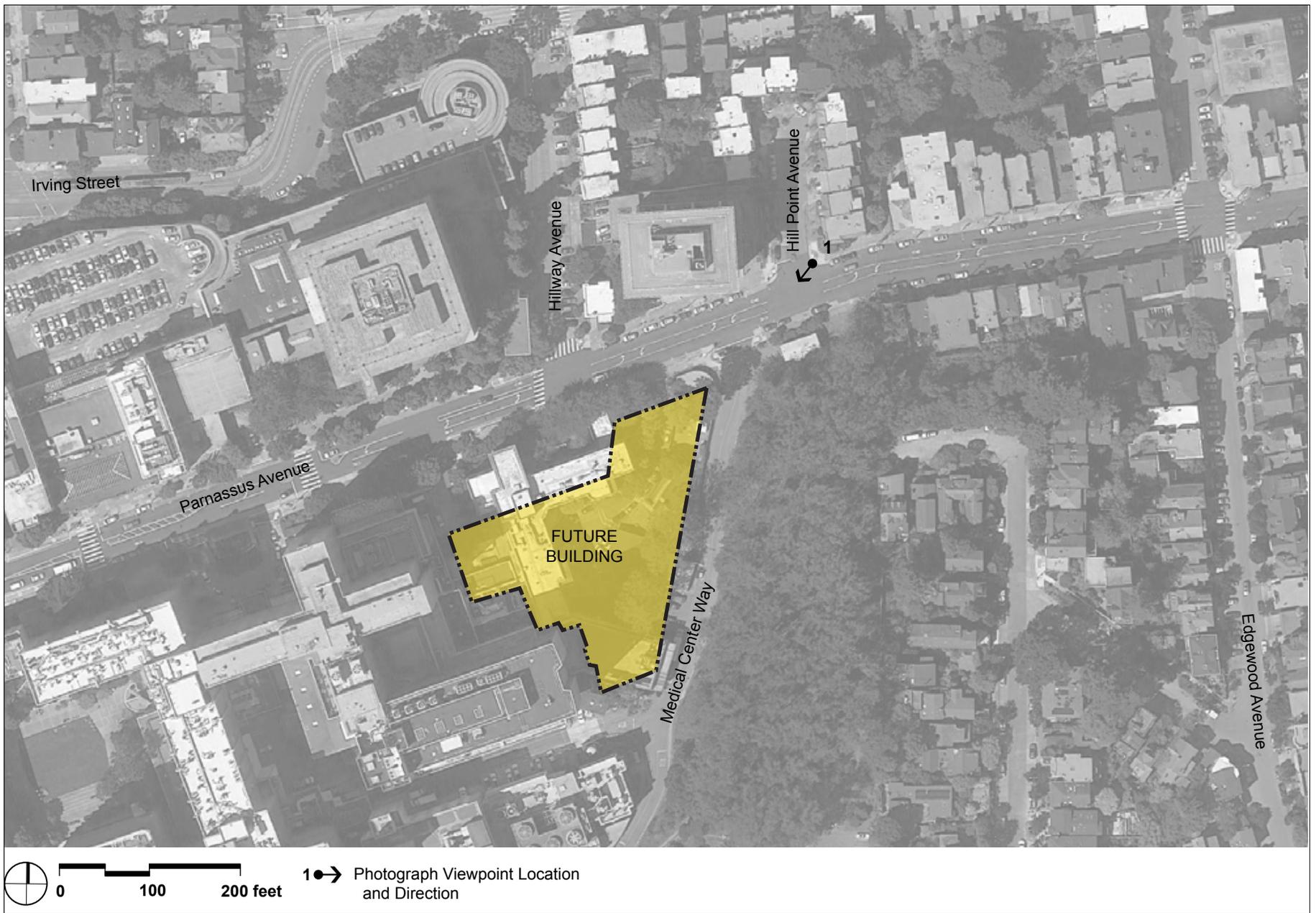
Although changes in appearance at the Parnassus Heights campus site would be noticeable, particularly along the south side of Parnassus Avenue, the New Hospital Addition would be built in accordance with UCSF's *Physical Design Framework* and *Facilities Design Guidelines* and would be consistent with the 2014 LRDP's Community Planning Principles regarding Building and Public Realm Design. The building would be sited appropriately in the campus site's Clinical functional zone. The design guidelines would ensure that the final design of the hospital responds to the form of adjacent buildings (e.g., in terms of massing and height) and the overall urban context of the Parnassus Heights campus site and surrounding neighborhood. Because the new building would be visually similar to existing uses (e.g., Moffitt and Long Hospitals) on and adjacent to the site, it would not substantially degrade the visual character of the site and its surroundings.

Further, the new building would occur in the context of the proposed Parnassus Avenue Streetscape Plan, which includes pedestrian improvements intended to make street crossings safer and more convenient, the creation of more usable outdoor space as well as visual design elements to strengthen the identity of UCSF at the Parnassus Heights campus site, and enhance the public realm. Improvements would include new paving, street furniture, lighting and street trees, sidewalk and crosswalk widening and more defined campus gateways at either end of the street as it passes through the campus site. It would also incorporate a new entrance way to align with the future New Hospital Addition. The improvements would occur in phases starting on the south side of Parnassus Avenue at the west end at Fifth Avenue, through the campus core and along the front of the New Hospital Addition to Medical Center Way.

While potential faculty housing buildings at the Proctor site and at Fifth and Parnassus avenues have not yet been designed, they would similarly be constructed in accordance with the *Physical Design Framework* and *Facilities Design Guidelines* and would be consistent with the 2014 LRDP's Community Planning Principles regarding Building and Public Realm Design.

Therefore, effects to visual quality and character with respect to the New Hospital Addition, new faculty housing and the Parnassus Avenue Streetscape Plan would be less than significant.

**Mitigation:** None required.



SOURCE: Environmental Vision



Existing view from Parnassus Avenue at Hill Point Avenue looking southwest



Visual Simulation of Proposed Project

*Note: Visual simulation depicts potential building envelope, not proposed design.*

SOURCE: Environmental Vision

UCSF Long Range Development Plan Environmental Impact Report

**Figure 6.1-2**  
Visual Simulation-Parnassus Heights

**Impact AES-PH-3: Construction of the New Hospital Addition and faculty housing buildings at the Parnassus Heights campus site could result in flood lighting on the sites during nighttime construction activities. (Potentially Significant)**

Although construction operations are generally expected to take place during the day, some activities could be conducted at night to reduce noise, vibration or other effects on daytime office or research uses. To enable construction at night, flood lighting would be required. The use of night lighting would have the potential to disturb residents in neighborhoods near the hospital and faculty housing construction sites, and potentially also affect nighttime views. Night lighting of construction sites would be temporary and would cease upon completion of construction.

**Mitigation Measure AES-LRDP-1** would be implemented to reduce the impact of nighttime work lighting to a less-than-significant level.

**Mitigation Measure:** Implement Mitigation Measure AES-LRDP-1

**Significance after Mitigation:** Less than Significant

**Impact AES-PH-4: The New Hospital Addition and new faculty housing at the Parnassus Heights campus site could create new sources of substantial light or glare that would adversely affect day or nighttime views in the area. (Potentially Significant)**

Development of the New Hospital Addition and faculty housing could increase ambient light levels due to light dispersion from new buildings. Increases in night lighting could affect nighttime views on the campus site or in the surrounding neighborhood. New light sources could include street lights, illuminated signage, exterior safety lighting and light emitted from building windows. Glare could be generated from reflective building materials. Because specific architectural features and building materials have yet to be determined, the proposed improvements have the potential to include reflective surfaces, such as metal and glass. The resultant glare could affect nearby residents, pedestrians and passing motorists. **Mitigation Measure AES-LRDP-2** would be implemented to reduce the impact to a less than significant level. By employing appropriate design standards and minimizing the quantity of reflective material used in new construction, light and glare impacts and impacts to views related to lighting could be reduced to less-than-significant levels.

**Mitigation Measure:** Implement Mitigation Measure AES-LRDP-2

**Significance after Mitigation:** Less than Significant

**Impact AES-PH-5: The demolition of 8 existing buildings, including LPPI, and construction of the New Hospital Addition at the Parnassus Heights campus site would create street-level winds that could be hazardous to pedestrians in the area. (Potentially Significant)**

Winds experienced at the Parnassus Heights campus site throughout the year originate from many directions, but for the purposes of determining comfort or safety issues that might arise, it is only necessary to consider the stronger winds that occur. Data from a nearly 9-year wind record from the Bay Area Air Quality Management District's Fort Funston meteorological station provide a good basis for understanding the winds that sweep in over the west side of San Francisco. These

data show that 33% of all winds at the Fort Funston station are SW, WSW or W winds with speeds of 7 mph or faster, while nearly 12% of all winds have speeds of 15 mph or faster and come from the following directions – S, SSW, SW, WSW, W, WNW, and NW – each with roughly equal frequencies of occurrence. Strong storm winds can come from any direction, but of the 52 recorded hourly winds greater than 30 mph, only one came from the northeast, while the other 51 were from the SSW through the NNW.

In leaving the coastline and approaching the Parnassus Heights campus site, winds encounter surface roughness, in the form of building and ground surfaces, and vegetation, so they lose speed and become more turbulent. Winds approaching the Parnassus Heights campus site, regardless of initial directions will be shaped by topography. Further, the winds that approach the Parnassus Heights campus site from the SW through the NW directions will tend to flow around the north flank of Mount Sutro and would be perceived by observers on the campus site as being generally winds from the west, but still retaining much of their speed.

Given the alignment of Parnassus Avenue and the wall of high-rise buildings along its south side, these winds over the campus site will follow Parnassus Avenue or a parallel street, as well as flow south of the high-rise central core of the campus site, between the buildings and the hillside. Those winds that flow between the high-rise central core and the hillside are the higher-speed winds with enough energy to possibly be adversely re-directed to ground level.

Winds mostly from the south have to cross the high-rise street wall to reach Parnassus Avenue and would be substantially slowed in the process; these winds likely would not have enough energy remaining to be adversely re-directed. As noted above, strong winds mostly from the northeast are relatively rare. Strong winds from the northwest may have some adverse effects, as discussed below.

However, demolition of the LPPI has the potential to affect the west winds that flow on the north and south sides of the high-rise central core, because it removes the east end of the street wall. Although the LPPI is not a tall building, it still acts as a low divider in the west-to-east flow of the stronger west winds. Removing the LPPI building would enable that divided wind flow to re-connect over the present LPPI site. Given that the wind would have a wider space within which to move, this should generally slow the wind speed there. The overall effect at pedestrian-level should not be adverse, and even may act to improve wind conditions at the demolition site under the stronger west winds. This would be a less-than-significant effect.

The other nine buildings to be demolished are much smaller buildings. Typically, a building that is 50 feet tall, or less, has very little to no effect on the wind, unless the building is very wide, or it is the only structure standing on an open site. Each of the smaller buildings has a typical height of less than 50 feet and either stands within a group of other buildings or is located in the stands of trees in the Reserve. These buildings would have little to no effect on winds in the vicinity unless removal of the building would open a path for west winds to reach into a wind-sensitive area of the campus site. Since the areas that adjoin these buildings are known not to be wind sensitive, the wind effects of demolishing any or all of these nine buildings would be less-than-significant.

Overall, the wind effects of the demolition of the 8 buildings, including the LPPI, would be less-than-significant. Although there could be an indefinite amount of time between the demolition of LPPI and the construction of the New Hospital Addition, or between the demolition of the other buildings and subsequent use of the sites, the wind effects would be a less-than-significant effect.

Regardless of the design, the New Hospital Addition would be an in-fill building – filling in a gap or adding to the street wall – a factor that, in itself, typically improves pedestrian wind conditions immediately around the building.

With respect to the construction of the New Hospital Addition, since a design is not available, this analysis must consider the bulk shape alone. If the proposed design differs in shape, the results may be different. However, the bulk shape now available would have good general characteristics to allow the west wind flow across the campus site, as is described above, for the present LPPI building to merge more smoothly, although in doing so, the wind speed may increase.

The primary difference between the LPPI and the bulk design is that the bulk design concept would fill the available ground space and be tapered at the east end, which would allow the smooth merging of the separated wind flows. The bulk design's setback from Parnassus Avenue and, to a limited extent, the lower-level podium/overhang would help to deflect and keep wind above the sidewalk at the corner of Parnassus Avenue and Medical Center Way. The long, 110-foot street wall could adversely affect winds on the sidewalk under strong NW winds, which would approach and strike the face of the building at a nearly 45° angle and could be redirected down onto the sidewalk along the Parnassus Avenue frontage of the building. However, the bulk design's setback from Parnassus Avenue and its lower-level podium/overhang would all tend to deflect those winds away from Parnassus Avenue sidewalks.

To summarize, because the bulk design considered for the New Hospital Addition would be an in-fill building, because it would generally fill the space between Long Hospital, Medical Center Way and Parnassus Street, and because it would setback from Parnassus Avenue and a lower-level podium/overhang well above the sidewalk, the bulk design of the New Hospital Addition would tend to reduce wind effects of the building on Parnassus Avenue sidewalks. The resulting wind effect should be less than the wind effects of the existing LPPI building under most wind conditions. The wind impact of the bulk design New Hospital Addition should be less than significant and no further mitigation would be required<sup>2</sup>.

Should the design shape of the New Hospital Addition change, the new design will be evaluated with respect to wind hazard, and implementation of Mitigation Measure AES-LRDP-3 would ensure that any impacts would be less than significant.

**Mitigation Measure:** Implement Mitigation Measure AES-LRDP-3

**Significance after Mitigation:** Less than Significant

<sup>2</sup> Regardless of whether changes in design occur, the New Hospital Addition would be subject to further review as necessary under CEQA

## 6.2 Air Quality

This section considers the setting and air quality impacts of implementing the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Air Quality are contained in Section 4.2 of this EIR, while the plan-level Air Quality impacts of the 2014 LRDP are described in Section 5.1.2. The CEQA Significance Standards presented in Section 4.2.3 are used to evaluate the potential Air Quality impacts of all proposed 2014 LRDP activities.

### 6.2.1 Air Quality Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that no activities would result in objectionable odors affecting a substantial number of people. Therefore, no additional analysis of this issue is required.

### 6.2.2 Air Quality – Parnassus Heights Setting

#### 6.2.2.1 Sensitive Receptors

The closest sensitive receptors to the Parnassus Heights campus site are identified in **Figure 6.2-1**. On the campus site, existing sensitive receptors consist of the Fifth Avenue housing on the western edge of the campus site as well as child care centers at Third Avenue and Parnassus Avenue and at the end of Kirkham Street. There is additional campus housing on Third Avenue between Irving Street and Parnassus Avenue as well as the corner of Parnassus Avenue and Hillway Avenue. Moffitt/Long Hospital is also a sensitive receptor. Aldea Housing is located more than 1,500 feet south of the main campus footprint, towards the top of Mount Sutro and is therefore not considered a sensitive receptor. Off-campus receptors (residences) abut the western and northern campus site boundaries while residences to the east and south are buffered by varying depths of open space.

#### 6.2.2.2 Existing Stationary Sources of Air Pollution

The Bay Area Air Quality Management District (BAAQMD) inventory of permitted stationary sources of emissions identifies one permitted operator of stationary emissions present within or near the 1,000-foot zone of influence of the site. This is the Parnassus Heights campus site itself, which operates 20 permitted air pollution sources on the campus site. These sources, listed in **Table 6.2-1**, are primarily stationary diesel engines for back-up power generators, combustion turbines, boilers and duct burners.

#### 6.2.2.3 Non-permitted Stationary Sources of Air Emissions

The Parnassus Heights campus site also operates fume hoods which emit TACs. These fume hood emissions do not require a permit from BAAQMD based on the operating throughput and therefore have not been assigned an existing risk value in BAAQMD databases like permitted



SOURCE: KB Environmental Sciences

UCSF Long Range Development Plan Environmental Impact Report  
**Figure 6.2-1**  
 Sensitive Receptors – Parnassus Heights Campus Site

**TABLE 6.2-1  
 STATIONARY SOURCES AT THE PARNASSUS HEIGHTS CAMPUS SITE**

Source #	Facility Type	Source #	Facility Type
2478	UCSF source #9: gas turbine generator	2478	UCSF source #20: Diesel generator
2478	UCSF source #10: duct burner for heat recovery	2478	UCSF source #21: Diesel generator
2478	UCSF source #11: gas turbine generator	2478	UCSF source #22: Diesel generator
2478	UCSF source #12: duct burner for heat recovery	2478	UCSF source #23: Diesel generator
2478	UCSF source #13: Auxiliary boiler	2478	UCSF source #24: Diesel generator
2478	UCSF source #14: Auxiliary boiler	2478	UCSF source #25: Diesel generator
2478	UCSF source #16: Diesel generator	2478	UCSF source #26: Diesel generator
2478	UCSF source #17: Diesel generator	2478	UCSF source #27: Diesel generator
2478	UCSF source #18: Diesel generator	2478	UCSF source #30: Diesel generator
2478	UCSF source #19: Diesel generator	2478	UCSF source #32: Diesel generator

SOURCE: BAAQMD, 2012c and ESA.

sources. However, UCSF maintains an inventory of chemical throughput for each campus site and has prepared health risk assessments relative to fume hood emissions and other stationary source emissions on the Parnassus Heights campus site. A 1989 health risk assessment performed for the Parnassus Heights campus site identified health risks from research and teaching (hood vents), incinerators, and ethylene oxide sterilizers. Subsequent to this study, the incinerator and all ethylene oxide sterilizers have been decommissioned at the campus site and risks from these sources are no longer relevant to this analysis. Risks associated with fume hood emissions were estimated at 4.46 in one million at the maximally exposed individual (residence on Fourth Street) (Radian, 1989).

Since that time, UCSF has implemented a series of correctional measures to reduce exposure to fume hood emissions, which are expected to markedly reduce health risk from fume hood emissions reported in 1989. The first measure was to improve the mechanical ventilation of fume hoods both with respect to increased flow rate as well as to increasing exhaust stack height and consolidating the emission points. The second measure was to reduce the volume of chemical use within hoods which are now inventoried. At present there are approximately 208 active fume hoods in operation at the Parnassus Heights campus site.

#### **6.2.2.4 Major Roadways Contributing to Air Pollution**

In the City of San Francisco, Parnassus Avenue and Seventh Avenue are arterial streets in the existing local roadway system within the 1,000-foot zone of influence that have at least 10,000 vehicles in annual average daily traffic based on the City’s SF CHAMP roadway model<sup>3</sup>. This traffic contributes to elevated concentrations of PM<sub>2.5</sub>, DPM, and other contaminants emitted from motor vehicles near the street level. There are no freeways within 1,000 feet. A map of Air

<sup>3</sup> San Francisco County Transportation Authority, Chained Activity Modeling Process version 4.3.0, Average Daily Traffic Volumes, provided to ESA August 2, 2012.

Pollution Exposure Zones that includes both stationary and roadway sources compiled by the San Francisco Department of Public Health indicates that roadways around the campus site are not substantial contributors to localized cancer risks or PM<sub>2.5</sub> concentrations (SFDPH, 2013).

### 6.2.3 Air Quality – Parnassus Heights Impacts and Mitigation Measures

**Impact AIR-PH-1: Implementation of the 2014 LRDP at the Parnassus Heights campus site would result in increased emissions of criteria air pollutants during demolition and construction activities. (Potentially Significant)**

Construction activities would result in emissions of criteria pollutants from the use of heavy-duty construction equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. In addition, fugitive dust or PM<sub>10</sub> emissions would result from excavation, trenching, and other construction activities.

There are four types of proposals at the Parnassus Heights campus site under the LRDP:

- **Demolition:** Surge, Woods, Medical Research 4, Laboratory of Radiobiology, Proctor, Environmental Health and Safety, Koret Vision Research, and the Langley Porter Psychiatric Institute (and support structures)
- **Renovation:** UC Hall, Moffitt Hospital, Millberry Union towers, and Faculty Alumni House
- **Construction:** New Hospital Addition, Proctor housing, and housing at Fifth and Parnassus Avenues
- **Open Space and Utilities:** Parnassus Avenue Streetscape Plan, Saunders Court renovation, Mount Sutro Open Space Reserve trails, medical gas storage tanks, diesel fuel storage tank replacement, and retaining wall

Emissions from demolition and construction-related activities were calculated assuming four discrete construction windows in five- to six-year increments at the Parnassus Heights campus site, as presented in **Table 6.0-3**, Proposal Construction Time Frames at Parnassus Heights, located in Section 6.0.4 of this chapter. Implementation of the Parnassus Avenue Streetscape Plan, open space, and utility projects would require less intensive construction equipment and would not be expected to contribute substantially to the emissions estimated below for building demolitions and renovations.

Demolition and construction-related emissions from each of these 2014 LRDP proposals at the Parnassus Heights campus site were calculated using the California Emissions Estimator Model (CalEEMod), assuming completion by 2020, 2030 and 2035. Phasing lengths were based on CalEEMod default estimates which are based on square footage for medical office buildings and number of dwelling units for housing. It was assumed that there would be no off-road equipment involved in the renovation of UC Hall, Millberry Union towers, Moffitt Hospital, or the Faculty

**TABLE 6.2-2  
 AVERAGE DAILY DEMOLITION AND CONSTRUCTION-RELATED POLLUTANT EMISSIONS  
 WITHOUT MITIGATION - PARNASSUS HEIGHTS PROPOSALS**

Years	Estimated Emissions (lbs/day)			
	ROG	NO <sub>x</sub>	Exhaust PM <sub>10</sub>	Exhaust PM <sub>2.5</sub>
2015-2019	8.91	28.80	1.82	1.68
2025-2030	13.82	13.44	0.50	0.48
2031-2035	5.29	7.46	0.16	0.15
<i>BAAQMD Considered Construction Threshold</i>	54	54	82	54
Potential Significant Impact?	No	No	No	No

SOURCE: ESA (Appendix E)

Alumni House and that air emissions from the renovations would be generated solely by vendor trips bringing materials and construction worker trips. Construction start dates for these 2014 LRDP proposals were assumed to be year 2030 (except for UC Hall Phase 1). All model inputs and outputs are provided in Appendix E.

**Table 6.2-2** presents the average annual daily construction emissions generated by the 2014 LRDP proposals at the Parnassus Heights campus site for each of the three development windows assumed. As can be seen in Table 6.2-2, estimated average daily construction-related exhaust emissions would not exceed the thresholds for NO<sub>x</sub>, ROG, or particulate matter. Because emissions would be less than the daily thresholds, the local effect would be less than significant.

The BAAQMD approach to analysis of construction-related particulate impacts (other than exhaust PM) emphasizes implementation of effective and comprehensive dust control measures rather than detailed quantification of emissions. As indicated under Impact AIR-LRDP-4 in Section 5.2 of this EIR, the BAAQMD considers construction-related fugitive dust impacts of projects to be less than significant if a suite of recommended dust-control measures are implemented. Therefore, BAAQMD-identified Best Management Practices for control of fugitive dust are adopted Campus-wide in Section 5.2 as **Mitigation Measure AIR-LRDP-1: Best Management Practices for Controlling Particulate Emissions**. With this measure in place the construction-related fugitive dust impacts would be less than significant.

**Mitigation Measure: Implement Mitigation Measure AIR-LRDP-1**

Although the criteria air pollutant emissions from demolition and construction proposals at the Parnassus Height campus site would be below BAAQMD significance thresholds, **Impact AIR-LRDP-4** in Section 5.2 identifies a significant and unavoidable LRDP construction-related air quality impact resulting from emissions of criteria air pollutants when the combined construction at all campus sites is considered. In response, **Mitigation Measure AIR-LRDP-2: Architectural Coatings** and **Mitigation Measure AIR-LRDP-3: Off-Road Equipment Control Measures** were adopted Campus-wide and therefore would also apply to construction projects at the Parnassus Heights campus site.

**Mitigation Measures:** Implement Mitigation Measure AIR-LRDP-2 and AIR-LRDP-3**Significance after Mitigation:** Less than Significant**Impact AIR-PH-2: Demolition and construction activities at the Parnassus Heights campus site under the 2014 LRDP would increase emissions of toxic air contaminants (TACs) and increase health risks for nearby residents. (Less than Significant)**

2014 LRDP construction activities would produce DPM and PM<sub>2.5</sub> emissions due to combustion equipment such as loaders, backhoes, and cranes, as well as haul truck trips. These emissions result in elevated concentrations of DPM and PM<sub>2.5</sub> at nearby receptors (both new and existing residences). These elevated concentrations could lead to an increase in the risk of cancer or other health impacts. Consequently, a health risk assessment was performed to determine the extent of increased cancer risks and hazard indices at the maximally exposed receptors. The health risk assessment was based on recommended methodology of the state Office of Environmental Health Hazard Assessment and adopted by BAAQMD. The cancer risk to residential receptors assumes exposure occurs 24-hours per day for 350 days per year. Cancer risk to residential receptors is based on the exposure for the duration of the construction period. These cancer risk estimates also incorporate age sensitivity factors (ASFs). This approach provides updated calculation procedures that factor in the increased susceptibility of infants and children to carcinogens as compared to adults. For estimating cancer risks for residential receptors over a 70 year lifetime, the incorporation of the ASFs results in a cancer risk adjustment factor of 1.7. For the Parnassus Heights campus site, the closest new residential uses would be located at Millberry Union towers and UC Hall, along Parnassus Avenue. Additional existing residences are located to the north, northeast, and northwest, and Aldea Housing is located on the southern portion of the campus site. Seven schools (such as Gratton Elementary School, Haight Ashbury Community Nursery School, and Marilyn Reed Lucia Child Care) were included in the analysis as well as approximately 725 recreational receptors within the Mount Sutro Open Space Reserve (Reserve). Nearly 1,680 receptors were included in the analysis, which used the annual mass construction emissions as predicted by CalEEMod and determined annual average concentrations of DPM and PM<sub>2.5</sub> that were then used to calculate risk values.

A summary of the health impacts related to demolition and construction of LRDP proposals at the Parnassus Heights campus site is presented in **Table 6.2-3**.

As shown in Table 6.2-3, the maximum cancer risk for the new residence-adult and residence-child associated with the project (located at Millberry Union towers and UC Hall) would be 0.05 and 0.6 per million, respectively. The maximum cancer risk for an existing residence-adult and residence-child (located to the north, northeast, and northwest, and Aldea Housing) would be 0.03 per million and 0.3 per million, respectively. The maximum cancer risk for a school-child receptor (such as Gratton Elementary School, Haight Ashbury Community Nursery School, and Marilyn Reed Lucia Child Care) would be less than 0.02 per million. Thus, the cancer risk due to construction activities alone is less than the BAAQMD threshold of 10 per million and would be less than significant.

**TABLE 6.2-3  
 DEMOLITION AND CONSTRUCTION-RELATED HEALTH IMPACTS  
 PARNASSUS HEIGHTS PROPOSALS**

Receptor Type	Cancer Risk (cancers per million)	Chronic Index	Acute Index	PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
New Residence (adult / child)	0.05 / 0.59	<0.01	<0.01	<0.01
School Children	0.02	<0.01	<0.01	<0.01
Existing Residence (adult / child)	0.03 / 0.29	<0.01	<0.01	<0.01
<i>BAAQMD Significance Criteria</i>	10	1	1	0.3
Significant Impact?	No	No	No	No

SOURCE: KB Environmental Sciences, Inc., 2014.

The chronic HI would be less than 0.1 at all receptors. Because the chronic HI would be less than the BAAQMD threshold of 1.0, the impact of all proposals would be less than significant. The acute HI would be less than 0.01 at all receptors including recreational receptors at the Reserve. The acute HI would be below the BAAQMD threshold of 1 and the impact of the proposals would be less than significant.

The maximum annual PM<sub>2.5</sub> concentrations would be less than 0.1 µg/m<sup>3</sup> for the new residences associated with the proposals, a schoolchild, and the existing residences. The construction-related annual PM<sub>2.5</sub> concentration is below the BAAQMD threshold of 0.3 µg/m<sup>3</sup>, and hence is considered less than significant.

**Mitigation:** None required.

**Impact AIR-PH-3: Operations at the Parnassus Heights campus site under the 2014 LRDP would result in increased emissions of criteria air pollutants. (Potentially Significant)**

Operation of new Parnassus Heights development under the 2014 LRDP would result in an increase in criteria air pollutant and precursor emissions, including ROG, NO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> from a variety of emissions sources, including onsite area sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products, etc.) and mobile on-road sources. Operational emissions of criteria pollutants were estimated using the CalEEMod version 2013.2.2 emissions inventory model. All model inputs and outputs are provided in Appendix E.

One of the sources of operational emissions would be increased vehicle emissions from sources such as additional staff, patients, visitors and residents. Traffic volumes used to estimate vehicle-related emissions were derived from the Transportation Demand Analysis prepared for the LRDP (Adavant, 2014). In total, development at the Parnassus Heights campus site would generate an estimated 405 additional daily vehicle trips. In addition to exhaust emissions, vehicles would also generate PM<sub>10</sub> and PM<sub>2.5</sub> from entrained road dust and tire and brake wear.

Emissions would also be generated by on-site natural gas combustion, operation of landscape maintenance equipment, and maintenance application of paint and other architectural coatings.

**Table 6.2-4** presents estimated operational emissions from LRDP proposals at the Parnassus Heights campus site. Without mitigation, operational emissions of NO<sub>x</sub> and ROG, PM<sub>10</sub> and PM<sub>2.5</sub> would be less than threshold levels. Emission reductions of ozone precursors (ROG and NO<sub>x</sub>) associated with demolitions and reuse of buildings would more than offset the increases from vehicle trips and would result in a net decrease of ozone precursors.

**TABLE 6.2-4  
UNMITIGATED OPERATIONAL CRITERIA POLLUTANT EMISSIONS -  
PARNASSUS HEIGHTS PROPOSALS**

Air Pollutant	Estimated Emissions (lbs/day)			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>New Development</b>				
Mobile Sources <sup>a</sup>	0.80	1.31	2.17	0.60
Area Sources <sup>a</sup>	15.61	0.31	0.16	0.16
Natural gas combustion	1.04	9.38	0.72	0.72
<b>Demolition Losses</b>				
Area Sources <sup>a</sup>	-5.24	<0.01	<0.01	<0.01
Natural gas combustion	-0.13	-1.18	-0.09	-0.09
<b>Renovation Losses</b>				
Area Sources <sup>a</sup>	-5.58	<0.01	<0.01	<0.01
Natural gas combustion	-0.16	-1.47	-0.11	-0.11
<b>Total</b>	<b>6.34</b>	<b>8.36</b>	<b>2.85</b>	<b>1.28</b>
Regional Significance Threshold	54	54	82	54
Significant Impact?	No	No	No	No

<sup>a</sup> Mobile sources are motor vehicles and trucks. Area sources include landscape maintenance (equipment used for these activities such as gasoline-powered lawnmowers and blowers), maintenance application of paints and other interior and exterior surface coatings, and increased use of consumer products that result in emissions of ROG. Natural gas combustion is for space and water heating.

SOURCE: ESA, 2014 (see Appendix E).

Although estimated emissions at the Parnassus Heights campus site would be less than the daily thresholds, **Impact AIR-LRDP-5** in Section 5.2 identifies a significant and unavoidable operational air quality impact resulting from emissions of criteria air pollutants when LRDP operations at all campus sites are considered. In response, **Mitigation Measure AIR-LRDP-4: BAAQMD-Suggested Operational Measures** was adopted Campus-wide and therefore would also apply to operation of projects at the Parnassus Heights campus site.

**Mitigation Measure:** Implement Mitigation Measure AIR-LRDP-4

**Significance after Mitigation:** Less than Significant

**Impact AIR-PH-4: Operations at the Parnassus Heights campus site under the 2014 LRDP would expose persons (new receptors) to substantial levels of TACs, which may lead to adverse health effects. (Less than Significant)**

As described in Section 5.1.2, the method for determining health risk requires the review of health risk from permitted sources and major roadways in the vicinity of a project (i.e., within a 1,000-foot radius of the source), then adding the project impacts to determine whether the health risk thresholds for new receptors are exceeded.

BAAQMD has developed a geo-referenced database of permitted emissions sources throughout the San Francisco Bay Area, and has developed the Stationary Source Risk & Hazard Analysis Tool (dated May 2011) for estimating cumulative health risks from permitted sources. Eight permitted sources are located within 1,000 feet of new residences associated with the 2014 LRDP and included in the cumulative analysis.

BAAQMD has also developed a geo-referenced database of major roadways throughout the San Francisco Bay Area and has developed the *Highway Screening Analysis Tool* (dated May 2011) for estimating cumulative health risks from roadways.

BAAQMD *CEQA Air Quality Guidelines* also require the inclusion of surface streets within 1,000 feet of the project with annual average daily traffic (AADT) of 10,000 or greater<sup>4</sup>. Upon review the health impacts from Parnassus Avenue with 11,700 AADT was included for the Parnassus Heights campus site.

Fume hood emissions also contribute to exposure of TACs. As discussed in the setting section, previous health risk assessments for fume hood emissions on the campus site estimated the increased cancer risk at the maximally exposed receptor to be 4.46 in one million (Radian, 1989). Because of the substantial subsequent reduction in chemical use due to microchemistry techniques implemented and improved ventilation systems, current risks are expected to be markedly lower than this 1989 estimate, which is overly conservative. Proposed new residential uses at Fifth and Parnassus Avenues and the Proctor site are located in the same general area as the hypothetical maximally exposed individual of the 1989 study.

A summary of the cumulative health impacts for the new residences proposed at the Parnassus Heights campus site is found in **Table 6.2-5**. Notably, for individual projects/new receptors, the threshold of significance is based on the source with the highest cancer risk, PM<sub>2.5</sub> concentration, or hazard in comparison to other sources within the 1,000-foot radius of the receptor.<sup>5</sup>

The health impacts from nearby sources in the area would affect new residents associated with the Parnassus Heights campus site. The highest cancer risk from any of the nearby sources would be 4.6 cancer cases per million. Thus, the cancer risk for new receptors is below the BAAQMD threshold of 10 cancer cases per million for a single source and would be less than significant.

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<sup>4</sup> BAAQMD County Surface Street Screening Tables, May 2011 and CEHTP Traffic Linkage Service Demonstration, [http://www.ehib.org/traffic\\_tool.jsp](http://www.ehib.org/traffic_tool.jsp)

<sup>5</sup> BAAQMD, *Recommended Methods for Screening and Modeling Local Risk and Hazards*, May 2011.

**TABLE 6.2-5  
HEALTH IMPACTS FOR NEW RECEPTORS - PARNASSUS HEIGHTS PROPOSALS**

Site #	Facility Type	Address/Source	Cancer Risk (cases per million persons)	Hazard Index	PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
2479	UCSF / Parnassus <sup>a</sup>	3rd Avenue / Parnassus	4.59 <sup>a</sup>	<0.01	0.01
		Roadway Risks - Parnassus Avenue	0.90	<0.01	0.09
		Fume hood emissions	4.46	0.12	<0.01
		Demolition and Construction (adult / child)	0.05 / 0.59	<0.01	<0.01
		Highest Single Source Impact	4.59	<0.01	0.09
		<i>BAAQMD Significance Criteria (new receptor)</i>	10	1	0.3
		Potentially Significant Impact?	No	No	No

<sup>a</sup> UCSF risks presented here were provided by BAAQMD in response to a stationary source inquiry form request and are refined values derived from a screening health risk assessment at an approximated 500 foot distance from the central utility plant area.

SOURCE: KB Environmental Sciences, Inc., 2014.

The highest hazard index from nearby sources would be less than 0.2, which is below the BAAQMD threshold of 1.0. The impact on the proposed residences at the Parnassus Heights campus site would therefore be less than significant. The highest annual PM<sub>2.5</sub> concentrations would be 0.09 µg/m<sup>3</sup> as a result of roadway traffic on Parnassus Avenue. This PM<sub>2.5</sub> concentration at new residences would be below the BAAQMD threshold of 0.3 µg/m<sup>3</sup>, and hence is considered less than significant.

**Mitigation:** None required.

**Impact AIR-PH-5: Operations at the Parnassus Heights campus site under the 2014 LRDP would cumulatively expose persons (existing and new receptors) to substantial levels of TACs, which may lead to adverse health effects. (Less than Significant)**

As described in Section 5.1.2, the method for determining health risk requires the review of health risk from permitted sources and major roadways in the vicinity of a project (i.e., within a 1,000-foot radius of the source), then adding the project risk to determine whether the cumulative health risk thresholds are exceeded. A summary of the cumulative health impacts for the existing residences for the Parnassus Heights campus site is found in **Table 6.2-6**.

The health impacts from construction and operations plus other sources (permitted sources and roadways) in the area would have a cumulative effect on nearby residence receptors. The maximum cumulative cancer risk for existing residence would be 9.98 per million and 13.36 per million for residence-adult and residence-child, respectively. Thus, the cumulative cancer risk is below the BAAQMD threshold of 100 per million and would be less than significant.

**TABLE 6.2-6  
 CUMULATIVE HEALTH IMPACTS - PARNASSUS HEIGHTS**

Site #	Facility Type	Address/Source	Cancer Risk (cancer cases per million persons)	Chronic Hazard Index	PM <sub>2.5</sub> Concentration (µg/m <sup>3</sup> )
2479	UCSF / Parnassus <sup>a</sup>	3rd Avenue / Parnassus	4.59	<0.01	0.01
		Parnassus Avenue	0.90	<0.01	0.09
		Fume Hood Emissions	4.46	0.12	<0.01
		Proposed Project (adult / child)	0.03 / 0.29	<0.01	<0.01
		Demolition and Construction (adult / child)	0.05 / 0.59	<0.01	<0.01
		<b>Grand Total (adult / child)</b>	<b>10.03 / 13.95</b>	<b>0.15</b>	<b>0.11</b>
		<i>BAAQMD Cumulative Significance Criteria</i>	100	10	0.8
		Significant Cumulative Impact?	No	No	No

<sup>a</sup> UCSF risks presented here were provided by BAAQMD in response to a stationary source inquiry form request and are refined values derived from a screening health risk assessment at an approximated 500 foot distance from the central utility plant area.

SOURCE: KB Environmental Sciences, Inc., 2014.

The cumulative hazard index would be less than 1. This HI would be well below the BAAQMD threshold of 10 and the impact of the project would therefore be less than significant. The maximum cumulative annual PM<sub>2.5</sub> concentrations would be 0.1 µg/m<sup>3</sup>, which is below the BAAQMD threshold of 0.8 µg/m<sup>3</sup>, and hence would be considered less than significant.

**Mitigation:** None required.

## 6.2.4 References

Adavant Consulting, Travel Demand Analysis Four Campus Summary: Existing & 2035, February, 2014.

Bay Area Air Quality Management District (BAAQMD), 2009. Revised Draft Options and Justification Report, CEQA Thresholds of Significance Air Quality Guidelines, October 2009. Available at [www.baaqmd.gov](http://www.baaqmd.gov).

BAAQMD, 2010. Bay Area 2010 Clean Air Plan, September 15, 2010.

BAAQMD, 2012. CEQA Air Quality Guidelines. Adopted June 2011, updated May 2012. Available at [www.baaqmd.gov](http://www.baaqmd.gov).

California Air Resources Board (CARB), 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

## 6.3 Biological Resources

This section considers the setting and biological resources impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Biological Resources are contained in Section 4.3 of this EIR. The CEQA Significance Standards presented in Section 4.3.3 are used to evaluate the potential impacts to biological resources of all proposed 2014 LRDP activities.

### 6.3.1 Biological Resources Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Special status species.** The proposed renovations of UC Hall, Moffitt Hospital and the Millberry Union towers would not result in any potential adverse effect, either directly or indirectly through habitat modifications, on special-status species. No additional analysis of this issue is required for these proposals.
- **Riparian habitat.** No 2014 LRDP proposals would result in an adverse impact to any riparian habitat. Therefore, no additional analysis of this issue is required.
- **Wetlands.** No 2014 LRDP proposals would result in an adverse impact to any federally protected wetlands. Therefore, no additional analysis of this issue is required.
- **Wildlife Movement.** The proposed renovations of UC Hall, Moffitt Hospital and the Millberry Union towers would not result in any impacts to established native resident or migratory wildlife corridors. No additional analysis of this issue is required for these proposals.
- **Policies.** No 2014 LRDP proposals would conflict with any applicable policies protecting biological resources. Therefore, no additional analysis of this issue is required.
- **Conservation plans.** No 2014 LRDP proposals would conflict with any applicable habitat conservation plan. Therefore, no additional analysis of this issue is required.
- **Tree protection.** No 2014 LRDP proposals would result in an adverse impact to heritage or landmark trees. Therefore, no additional analysis of this issue is required.

### 6.3.2 Biological Resources – Parnassus Heights Setting

Parnassus Heights is located on 107 acres of land near the geographical center of San Francisco. Parnassus Heights is bounded by Carl and Irving Streets to the north, Fifth Avenue to the west and Clarendon Avenue, Christopher Drive and Crestmont Drive to the south. The eastern boundary is bordered by the Cole Valley neighborhood and the City's Interior Greenbelt Natural Area. UCSF's facilities are concentrated at the north end of the campus site where Moffitt Long Hospital, the four schools, clinics, research, auxiliary services, housing, parking and other support uses are located.

The 61-acre Mount Sutro Open Space Reserve (Reserve) occupies the central and southern portion of the campus site and is designated by the Regents as permanent open space. Vegetation within the Reserve is dominated by non-native tree species including blue gum eucalyptus (*Eucalyptus globulus*), Monterey cypress (*Cupressus macrocarpa*), and Blackwood acacia (*Acacia melanoxylon*), with an understory of pittosporum (*Pittosporum* sp.), English ivy (*Hedra helix*), German ivy (*Delairea oderata*), garden nasturtium (*Tropaeolum majus*), Himalayan blackberry (*Rubus armeniacus*). Some native species that occur within the Reserve as a result of restoration efforts include California sagebrush (*Artemisia californica*), sticky monkey flower (*Mimulus aurantiavus*), mugwort (*Artemisia douglasii*), yellow bush lupine (*Lupinus arboreus*), and coyote brush (*Baccharis pilularis*). Other native species found in understory patches throughout the Reserve include California blackberry (*Rubus ursinus*), western sword fern (*Polystichum munitum*), and honeysuckle vine (*Lonicera hispidula*).

### 6.3.3 Biological Resources – Parnassus Heights Impacts and Mitigation Measures

**Impact BIO-PH-1: Demolition and construction activities at the Parnassus Heights campus site could have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. (Potentially Significant)**

The following 2014 LRDP proposals could have potentially significant adverse impacts on special-status wildlife and plant species that are known to occur or have a moderate or high potential to occur within or adjacent to the project sites. Suitable habitat that may support special-status plants, wintering aggregations of monarch butterflies, nesting and migratory birds, and special-status bats occurs within the Reserve, and within the vicinity of the proposal sites. Implementation of the mitigation measures described below would reduce potential impacts on special-status plant and wildlife species to a less-than-significant level by avoiding disturbance to special-status plants, wintering monarch butterflies, nesting birds, and roosting bats through seasonal work limits or restrictive buffers around plant populations, wintering sites, active nests, and roosts.

#### ***Demolish Existing Buildings***

Under the 2014 LRDP, 8 buildings are proposed for demolition on the Parnassus Heights campus site: Surge, Woods, Medical Research 4, Laboratory of Radiobiology, Proctor, Environmental Health and Safety, Koret Vision Research, Langley Porter Psychiatric Institute (LPPI) and three small support buildings. These buildings are located on the northern portion of the Reserve and many of them abut suitable habitat for special-status wildlife inhabiting the Reserve. Following demolition of the Surge, Woods, and Environmental Health and Safety buildings these areas will be restored to open space and incorporated into the Reserve with the exception of existing parking areas. The process of demolishing buildings has the potential to adversely impact special-status wildlife species in surrounding habitat. Once the buildings are demolished and the construction debris is removed, that potential no longer exists.

### ***Construct New Hospital Addition***

Following demolition of the LPPI and three support buildings, an addition to the existing Long Hospital will be constructed in the footprints of the former LPPI and support buildings. Construction would take approximately four years. The New Hospital Addition would be located adjacent to the Reserve, which provides suitable habitat for special-status wildlife. The process of constructing the New Hospital Addition has the potential to adversely impact special-status wildlife species inhabiting the Reserve forest through increased noise and visual disturbance during building construction.

### ***Open Space and Utilities***

#### **Mount Sutro Open Space Reserve Trails**

The 2014 LRDP includes plans to construct three new trails within the Reserve, originally proposed as part of the Mount Sutro Management project, to enhance and improve access for visitors. The proposed trail alignments are approximate, but would generally follow: 1) a trail on the north side of the Reserve connecting the Historic Trail to the campus, allowing for ease of access to/from the campus (Sunset Trail). This trail would begin near the Koret Vision Research building and connect with Medical Center Way before continuing to the Historic Trail; 2) a trail connecting the South Ridge and Quarry Road Trails to Christopher Drive, allowing for easier public access from the south side of the Reserve (Christopher Trail); and 3) an extension of this trail to Clarendon Avenue, which also would provide access to trails in the Interior Greenbelt (on City-owned land) located southeast of the Reserve (Clarendon Trail). Vegetation removal, ground disturbance, and the use of heavy equipment during grading of the trails has the potential to adversely impact special-status plant and wildlife species within the immediate alignment of the new trails as well as within the surrounding habitat.

#### **Medical Gas and Diesel Fuel Storage Tanks**

Medical gas storage tanks, diesel fuel storage tanks, and the transmission lines connecting the tanks to Long Hospital are present beneath Medical Center Way. Under the 2014 LRDP the medical gas tanks will be relocated and expanded. The diesel tanks and transmission lines will also be replaced and brought up to code in their current location. Due to the location of Medical Center Way adjacent to the Reserve, special-status wildlife species could be adversely impacted by the increased noise and visual disturbance associated with these activities.

#### **Retaining Wall**

Landslides have occurred along the northern slope of the Reserve just south of the Dolby Regeneration Medicine Building. Construction of a retaining wall at this location would stabilize the hillside to prevent future landslides. Vegetation removal and ground disturbance, as well as required excavation and the use of heavy equipment during construction of the retaining wall has the potential to adversely impact special-status plant and wildlife species within the project footprint and in surrounding habitat.

#### ***Impacts to Monarch Butterflies***

Demolition and building proposals described above could adversely impact overwintering aggregations of monarch butterflies, if present. Mature stands of eucalyptus within the Reserve

and in the vicinity of the retaining wall, new trails and buildings to be demolished provide suitable roosting conditions for wintering monarch butterflies. Disturbing active monarch roosts during the wintering season (October 1 – February 28) would be considered a significant impact. Implementing **Mitigation Measure BIO-PH-1a, Preconstruction Surveys for Monarch Butterfly Winter Roosts and Avoidance**, would reduce potential impacts on monarch butterflies to a less-than-significant level by requiring preconstruction surveys and implementing avoidance measures if active roosts are located.

**Mitigation Measure BIO-PH-1a: Preconstruction Surveys for Monarch Butterfly Winter Roosts and Avoidance.**

Prior to demolition activities, a qualified biologist familiar with monarch butterfly aggregating behavior and habitat shall conduct a preconstruction survey for the presence of overwintering monarch butterfly aggregations. The survey shall be conducted in December or January during the period when overwintering aggregations appear. Should an overwintering aggregation be identified in trees adjacent to individual proposal sites within the Reserve, a 200-foot buffer shall be established around the occupied trees until the aggregation has dispersed.

**Significance after Mitigation:** Less than Significant

***Impacts to Special-Status and Migratory Birds***

Demolition and building proposals described above, especially activities that involve heavy machinery, may adversely impact nesting bird species within 1/4-mile of project sites within and adjacent to the Reserve should they occur during the nesting season (February 15 – August 15). Migratory and native raptor and passerine bird species are known to stopover, forage, and/or nest in the mature non-native forest of the Reserve and on buildings to be demolished or renovated under the 2014 LRDP and within the Parnassus Heights campus site. Adverse effects associated with increased noise and visual disturbance during construction and demolition activities could affect nesting efforts at and around the project sites. The loss of an active nest would be considered a significant impact under CEQA. Moreover, disruption of nesting migratory or native birds is not permitted under the federal MBTA or the California Fish and Game Code, as it could constitute unauthorized take. Thus, the loss of any active nest by, for example, removing a tree or shrub or demolishing a structure containing an active nest, must be avoided under federal and California law. Implementing **Mitigation Measures BIO-PH-1b, Preconstruction Breeding Bird Surveys and Nest Avoidance**, would reduce potential impacts on migratory and special-status birds to a less-than-significant level by requiring preconstruction surveys and implementing avoidance measures if active nests are located.

**Mitigation Measure BIO-PH-1b: Preconstruction Breeding Bird Surveys and Nest Avoidance.**

Should construction activities associated with the new retaining wall, new trails, demolition of buildings, relocation, expansion, and replacement of the medical gas and diesel fuel tank storage, and construction of the new hospital addition within the Parnassus Heights campus site, commence during breeding bird season (February 15 – August 15) annually, UCSF shall retain a qualified biologist to conduct preconstruction nesting bird surveys in surrounding

habitat for nesting birds. UCSF shall implement specific measures to avoid and minimize impacts on nesting birds including, but not limited to, those described below.

- To avoid and minimize potential impacts on nesting raptors and other birds, preconstruction surveys shall be performed not more than two weeks prior to initiating vegetation removal and/or construction and demolition activities during the breeding season (i.e., February 15 through August 15).
- To avoid and minimize potential impacts on nesting raptors and other birds, a no-disturbance buffer zone shall be established around active nests during the breeding season until the young have fledged and are self-sufficient, when no further mitigation would be required. Typically, the size of individual buffers ranges from a minimum of 250 feet for raptors to a minimum of 50 feet for other birds but can be adjusted based on an evaluation of the site by a qualified biologist in cooperation with the USFWS and/or CDFW.
- Birds that establish nests after construction starts are assumed to be habituated to and tolerant of the indirect adverse impacts resulting from construction noise and human activity. However, direct take of nests, eggs, and nestlings is still prohibited and an appropriate buffer shall be established around the nest according to species and proximity to project activities in order to avoid nest abandonment or destruction, as determined by a qualified biologist.
- If construction or demolition activities ceases for a period of more than two weeks, or vegetation removal is required after a period of more than two weeks has elapsed from the preconstruction surveys, then new nesting bird surveys shall be conducted.

**Significance after Mitigation:** Less than Significant

#### ***Impacts to Special-Status Bats***

Demolition and building proposals described above, especially activities that involve heavy machinery, could adversely impact special-status bats roosting within or adjacent to project sites within the Reserve forest. Bats hibernating or with an active maternity roost in trees on the perimeter of the Reserve forest adjacent to 2014 LRDP activities within the Parnassus Heights campus site could be disturbed by construction and demolition activities. Activities that could cause female bats to abandon pups could result in direct mortality of special-status bats at maternity roosts. This would be considered a significant impact. Potential impacts on special-status bats would be reduced to a less-than-significant level by **Mitigation Measure BIO-PH-1c**, Avoidance and Minimization Measures for Special-Status Bats, requiring preconstruction surveys and seasonal avoidance measures if active roosts are detected.

#### **Mitigation Measure BIO-PH-1c: Avoidance and Minimization Measures for Special-Status Bats.**

A qualified wildlife biologist shall conduct preconstruction special-status bat surveys of suitable roost sites in the vicinity of construction and demolition sites that abut the forest of Mount Sutro Open Space Reserve. If active day or night roosts are found, the wildlife biologist shall take actions to make such roosts unsuitable habitat before construction and demolition activities begin. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes. Bat roosts that are

established during active construction or demolition are presumed to be unaffected by these activities, and no buffer would be necessary.

**Significance after Mitigation:** Less than Significant

### ***Impacts to Special-Status Plants***

Construction of new trails and the retaining wall within the Reserve could adversely impact special-status plants, if present, within the footprint of these project sites. Coastal triquetrella and San Francisco gumplant have the potential to occur in suitable habitat within the Reserve. Vegetation clearing and ground disturbance associated with construction of the retaining wall and new trails within the Reserve could result in direct loss of special-status plants or loss of the vegetation communities which support these species, which would be a significant impact. Implementing **Mitigation Measure BIO-PH-1d**, Preconstruction Surveys for Special-Status Plants and Plant Avoidance and **Mitigation Measure BIO-PH-1e**, Relocation of Special-Status Plants, would reduce the potential impacts on special-status plants to a less-than-significant level by requiring preconstruction surveys and requiring avoidance and relocation measures should special-status plants be found.

#### **Mitigation Measure BIO-PH-1d: Preconstruction Surveys for Special-Status Plants and Plant Avoidance.**

Prior to construction activities, a qualified botanist shall conduct preconstruction surveys for special-status plants, coastal triquetrella and San Francisco gumplant, within the footprints of and in suitable habitat adjacent to locations of the new retaining wall, new trail alignments, and any access routes and staging areas to be used in support of these projects. Surveys for coastal triquetrella can be conducted at any time of the year however surveys for San Francisco gumplant shall occur in the summer (June – September). Should special-status plant species be found during surveys, occurrences shall be marked in the field for avoidance during construction.

#### **Mitigation Measure BIO-PH-1e: Relocation of Special-Status Plants.**

If special-status plants are located within the retaining wall or new trails footprint and cannot be avoided, then a rare plant salvage and relocation plan shall be developed to relocate individuals to suitable habitat within the Reserve. A qualified botanist shall develop and implement the plan according to CDFW guidelines and in coordination with CDFW. At a minimum, the plan shall include collection of reproductive structures from affected plants, a full description of microhabitat conditions necessary for each affected species, seed germination requirements, restoration techniques for temporarily disturbed occurrences, assessments of potential transplant and enhancement sites, success and performance criteria, and monitoring programs, as well as measures to ensure long-term population viability. The mitigation methods shall include either salvage and transplantation or collection and propagation of seeds or other vegetative material. Any plant relocation shall be done under the supervision of a qualified restoration botanist.

**Significance after Mitigation:** Less than Significant

**Impact BIO-PH-2: Demolition and construction activities at the Parnassus Heights campus site 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. (Potentially Significant)**

The City of San Francisco and the San Francisco Bay exist along the Pacific Flyway, a main north-south travel corridor for migrating birds extending from Alaska to Patagonia. The migratory flights of different types of birds occur at different altitudes. Soaring migrants, such as hawks, usually take advantage of thermal drafts and typically migrate at 3,000 feet or less. Most passerine species migrate at night and, over land, they typically fly 1,500 feet to 2,400 feet in altitude but can also fly much lower, depending on conditions. Weather conditions often affect the migratory altitude, since birds may fly higher or lower to avoid or take advantage of prevailing winds or to avoid a cloud deck (Cornell Lab of Ornithology, 2007).

The Reserve forest provides desirable habitat for both resident and migrating birds due to its expanse of mature trees and dense understory isolated within an urban setting. 2014 LRDP proposals located within the vicinity of suitable habitat for resident and migratory birds, such as the New Hospital Addition may result in an increase of bird collisions, resulting in a significant impact.

Implementation of **Mitigation Measure BIO-LRDP-1: Bird Safe Building Treatments** would reduce potential adverse effects on resident and migrating birds to a less than significant level by requiring design features that would make buildings more visible to birds.

**Mitigation Measure:** Implement Mitigation Measure BIO-LRDP-1

**Significance after Mitigation:** Less than Significant

Many collisions are induced by artificial night lighting, particularly from large buildings, which can be especially problematic for migrating songbirds since many are nocturnal migrants (Ogden, 1996). The tendency of birds to move towards lights at night when migrating, and their reluctance to leave the sphere of light influence for hours or days once encountered (Graber, 1968), has been well documented (Ogden, 1996). Birds can become “trapped” by a light source and, disoriented, continue to fly around the source until they become exhausted and drop to the ground, where they may be killed by predators (Ogden, 1996) or die from stress or exhaustion (Reed et al., 1985). Light attraction in birds is positively related to light intensity, and studies have shown that reduction in lighting intensity and changing fixed lighting to a flashing or intermittent light system can dramatically reduce avian mortality at lighted structures (Jones and Francis, 2003). It has been suggested that structures located at key points along migratory routes may present a greater hazard than those at other locations (Ogden, 2002). Other research suggests that fatal bird collisions increase as light emissions increase, that weather often plays an important part in increasing the risk of collisions (Verheijen, 1981), and that nights with heavy cloud cover and/or precipitation (e.g. San Francisco summer fog) present the conditions most likely to result in high numbers of collisions (Ogden, 2002).

Demolition and building proposals at the Parnassus Heights campus site described above could temporarily adversely impact resident and migrating birds and bats within or moving through project

sites and the surrounding Reserve due to an increase in night lighting during demolition and construction activities in support of the 2014 LRDP proposals. Implementation of **Mitigation Measure BIO-PH-2a**, Night Lighting Minimization during Construction and **Mitigation Measure BIO-PH-2b**, Operational Night Lighting Minimization, in combination with **Mitigation Measure BIO-PH-1b**, Preconstruction Breeding Bird Surveys and Nest Avoidance, and **Mitigation Measure BIO-PH-1c**, Avoidance and Minimization Measures for Special-Status Bats, would reduce potential adverse effects associated with 2014 LRDP activities on the Parnassus Heights campus site on resident and migratory birds and bats within the Reserve to less than significant levels.

**Mitigation Measure BIO-PH-2a: Night Lighting Minimization during Construction.**

Construction areas set up for nighttime activity and requiring lights shall implement the following measures as long as the safety of workers is not compromised:

- All construction related lighting shall be fully shielded and focused down to ensure no significant illumination passes beyond the immediate work area. Lighting shall be positioned around the perimeter of the work area positioned toward activity and not surrounding habitat of the Reserve.
- Yellow or orange light shall be used where possible.
- Construction personnel shall reduce the amount of lighting to the minimum necessary to safely accomplish the work.
- Night construction near suitable habitat for nesting and migratory birds and bats (i.e. the Reserve forest and understory vegetation) shall be avoided during nesting season (February 15 – August 15). If night construction near these areas cannot be avoided, light shall not be allowed to shine directly into suitable habitat.
- Construction areas set-up for night time activity are subject to all of the same preconstruction surveys for nesting birds and roosting bats listed in this section, above.

**Mitigation Measure BIO-PH-2b: Operational Night Lighting Minimization.**

In addition to minimizing night lighting during demolition and construction of the 2014 LRDP proposals, UCSF shall similarly ensure that the design and specifications for buildings implement design elements to reduce lighting usage, change light direction, and contain light. These include, but are not limited to, the following general considerations that shall be applied wherever feasible throughout 2014 LRDP proposals within the Parnassus Heights campus site to reduce night lighting impacts on avian and bat species:

- Avoid installation of lighting in areas where not required for public safety.
- Examine and adopt alternatives to bright, all-night, floor-wide lighting when interior lights would be visible from the exterior or when exterior lights must be left on at night, including:
  - Installing motion-sensitive lighting
  - Installing task lighting
  - Installing programmable timers
  - Installing fixtures that use lower-wattage, sodium, and yellow-red spectrum lighting (if compatible with personnel safety requirements).

- Install strobe or flashing lights in place of continuously burning lights for any obstruction lighting that may be required.
- Where exterior lights are to be left on at night, install fully shielded lights to contain and direct light away from the sky.

**Significance after Mitigation:** Less than Significant

No other established native resident or migratory wildlife corridors or native wildlife nursery sites exist within or in the vicinity of the Parnassus Heights campus site.

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## 6.3.4 References

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## 6.4 Cultural Resources

This section considers the cultural resources setting and impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Cultural Resources are contained in Section 4.4 of this EIR. The CEQA Significance Standards presented in Section 4.4.3 are used to evaluate the potential impacts to cultural resources of all proposed 2014 LRDP activities.

### 6.4.1 Cultural Resources Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Historical resources.** The proposed New Hospital Addition would not result in an adverse effect on historical resources. Therefore, no additional analysis of this issue is required for this activity.
- **Archaeological resources.** The proposed demolition of 8 existing buildings and the renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would not result in an adverse effect on archaeological resources. Therefore, no additional analysis of this issue is required for these activities.
- **Paleontological resources.** The proposed demolition of 8 existing buildings and the renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would not result in an adverse effect on paleontological resources. Therefore, no additional analysis of this issue is required for these activities.
- **Human remains.** The proposed demolition of 8 existing buildings and the renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would not result in an adverse effect on human remains. Therefore, no additional analysis of this issue is required for these activities.

### 6.4.2 Cultural Resources – Parnassus Heights Setting

UCSF is historically associated with the Toland Medical College, founded in downtown San Francisco in 1863. In 1873, the Toland Medical College was acquired by and became affiliated with the University of California. The UCSF campus was established through a combination of factors, including the appropriation of \$250,000 by the state legislature in 1895 to construct three buildings to house the “Affiliated Colleges” of Dentistry, Medicine, and Pharmacy. Also, in 1895, Adolph Sutro, the former mayor of San Francisco, presented the University with a gift of its first 13 acres, known as Parnassus Heights. The cornerstone for the Affiliated Colleges at the Parnassus Heights site was laid on March 27, 1897, and the University opened in October 1898.

UC Hall, known as UC Hospital when it was completed in 1917, was the first hospital building constructed on the site. Construction of additional medical facilities, academic buildings, and other

support functions continued throughout the first half of the 20th century, occurring primarily along the south side of Parnassus Avenue and eventually stretching from 3rd Avenue to Hillway Avenue. Post-war growth continued to be concentrated in areas south of Parnassus Avenue, including Moffitt Hospital and the Medical Sciences Building (1955), as well as areas north of Parnassus Avenue to Irving Street.

In the period from the 1960s to 1980s, the University refurbished a number of the aging buildings such as UC Hall, originally completed in 1917, and the Clinical Sciences Building which was originally completed in 1933. Other buildings were demolished in this period, such as the old Medical School Building – completed in 1898 and located in what is now Saunders Court between the Medical Sciences Building and the School of Nursing.

New buildings during this period included University House which opened in 1965 to be used as the Chancellor's Residence, and two glass towers behind the Medical Science and Clinical Sciences buildings called Health Science East and West, which were completed in 1966. The School of Nursing building was completed in 1972 and the Ambulatory Care Center building on the opposite side of Parnassus Avenue was completed in 1973. In 1975, UCSF occupied over 3,000,000 square feet of clinical, research and office space. Numerous new buildings were also added in the 1980s, including the new School of Dentistry building (1980), the modernized Moffitt Hospital projects (1980), the new Long Hospital (1983), and the Koret Center (1986).

#### **6.4.2.1 Mount Sutro Open Space Reserve**

The potential historical significance of the Mount Sutro Open Space Reserve (Reserve) was evaluated as a cultural landscape as part of the UCSF *Mount Sutro Management Draft EIR* (UCSF, 2013). An analysis conducted for this EIR, completed by Bradley, et al (2013), found that the Reserve is a historical resource for the purposes of CEQA and is eligible for inclusion in the California Register of Historical Resources for its association with Adolph Sutro and his development of the Sutro Forest (the period of this significance extends from 1886 when Sutro first began to plant the Sutro Forest to his death in 1898), and for its association with the history of San Francisco and the informal development of this naturalistic landscape as a recreational area and green space for the City; the period of this significance extends from 1886 when Sutro first began to plant the forest to the present (UCSF, 2013).

The character-defining features that convey its historical significance include: (1) the presence of a forest that covers the overwhelming majority of the land area and whose dominant species is eucalyptus, (2) the presence of the Historic and Fairy Gates trails as part of a consciously laid out trail system and the presence of informal or social trails which have developed over time related to land use activities and to provide connections into Mount Sutro from the surrounding neighborhoods, and (3) the natural topographic characteristics of the site including the steep terrain, the rock outcrops, Stanyan Canyon and the summit (UCSF, 2013).

No archaeological resources have been recorded within the Reserve. However two sites within the Reserve are unofficially associated with Ishi, the name given to the lone survivor of the northern California tribe of Yahi Indians, who lived and worked at the Anthropology Museum on the UCSF

Parnassus Heights campus between 1911 and 1916. One site is the large rock outcropping which creates an overhang located southeast of the Chancellor's residence. The second is a deep cave with multiple chambers that is located northwest of the Chancellor's residence. In 1998, UCSF retained an archaeologist to perform archaeological testing and excavation in the area, but no artifacts that may have been attributable to Ishi were found (Holman, 1998).

### 6.4.3 Cultural Resources – Parnassus Heights Impacts and Mitigation Measures

#### **Impact CUL-PH-1: Demolition of seven buildings at the Parnassus Heights campus site would not result in a substantial adverse change in the significance of historical resources. (No Impact)**

The 2014 LRDP proposes to demolish eight buildings at the Parnassus Heights campus site: the Langley Porter Psychiatric Institute (LPPI), Environmental Health and Safety, Koret Vision Research, Surge, Woods, Medical Research 4, Laboratory of Radiobiology and Proctor. The effects of demolishing seven of these buildings are discussed below. Demolition of Surge is discussed under Impact PH-CUL-2.

To comply with the seismic requirements of Senate Bill 1953, inpatient uses at Moffitt Hospital would be decommissioned and a new addition to Long Hospital would be constructed on the present site of the Langley Porter Psychiatric Institute (LPPI). LPPI is a seven-story, 107,000 gsf building that houses psychiatric inpatient and outpatient uses, as well as instruction, research and administrative space. LPPI (including three small support structures that contain an additional 4,600 gsf) is planned to be demolished prior to 2025 to allow for construction of a new Hospital Addition. LPPI, constructed in 1941, and the three small support structures, constructed between 1964 and 1979, have been determined to be ineligible for inclusion in the California Register of Historical Resources (CRHR) and the National Register of Historic Places (NRHP) (Carey, 2011). The reconnaissance-level pedestrian survey of these buildings in 2014 by ESA found they are essentially unchanged since its original evaluations, although LPPI has received a newer paint scheme within the last 10 years. These buildings are not identified on any local registers or surveys and are not considered historic resources for CEQA purposes. As such, their proposed demolition under the 2014 LRDP would have no impact on historic resources. In addition, there are no historic resources in the immediate project vicinity that could be indirectly affected by the proposed new Hospital Addition.

The two-story, 6,200 gsf Environmental Health and Safety building is located south and uphill of the Dolby Regeneration Medicine Building across Medical Center Way on the northern edge of the Reserve. The occupants would be moved into other buildings on the campus site and the building demolished before the construction of the new hospital addition. The site would be restored as open space and added to the Reserve, though the existing parking area would remain as would the adjacent Annex building. The building was constructed in 1971. It was determined to be ineligible for inclusion in the CRHR or the NRHP and is not listed on a local register. It is not considered to be a historic resource. Because this building is not considered a historic resource for CEQA purposes, its demolition would have no significant impact to historic resources.

Located behind the Dental Clinics building and UC Hall on Koret Way, the four-story Koret Vision Research building contains approximately 40,000 gsf. The Koret Vision Research building would be demolished toward the end of the LRDP horizon, after the new Hospital Addition is built and the Moffitt building is renovated and can accommodate Koret Vision Research occupants and programs. The site may be developed with parking or open space. Constructed in 1986 and designed by the San Francisco-based architectural firm, The Design Partnership, the Koret Vision Research building was named for Joseph Koret, a local philanthropist who suffered from serious vision disability. As this building would not reach the standard 50-year age threshold by the 2035 horizon year, it would not meet the minimum age requirement for potential listing in the NRHP or CRHR. In addition, research did not reveal any significant historical or architectural associations that would indicate the building would qualify for the NRHP/CRHR once it does reach sufficient age. As such, this building would not be considered a historic resource for CEQA purposes, and its demolition would not result in a significant impact to historic resources.

The 2014 LRDP proposes to demolish four small buildings: Woods, Medical Research 4, Laboratory of Radiobiology and the Proctor building. Together, these four buildings contain about 44,300 gsf. The Medical Research 4 and the Laboratory of Radiobiology buildings would be demolished by 2016; the demolition of the Woods buildings would follow within the next several years. Because the Proctor building was constructed with funds donated by the Proctor family for use by the foundation for its clinical, research and teaching functions, UCSF is obligated to provide the Proctor Foundation with comparable replacement space or funds to construct equivalent new space. Such obligations must be met before the building is vacated and demolished; therefore, demolition of the Proctor building is likely to occur toward the end of the LRDP horizon.

None of these seven buildings is potentially eligible for the CRHR or the NRHP. The Woods building site would be restored to open space and incorporated into the Reserve, though its existing parking area would remain. The Laboratory of Radiobiology and Medical Research 4 sites would be developed to provide additional surface parking and possibly new loading dock space for delivery vehicles. The Medical Research 4 site may also be developed with expanded outdoor play yard space for the nearby Kirkham Child Care Center. The Proctor building site and 735 Parnassus Avenue site, where a small building was recently removed, may be developed with housing if they are not developed as open space.

A review of these buildings in 2014 by ESA found that all of them are essentially unchanged since they were originally evaluated, with the exception of Medical Research 4, which has been repainted. As such, their current historic status would remain unchanged. The demolition of Medical Research 4, the Laboratory of Radiobiology, Woods and Proctor buildings would have no impact on historic resources.

**Mitigation:** None required.

**Impact CUL-PH-2: Demolition of the Surge building at the Parnassus Heights campus site would result in a substantial adverse change in the significance of an historical resource. (Potentially Significant)**

The Surge building, which was constructed in 1966, would likely be eligible for the CRHR and NRHP when it reaches 50 years of age in 2016. The Surge building site would be restored to open space and incorporated into the Reserve, though its existing parking area would remain. According to the evaluation of this building,

*When it becomes 50 years old [2016], it is likely that Surge will be eligible for listing in the NRHP/CRHR under Criterion C/3 as the “work of a master” (Claude Stoller), as a work that possesses “high artistic values,” and as an excellent and well-preserved example of the Second Bay Region Tradition. As demonstrated, Stoller was an important figure in the architectural community of the Bay Region Tradition. Claude Stoller was best known as a practitioner of a regional variety of modernism called the Second Bay Region Tradition. Overall, the building retains integrity displaying the character defining features of the style and possesses the aspects of design, materials, and workmanship, location, setting, feeling and association.*

Given this evaluation, and the fact that the building appears unchanged since its original evaluation, the Surge building is presumed to be a historic resource for CEQA purposes when it reaches 50 years of age in 2016. As the building is proposed to be demolished sometime after 2016, demolition would be considered a significant impact to historical resources. UCSF shall implement **Mitigation Measure CUL-LRDP-2**, which requires documentation of this resource to National Park Service’s Historic American Building Survey (HABS) standards. While avoidance of demolition would reduce the impact to a less-than-significant level, the implementation of HABS photo-documentation prior to demolition would not reduce the impact to a less-than-significant level. This impact is considered significant and unavoidable.

**Mitigation Measure:** Implement Mitigation Measure CUL-LRDP-2

**Significance after Mitigation:** Significant and Unavoidable

**Impact CUL-PH-3: Renovation of Moffitt Hospital, UC Hall and Millberry Union towers at the Parnassus Heights campus site would not result in a substantial adverse change in the significance of historical resources. (Less than Significant)**

**UC Hall**

Built in 1917, UC Hall is the oldest building on the Parnassus Heights campus site. It has been determined to be potentially eligible for the CRHR and the NRHP under criteria A/1 and C/3 (Carey & Co., 2003). A review of this building by ESA in 2014 found that it is unchanged since its original evaluation, and as such, its historic status would remain unchanged. This seven-story building is in the west end of the campus site on Parnassus Avenue. It contains approximately 147,000 gsf. UC Hall was slated for demolition in the 1996 LRDP. UCSF now proposes to retain, seismically retrofit, renovate and reuse UC Hall by 2019. The top three floors would be used as housing, with up to 134 beds in 105 units. Initially, the three full floors below the housing would be used as faculty offices; these floors would be converted to housing (up to 78 beds in 64 units)

after Moffitt Hospital is decommissioned and renovated and is available for other uses including the offices displaced from these three floors of UC Hall.

In the westernmost courtyard of UC Hall, is the single-story, semicircular Toland Hall auditorium structure. Within Toland Hall are series of Depression-era murals painted by Bernard Zakheim, a student of Diego Rivera, in 1938. These murals depict the history of medicine in California. Original skylights also remain in the auditorium, and the two surviving original interior stairwells feature marble treads and steel balustrades topped by a clear varnished wood handrail. Although UC Hall's interior has been extensively modified, Toland Hall and its corresponding murals remain intact and are considered to be a significant resource (UCSF, 2005). As described in Mitigation Measure 3.3-3 in UCSF's LRDP #2 – Hospital Replacement EIR, UCSF would have been required to remove and conserve these murals at an appropriate facility prior to the demolition of UC Hall (UCSF, 2005). This measure would no longer apply, as the proposed project would retain UC Hall, including the Zakheim Murals in Toland Hall.

UCSF retained the firm of Page & Turnbull to make preliminary recommendations regarding alterations to the exterior of UC Hall that would be consistent with the Secretary of the Interior's Standards for Rehabilitation (Page & Turnbull, 2011). Recommendations were also made regarding the preservation of the Zakheim Murals within Toland Hall. As indicated in Chapter 3, *Project Description*, UCSF would follow those recommendations to ensure that, in carrying out the renovation project, the Secretary of the Interior's Standards for Rehabilitation are met. Generally, under CEQA, projects that comply with the Secretary of the Interior's Standards are considered to have a less-than-significant impact on the environment. As UCSF intends to follow the Standards for Rehabilitation when renovating UC Hall, no significant impacts to this historic resource would occur.

UCSF completed HABS photo-documentation of UC Hall in 2005 (Page & Turnbull, 2005). Although not required as part of mitigation for the renovation for this building, this effort provides a documentary record of the building in its existing condition, and documents the significant interior and exterior features of the building.

### **Millberry Union**

The Millberry Union towers at 500 Parnassus Avenue are currently used as office space. UCSF would convert the upper levels to student housing (the original use of the towers). Preliminary studies indicate that up to 83 studio and one-bedroom units could be provided. This conversion would occur toward the end of the LRDP horizon after Moffitt Hospital is decommissioned and renovated, so that current occupants of the Millberry Union towers could be relocated into the vacated Moffitt building. The ground floor uses of Millberry Union and the levels below, which are mostly retail with a small amount of office and outpatient space, would not change.

Built in 1955, Millberry Union was determined individually eligible for inclusion in the NRHP and CRHR (Carey, 2011). This evaluation found that the building is historically significant under NRHP/CRHR Criterion A/1 (historic events), as the first and only location on campus where students and faculty could share in social, cultural, and recreational activities. A review of this

building by ESA in 2014 found that it is unchanged since its original evaluation, and as such, its historic status would remain unchanged. Millberry Union is considered a historic resource for CEQA purposes. Renovation activities to convert the upper levels from office space back to student housing (the original use of the towers), would primarily occur on the interior of the building and would not alter the building's exterior appearance. As the building has been identified as significant for its association with historic events, and not for its architecture, the proposed interior conversion project would not alter any of the features which convey its historic significance. The building would continue to serve both students and faculty after the conversion project. As such, no significant impacts to the Millberry Union as a historic resource would occur as a result of this project. No mitigation measures would be required.

### **Moffitt Hospital**

The decommissioned Moffitt Hospital would be renovated and reused for outpatient, hospital support and office uses. The existing circular driveway along Parnassus Avenue, which would no longer be needed for patient drop-off and pick-up, would be reused for other purposes such as commercial loading, shuttle loading or open space. Constructed in 1955 and renovated and expanded numerous times since, Moffitt Hospital has been determined ineligible for inclusion in the CRHR and the NRHP. The reconnaissance-level pedestrian survey of this building in 2014 by ESA found they are essentially unchanged since its original evaluation. This building is not identified on any local registers or surveys and is not considered historic resources for CEQA purposes. Further renovation of Moffitt Hospital under the LRDP would have no impacts to historic resources.

**Mitigation:** None required.

### **Impact CUL-PH-4: Seismic rehabilitation of the historic Faculty Alumni House could result in a significant impact to this historic structure if not completed in accordance with the Secretary of the Interior's Standards. (Potentially Significant)**

The Faculty Alumni House at 745 Parnassus Avenue was built in 1915, and was determined to be eligible for listing in the California Register by Carey & Co, in 2011. As such, the Faculty Alumni House is considered a historical resource for CEQA purposes. UCSF proposes to retrofit the Faculty Alumni House to meet seismic standards. However, the retrofit plans are conceptual at this point and no details are currently available. In the absence of detailed seismic retrofit plans, it is unknown whether the project would or would not adversely affect this historic building. If not completed in a manner that complies with the Secretary of the Interior's Standards for Rehabilitation, the seismic retrofit project could have a significant adverse impact on the integrity of this historic building, which would be considered a potentially significant impact to historic resources. There are measures available which could mitigate the potential impact to a less-than-significant level, described in Mitigation Measure CUL-PH-4.

**Mitigation Measure CUL-PH-4:** UCSF shall ensure that the proposed seismic upgrades to the Faculty Alumni House at 745 Parnassus Avenue would comply with the Secretary of the Interior's Standards for Rehabilitation. UCSF shall hire a qualified professional architectural historian to review the proposed seismic upgrade plans for compliance with

the Standards, and prepare a technical memorandum which describes any changes to the seismic design (if any) that may be needed to meet the Standards. Generally, under CEQA, projects that comply with the Secretary of the Interior’s Standards are considered to have a less-than-significant impact on the environment.

**Significance after Mitigation:** Less than Significant

**Impact CUL-PH-5: Renovation of Saunders Court at the Parnassus Heights campus site could alter the features and spaces which convey its historic significance as a cultural landscape, which could result in a substantial adverse change in the significance of historical resources. (Potentially Significant)**

With the completion of the Health Sciences Instruction & Research building in 1967, the old Medical School Building was demolished. In its place Saunders Court was constructed, which forms one of the few designed open spaces on campus. Designed by renowned landscape architect Robert Royston, Saunders Court features columns from the old Medical School Building as well as the cornerstone from one of the original Affiliated Colleges buildings from 1898. It is named after John B. De C. M. Saunders (1903-1991), UCSF’s first Provost (1958-1964) and first Chancellor (1964-1966).

Asymmetrical concrete stairs descend from the south and southeast sides of Saunders Court onto a large patch of grass that occupies the center of this gently sloped, square-shaped landscape. Concrete pathways with alternating panels of exposed aggregate and bands of smooth concrete define the rest of the landscape’s perimeter, while buildings surround the courtyard on all four sides. Pine trees and a variety of small green shrubs create a largely monochromatic palette of foliage. A low concrete bench runs the length of the southern perimeter, while a variety of temporary/removable benches are located within the landscape as well.

Saunders Court would undergo changes to improve its functionality for general use and special events. Improvements would include an expansion of the pavement, seating and tables at the north end to accommodate more people without compromising pedestrian movement between Medical Sciences and School of Nursing buildings, a new diagonal walkway with historic information about UCSF that would cut through the center of the courtyard, conversion of part of the lawn to a different surface material, new plants and features that mitigate windy conditions and provide access for the disabled and for fire trucks. The project would also improve connectivity between Parnassus Avenue and Saunders Court through Clinical Sciences.

At the time of the survey and evaluation by Carey & Co. in 2011, Saunders Court was 43 [now 46] years old, seven [now 4] years shy of the fifty-year threshold for resources typically listed on the NRHP/CRHR. It does not appear to meet a level of exceptional importance; however it is a significant cultural landscape on the UCSF campus and may become eligible for the NRHP/CRHR under Criteria A/1 and C/3 when it reaches fifty years of age. Saunders Court is the only space on campus that embodies both the original Affiliated Colleges campus and the postwar expansion of the university. Its footprint is that of the old Medical School Building, the last of the original Affiliated Colleges buildings to be demolished, and the courtyard exists because postwar expansion of the campus resulted in dramatic alterations to campus architecture. For these

reasons, the courtyard appears to be eligible for the NRHP/CRHR under Criterion A/1. Master landscape architect Robert Royston designed the courtyard. While more research would have to be completed to determine how significant this cultural landscape is within Royston's oeuvre, it may be eligible for the NRHP/CRHR under Criterion C/3 as the work of a master architect. The cultural landscape appears to retain excellent integrity in all seven categories, having undergone few alterations since its creation.

Given that Saunders Court may become eligible for the NRHP/CRHR under Criteria A/1 and C/3 when it reaches fifty years of age in 2017, well within the LRDP horizon, this landscape is presumed to be a historic resource for CEQA purposes. Proposed renovations would not alter its historic significance under NRHP/CRHR criterion A/1, as it would continue to represent postwar expansion of the campus, as well as the former location of the original Medical Center Building, even after proposed landscape improvements. The proposed renovations may alter its historic significance under NRHP/CRHR criterion C/3, including those features or spaces designed by master landscape architect Robert Royston, if the new courtyard design is completed in a manner that is incompatible with the original design intent. For example, the proposed new diagonal walkway through the center of the courtyard, conversion of part of the lawn to a different surface material, and new plantings, may not be compatible with Royston's original design intent for the courtyard. As such, renovation activities could have a significant impact on Saunders Court as a significant cultural landscape.

**Mitigation Measure CUL-PH-5:** Prior to undertaking any further designs for the renovation of Saunders Court, UCSF shall: 1) complete additional research at the UCSF Archives and the Robert R. Royston Collection (1946-1972) at the Environmental Design Library at UC Berkeley to determine the relative significance of this cultural landscape within Royston's overall body of work, 2) identify the character-defining features of the landscape itself (i.e., those features which convey its historic significance), and 3), hire a professional landscape architect and/or landscape historian to design the renovation project in a manner that is respectful of, and compatible with, the character-defining features of the landscape and is consistent with the *Secretary of the Interior's Guidelines for Rehabilitating Cultural Landscapes*.

**Significance after Mitigation:** Less than Significant

**Impact CUL-PH-6: Construction of the New Hospital Addition at the Parnassus Heights campus site could cause substantial adverse changes to archaeological resources. (Potentially Significant)**

To comply with the seismic requirements of Senate Bill 1953, a new addition to Long Hospital would be constructed on the Langley Porter Psychiatric Institute (LPPI) site. According to the project description in Chapter 3, construction would take about four years, ending by 2030. The addition would contain up to 140 beds in approximately 308,000 gsf. The New Hospital Addition would be seven stories or about 110 feet in height, excluding rooftop mechanical equipment which could add up to an additional 17 feet. The building has not yet been designed, but concept studies indicate it could be set back from Parnassus Avenue with a landscaped strip to provide a passenger drop-off/pick-up, parking and loading loop that would exit directly across from

Hillway Avenue. The upper portion of the building would step back from the lower portion to minimize shading on Parnassus Avenue and to create a more attractive appearance and better human scale when viewed from the public street. Additional loading space may be created at the back of the building. The corner of the building would be designed to be architecturally prominent as the eastern gateway to the campus site.

Previous studies and archival research conducted for the Parnassus Heights campus site have not identified archaeological resources at the site. Archaeological sites are generally located near watercourses or water bodies, and the Parnassus Heights campus site is not such a setting. Additionally, this campus site has been extensively modified over time, and the likelihood of discovering archaeological resources would thus be low.

In the unlikely event that archaeological artifacts are discovered during construction (including grading, excavation and other earthmoving activities), **Mitigation Measure CUL-LRDP-3** would be implemented to reduce the impact to a less than significant level.

**Mitigation Measure:** Implement Mitigation Measure CUL-LRDP-3

**Significance after Mitigation:** Less than Significant

**Impact CUL-PH-7: Construction of the New Hospital Addition at the Parnassus Heights campus site could cause substantial adverse changes to paleontological resources. (Potentially Significant)**

Paleontology is a multidisciplinary science that combines elements of geology, biology, chemistry, and physics in an effort to understand the history of life on earth. Paleontological resources, or fossils, are the remains, imprints, or traces of once-living organisms preserved in rocks and sediments. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. In general, older sedimentary rocks (more than 10,000 years old) are considered most likely to yield vertebrate fossils of scientific interest. Review of geological maps and previous analysis suggests that there no unique paleontological resources or unique geologic features at the Parnassus Heights campus site, which is underlain by dune sands. In the event that paleontological resources are uncovered during the course of construction, implementation of **Mitigation Measure CUL-LRDP-3** would reduce impacts to a less than significant level.

**Mitigation Measure:** Implement Mitigation Measure CUL-LRDP-3

**Significance after Mitigation:** Less than Significant

**Impact CUL-PH-8: Construction of the New Hospital Addition at the Parnassus Heights campus site could cause substantial adverse changes to human remains. (Potentially Significant)**

There are no known human remains, including those interred outside of formal cemeteries located at the Parnassus Heights campus site. In the event of an accidental discovery or recognition of

human remains during project excavation and construction, **Mitigation Measure CUL-LRDP-5** would be implemented to reduce the impact to a less than significant level.

**Mitigation Measure:** Implement Mitigation Measure CUL-LRDP-5

**Significance after Mitigation:** Less than Significant

**Impact CUL-PH-9: Infrastructure and utilities improvements proposed at the Parnassus Heights campus site, including the Parnassus Avenue Streetscape Plan, would not result in a substantial adverse change in the significance of historical resources. (Potentially Significant)**

### **Parnassus Avenue Streetscape Plan**

With the renovation of the Clinical Sciences and UC Hall buildings, and possibly new faculty housing near the Fifth and Parnassus Avenue intersection, there would be opportunities to begin implementing the proposed Parnassus Avenue Streetscape Plan. This plan calls for improvements that: make crossing the street safer and more convenient for pedestrians; reorganize and improve transit and UCSF shuttle operations; create more usable outdoor space; strengthen UCSF's identity; and enhance the public realm. Improvements would include new paving, street furniture, lighting and street trees, as well as sidewalk and crosswalk widening and more defined campus gateways at either end of the street as it passes through the campus site, incorporating the new entrance way to align with the future hospital addition. The improvements would occur in phases starting on the south side of Parnassus Avenue at the west end at Fifth Avenue, through the campus core and along the front of the Hospital Addition to Medical Center Way.

These improvements to Parnassus Avenue would have no direct or indirect impacts to historic resources facing this street, such as UC Hall and the Clinical Sciences Building, because as they would occur entirely within the existing right-of-way and would not otherwise affect these structures. The minor alteration to their setting resulting from wider crosswalks, lighting, and street trees, would not substantially alter their setting to such an extent that neither would remain eligible for listing in the NRHP or CRHR. As such, no significant impacts to historic resources would occur as a result of the Parnassus Avenue Streetscape Plan.

### **Utilities and Infrastructure Projects**

The utilities and infrastructure projects include relocation and expansion of utility lines and replacement of medical gas and diesel fuel storage tanks in the vicinity of their current location near Medical Center Way, construction of a new retaining wall along Medical Center Way just south of the Dolby Regeneration Medicine Building, new and improved trails in the Reserve and renovation of Saunders Court.

The expansion of utility lines and replacement of medical gas and diesel fuel storage tanks at their current location near Medical Center Way would have no impact on historic architectural resources, as none are located at or near this area. Similarly, there are no historic architectural resources in or near the proposed location of the retaining wall across from the Regenerative Medicine Building. This area is currently a sloped, wooded, open space, and is part of the Reserve.

The potential impacts of adding three new trails and new switchbacks in the Reserve were reviewed as part of the Management Plan EIR for their potential to materially impair the character-defining features of Mount Sutro Cultural Landscape (UCSF, 2013). Based on this review, the trail system improvements would not demolish or materially alter in an adverse manner the physical characteristics of the Reserve that convey its historical significance and that justify its eligibility for the California Register of Historical Resources—the character-defining features consisting of a forest whose predominant species is eucalyptus, the trail system and the natural topographic characteristics. The evaluation and conclusion was made based on the following key components of the proposed Management Plan: (1) the trail system improvements would result in minimal vegetation removal; (2) the grading proposed would be limited to minor alterations in the topography in the vicinity of the trail improvements; (3) the existing trails and the three new proposed trails would remain unpaved and (4) the character-defining features, listed above, would all remain and would continue to convey the significance of the Reserve as part of the Mount Sutro Cultural Landscape. The proposed retaining wall behind the Dolby Regeneration Medicine building would similarly not result in adverse effects to the character-defining features of the Reserve. In summary, the proposed activities related to the trail system improvements and retaining wall would have a less-than-significant impact on the Reserve as a historical resource Landscape (UCSF, 2013).

The possibility for the inadvertent discovery of archaeological resources, paleontological resources or human remains, while low, cannot be discounted during construction of the proposed utilities, infrastructure and trail improvements. Implementation of **Mitigation Measures CUL-LRDP-3** through **CUL-LRDP-5** would reduce these potential impacts to a less than significant level.

**Mitigation Measure:** Implement Mitigation Measures CUL-LRDP-3 through CUL-LRDP-5

**Significance after Mitigation:** Less than Significant

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## 6.4.4 References

Carey & Co., *University of San Francisco Parnassus Heights Campus, Historic Resource Evaluation Report*, September 2003.

Carey & Co., *UCSF Historic Resources Survey*, February 2011.

Denise Bradley, ASLA and Knapp & VerPlanck Preservation Architects, *Final Mount Sutro Open Space Reserve Cultural Landscape Evaluation Report*, October 3, 2011; revised January 10, 2013.

Holman & Associates, *Summary of Findings of the Archaeological Testing of the Proposed Handicapped Access Ramp at the Chancellor's Residence, Near the Rock Shelter Known as Ishi's Cave*, May 7, 1998.

Page & Turnbull, *UC Hospital, 533 Parnassus Avenue, University of California, San Francisco Parnassus Heights Campus San Francisco, California, Historic American Building Survey Documentation*, November 2005.

Page & Turnbull, *UCSF UC Hall & CSF Options Study, Preliminary Historic Preservation Scope, San Francisco, CA*, October 2011.

UCSF, *Mount. Sutro Management Project Draft Environmental Impact Report*, December 2013.

UCSF, UCSF History, [www.ucsf.edu/about/history-1](http://www.ucsf.edu/about/history-1), accessed January 28, 2014.

## 6.5 Geology, Soils and Seismicity

This section considers the setting and geology, soils and seismicity impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Geology, Soils and Seismicity are contained in Section 4.5 of this EIR. The CEQA Significance Standards presented in Section 4.5.3 are used to evaluate the potential Geology, Soils and Seismicity impacts of all proposed 2014 LRDP activities.

Those impacts that are specific to the implementation of the 2014 LRDP at the Parnassus Heights campus site are discussed below.

### 6.5.1 Geology, Soils and Seismicity Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Landslides or erosion.** The proposed renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would not result in an adverse effect from landslides or substantial soil erosion. Therefore, no additional analysis of this issue is required for these activities.
- **Expansive soils.** No activities would be located on expansive soils. Therefore, no additional analysis of this issue is required.
- **Soils and wastewater disposal.** No activities would result in the installation of septic tanks or alternative wastewater disposal systems. Therefore, no additional analysis of this issue is required.
- **Structural hazards.** The proposed renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would be the only activities to have potential effects regarding exposure to structural hazards in an existing building. Accordingly, no analysis of this issue is required for any other activity.

### 6.5.2 Geology, Soils and Seismicity – Parnassus Heights Setting

The Parnassus Heights campus site, located at elevations ranging from 375 to 425 feet above mean sea level (excluding the Mount Sutro Reserve area), slopes steeply down to the north at gradients ranging from 25 to 45 percent. Subsurface materials at the Parnassus Heights campus site consist of up to 40 feet of sandy materials and unconsolidated, compact marine sand, silt, and clay (ranging in thickness from less than 1 foot to more than 70 feet) overlying 25 to 35 feet of Franciscan chert, shale, sandstone, and greenstone.

The greenstone is generally fractured, weathered and altered to clay minerals, making it prone to landsliding. The site is within a CGS Seismic Hazard Zone for landslides (CGS, 2003) and the

City of San Francisco’s Special Geologic Study Area (San Francisco Planning Department, 1997) for potential ground failure hazards caused by landsliding.

The Parnassus Heights campus site is not located within or immediately adjacent to an active fault trace and as a result is considered to have a very low potential for fault rupture. Therefore, no additional analysis related to fault rupture hazards is required.

### 6.5.3 Geology, Soils and Seismicity – Parnassus Heights Impacts and Mitigation Measures

There are four types of proposals at the Parnassus Heights campus site under the 2014 LRDP:

- **Demolition:** Surge, Woods, Medical Research 4, Laboratory of Radiobiology, Proctor, Environmental Health & Safety, Koret Vision Research and Langley Porter Psychiatric Institute and support structures
- **Renovation:** UC Hall, Moffitt Hospital and Millberry Union towers
- **Construction:** New Hospital Addition, Proctor housing and housing at Fifth and Parnassus Avenues
- **Open Space and Utilities:** Parnassus Avenue Streetscape Plan, Saunders Court renovation, Mount Sutro Open Space Reserve trails, medical gas storage tanks, diesel fuel storage tanks and retaining wall

As discussed in Section 5.5, the general Geology, Soils and Seismicity impacts that could occur as a result of implementing the 2014 LRDP, are:

**Impact GEO-LRDP-1: Implementation of the 2014 LRDP could result in adverse effects to people and structures resulting from geologic hazards.**

**Impact GEO-LRDP-2: Implementation of the 2014 LRDP could result in substantial soil erosion or loss of topsoil.**

Demolition activities could include disturbance to improvements that would expose underlying soils. If not managed appropriately, these soils could be subject to the effects of wind and water erosion. However, all construction activities including demolition activities would be required to adhere to best management practices that include erosion control measures.

The proposals to renovate Moffitt Hospital, UC Hall and Millberry Union Towers would be required to adhere to all applicable seismic requirements as contained in the most recent version of the California Building Code including any applicable local code requirements.

With implementation of these building code requirements, potential impacts to Geology, Soils and Seismicity that would be caused by proposed renovations of the existing UC Hall, Millberry Union Towers, and Moffitt Hospital would be less than significant.

The campus site is located in a seismically active region that could experience at least one major earthquake (Richter magnitude (M) 6.7 or higher) over the next 30 years. Strong ground shaking could occur during a moderate to severe earthquake occurring on one of the active Bay Area faults near to the campus site. Construction of the New Hospital Addition would require design, site preparation, and foundation construction in accordance with the most current version of the California Building Code or local code requirements if more stringent as well as the seismic standards of AB 1953 and the Office of Statewide Health Planning and Development (OSHPD) requirements for hospital facilities. Geotechnical review of the foundation design of the new facility would be required to adhere to the guidelines presented in *California Geological Survey – Note 48, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings*. Geotechnical review would also include evaluation of slope stability hazards as required by building code requirements. As a result, with implementation of these regulatory requirements any potential seismic impacts including liquefaction, landslides and other related

The proposed improvements to the streetscape of Parnassus Avenue would be relatively minor in terms of their seismic vulnerability, however they would nonetheless be subject to building code requirements, where applicable, as well as City of San Francisco Department of Public Works regulations that would ensure that proven geotechnical preparations and design would reduce potential seismic impacts to less than significant levels. In addition, implementation of required best management practices would reduce potential erosion impacts during construction.

Installation of the proposed changes to the utilities and infrastructure including the replacement of the underground storage tanks would include ground disturbing activities which could expose soils to the effects of wind and water erosion. However, all proposed construction activities would be required to adhere to best management practices that protect any exposed soils from erosion. Once construction is complete, all trenches and other areas of excavation would be covered by asphalt, concrete, or vegetated landscaping that would protect soils from the effects of erosion. In addition, utility connections to new and existing buildings are required to adhere to regulatory requirements that include measures such as flexible connections that minimize the potential for damage in the event of a substantial earthquake.

For these reasons, potential impacts to Geology, Soils and Seismicity that would be caused by the utilities and infrastructure proposals would be less than significant.

**Mitigation:** None required.

## 6.6 Greenhouse Gas Emissions

This section considers the setting and greenhouse gas emissions impacts of implementing the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of greenhouse gas emissions are contained in Section 4.6 of this EIR. The CEQA Significance Standards presented in Section 4.6.3 are used to evaluate the potential greenhouse gas emissions impacts of all proposed 2014 LRDP activities.

### 6.6.1 Greenhouse Gas Emissions Issues Adequately Addressed in the Initial Study

The Initial Study concluded that proposed activities at the Parnassus Heights campus site and their potential effects on greenhouse gas emissions would be evaluated in the EIR.

### 6.6.2 Greenhouse Gas Emissions – Parnassus Heights Setting

Greenhouse gas (GHG) emissions are generated at the Parnassus Heights campus site from a variety of sources. These include motor vehicle trips generated by uses on site, electrical and natural gas usage including natural gas usage to power turbines at the Parnassus Central Utility Plant (PCUP), water and wastewater transport (the energy used to pump water and wastewater to and from the campus site), and solid waste generation.

### 6.6.3 Greenhouse Gas Emissions – Parnassus Heights Impacts and Mitigation Measures

**Impact GHG-PH-1: Development at the Parnassus Heights campus site under the 2014 LRDP would result in an increase in construction-related GHG emissions. (Potentially Significant)**

Construction activities would result in emissions of criteria pollutants from the use of heavy-duty construction equipment, haul truck trips, and vehicle trips generated from construction workers traveling to and from the campus site.

Construction emissions were estimated using the CalEEMod emissions model assuming renovation of UC Hall and Millberry Union towers to residential uses, demolition of 8 existing buildings, construction of Proctor housing, construction of housing at Fifth and Parnassus avenues, construction of the New Hospital Addition and renovation of Moffitt Hospital.

Demolition and construction-related emissions from development at the Parnassus Heights campus site were calculated using the California Emissions Estimator Model (CalEEMod), assuming discrete construction windows in five to six year time frames. These windows are presented in **Table 6.0-3**, Proposal Construction Time Frames at Parnassus Heights, located in

Section 6.0.4 of this chapter. Implementation of the Parnassus Avenue Streetscape Plan and utility projects would require minimal construction equipment and would not be expected to contribute substantially to the emissions estimated below for building demolitions and renovations.

Construction-related emissions from development under the 2014 LRDP were calculated using CalEEMod, assuming completion by 2019, 2030 and 2035. Phasing lengths were based on CalEEMod default estimates which are based on square footage for medical office buildings and number of dwelling units for housing. It was assumed that there would be no off-road equipment involved in the renovations of UC Hall or Milberry Union towers and that air emissions from the renovation of these buildings would be generated solely by vendor trips bringing materials and construction worker trips. All model inputs and outputs are provided in Appendix E.

**Table 6.6-1** presents the annual construction-related GHG emissions generated by development under the LRDP at the Parnassus Heights campus site for each of the development windows assumed. Estimated emissions are 191 metric tons of carbon dioxide equivalent greenhouse gases (CO<sub>2</sub>e) in 2015-2019, 470 metric tons CO<sub>2</sub>e in 2025-2030 and 202 metric tons CO<sub>2</sub>e in 2031-2035<sup>6</sup>. As discussed earlier, BAAQMD has not established a quantitative threshold relative to construction-related emissions. In lieu of any proposed or adopted thresholds relative to construction-related emissions, these emissions are considered significant unless best management practices are implemented to reduce GHG emissions during construction, as feasible. Consequently, **Mitigation Measure GHG-LRDP-1** is identified to ensure implementation of best management practices during construction.

**TABLE 6.6-1  
ANNUAL CONSTRUCTION-RELATED GHG EMISSIONS  
WITHOUT MITIGATION - PARNASSUS HEIGHTS CAMPUS SITE**

Emission Source	Emissions (metric tons CO <sub>2</sub> e / year)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e
2015-2019	191	<1	<1	191
2025-2030	469	1	<1	470
2031-2035	202	<1	<1	202
<b>Total</b>	–	–	–	<b>863</b>

NOTE: Project CO<sub>2</sub> emissions estimates were made using CalEEMod v.2013.2.

**Mitigation Measure:** Implement Mitigation Measure GHG-LRDP-1

**Significance after Mitigation: Less than Significant.** Implementation of Mitigation Measure GHG-LRDP-1 would ensure that UCSF and its contractors employ feasible, effective measures to reduce GHG emissions during construction activities. This mitigation measure would reduce this potential impact to less than significant.

<sup>6</sup> Emissions were calculated assuming construction was performed in the earliest part of the 5-year construction window to assume worst case emission factors for construction equipment and truck trips.

## **Impact GHG-PH-2: Development at the Parnassus Heights campus site under the 2014 LRDP would result in an increase in operational GHG emissions. (Less than Significant)**

### **Area, Energy, and Indirect Sources**

Operational GHG emissions associated with development under the 2014 LRDP would result from electrical and natural gas usage, water and wastewater transport (the energy used to pump water and wastewater to and from the campus site), and solid waste generation. GHG emissions from electrical usage are generated when energy consumed on the site is generated by the electrical supplier, PG&E. GHG emissions from natural gas are direct emissions resulting from on-site combustion for heating and other purposes. GHG emissions from water and wastewater transport are also indirect emissions resulting from the energy required to transport water from its source, and the energy required to treat wastewater and transport it to its treated discharge point. Solid waste-related emissions are generated when the increased waste generated by the increase- in development is disposed in a landfill where it decompose, producing methane gas.<sup>7</sup>

GHG emissions from electrical usage, natural gas combustion, mobile transportation, water and wastewater conveyance, and solid waste were estimated using the CalEEMod model, and are presented in **Table 6.6-2**. A default GHG emissions factor for PG&E was adjusted to reflect future reductions envisioned by PG&E (PG&E, 2013) as well as to account for the portion of electrical power supplied by the Parnassus Central Utility Plant (PCUP). Based on the estimated on-campus power derived from the PCUP a composite GH emission factor of 605.78 pounds per megawatt hour was assumed for new (converted) residential uses. Electrical and natural gas emissions also assume compliance with UCSF policy to achieve a 20 percent energy reduction beyond Title 24 requirements for new (converted) residential uses. Energy and indirect sources from previous converted uses are subtracted from the total as are the GHG emissions from energy and indirect sources from demolished uses.

Energy use (electrical and natural gas) represents approximately 62% of estimated operational GHG emissions and solid waste generation represents approximately 33%. The relatively high percentage of emissions from energy is the result of the electrical intensity factor assumed by CalEEMod for hospital land uses (6.78 kWh/sf/yr for Title 24 electricity and 5.52 kWh/sf/yr for non-Title 24 electricity).

### **Mobile Emission Sources**

One of the sources of operational emissions would be increased vehicle emissions from additional staff, patients, visitors and residents at the Parnassus Heights campus site. Traffic volumes used to estimate vehicle-related emissions were derived from the Transportation Demand Analysis prepared for the LRDP (Adavant, 2014). Development under the 2014 LRDP at the campus site would generate an estimated 405 additional daily vehicle trips. GHG emissions from motor vehicle sources were calculated using the CalEEMod. Table 6.6-2 presents the incremental mobile source GHG emissions associated with development under the 2014 LRDP at the campus site, which represent approximately 6% of the net new operational GHG emissions.

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<sup>7</sup> CH<sub>4</sub> from decomposition of municipal solid waste deposited in landfills is counted as an anthropogenic (human-produced) GHG. (USEPA, 2006).

**TABLE 6.6-2  
ANNUAL OPERATIONAL GHG EMISSIONS  
WITHOUT MITIGATION - PARNASSUS HEIGHTS CAMPUS SITE**

Emission Source	Emissions (metric tons/year)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> e
<b>New Development</b>				
Area Sources	3.99	<1	<1	3.99
Energy Sources	3,176	<1	<1	3,186
Net New Mobile Sources	307	<1	<1	307
Solid Waste	706	41.7	<1	1,582
Water and Wastewater	107	1.56	<1	151
<b>Subtotal</b>	<b>4,301</b>	<b>43.8</b>	<b>&lt;1</b>	<b>5,230</b>
<b>Demolition Losses</b>				
Area Sources	<1	<1	<1	<1
Energy Sources	-1,106	<1	<1	-1,111
Solid Waste	-474	-28	<1	-1,061
Water and Wastewater	-48	-57	<1	-82
<b>Subtotal</b>	<b>-1,628</b>	<b>-85</b>	<b>&lt;1</b>	<b>-2,254</b>
<b>Renovation Losses</b>				
Area Sources	<1	<1	<1	<1
Energy Sources	-1,093	<1	<1	-1,094
Solid Waste	-184	-10.9		-413
Water and Wastewater	-180	-2.7	<1	-256
<b>Subtotal</b>	<b>-1,457</b>	<b>-13.6</b>	<b>&lt;1</b>	<b>-1,763</b>
<b>Total</b>				<b>1,213</b>

NOTE: Columns may not total precisely due to rounding. Rows may not total precisely due to differences in global warming potential.

As shown in Table 6.6-2, the sum of both direct and indirect GHG emissions resulting from operations under the LRDP at the Parnassus Heights campus site would result in a net increase of 1,213 metric tons per year of CO<sub>2</sub>e.<sup>8</sup> Applying a service population of 575 persons associated with development at the Parnassus Heights campus site (630 students and -55 new faculty and staff) results in emissions of approximately 2.1 metric tons per year of CO<sub>2</sub>e/SP. This is below the service population threshold of 4.6 metric tons per year of CO<sub>2</sub>e/SP. Consequently, GHG emissions associated with development under the 2014 LRDP at the Parnassus Heights campus site would be less than significant.

**Mitigation:** None required.

<sup>8</sup> CO<sub>2</sub>e in all calculations of Project impact include CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O.

## 6.6.4 References

Adavant Consulting, Travel Demand Analysis Four Campus Summary: Existing & 2035, February, 2014.

Bay Area Air Quality Management District (BAAQMD), 2009. Revised Draft Options and Justification Report, CEQA Thresholds of Significance Air Quality Guidelines, October 2009. Available at [www.baaqmd.gov](http://www.baaqmd.gov).

BAAQMD, 2012. CEQA Air Quality Guidelines. Adopted June 2011, updated May 2012. Available at [www.baaqmd.gov](http://www.baaqmd.gov).

Pacific Gas & Electric Company (PG&E), Greenhouse Gas Emission Factors: Guidance for PG&E Customers, April, 2013.

## 6.7 Hazards and Hazardous Materials

This section considers the setting and hazards and hazardous materials impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Hazards and Hazardous Materials are contained in Section 4.7 of this EIR. The CEQA Significance Standards presented in Section 4.7.3 are used to evaluate the potential hazards and hazardous materials impacts of all proposed 2014 LRDP activities.

### 6.7.1 Hazards and Hazardous Materials Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Safety hazards from airport operations.** No activities would result in safety hazards resulting from proximity to public or private airports. Therefore, no additional analysis of this issue is required.
- **Wildland fires.** The proposed renovations of Moffitt Hospital, UC Hall and the Millberry Union towers would not result in exposure to wildland fires. Therefore, no additional analysis of this issue is required for these activities.

However, in light of some of the controversy surrounding the Mount Sutro Open Space Reserve and wildfire protection of this open space area, the potential impact from wildfires is discussed for the Parnassus Heights campus site below.

### 6.7.2 Hazards and Hazardous Materials – Parnassus Heights Setting

The Parnassus Heights campus site uses include, among others, the hospital, clinical offices, and medical research which all involve the transport, storage, handling, and disposal of hazardous materials. 2014 LRDP proposals include demolition of existing buildings which could contain hazardous building materials or hazardous material contamination, renovations to existing buildings which could also disturb hazardous building materials, constructing a replacement hospital, and changes to existing utilities and infrastructure for the purposes of expansion, updating, or code requirements.

### 6.7.3 Hazards and Hazardous Materials – Parnassus Heights Impacts and Mitigation Measures

**Impact HAZ-PH-1: Implementation of the 2014 LRDP at the Parnassus Heights campus site could create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions. (Potentially Significant)**

As part of the proposed plans to update and improve utilities and infrastructure throughout UCSF, the medical gas storage tanks at the Parnassus Heights campus site would be relocated and expanded. In addition, existing underground diesel fuel storage tanks in Medical Center Way and associated underground connection lines to Long Hospital require replacement to meet State and local codes. Current plans anticipate replacement of these tanks underground in the same location, or nearby. The five 30,000 gallon underground storage tanks are used to store diesel fuel in case of a major emergency such as an earthquake. In addition, since San Francisco is among the identified counties where ultramafic bedrock materials are present and have the potential for naturally occurring asbestos fibers, there is a potential that excavation work as part of the improvements could potentially encounter naturally occurring asbestos, if it is present. If present, groundbreaking activities could disturb these fibers causing them to be airborne and potentially adversely affect workers and the public. However, according to statewide mapping, the Parnassus Heights campus site appears to be located east of any mapped ultramafic bedrock units for the City of San Francisco (CDMG, 2000) or where reported asbestos occurrences have been mapped (USGS, 2011). According to a geotechnical report for the upland slope stability, the bedrock of Mount Sutro consists of Franciscan Complex bedrock (chert, greenstone and meta-sandstone and shale) (Rutherford & Cheneke, 2006).<sup>9</sup> Naturally occurring asbestos fibers are more associated with the mineral chrysotile commonly found in serpentinite. Regardless, considering that bedrock is relatively shallow at this campus, the **Mitigation Measure HAZ-LRDP-1** would ensure that disturbance of underlying materials would not expose workers or the public to naturally occurring asbestos, if present, for any proposed earthwork activities during construction.

The decommissioned Moffitt Hospital would be renovated and reused for outpatient, hospital support, instruction and office uses. Originally constructed in 1955, renovation efforts will include disturbing existing building materials that could potentially contain hazardous materials such as lead-based paint, asbestos containing materials, polychlorinated biphenyls (PCBs), and mercury. If not addressed appropriately, construction workers and the public could be exposed to adverse effects as a result of exposure to these hazardous building materials, if present. As described in Section 5, existing regulations are sufficient to reduce potential exposure health risks to less than significant levels. Once renovations are complete, there would be a potential increase in the use, storage, and disposal of hazardous materials including biohazardous wastes.

An addition to Long Hospital would be constructed in order to comply with the requirements of Senate Bill 1953 which address seismic safety of hospitals. The seven story addition would replace services currently offered at Moffitt Hospital and likely reduce the use, storage, and disposal of associated hazardous materials and biohazardous wastes relevant to the existing hospital services. However, all use of hazardous materials would continue to require adherence to regulatory requirements that address the storage, use, and disposal of hazardous materials in a manner that limit health risks and upset and accident conditions, as required to operate the existing hospital.

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<sup>9</sup> Greenstone refers to any compact dark-green altered or low-grade metamorphosed basic igneous rock that owes to its green color. It is distinct from Serpentinite which is also green and can contain naturally occurring asbestos fibers.

Once proposed improvements are constructed, the use, storage, and disposal of hazardous materials including biohazardous waste and low-level radioactive waste would continue as part of operations and may expand with proposed new construction and renovation. Any expansion of hazardous materials use, storage, and disposal would continue under similar regulatory requirements as existing UCSF policies and hazardous materials management practices as largely documented within the Chemical Hygiene Plan. The Chemical Hygiene Plan is reviewed and updated on an annual basis and includes safety procedures, training requirements, personal protective equipment requirements, signage protocols, emergency response details, and disposal guidelines that is in accordance with all federal, state, local regulatory requirements.

**Mitigation Measure:** Implement Mitigation Measure HAZ-LRDP-1

**Significance after Mitigation:** Less than Significant

**Impact HAZ-PH-2: Implementation of the 2014 LRDP at the Parnassus Heights campus site could result in hazardous emissions or the handling of hazardous or acutely hazardous materials, substances or waste within one-quarter mile of existing or proposed schools. (Less than Significant)**

There are no schools located within a quarter mile of the Parnassus Heights campus site although Independence High School and Grattan Elementary are located approximately 0.3 and 0.4 miles, respectively, from the campus site. Regardless, the proposed plan would not include a substantive change in emissions or handling of hazardous materials and any expansion would occur under a continued practice of adherence to federal, state, local and UCSF policies and regulatory requirements.

**Mitigation:** None required.

**Impact HAZ-PH-3: 2014 LRDP proposals at the Parnassus Heights campus sites that are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, could create a significant hazard to the public. (Less than Significant)**

Two listings for the Parnassus Heights campus site are found on the Geotracker database maintained by the State Water Resources Control Board for releases of diesel found in subsurface soil (SWRCB, 2014a and SWRCB, 2014b). A release was documented for 315 Parnassus Avenue, an adjacent property to the Parnassus Heights campus site, and the case was subsequently closed in 1999 indicating that no further action was required. The other release (diesel fuel), on the UCSF campus at 50 Medical Center Way, was also closed in 2001. As such, despite being included on a hazardous materials sites list pursuant to Government Code Section 65962.5, there is no indication that any known threat to human health or the environment remains and the impact is considered less than significant.

**Mitigation:** None required.

**Impact HAZ-PH-4: Implementation of the 2014 LRDP at the Parnassus Heights campus would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. (Less than Significant)**

According to mapping for the City of San Francisco’s Hazard Mitigation Plan, the Parnassus Heights campus site, which includes the Mount Sutro Open Space Reserve, is located in an area considered to be a high to very high potential for wildfire (URS, 2008). This determination is based on expected fire behavior for unique combinations of topography and vegetative fuels under a given severe weather condition and is initially based on an assigned fuel model combined with topography. In general, the susceptibility for high and very high wildfires dramatically increases in the late summer and early autumn as vegetation dries out, decreasing plant moisture content and increasing the ratio of dead fuel to living fuel (URS, 2008).

As discussed in the Project Description (Section 3.9.1.1), under a separate process that began prior to the 2014 LRDP, UCSF proposed management activities within the Reserve which were the subject of a Draft EIR published in January 2013. Subsequently, in light of the elevated fire danger resulting from California’s current drought conditions, UCSF revised its proposal to focus on reducing the danger of wildfire. It retained a professional forester with a background in firefighting to identify fire hazard reduction measures for the Reserve area. Proposed hazard reduction measures, consistent with best management practices applied throughout California in forests located near urban areas were developed and are still in review at the time of preparation for this document although some urgent protection measures were completed in September 2013. However, the goal is to reduce the fire threat and thus the final result is likely to be a plan that includes hazard reduction from current conditions to ensure future protection from wildfire hazards. The final plan, at a minimum, will include fire hazard reduction measures as recommended by the forester. Recommendations include thinning of trees and understory in targeted areas near UCSF buildings, neighboring buildings, trails, and Medical Center Way. Any changes to the management activities analyzed in the January 2013 Draft EIR would be reviewed to determine what additional environmental analysis would be needed, if any, to comply with CEQA, separate from the 2014 LRDP and EIR.

2014 LRDP activities would not substantially increase the population at the Parnassus Heights campus site, and would not increase the number of structures within the Reserve. In addition, under a planning process separate from the 2014 LRDP, UCSF is seeking to minimize the wildfire danger within the Reserve and has already completed some of the work. Therefore, the potential impact from exposure of persons or structures to wildland fires attributable to the 2014 LRDP would be less than significant.

**Mitigation:** None required.

## 6.7.4 References

California Division of Mines and Geology (CDMG), *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*, August, 2000.

State Water Resources Control Board (SWRCB), *Geotracker database*, [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0607515600](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607515600), accessed February 3, 2014a.

State Water Resources Control Board (SWRCB), *Geotracker database*, [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0607501103](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607501103), accessed February 3, 2014b.

Rutherford & Chekene, *Slope Stability Risk Assessment*, August 25, 2006.

United States Geological Survey (USGS), *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*, Open File Report 2011-1188, 2011.

URS Corporation, *San Francisco Hazard Mitigation Plan, Wildfire Hazard Area*, September 2008.

## 6.8 Hydrology and Water Quality

This section considers the setting and hydrology and water quality impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential Hydrology and Water Quality effects are contained in Section 4.8 of this EIR. The CEQA Significance Standards presented in Section 4.8.3 are used to evaluate potential impacts to hydrology and water of all proposed 2014 LRDP activities.

Those impacts that are specific to the implementation of the 2014 LRDP at the Parnassus Heights campus site are discussed below.

### 6.8.1 Hydrology and Water Quality Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Groundwater supplies.** No activities would result in substantial depletion of groundwater supplies or interfere substantially with groundwater recharge. Therefore, no additional analysis of this issue is required.
- **Housing or other structures within flood hazard areas.** No activities would place housing or other structures within a flood hazard area. Therefore, no additional analysis of this issue is required.
- **Exposure to flooding.** No activities would result in exposure to flooding. Therefore, no additional analysis of this issue is required.

Finally, the Initial Study also concluded that the proposed renovations of Moffitt Hospital, UC Hall, and the Millberry Union towers would result in no impact or less-than-significant impacts regarding any hydrology or water quality issue. Therefore, no additional analysis is required for these building renovation activities.

### 6.8.2 Hydrology and Water Quality – Parnassus Heights Setting

The Parnassus Heights campus site is the oldest and largest of the UCSF campus sites, occupying about 107 acres of land at the base of Mount Sutro in the Inner Sunset mixed-use neighborhood. UCSF's facilities are concentrated at the north end of the campus site. The Mount Sutro Open Space Reserve (Reserve) occupies the central and southern portion of the campus site, up to 400 feet in elevation above Parnassus Avenue. The Reserve occupies 61 acres of ridgeline and hillslopes adjoining the drainage divide that forms the boundary between the San Francisco Bay and Pacific Ocean watersheds in the City of San Francisco. Accordingly, stormwater runoff from the campus site ultimately drains to storm drain inlets in the headwaters of either the Channel Basin or the Sunset Basin and is conveyed east or west, respectively, in the City's Combined

Sewer System (CSS) to either the Southeast or Oceanside water treatment plants, where it is treated prior to being discharged to Central San Francisco Bay or the Pacific Ocean. Though mean annual rainfall for north central San Francisco (Richmond District gage) is 20.0 inches (Western Regional Climate Center, [www.wrcc.dri.edu](http://www.wrcc.dri.edu)), local orographic influences in the uplands of Mount Sutro elevate this total to 21-22 inches in the vicinity of the Parnassus Heights campus site (NOAA, 1971).

### 6.8.3 Hydrology and Water Quality – Parnassus Heights Impacts and Mitigation Measures

There are four types of proposals at the Parnassus Heights campus site under the 2014 LRDP:

- **Demolition:** Surge, Woods, Medical Research 4, Laboratory of Radiobiology, Proctor, Environmental Health & Safety, Koret Vision Research and Langley Porter Psychiatric Institute and support structures
- **Renovation:** UC Hall, Moffitt Hospital, and Millberry Union towers
- **Construction:** New Hospital Addition, Proctor housing and housing at Fifth and Parnassus avenues
- **Circulation, Open Space, and Utilities/Infrastructure:** Parnassus Avenue Streetscape Plan, Saunders Court renovation, Mount Sutro Open Space Reserve trails, medical gas storage tanks, diesel fuel storage tanks and retaining wall.

LRDP proposals at the Parnassus Heights campus site (including on-site staging) would include demolition, excavation, grading, and construction activities that would require temporary disturbance of surface soils and removal of existing pavement and sub-surface structures (if present). These activities would expose soil to water runoff as well as entrainment of sediment in the runoff. If dewatering would be necessary during construction, the water would likely contain suspended sediments and would require settling before being discharged to the CSS. Sediment in runoff and deposits of soil and related debris from haul truck tires on local streets could increase the amount of sediment entering the storm drains, which could potentially clog drain inlets and reduce the flow capacity of the storm drains. The accumulation of this material could potentially result in increased localized ponding or flooding, particularly after large storm events.

The use of construction equipment as well as the delivery, handling, and storage of construction materials and waste could contaminate stormwater that could negatively impact water quality. Potential contaminants include, but are not limited to (CSW/Stuber-Stroeh, 2011):

- Petroleum hydrocarbons and metals from stockpiled soils excavated from the site
- Fuel from storage drums
- Diesel from refueling trucks
- Oils and grease from miscellaneous heavy equipment

- Sewage from portable sanitary facilities
- Sediment from construction generated waste—piles of concrete, rock and debris
- Sediment from rock crushing activities
- Hazardous materials storage—hydraulic oil, motor oil, and lubricating fluid
- Spills and releases of hydrocarbons and related pollutants from routine light maintenance activities such as fluid topping off, and welding and repairing belts and gears of heavy equipment

Polluted stormwater runoff could violate water quality standards and/or waste discharge requirements established in the NPDES General Permit for Construction and the NPDES discharge permits for the Southeast and Oceanside Treatment Plants.

In accordance with the Construction General Stormwater Permit, UCSF would be required to prepare and implement a SWPPP for each LRDP construction project to minimize water quality impacts during construction activities on the campus site. The SWPPPs will be consistent with previous SWPPPs that have been developed for past development of the Parnassus Heights campus site (e.g. management of the Mount Sutro Open Space Reserve).

The SWPPPs will identify pollutant sources within the construction area and recommend site-specific BMPs regarding control of sediments in runoff and storage and use of hazardous materials to prevent discharge of pollutants into stormwater. Likely BMPs are listed in Section 5.1.8.

In addition, each 2014 LRDP construction project will need to obtain a water quality certification from the RWQCB for the construction activities, which would also require implementation of BMPs and specific measures for the protection of water quality during construction.

Proposed development and redevelopment at the Parnassus Heights campus site would not significantly change the volumes of site stormwater runoff, nor how this runoff is directed or routed through the campus site to the CSS. The proportion of impermeable surfaces at the campus site will not significantly change as a result of 2014 LRDP activities. Measures to prevent and minimize erosion and its potential effects on storm drain siltation and water quality would be included in the SWPPP.

Implementation of SWPPPs and associated BMPs would reduce erosion and water quality impacts during demolition and construction activities to less than significant.

The Parnassus Heights campus site is at an elevation of approximately +400 ft NAVD88<sup>10</sup>, well above the zone of inundation by a 500-year seiche or tsunami (approximately +18.5 ft NAVD88, UCSF 2013), so there is no risk of flooding by seiche or tsunami.

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<sup>10</sup> North American Vertical Datum of 1988

Much of Mount Sutro is located in a landslide hazard area that could result in mudflows. The landslide potential is addressed in Sections 5.5 and 6.5.

The regulatory requirements discussed in Sections 4.8 and 5.8 limit the potential adverse effects of these impacts to less than significant. For these reasons, potential impacts to Hydrology and Water Quality that would be caused by the 2014 LRDP proposals at the Parnassus Heights campus site would be less than significant.

**Mitigation:** None required.

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## 6.8.4 References

CSW/Stuber-Stroeh Engineering Group, Inc., *Storm Water Pollution Prevention Plan*, UCSF Medical Center at Mission Bay, San Francisco, California, August, 2011.

National Oceanic and Atmospheric Administration (NOAA), Climate of San Francisco, [http://www.wrh.noaa.gov/mtr/sfd\\_sjc\\_climate/sfd/SFD\\_CLIMATE3.php](http://www.wrh.noaa.gov/mtr/sfd_sjc_climate/sfd/SFD_CLIMATE3.php) and *Mean Annual Precipitation and Precipitation Depth-Duration-Frequency Data for the San Francisco Bay Region, California*. US Geological Survey Open-File Report, S.E. Rantz, 1971.

UCSF, *Mount Sutro Management Project Draft EIR*, 2013.

## 6.9 Land Use and Planning

This section considers the setting and land use and planning impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Land Use and Planning are contained in Section 4.9 of this EIR. The CEQA Significance Standards presented in Section 4.9.3 are used to evaluate the potential land use impacts of all proposed 2014 LRDP activities.

### 6.9.1 Land Use and Planning Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Physically divide an established community.** No activities would physically divide an established community. Therefore, no additional analysis of this issue is required.
- **Habitat conservation plan.** No activities would result in a conflict with any applicable habitat conservation plan. Therefore, no additional analysis of this issue is required.
- **Compatibility with local land uses or zoning.** The proposed demolition of 8 existing buildings and utilities/infrastructure projects would not conflict with local land uses or zoning. Therefore, no additional analysis of this issue is required.

### 6.9.2 Land Use and Planning – Parnassus Heights Setting

The Parnassus Heights campus site occupies about 107 acres of land at the base of Mount Sutro in the Inner Sunset mixed-use neighborhood. The campus site is bounded by Carl and Irving Streets to the north, Fifth Avenue to the west and Clarendon Avenue, Christopher Drive and Crestmont Drive to the south. UCSF's facilities are concentrated at the north end of the campus site where Moffitt and Long Hospitals, the four schools, clinics, research, auxiliary services, housing, parking and other support uses are located. The 61-acre Mount Sutro Open Space Reserve (Reserve) occupies the central and southern portion of the campus site, rising up to 400 feet in elevation above Parnassus Avenue.

Moderate- and medium-density residential areas, predominantly with two to three dwelling units per lot, are located immediately north and west of the campus site. A neighborhood commercial district is located to the west along Irving and Judah Streets and 9th Avenue. Golden Gate Park is approximately one-quarter mile to the north. Primarily single-family dwellings in the Cole Valley/Ashbury Heights neighborhoods are adjacent to the east, and neighborhood commercial uses are located at Cole and Carl Streets. There is also some moderate-high density residential to the southwest, on Fifth and Sixth Avenues.

#### 6.9.2.1 UCSF Functional Zones

UCSF's existing functional zones at the Parnassus Heights campus site are depicted in Chapter 3, *Project Description*, Figure 3-7. The Instruction and Research, Clinical Care and Campus

Community zones are located at the core of the campus site along Parnassus Avenue. Housing is located along Third and Fifth Avenues, as well as in the Aldea student housing complex off Clarendon Avenue (surrounded by the Reserve).

### 6.9.2.2 City of San Francisco Zoning

The Parnassus Heights campus site is primarily located in the City’s P (Public) Zoning District. P Districts refer to land owned by a governmental agency that is in public use, including open space. Housing located along Third and Fifth Avenues is designated as Residential House District, Two-Family (RH-2). Residential house districts are intended to recognize, protect, conserve and enhance residential areas characterized by limited scale in terms of building width and height. Structures in the RH-2 District usually do not exceed 25 feet in width or 40 feet in height.

The developed areas of the campus site are located within the following Height and Bulk Districts: 25-X, 40-X, 65-D, 80-D, 130-D, and 220-F. The locations with an “X” designation permit all floors of structures to cover the entire building footprint. The “D” designation limits floor plans above 40 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet. The “F” designation limits floor plans above 80 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet.

### 6.9.2.3 1976 Regents’ Resolution

As discussed in Section 3.8.1.1, the 1976 Regents’ Resolution adopted a limit on the amount of built space of 3.55 million gsf at the Parnassus Heights campus site (with some housing excluded), commonly referred to as the “space ceiling”, within the newly designated campus site boundaries. Currently, Parnassus Heights contains approximately 3.85 million gsf of space, approximately 295,000 gsf or 8.3% above the space ceiling.

The 1976 Regents’ Resolution also recognized the principle of limiting the average daily population at Parnassus Heights to be substantially in accordance with the level projected in the 1976 LRDP (13,400 persons). The 1996 LRDP established a new goal to limit the average daily population to 16,000 persons. Currently, the average daily population at Parnassus Heights is estimated at 17,950 persons.

## 6.9.3 Land Use and Planning – Parnassus Heights Impacts and Mitigation Measures

**Impact LU-PH-1: Implementation of the 2014 LRDP at the Parnassus Heights campus site would be consistent with applicable land use plans, policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)**

Upon adoption by the Regents, the proposed 2014 LRDP will replace the 1996 LRDP, as amended, and become the applicable campus land use plan for UCSF. Pursuant to the University of California’s constitutional autonomy, development and uses on property owned or leased by the University that are in furtherance of the University’s educational purposes are not subject to local

land use regulation. The University is the only agency with land use jurisdiction over programs and projects proposed at UCSF campus sites by the 2014 LRDP. Therefore, all proposed activities that would be in general conformity with the 2014 LRDP would have no significant land use impacts. However, UCSF considers the land use policies and zoning regulations of the City when analyzing potential land use impacts under CEQA. The 2014 LRDP is not expected to conflict with City plans and policies adopted for the purpose of avoiding or mitigating an environmental effect. Consistency with the City's height and bulk districts is discussed below under Impacts LU-PH-2 and LU-PH-3.

The 2014 LRDP proposed functional zones are generally consistent with the existing zones on the Parnassus Heights campus site. Under the 2014 LRDP, the Housing zone would be enlarged to capture UC Hall and the Proctor site, which are proposed for housing, from the Instruction and Research zone (which would be reclassified as Research). The Kirkham Child Development Center would be reclassified from Housing to Support. The Environmental Health and Safety Annex and the pump house would be newly classified as Support. The sites of the Environmental Health and Safety, Surge and Woods buildings proposed for demolition would be reclassified as Open Space and would become part of the Reserve, except for the areas containing existing parking. The former Campus Community and Logistical Support functional zones would be combined into a single Support zone, with a new, separate Parking zone for structured parking. The functional zone changes proposed by the 2014 LRDP do not present land use conflicts with adjacent existing land uses on the campus site. Compatibility between adjacent existing and proposed functional zones was taken into consideration in developing the proposed zones in the 2014 LRDP. Existing land use patterns reflect campus development guided by the planning principles embodied in the previous LRDPs. Therefore, implementation of the 2014 LRDP would have a less-than-significant impact regarding consistency with land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect.

**Mitigation:** None required.

### **Consistency with Regents' Resolution**

The 2014 LRDP UCSF is proposing that the Regents update the 1976 Regents' Resolution by modifying the way space and population are monitored at the Parnassus Heights campus site. The proposed *Regent's Resolution Regarding the Parnassus Heights Campus Site* is included in Appendix C. The 2014 LRDP proposes to exclude all residential space from the space ceiling calculation, regardless of where it is located. Aldea Housing and University House would be removed from the space ceiling calculation under this proposal. All non-residential space would continue to be included in the space ceiling calculation. The exclusion of all residential space from the space ceiling calculation, plus all of the physical proposals for the Parnassus Heights campus site described in this EIR, would decrease the amount of space subject to the space ceiling to approximately 3.61 million gsf by 2035, or approximately 60,000 gsf (1.7%) above the 3.55 million gsf space ceiling limit. Although the space ceiling would still be exceeded in 2035, the existing overage of 8.3% would be substantially reduced under the proposed update to the 1976 Regents' Resolution. The proposed amendment to the Regents' Resolution also would tie average daily population projections for the Parnassus Heights campus site to the then-current LRDP EIR, as updated from time to time and approved by the Regents. The 2014 LRDP EIR projects an average daily population for the Parnassus Heights campus site of approximately 18,600 persons in 2035, an

increase of approximately 650 persons. The 2014 LRDP would be consistent with the space and population commitments for the Parnassus Heights campus site upon adoption by the Regents of the proposed update to the 1976 Regents' Resolution and the impact would be less than significant.

**Mitigation:** None required.

**Impact LU-PH-2: The proposed New Hospital Addition at the Parnassus Heights campus site would be compatible with adjacent land uses. (Less than Significant)**

The proposed New Hospital Addition would occupy the area currently occupied by the seven-story Langley Porter Psychiatric Institute building. This area is classified as Clinical Care under the existing functional zone and this use would remain unchanged with construction of the new hospital. The site for the New Hospital Addition is largely located within the City's 65-D Height and Bulk District. This district restricts building heights to 65 feet and limits floor plans above 40 feet to a maximum plan length of 110 feet and a maximum diagonal plan dimension of 140 feet. The proposed hospital addition would be seven stories or about 110 feet in height, excluding rooftop mechanical equipment which could add up to an additional 17 feet. The building is proposed to be set back from Parnassus Avenue with a landscaped strip. The upper portion of the building would also step back from the lower portion to minimize shading on Parnassus Avenue.

Although the building has not yet been designed, the proposed height would exceed the City's height limit for this site. As noted above, the University is exempt from local zoning. However, UCSF strives to adhere to City zoning codes to the extent practicable in accordance with 2014 LRDP Objective 1: Respond to the City and Community Context. The 2014 LRDP also includes an objective (Objective 3) to ensure that its facilities are seismically safe. In order to meet the SB 1953 mandate at Parnassus Heights, inpatient uses currently at Moffitt Hospital must be relocated prior to 2030, necessitating the construction of the New Hospital Addition. Therefore, to the extent feasible, UCSF would design the New Hospital Addition to avoid or minimize the effects of this conflict with the City's Planning Code, but it would not be possible to replace clinical uses currently in Moffitt Hospital with a new hospital that complies with the City's 65-D Height and Bulk District Regulations. In addition, the New Hospital Addition would replace an existing building on the Parnassus Heights campus site in an area already built out with other similar UCSF facilities, such as Moffitt Hospital and Long Hospital. The proposed building would be compatible with adjacent land uses and would not create a significant land use impact.

**Mitigation:** None required.

**Impact LU-PH-3: The proposed renovations of Moffitt Hospital, UC Hall, Millberry Union towers, and the Faculty Alumni House at the Parnassus Heights campus site would be compatible with existing City regulations. (Less than Significant)**

The decommissioned Moffitt Hospital would be renovated and reused for outpatient, hospital support and office uses. The use of the site for Clinical purposes would remain unchanged from its existing classification. The proposed retrofit of the Faculty Alumni House also would not result in changes in its existing classification as Housing. Proposed renovations would be limited to the interior and no conflicts would result with local zoning regulations. No impact would occur.

UCSF proposes to retain, seismically retrofit, renovate and reuse UC Hall by 2019. In Phase 1, the top three floors would be used as housing and the three full floors below the housing would be used as faculty offices. Retail, meeting, housing office and storage space are proposed on the ground floor, along with a loading dock at the west end of the building. In Phase 2, the three floors with faculty offices would be converted to housing after Moffitt Hospital is decommissioned and renovated and becomes available for other uses, including the offices displaced from these three floors of UC Hall. The Millberry Union towers are currently used as office space. UCSF would convert the upper levels to student housing under the 2014 LRDP. Both of these areas are currently zoned as Public by the City. The LRDP proposes to change the functional zone of UC Hall to Housing while Millberry Union would change from Campus Community to Support. Although these would be considered new uses, they would not be inconsistent with the Public zoning designation as UCSF would continue to own the facilities for public use and the impact would be less than significant.

**Mitigation:** None required.

## 6.10 Noise

This section considers the setting and noise impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Noise are contained in Section 4.10 of this EIR. The CEQA Significance Standards presented in Section 4.10.3 are used to evaluate the potential noise impacts of all proposed 2014 LRDP activities.

### 6.10.1 Noise Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Permanent ambient noise.** The demolition of existing buildings would not result in a substantial permanent increase in ambient noise levels. Therefore, no additional analysis of this issue is required for these activities.
- **Airport noise.** No activities would be located within the vicinity of a public or private airport. Therefore, no additional analysis of this issue is required.
- **Average daily noise levels.** The demolition of existing buildings would not contribute to increases in average daily noise levels. Therefore, no additional analysis of this issue is required for these activities.

### 6.10.2 Noise – Parnassus Heights Setting

#### 6.10.2.1 Existing Noise Environment

Long-term environmental noise in urbanized areas is primarily dependent on vehicle traffic volumes and the mix of vehicle types. The existing ambient noise environment within the Parnassus Heights campus site is dominated by vehicular traffic on Parnassus Avenue as well as stationary equipment noise on the eastern end of the campus site.

The San Francisco Department of Public Health (DPH) has mapped transportation noise throughout the City and County of San Francisco, based on modeled baseline traffic volumes derived from the San Francisco County Transportation Authority travel demand model.<sup>11</sup> DPH maps indicate the areas subject to noise levels over 60 dBA ( $L_{dn}$ ) and the range of  $L_{dn}$  noise levels that occur on every street in San Francisco. The portions of these maps that cover the Parnassus Heights campus site indicate that areas along Parnassus Avenue are generally subject to noise levels between 65 and 60 dBA ( $L_{dn}$ ).

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<sup>11</sup> San Francisco Department of Public Health (DPH), San Francisco City-wide Noise Map, August 2006, Available online at <http://www.sfdph.org/dph/files/EHSdocs/ehsPublsdocs/Noise/noisemap2.pdf> Accessed April 30, 2013.

### Ambient Noise Measurements

Ambient long-term (24-hour) and short-term (10-minute) noise measurement data were collected in January and March of 2014 to characterize noise conditions in the campus site area and its environs. Noise measurement locations are shown in **Figure 6.10-1**. To characterize ambient noise in the campus site area, short-term measurement data were compiled for three locations where residential land uses exist near primary LRDP activity sites, as shown in **Table 6.10-1**. Long-term noise data were collected adjacent to residential land uses on the southern campus boundary as well as outside UC Hall where converted residential land use is proposed; see **Table 6.10-2**.

**TABLE 6.10-1  
 SHORT-TERM AMBIENT NOISE LEVEL DATA IN THE PARANSSUS HEIGHTS AREA**

Measurement Location	Time	Noise Levels in dBA	
		Hourly $L_{eq}$	$L_{max}$
PS-ST1 Parnassus Avenue at 5th Avenue: Nearby residential receptor to UC Hall	5:08 pm	63.2	79.1
PS-ST2 Kirkham Street at 5th Avenue. Nearby residential receptor to truck route.	4:54 pm	59.1	72.5
PS-ST-3 Hillway Avenue at Parnassus Avenue. Nearby residential receptor to New Hospital Addition Site	5:25 pm	61.2	74.7

NOTE: See Figure 5.10-1 for noise measurement locations.  $L_{eq}$  represents the constant sound level;  $L_{max}$  is the maximum noise level.

SOURCE: Environmental Science Associates, 2014.

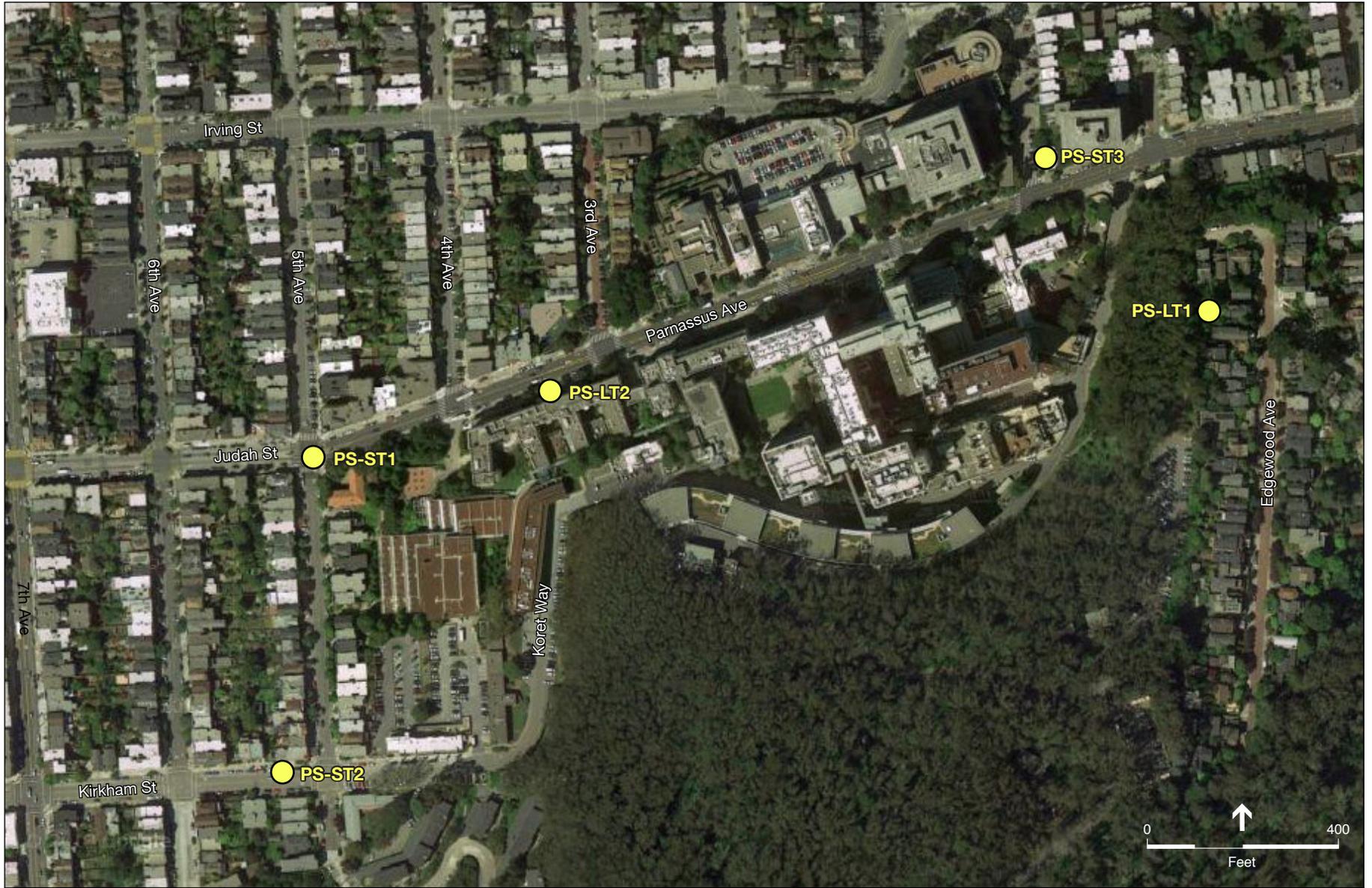
**TABLE 6.10-2  
 LONG-TERM AMBIENT NOISE LEVEL DATA IN THE PARANSSUS HEIGHTS AREA**

Measurement Location	Day-Night Noise level (DNL)	Noise Levels in dBA	
		Daytime hourly average, $L_{eq}$	Nighttime hourly average, $L_{eq}$
PS-LT1 UCSF Parnassus Property line at Edgewood Avenue residences	64	58	58
PS-LT-2 UC Hall Balcony. Proposed residential use location.	61	58	53

NOTE: See Figure 5.10-1 for noise measurement locations.

SOURCE: Environmental Science Associates, 2014.

Long-term monitoring location PS-LT1 is located at the top of the ridge at the eastern property line of the campus site. The noise environment at this location is dominated by mechanical equipment behind Moffitt Hospital. Noise data indicate that these sources are consistent throughout the daytime and nighttime hours. Long-term monitoring location PS-LT2 is located at UC Hall. The noise environment at this location is dominated by Parnassus Avenue vehicle traffic, which is relatively high during daytime hours but is much reduced after 10:00 p.m.



SOURCE: ESA

UCSF Long Range Development Plan Environmental Impact Report  
**Figure 6.10-1**  
Noise Measurements Locations – Parnassus Heights

Noise levels at both long term monitoring locations were marginally in excess of 60 DNL for proposed residential land uses with noise levels in excess of 60 DNL, the San Francisco General Plan suggests that 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.

### 6.10.2.2 Sensitive Receptors

Sensitive receptors for noise are generally considered to include nursing homes, senior citizen centers, schools, churches, libraries, and residences. Land uses in the campus site area are described in detail in Section 6.9, *Land Use*. The sensitive receptors nearest to the Parnassus Heights campus site are residential dwellings on Edgewood Avenue east of the campus, residential dwellings on Fifth Avenue and Kirkham Street west of the campus site and residential dwellings on Hillway Avenue and Irving Street north of the campus site.

## 6.10.3 Noise – Parnassus Heights Impacts and Mitigation Measures

### **Impact NOI-PH-1: Demolition activities proposed under the 2014 LRDP at the Parnassus Heights campus site would result in a temporary increase in ambient noise levels. (Potentially Significant)**

As noted in the Regional Setting section, the hours that construction activity noise can occur is described in Section 2908 of the Police Code, known as the San Francisco Noise Ordinance. Although UCSF is not subject to the noise ordinance, it strives to be consistent with it to the extent feasible. Section 2908 prohibits any person, between the hours of 8:00 p.m. of any day and 7:00 a.m. of the following day, from erecting, constructing, demolishing, excavating for, altering, or repairing any building or structure if the noise level created is in excess of the ambient noise level by 5 dBA at the nearest property line.

Demolition of each of the eight buildings proposed under the LRDP would require the use of heavy duty off-road construction equipment as well as haul trucks to remove debris. Construction activity noise levels at and near each of these demolition sites would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. **Table 6.10-3** shows typical noise levels produced by various types of construction equipment. Equipment typically involved with large-scale demolition would include excavators, dozers, loaders and trucks for off-hauling demolition debris. Additionally, a hoe-ram (a back-hoe fitted with a ramming bit) may be used to break up large concrete structures.

The demolition of the Proctor building would occur within 60 feet of an occupied residential building to the south while demolition of the Medical Research 4 (MR4) building would occur within 100 feet of another residential building of the same development. However these demolitions would occur in different years, with MR4 slated for demolition over approximately two months in 2015 and the Proctor building slated for demolition at the far end of the LRDP horizon (estimated at 2030).

**TABLE 6.10-3  
NOISE LEVELS FOR DEMOLITIONS AT THE PARNASSUS HEIGHTS CAMPUS SITE**

<b>Building</b>	<b>Estimated Demolition Schedule</b>	<b>Distance to Nearest Sensitive Receptor (feet)</b>	<b>Shielding Assumption</b>	<b>Estimated Noise Level at Receptor (dBA, Leq)</b>	<b>Noise Increase over Existing Daytime Conditions (dBA, Leq)</b>
Laboratory of Radiobiology	July 2015 to February 2016	550 (5th Avenue residence)	Yes (-5 dBA)	55.6	-7.6
Medical Research 4	February 2015 to April 2015	100 (Kirkham Heights apartments)	None	75.4	<b>16.3</b>
Surge	May 2016 to June 2016	180 (Edgewood Avenue residences)	None	70.3	<b>12.3</b>
Woods	April 2017 to May 2017	200 (Edgewood Avenue residences)	None	69.4	<b>11.4</b>
Environmental Health and Safety	2030 -2031	550 (Kirkham Heights apartments)	None	60.6	1.5
LPPI	2030 -2031	250 (Edgewood Avenue residences)	None	71.5	<b>10.3</b>
Proctor	2030 -2031	60 (Kirkham Heights apartments)	None	79.8	<b>20.7</b>
Koret Vision Research	2033 -2034	280 (UCSF Child Care)	None	70.5	<b>11.4</b>

Table 6.10-3 presents a rough estimate of the sequence of proposed building demolitions and the proximity of sensitive receptor to each demolition site. As can be seen from the table, most demolition would occur sequentially with only demolition of Environmental Health and Safety and LPPI potentially occurring concurrently. Table 6.10-3 also presents an estimate of noise levels during demolition. These estimated noise levels assume simultaneous operation of an excavator, a loader and a bulldozer as calculated using the Roadway Construction Noise Model of the FHWA. Estimated noise levels for demolition of the more substantial structures of LPPI and Koret Vision Research also assume operation of a hoe-ram to break concrete.

Trucks off-hauling demolition debris would also generate noise. The number of daily truck trips would depend on the pace of demolition. The CalEEMod air quality model estimates that based on the square feet of demolition involved at LPPI and Proctor up to 38 daily truck trips could occur per day (19 truck loads per day). Different truck routes would be used for these two projects each of which would add about two additional truck trips per hour to local roadways. The Traffic Noise Prediction Model of the FHWA indicates that addition of two trucks per hour along Kirkham Avenue would increase the existing hourly noise level by 2.6 dBA, which would not be a significant contribution to existing roadside noise levels.

The data in Table 6.10-3 indicate that noise levels from proposed demolition would exceed 10 dBA over existing levels (a perceived doubling of loudness) during peak demolition activities at MR4, Surge, Woods, LPPI, and Proctor. Receptors near these buildings would also experience noise levels approaching or exceeding a speech-interference threshold of 70 dBA and result in a temporary but significant construction noise impact from demolition activities. Implementation of

**Mitigation Measure NOI-LRDP-1** will reduce noise levels associated with demolition activities by 5 to 10 dBA. However it is likely that intermittent hoe-ram operations to break up concrete structures could result in noise levels at sensitive receptors in excess of 70 dBA during one to two weeks of the demolition of Proctor, even after mitigation. Consequently, this impact, although temporary, would be significant and unavoidable.

**Mitigation Measure:** Implement Mitigation Measure NOI-LRDP-1

**Significance after Mitigation:** Significant and Unavoidable

**Impact NOI-PH-2: Construction activities proposed under the 2014 LRDP at the Parnassus Heights campus site would result in increases in ambient noise levels over the term of the exterior construction activities. (Potentially Significant)**

The renovations of UC Hall, Millberry Union towers, and Moffitt Hospital are assumed to be predominantly interior renovations and would not involve operation of off-road construction equipment other than a small crane or man lift that would not be expected to substantially alter the existing noise environments. Since these renovation activities would be largely conducted within the existing buildings they would not result in significant construction noise impact outside of the buildings.

Implementation of the Parnassus Avenue Streetscape Plan, open space, and utility and proposals may also involve limited operations of some types of construction equipment, such as a backhoe. However the limited scope and duration of operation involved with these activities would not be expected to substantially alter the existing noise environments of Parnassus Avenue or Medical Center Way.

Construction of the New Hospital Addition would require the use of heavy-duty off-road construction equipment and is anticipated to occur between 2025 and 2030. Construction activity noise levels at and near the hospital site would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. Construction activities associated with the New Hospital Addition would involve excavation, grading, and earth movement and, potentially, pile driving. **Table 6.10-4** shows typical noise levels produced by various types of construction equipment typically involved with large-scale construction projects, would occur at a reference distance of 50 feet from the source and also as would occur at a distance of 200 feet, which is the approximate distance from the New Hospital Addition site to the nearest residences on Hillway Avenue and Edgewood Avenue.

The sensitive residential receptors nearest the New Hospital Addition site experience existing daytime noise levels of 58 dBA. Temporary noise from standard construction equipment could exceed these existing noise levels by as much as 19 dBA. If an impact pile driver were required, it could result in an increase of up to 31 dBA over existing noise levels, resulting in a temporary but significant noise increase over existing conditions over a period of pile installation. Consequently, mitigation measures to reduce construction noise are identified.

**TABLE 6.10-4  
TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT**

Construction Equipment	Noise Level (dBA, Leq at 50 Feet)	Noise Level (dBA, Leq at 200 Feet)
Dump truck	76	64
Portable air compressor	78	66
Concrete mixer (truck)	79	67
Crane	81	69
Excavator	81	69
Dozer	82	70
Paver	77	65
Generator	81	69
Backhoe	78	66
Pile driver	101	89
Auger Drill Rig	84	72

SOURCE: FHWA, 2006.

**Mitigation Measure:** Implement Mitigation Measure NOI-LRDP-1 and NOI-LRDP-2.

**Significance After Mitigation: Significant and Unavoidable.** Mitigation Measures LRDP-NOI-1 and 2 would reduce the severity of noise generated by construction and pile-driving activities and reduce the potential annoyance to nearby residents and others who could be disturbed by pile-driving to the extent feasible. If piles can be installed through drilling and cast in place measures then these mitigation measures would result in a less than significant impact.

However, if geotechnical conditions exist such that impact or vibratory pile-driving is required, then construction noise would be significant. Although pile-driving noise would be intermittent and would occur over a short duration (up to about six weeks in total), even after mitigation the noise level would likely exceed ambient noise levels by 20 dBA during pile-driving activities, resulting in a significant and unavoidable impact.

**Impact NOI-PH-3: Demolition and construction activities proposed under the 2014 LRDP at the Parnassus Heights campus site could generate ground-borne vibration. (Less than Significant)**

The types of construction and demolition-related activities associated with propagation of ground-borne vibration include pile driving, use of hoe-rams for demolishing large concrete structures and foundations, and caisson drilling.

**Demolitions**

The only demolition activity associated with propagation of ground-borne vibration would be use of hoe-rams for demolishing large concrete structures or foundations. Operation of a hoe ram can result in peak particle velocities (PPV) of up to 0.089 inches per second (in/sec) at a distance of 25 feet (FTA, 2006). The Caltrans threshold of architectural damage for conventional sensitive

structures is 0.5 in/sec PPV for new residential structures and modern commercial buildings and 0.25 in/sec PPV for historic and older buildings.

The nearest existing off-campus structure is approximately 60 feet away from the site of the proposed demolition at LPPI. At this distance, vibration from hoe-ram operation would be expected to be reduced to 0.03 inches per second. Therefore, vibration from hoe-ram operation would not exceed the criterion published by Caltrans of 0.25 in/sec for the protection of fragile older buildings, or the 0.5 in/sec PPV criterion for newer buildings at any off campus receptors. Vibration levels from Hoe ram operations would be less than 0.04 inches per second at the nearest residential receptors and would be less than distinctly perceptible. Consequently, the LRDP demolitions would have a less-than-significant impact to ground-borne vibration.

### **Renovations**

No renovation activity would propagate ground-borne vibration.

### **New Construction**

Of the construction equipment likely to be used, pile driving has the potential to result in the highest levels of ground-borne vibration. Pile driving, if required, could take one or more months, and would occur during daytime hours, consistent with the City's Police Code.

Pile driving can result in peak particle velocities (PPV) of up to 1.5 inches per second (in/sec) at a distance of 25 feet (FTA, 2006), but typically results in an average of about 0.644 PPV at that distance. The Caltrans threshold of architectural damage for conventional sensitive structures is 0.5 in/sec PPV for new residential structures and modern commercial buildings and 0.25 in/sec PPV for historic and older buildings.

The nearest existing off-campus structure is approximately 200 feet away from the site of the proposed New Hospital Addition, where pile driving may occur. At this distance, vibration from pile driving would be expected to be reduced to 0.03 inches per second. Therefore, vibration from pile driving would not exceed the criterion published by Caltrans of 0.25 in/sec for the protection of fragile older buildings, or the 0.5 in/sec PPV criterion for newer buildings at any off campus receptors. Vibration levels would be substantially less (below 0.01 inches per second) at the nearest residential receptors, and would not generally be perceptible.

Consequently, the demolition or construction activities would have a less-than-significant impact with regard to ground-borne vibration.

**Mitigation:** None required.

**Impact NOI-PH-4: Operational noise generated by development under the 2014 LRDP at the Parnassus Heights campus site could cause a long-term increase in ambient noise levels in the campus vicinity. (Less than Significant)**

### **Demolitions**

No long-term noise sources and no noise increases would be associated with the demolitions.

## Renovations

Repurposing of UC Hall and Millberry Union towers may result in subtle increases in roadway traffic but even when the entirety of the LRDP is considered increased roadway noise is less than significant. No new mechanical or other stationary noise sources would be introduced by these renovations. Consequently, operational noise increases due to these LRDP renovations would be less than significant.

## New Construction

Long-term noise sources associated with operation of the renovated UC Hall, Millberry Union towers, and Moffitt Hospital, and the New Hospital Addition would primarily consist of marginal increases in roadway traffic resulting from new and repurposed land use. There will likely be some new mechanical equipment (e.g. heating ventilation and air conditioning) associated with operation of the new hospital. The potential location of such equipment is not known given that there is, as yet, no design for the New Hospital Addition building but such equipment would be operated in such a manner as to conform to the extent feasible to the requirements of the City of San Francisco noise ordinance. Additionally new mechanical equipment would effectively replace older and potentially noisier HVAC equipment currently existing at LPPI that would be demolished as a project-level element hence resulting in potentially beneficial impacts.

UCSF has addressed stationary source noise from existing equipment at the Parnassus Heights campus site on an ongoing basis throughout the past 20 years. These efforts have included monitoring and mitigation identification for noise generated throughout the campus site (Smith, Fause McDonald, 1998); installing new, quieter equipment as older, noisier equipment is phased out; as well as follow-up noise monitoring conducted in 2010 demonstrating operational equipment noise consistent with the updated portion of the City's Noise Ordinance (Salter, 2010). UCSF continues its efforts to minimize equipment noise generated on campus. These efforts demonstrate that although UCSF is not subject to the City's noise ordinance, it strives to be consistent with it to the extent feasible. Consequently, new construction is anticipated to have a less than significant impact with respect to new stationary noise sources.

With respect to noise from increased roadway traffic, increased traffic would primarily be on the local roadway network surrounding the campus site, including Parnassus Avenue and Fifth Avenue based on turning movement volumes calculated for Section 6.14, *Transportation and Traffic*. A project would be considered to generate a significant impact if it resulted in a permanent increase in ambient noise levels greater than 3 dBA in the project vicinity above levels existing without the project for areas already impacted by noise.

Noise levels were determined for this analysis using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model and the turning movements in the traffic section for Existing (2014), Existing Plus LRDP, and Cumulative Plus LRDP conditions as determined in Section 6.14, *Transportation and Traffic*. Peak hour intersection turning data from the traffic study were analyzed to evaluate increases and resulting traffic-generated noise increases on roadway links most affected by LRDP -related traffic. The roadway segments analyzed and the results of the noise increases resulting from modeling are shown in **Table 6.10-5**, below.

**TABLE 6.10-5  
 PEAK-HOUR TRAFFIC NOISE LEVELS IN THE VICINITY OF THE  
 PARNASSUS HEIGHTS CAMPUS SITE**

Roadway Segment <sup>a,b</sup>	(A) Existing	(B) Existing Plus Project	(B-A) Difference between Existing Plus Project and Existing <sup>c</sup>	(D) Cumulative Plus Project (2040)	(D-A) Difference between Cumulative Plus Project and Existing
Parnassus Avenue between Stanyan Street and Hillpoint Avenue	62.7	62.7	<0.1	63.2	0.5
Parnassus Avenue between 3rd Avenue and 5th Avenue	63.4	63.5	0.1	64.0	0.6
4th Avenue between Parnassus Avenue and Irving Street	56.1	56.2	0.1	57.2	1.1
5th Avenue between Parnassus Avenue and Irving Street	53.2	53.2	<0.1	53.4	0.2
5th Avenue between Parnassus Avenue and Kirkham Street	57.3	57.4	0.1	58.6	1.3
Kirkham Street between 5th Avenue and 6th Avenue	58.3	58.4	0.1	59.8	1.4

<sup>a</sup> Road center to receptor distance is 15 meters (approximately 50 feet) for all roadway segments. Noise levels were determined using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model.

<sup>b</sup> The analysis considered the vehicle mix based on – cars 95 percent, medium trucks four percent, and heavy trucks one percent on Parnassus Avenue based on observed city and para-transit bus activity. Traffic speeds for all vehicle classes were set at 25 mph for all vehicle classes.

SOURCE: ESA, 2014.

As shown in Table 6.10-5, the increase in traffic noise in the vicinity of the Parnassus Heights campus site from the Existing Plus LRDP traffic scenario compared to the Existing traffic scenario would increase peak hour noise levels by less than 3 dBA at all roadway segments. This is also true when the cumulative plus project condition is compared to existing conditions. Overall, traffic noise increases associated with the 2014 LRDP at all analyzed roadway segments in the vicinity of the Parnassus Heights campus site would be less than significant impacts.

**Mitigation:** None required.

**Impact NOI-PH-5: Operations under the 2014 LRDP at the Parnassus Heights campus site would result in exposure of persons (new residents) to noise levels in excess of standards established in the general plan. (Less than Significant)**

The LRDP would result in renovating and repurposing UC Hall and Millberry Union towers to residential uses. Long-term noise monitoring conducted at UC Hall indicates existing exterior noise level of 61 DNL. This noise level is within the “conditionally acceptable” noise exposure category as defined by the City of San Francisco General Plan Noise Element (greater than 60 DNL). New residences would also be constructed at Fifth and Parnassus Avenues and at the Proctor site. Noise levels at these locations are represented by the short-term measurements in Table 6.10-1 and range from 59 to 63 dBA which can reasonably be assumed to represent DNL levels in an environment where vehicle traffic is the predominant source.

A conditionally acceptable noise exposure is defined as one in which new construction or development should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Both UC Hall and Millberry Union towers have air-handling systems and windows are generally kept closed. Additionally, Section 1207 of the California Building Code (Title 24 of the California Code of Regulations) establishes material requirements in terms of sound transmission class (STC)<sup>12</sup> of 50 for all common interior walls and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas. This requirement would be sufficient to achieve the additional 1 dBA of sound reduction necessary to achieve the noise exposure goals of the San Francisco General Plan. Consequently, the 2014 LRDP would have a less than significant impact with regard to exposure of new residential receptors to noise levels in excess of acceptable noise exposure standards.

**Mitigation:** None required.

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## 6.10.4 References

Federal Highway Administration (FHWA) Roadway Noise Construction Model, 2006.

Salter, Charles M. Associates, UCSF Parnassus Acoustical Study, July 21, 2010.

Smith, Fause, MacDonald Inc., *University of California, San Francisco Parnassus Campus, Campus Noise Abatement Study Phase II, Assessment of Existing Noise Levels, Modeling, and Mitigation Measures, Southeast Campus Edge*, February 24, 1998.

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<sup>12</sup> The STC is used as a measure of a materials ability to reduce sound. The STC is equal to the number of decibels a sound is reduced as it passes through a material.

## 6.11 Population and Housing

The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Population and Housing are contained in Section 4.11 of this EIR. The CEQA Significance Standards presented in Section 4.11.3 are used to evaluate the potential population and housing impacts of all proposed 2014 LRDP activities.

The 2014 LRDP would result in population growth in San Francisco or the wider Bay Area through increased employment and student enrollment. The 2014 LRDP would accommodate an increase in employment and students at all campus sites from the current approximately 30,840 to approximately 42,270 by 2035. This anticipated population increase could result in an increased demand for housing in the Bay Area. This overall increase and its potential effect on housing were evaluated in Chapter 5, *2014 LRDP – Impacts and Mitigation Measures*.

The 2014 LRDP development proposals would result in a small change in daily population at this campus site. The projected increase in population at the Parnassus Heights campus site would be approximately 600 people by 2035. Approximately 388 beds in 329 residential units are proposed under the 2014 LRDP for the campus site. Two-hundred fifty-two new units are proposed by converting existing building space (UC Hall and Millberry Union towers) and 77 new units are proposed for the Fifth and Parnassus avenues and Proctor sites. The direct and indirect physical environmental effects that result from these changes are fully considered in each of the appropriate topical sections of this Chapter.

## 6.12 Public Services

The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Public Services are contained in Section 4.12 of this EIR. The CEQA Significance Standards presented in Section 4.12.3 are used to evaluate the potential public services impacts of all proposed 2014 LRDP activities.

In 2013, the estimated daily UCSF population across all sites, including patients and visitors, was approximately 39,420. At LRDP horizon in 2035, total population is projected to reach approximately 56,420, an increase of about 17,000, the majority of which would be associated with growth proposed by the 2014 LRDP. The projected increase in population at the Parnassus Heights campus site would be approximately 600 people by 2035.

This anticipated population increase could result in an increased demand for public services in San Francisco, including fire protection, law enforcement, and public education. This overall increase and its potential effect on public services were evaluated in Chapter 5, *2014 LRDP – Impacts and Mitigation Measures*. The anticipated small increase in population at this campus site under the LRDP would not cause substantial increased demand for public services specific to this campus site, and all impacts are found to be less than significant.

## 6.13 Recreation

The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Recreation are contained in Section 4.13 of this EIR. The CEQA Significance Standards presented in Section 4.13.3 are used to evaluate the potential recreation impacts of all proposed 2014 LRDP activities.

In 2013, the estimated daily UCSF population across all sites, including patients and visitors, was approximately 39,420. At LRDP horizon in 2035, total population is projected to reach approximately 56,420, an increase of about 17,000, the majority of which would be associated with growth proposed by the 2014 LRDP. The projected increase in population at the Parnassus Heights campus site would be approximately 600 people by 2035.

This anticipated population increase could result in an increased use of recreational facilities on and near UCSF campus sites. This overall increase and its potential effect on recreational facilities, as well as effects resulting from 2014 LRDP proposals, were evaluated in Chapter 5, *2014 LRDP – Impacts and Mitigation Measures*. The anticipated small increase in population at this campus site under the LRDP would not cause substantial increased demand for recreation facilities specific to this campus site, and all impacts are found to be less than significant.

## 6.14 Transportation and Traffic

This section considers the transportation and traffic setting and impacts of implementation of the 2014 LRDP at the Parnassus Heights campus site. The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Transportation and Traffic are in Section 4.14 of this EIR. The CEQA Significance Standards presented in Section 4.14.3 are used to evaluate the potential transportation and traffic impacts of all proposed 2014 LRDP activities.

### 6.14.1 Transportation and Traffic Issues Adequately Addressed in the Initial Study

After evaluation of the 2014 LRDP activities proposed at the Parnassus Heights campus site, the Initial Study concluded that:

- **Air traffic patterns.** No activities would result in a change in air traffic patterns. Therefore, no additional analysis of this issue is required.

### 6.14.2 Transportation and Traffic – Parnassus Heights Setting

A more-detailed description of current transportation and traffic characteristics in the Parnassus Heights campus site area is provided in Appendix G, the Transportation Impact Study (TIS) for the UCSF 2014 LRDP.

#### 6.14.2.1 Roadway Facilities

The network of regional roadways that serve the Parnassus Heights campus site is described in Section 4.14.

With Golden Gate Park to the north and Mount Sutro to the south, the roadways used to access the Parnassus Heights campus site are primarily via east-west corridors – Parnassus Avenue-Judah Street, Irving Street-Carl Street, Lincoln Avenue, and Kirkham Street. Primary north-south routes to the Parnassus Heights campus site include Stanyan Street, Arguello Boulevard, Seventh Avenue, and Second Avenue through Fifth Avenue. The primary vehicular entrances to parking and loading areas for the campus site are located at the intersections of Second Avenue/Irving Street, Arguello Boulevard/Carl Street-Irving Street, along Parnassus Avenue, and at Fifth Avenue/Kirkham Street. Local access to the Parnassus Heights campus site is provided by an urban street grid network. Key local roadways through the campus site are discussed below.

The local road network serving the Parnassus Heights campus site consists primarily of two-lane roadways with on-street parking provided on both sides of the streets in most areas, as follows:

- **Kirkham Street** runs between the UCSF Parnassus Heights campus site to La Playa Street in the west. East of Fifth Avenue, Kirkham Street becomes Koret Way (a campus site street) and provides access to the School of Dentistry, Laboratory of Radiology, Medical Research 4, and School of Nursing buildings. West of Sixth Avenue, Kirkham Street has Class II bicycle lanes in both directions.

- **Carl Street/Irving Street** extends from Clayton Street to 48th Avenue. The City classifies this roadway as a Primary Transit Street (transit-oriented) east of Ninth Avenue. In the vicinity of the Parnassus Heights campus site, the N Judah light rail line operates along the roadway between Cole Street and Ninth Avenue. The street provides exclusive turn pockets for vehicles to enter the UCSF parking garage at the Second Avenue/Irving Street intersection.
- **Hugo Street** runs between Arguello Boulevard and Seventh Avenue. Between Seventh Avenue and Third Avenue, Hugo Street is designated as a Class III bicycle route.
- **Willard Street** runs from Fredrick Street to Woodland Avenue.
- **Medical Center Way**, a campus site street, runs from Parnassus Avenue to Johnstone Drive through the Mount Sutro Open Space Reserve.
- **Hillway Avenue** runs between Parnassus Avenue and Carl Street.
- **Arguello Boulevard** runs from Kezar Drive to Carl Street.
- **Second Avenue** runs from Lincoln Way to Irving Street, with the southern end of the street providing direct access to a large public parking deck on the Parnassus Heights campus site.
- **Third Avenue** runs between Lincoln Way and Parnassus Avenue. Between Hugo Street and Lincoln Way, Third Avenue is a designated Class III bicycle route. All northbound traffic on Third Avenue must turn right at Lincoln Way.
- **Fourth Avenue** runs between Lincoln Way and Parnassus Avenue. All northbound traffic on Fourth Avenue must turn right at Lincoln Way.
- **Fifth Avenue** runs between Lincoln Way and its terminus south of Kirkham Street. Fifth Avenue provides full access (i.e., northbound traffic can turn left and right) at Lincoln Way.
- **Sixth Avenue** runs between Lincoln Way and its terminus south of Kirkham Street. Sixth Avenue is designated as a bicycle route between Hugo Street and Kirkham Street and has a southbound Class II bicycle lane and a northbound Class III bicycle route (with shared-lane markings [“sharrows”]).
- **Eighth Avenue** runs between Lincoln Way and its southern terminus at Pacheco Street. The 66 Quintara bus line operates along Eighth Avenue between Parnassus Avenue and Lawton Street in the northbound direction only.

The roadway exceptions to the two-lane cross section are as follows:

- **Parnassus Avenue/Judah Street** is a two- to three-lane roadway that extends from Clayton Street to 48th Avenue. The City classifies this roadway as a Secondary Transit Street east of Ninth Avenue (in the vicinity of the Parnassus Heights campus site) and a Primary Transit Street (Transit-Oriented) west of Ninth Avenue. The 6 Parnassus and 43 Masonic bus lines operate on this street. A two-way left-turn lane extends from Stanyan Street to the Moffitt-Long Hospital. Access to the Millberry Union Garage is across from the Moffitt/Long Hospital Drop-off/Pick-up area; two signalized crosswalks facilitate heavy pedestrian volumes across the street in the same location. Parnassus Avenue/Judah Street is also designated as a Class III bicycle route east of Sixth Avenue. Class III bicycle routes employ “sharrows”.

- **Lincoln Way/Frederick Street** is a two- to four-lane Secondary Transit Street that forms the southern boundary of Golden Gate Park. At Third Avenue, Lincoln Way merges with Kezar Drive and is a main thoroughfare between the Sunset District and downtown. The 71/71L Haight-Noriega bus line uses the entirety of Lincoln Way and Frederick Street to travel to Stanyan Street, while the 16X Noriega Express and NX Express use Lincoln Way to merge onto Kezar Drive in order to get to the Fell-Oak streets one-way couplet.
- **Kezar Drive** is a two- to four-lane east-west Major Arterial Street north of Parnassus Avenue that provides the major connection from the Parnassus Heights campus site to the Fell-Oak Street one-way couplet. Kezar Drive has a Class I bicycle path facility. The 16X Noriega Express and NX Express bus lines use Kezar Drive to travel from Lincoln Way to Oak Street.
- **Stanyan Street** is a Secondary Transit Street from Geary Boulevard to Belgrave Avenue. It forms the eastern boundary of Golden Gate Park (excluding the Panhandle section of the park). In the vicinity of the Parnassus Heights campus site (north of Frederick Street), it is a four-lane roadway; south of Fredrick, it is a two-lane street. The 71/71L Haight-Noriega bus line operates along Stanyan Street north of Frederick Street.
- **Seventh Avenue** is a Secondary Transit Street, which provides access to Golden Gate Park and becomes Laguna Honda Boulevard to the south of the Parnassus Heights campus site. It has one northbound and two southbound lanes in the vicinity of the campus site. Seventh Avenue is designated as a Class III bicycle facility between Lincoln Way and Judah Street and as a Class II bicycle lane south of Judah Street. The 36 Teresita, 43 Masonic, and 44 O’Shaughnessy bus lines operate on Seventh Avenue south of Lawton Street.
- **Ninth Avenue** is a Secondary Transit Street, which provides access to Golden Gate Park and the Sunset District. It has one northbound and two southbound lanes in the vicinity of the Parnassus Heights campus site. The N Judah light rail line operates on Ninth Avenue between Irving and Judah streets. The 43 Masonic and 66 Quintara bus lines operate along Ninth Avenue between Judah Street and Lawton Street, while the 44 O’Shaughnessy line runs between Golden Gate Park and Lawton Street.

### 6.14.2.2 Parnassus Avenue Traffic Volumes

On the basis of traffic counts conducted on Parnassus Avenue between Fifth Avenue and Medical Center Way in 2007 and 2013, current traffic volumes on Parnassus Avenue are similar to those in 2007. The total daily traffic volume on Parnassus Avenue is relatively low by comparison to other two-lane streets in San Francisco. For example, Polk Street carries approximately 16,000 vehicles per day compared to approximately 10,000 vehicles per day on Parnassus Avenue. Although both Polk Street serves more commercial retail uses, compared to the more institutional and residential uses along Parnassus Avenue, this comparison shows that a two-lane street with frequent transit service is capable of serving much more traffic than currently exists on Parnassus Avenue, and that an oft-described “busy feel” on Parnassus is due more to other factors, such as double-parking and high pedestrian volumes, than to heavy traffic volumes.

### 6.14.2.3 Intersection Operating Conditions

Intersection operating conditions at 23 intersections were evaluated during the weekday peak hours of the AM (7:00 AM-9:00 AM) and PM (4:00 PM-6:00 PM) peak periods. Intersections

usually form the critical capacity constraints on roadways. Therefore, most transportation analyses examine intersection operations as a measure of overall roadway conditions.

The operating characteristics of intersections are evaluated using the concept of Level of Service (“LOS”). LOS is a qualitative description of driver comfort and convenience. Intersection levels of service range from LOS A, which indicates free flow or excellent vehicle flow conditions with short delays, to LOS F, which indicates congested or overloaded vehicle flow conditions with extremely long delays. In San Francisco, LOS A through D is considered acceptable, and LOS E and LOS F are considered unsatisfactory service levels. The intersections were evaluated using the 2000 Highway Capacity Manual (HCM) methodology. Tables summarizing the relationship between average delay per vehicle and LOS for signalized and unsignalized intersections according to the 2000 HCM method can be found in the appendices of the TIS for the 2014 LRDP (Appendix G).

For signalized intersections, this methodology determines the capacity for each lane group approaching the intersection. The LOS is based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS is presented for the intersection. For unsignalized intersections, operations are defined by the average control delay per vehicle (in seconds per vehicle) for each stop-controlled movement or movement that must yield the right-of-way, and the LOS is determined by the worst (highest average delay) approach. Generally, the delay ranges for each LOS are lower than for signalized intersections because drivers expect less delay at unsignalized intersections.

As shown in **Table 6.14-1**, 21 of the 23 study intersections operate at an acceptable level of service, which is LOS D or better, during the AM peak hour and 20 study intersections operate at an acceptable LOS during the PM peak hour. The following intersections operate unacceptably during the AM or PM peak hours:

- Oak Street – Fell Street – Kezar Drive and Stanyan Street (Intersection #1) operates at LOS E during the PM peak hour due to the traffic volumes on northbound and southbound Stanyan Street.
- Lincoln Way and Ninth Avenue (Intersection #2) operates at LOS E during the PM peak hour due to the conflicting traffic volumes on westbound Lincoln Way and southbound Ninth Avenue.
- Lincoln Way and Fourth Avenue Intersection (#4) operates at LOS F during the AM peak hour due to high conflicting traffic volumes on eastbound Lincoln Way.
- Judah Street-Parnassus Avenue and Fifth Avenue (Intersection #15) operates at LOS E during the PM peak hour due to a combination of the traffic volumes on the stop-controlled approaches of Fifth Avenue and the relative lack of gaps in traffic on Judah Street-Parnassus Avenue.
- Kirkham Street and Seventh Avenue (Intersection #21) operates at LOS E during the AM peak hour due to the relatively high conflicting traffic volumes on northbound Seventh Avenue and eastbound Kirkham Street.

**TABLE 6.14-1  
EXISTING PEAK-HOUR INTERSECTION LEVEL OF SERVICE (LOS) –  
PARNASSUS HEIGHTS CAMPUS SITE**

Intersection	Traffic Control <sup>a</sup>	Peak Hour	Delay (seconds) <sup>b</sup>	LOS <sup>c</sup>
1. Oak Street-Fell Street-Kezar Drive / Stanyan Street	Signal	AM PM	45 <b>58</b>	D <b>E</b>
2. Lincoln Way / Ninth Avenue	Signal	AM PM	39 <b>65</b>	D <b>E</b>
3. Lincoln Way / Seventh Avenue	Signal	AM PM	32 39	C D
4. Lincoln Way / Fourth Avenue	SSS	AM PM	<b>&gt;50</b> 23	<b>F</b> C
5. Lincoln Way-Kezar Drive / Third Avenue	SSS	AM PM	24 29	C D
6. Fredrick Street / Stanyan Street	Signal	AM PM	26 24	C C
7. Irving Street / Ninth Avenue	Signal	AM PM	17 20	B B
8. Irving Street / Seventh Avenue	Signal	AM PM	24 25	C C
9. Irving Street / Fourth Avenue	AWS	AM PM	11 (12) 11 (12)	B ( B ) B ( B )
10. Irving Street / Second Avenue	AWS	AM PM	10 (11) 11 (12)	B ( B ) B ( B )
11. Irving Street / Arguello Boulevard	SSS	AM PM	15 27	B D
12. Judah Street / Ninth Avenue	Signal	AM PM	15 16	B B
13. Judah Street / Seventh Avenue	Signal	AM PM	32 25	C C
14. Judah Street / Sixth Avenue	AWS	AM PM	17 (18) 17 (22)	C ( C ) C ( C )
15. Judah Street-Parnassus Avenue / Fifth Avenue	SSS	AM PM	22 <b>42</b>	C <b>E</b>
16. Parnassus Avenue / Fourth Avenue	AWS	AM PM	15 (18) 19 (23)	B ( C ) C ( C )
17. Parnassus Avenue / Third Avenue	SSS	AM PM	17 20	C C
18. Parnassus Avenue / Hillway Avenue	SSS	AM PM	13 15	B C
19. Parnassus Avenue / Hill Point Avenue	SSS	AM PM	17 16	C C
20. Parnassus Avenue / Stanyan Street	Signal	AM PM	41 29	D C
21. Kirkham Street / Seventh Avenue	Signal	AM PM	<b>70</b> 30	<b>E</b> C
22. Kirkham Street / Sixth Avenue	AWS	AM PM	13 (16) 13 (14)	B ( C ) B ( B )
23. Kirkham Street / Fifth Avenue	AWS	AM PM	<10 (<10) <10 (<10)	A ( A ) A ( A )

<sup>a</sup> AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled

<sup>b</sup> Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersections, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach (indicated in parentheses).

<sup>c</sup> For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersections, LOS is based on the worst approach, which for AWS is indicated in parentheses.

<sup>d</sup> **Bold** indicates unacceptable operations per UCSF LOS standards

SOURCE: Fehr & Peers, 2014.

### 6.14.2.4 Transit Network

The Parnassus Heights campus site is well-served by public transit, both local and regional. Regional service is described in Section 4.14. Local service is provided by the San Francisco Municipal Railway (Muni) bus and light rail lines, which provide transit service to the campus site and throughout San Francisco and can be used to access regional transit operators. Service to and from the East Bay is provided by Bay Area Rapid Transit (BART), Alameda-Contra Costa Transit (AC Transit) and ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries; service to and from the Peninsula and South Bay is provided by SamTrans, BART, and Caltrain. As described in Section 4.14, UCSF supplements Muni transit service with its own shuttle system that provides direct connections to UCSF-operated or affiliated facilities throughout San Francisco. In many cases, these shuttles provide a direct transit alternative between two campus sites that would otherwise require a transfer between two or more Muni routes. Based on the 2013 UCSF Transportation Commute Survey, approximately 24% of those traveling to the Parnassus Heights campus site use public transit, while another 12% rely on UCSF shuttles to get to and from the campus site.

#### **Local Transit**

**San Francisco Muni.** San Francisco Municipal Railway (Muni) provides transit service within the City and County of San Francisco, including bus (both diesel and electric trolley), light rail (Muni Metro), cable car and electric streetcar lines. Muni operates nine bus and rail lines in the Parnassus Heights campus site area (see the TIS in Appendix G for details about these transit lines). The Transit Effectiveness Project (TEP) serves as both a thorough review of and repositioning of San Francisco's public transit system, initiated by SFMTA in collaboration with the City Controller's Office. The TEP is aimed at improving reliability, reducing travel times, providing more frequent service and updating Muni bus routes and rail lines to better match current travel patterns. TEP recommendations include new routes and route realignments, more service on busy routes, and elimination or consolidation of certain routes or route segments with low ridership. The TEP recommendations were unanimously endorsed by the SFMTA Board of Directors in October 2008, for environmental impact review. The initial TEP recommendations were revised based on public feedback on the draft TEP environmental impact report (TEP EIR). The TEP EIR was certified on March 27, 2014, and the SFMTA Board of Directors approved most of the Service Improvements and portions of the Transit Travel Time Reduction Proposals on March 28, 2014.<sup>13</sup> The TEP project will be implemented based on funding and resource availability. The TEP Implementation Strategy anticipates that many of the improvements will be implemented sometime between Fiscal Year 2014 and Fiscal Year 2019, subject to funding sources and resource availability.<sup>14</sup> The changes proposed by the TEP for routes near the Parnassus Heights campus site are described in the TIS (Appendix G).

<sup>13</sup> San Francisco Planning Department. 2014. TEP Final EIR, March 27, 2014, Available online at <http://tepeir.sfplanning.org>. Accessed April 3, 2014. Case No. 2011.0558E. The document and supporting information may also be viewed at the Planning Department, 1650 Mission Street, Suite 400, San Francisco in case file 2011.0558E.

<sup>14</sup> San Francisco Municipal Transportation Agency. 2014. TEP Implementation Workbook, March 5, 2014, Available online at: [http://www.sfmta.com/sites/default/files/projects/TEP%20Implementation%20Plan%20-%20Section%201%20%282%29\\_1.pdf](http://www.sfmta.com/sites/default/files/projects/TEP%20Implementation%20Plan%20-%20Section%201%20%282%29_1.pdf). Accessed June 27, 2014.

### **UCSF Shuttle System**

Shuttles to and from the Parnassus Heights campus site (Gold, Blue, Black, Tan, Purple, Grey, Lime, Pink, VA-Parnassus, and Bronze) stop at shuttle zones along the north side of Parnassus Avenue, between Third Avenue and the Library, and on the south side of Parnassus Avenue, just west of UC Hall, outside the Dental Clinic plaza at Fourth Avenue, and also east of Langley Porter Psychiatric Institute. These stops are designated by UCSF Transportation Services and reviewed/approved by SFMTA. A more-detailed description of the UCSF shuttle system serving the Parnassus Heights campus site area is provided in Appendix G (TIS for the 2014 LRDP).

#### **6.14.2.5 Pedestrian Circulation**

Walking to and from the Parnassus Heights campus site is a common travel mode option for many UCSF employees and students. Based on the 2013 UCSF Transportation Commute Survey, about 11% of those traveling there walk to and from the campus site.

Pedestrian facilities include sidewalks, crosswalks, curb ramps, and pedestrian signals. Within the campus site, sidewalks exist on both sides of the street in most locations, generally 12 feet to 15 feet wide. In some areas on the campus site, sidewalk widths exceed 20 feet. All study intersections provide painted crosswalks and directional curb ramps. High-visibility yellow continental stripe crosswalks exist on Judah Street at the intersections of Sixth and Seventh avenues. Two additional high-visibility continental stripe crosswalks exist on Parnassus Avenue adjacent to the Moffitt/Long Hospital Drop-off/Pick-up area, where there are two signalized pedestrian crosswalks with countdown timers. These signalized crossings accommodate the large number of pedestrians crossing from one side of Parnassus Avenue to the other. Most other crosswalks in the area are standard crosswalks; San Francisco typically only uses the standard crosswalk at signalized intersections, continental crosswalks at high-visibility locations (e.g., near schools), and ladder crosswalks.

Pedestrian counts were conducted at each crosswalk in the Parnassus Heights campus site between 7:00 AM and 7:00 PM in 2007 and 2013. A comparison of those counts showed that the 2013 pedestrian volumes are essentially unchanged from those in 2007. Some slight variations in crossing volumes at individual crosswalks was observed, and because there has not been any substantial development in the area since 2007, most changes in pedestrian activity likely would be related to typical seasonal or daily fluctuations or attributable to adjustments in the UCSF shuttle system routing. However, counts at the pedestrian crossing in front of the Medical Building 1 (ACC) at Irving Street increased 60% between 2007 and 2013. This may be an indication of increased light rail ridership.

During the same time period in which the two Parnassus Avenue signalized crosswalks accommodate approximately 18,500 crossings, the Parnassus Avenue roadway carries about 8,500 vehicles. Thus, on average, there are over two times more pedestrians crossing Parnassus Avenue than vehicles traveling along it. The pedestrian activity on Parnassus Avenue in the campus site area (Third Avenue to Hillway Avenue) is more than double the pedestrian activity occurring at Judah Street and Fifth Avenue to the west.

Field observations at the campus site indicate that the locations of the two signalized crosswalks across Parnassus Avenue in the campus site core area are not aligned with many pedestrians' desired travel paths. A number of pedestrians exiting the UCSF Medical Center walk around Moffitt Circle and walk directly across Parnassus Avenue into the entrance to the Millberry Union, rather than walk east or west to one of the two signalized crosswalks.

### **6.14.2.6 Bicycle Circulation**

Despite the hilly topography at the Parnassus Heights campus site, bicycling is a viable and common travel mode. UCSF has identified bicycling as an effective tool in reducing congestion and pollution, promoting good health, and creating a livable environment. Based on the 2013 UCSF Transportation Commute Survey, approximately 5% of those traveling to and from the campus site do so by bike. In addition, approximately 3% of trips made by UCSF Parnassus employees and students to off campus, non-UCSF locations throughout the day are made by bike. This is consistent with the bicycling mode share throughout San Francisco.

Bicycle facilities in San Francisco consist of bicycle paths, separated bicycle lanes, bicycle lanes, and bicycle routes. Bicycle Paths (Class I) provide a completely separated right-of-way for the exclusive shared use of cyclists and pedestrians. These facilities are off-street and minimize cross-flow traffic, but they can be adjacent to an existing roadway. Separated Bicycle Lanes (Class II) provide a striped, marked and signed bicycle lane buffered from vehicle traffic. These facilities are located on roadways and require a minimum of four to five feet of space for exclusive bicycle traffic. Bicycle Lanes (Class II) provide a striped, marked and signed lane for bicycle travel. These one-way facilities are located on roadways and reserve a minimum of four to five feet of space for exclusive bicycle traffic. Bicycle Routes (Class III) provide a shared travel lane marked and signed for shared use with motor vehicle traffic. These facilities may or may not be marked with "sharrows" to emphasize that the roadway space is shared. Bicycle facilities located within or near the Parnassus Heights campus site are described above as part of the description of local roadways.

Bicycle counts were collected along Parnassus Avenue, near Moffitt Circle, and Irving Street, near Second Avenue between 7:00 AM and 7:00 PM on a typical weekday in 2007 and again on Parnassus Avenue in 2013 during the same time period. In 2007, Irving Street/Carl Street, despite the fact that it has no official bicycle route designation, carried approximately four times as many bicycles as Parnassus Avenue, which is a designated bicycle route. In 2007, higher volumes along Irving Street and Carl Street were likely the result of the street being relatively flat compared to Parnassus Avenue or the result of the UCSF bicycle cage being located on the ground level of the Millberry Union Garage, which has an entrance at Second Avenue/Irving Street. In 2013, bicycle counts along Parnassus Avenue had increase four-fold when compared to 2007, paralleling the uptick in bicycle use throughout the city that has been reported by the SFMTA and seen anecdotally on key corridors, such as Market Street.

UCSF provides free, secured bicycle parking inside a bicycle cage in the Millberry Union Garage. There are bike racks at five additional locations throughout the campus site: from east to west, they are at the Langley Porter Psychiatric Institute, Medical Building 1, the Kalmanovitz Library, the Clinical Science building and the Dental Clinics building. There are also on-street bicycle racks

located along Parnassus Avenue; however, most bicyclists are encouraged (by signs) to park in the designated bicycle parking areas in the campus site buildings. During site visits conducted in 2013, all of the designated bicycle parking areas were at near capacity, and numerous bikes were found to be parking on the street at parking meters and sign poles, indicating a high demand for bicycle parking facilities. Through the on-going monitoring of bicycle facilities, UCSF has since responded to user feedback about crowded bicycle parking facilities by doubling the capacity of the Millberry Union Garage bicycle cage and installing a new bike fix-it station.

### **6.14.2.7 Loading Conditions**

The Parnassus Heights campus site has both service vehicle and passenger loading. There are 10 service vehicle loading facilities (with a total of 17 truck loading spaces) serving the existing uses on the campus site. This excludes the 30 on-street service vehicle spaces along Parnassus Avenue. Passenger loading takes place in the Moffitt Loop, located on Parnassus Avenue in front of Moffitt Hospital, or in passenger loading zones located along Parnassus Avenue.

The loading area located on Parnassus Avenue in front of the Medical Building 1 serves passenger vehicles, service vehicles, emergency vehicles, and is the drop-off location for valet service. This area in particular can become congested throughout the day, sometimes leading to vehicles blocking a lane of traffic as passenger and service loading occurs. Although all the loading areas are used regularly for building deliveries, the Central Receiving Area and Long Hospital are typically the busiest locations throughout the day.

### **6.14.2.8 Parking Conditions**

#### ***On-Street Parking***

Parking is available on most streets near the Parnassus Heights campus site, primarily with parallel parking on both sides of the street. However, due to the steep topography of the area, parking spaces perpendicular to the direction of travel are provided on some streets, on one side of the street only. A variety of parking regulations apply, with the majority of the spaces subject to Residential Parking Permit (Zone “J”) restrictions (two-hour parking, except for residents, Mondays through Friday from 8:00 AM to 5:00 or 6:00 PM). Other parking spaces have meters and/or allow parking only during the non-peak commute periods.

Parking occupancies are about 85% on average over the course of the day. The parking demand in this area is primarily associated with the UCSF campus during the mid-morning (10:00 AM – 12 Noon) and midday (12 Noon – 2:00 PM) periods, and the residential and nearby neighborhood commercial uses during the evening period. These parking occupancies do not consider residents who park in their own driveways, which is typical in this area given the high parking demand.

#### ***Off-Street Parking***

There are several UCSF-managed off-street parking facilities in the vicinity of the Parnassus Heights campus site that provide approximately 2,700 public and permit-only parking spaces. These include:

- Millberry Union / Kalmanovitz Library garage, located between Judah Street and Irving Street, with about a 1,075 vehicle capacity, of which approximately 1,000 spaces are available to the general public, and the rest are reserved to UCSF faculty and staff. In addition, staff, faculty, and students may purchase monthly “afternoon” parking permits to park in this garage on weekdays from 2:30 PM to 8:00 AM and anytime on the weekend.
- Medical Building 1 (Ambulatory Care Center) garage, located adjacent to the Millberry Union Garage, at the Irving Street / Arguello Boulevard intersection, with 1,007 marked parking spaces and the capacity to accommodate 330 additional vehicles with attendant parking. Permit parking is available for faculty, house staff, and senior management.
- Proctor surface lot is located south of Kirkham Street near the intersection of Fifth Avenue and provides 16 spaces available by permit.
- The Westside surface lot behind the Dental Clinics Building at Fourth Avenue and Kirkham Street, on the western edge of the campus site. There are 151 parking spaces; about 81 spaces are reserved for permit parking.
- Beckman surface lot is located on Koret Way across from the Beckman Vision Center, and provides 76 parking spaces, with 13 spaces available for public parking.
- The Environmental Health and Safety Building has a 9-space surface parking lot, off Medical Center Way, available by permit.
- The Surge and Woods lots form a 158-space surface parking lot located off Medical Center Way above the Parnassus Heights campus site. Parking permits for this location are issued for staff.
- The Langley Porter Psychiatric Institute has a 21-space surface parking lot, off Medical Center Way at the eastern edge of the campus site, available by permit.
- The Emergency Room parking area is accessed off Parnassus Avenue at the southeast end of the campus site and provides 23 parking spaces reserved for ambulances, emergency patients, and for designated radiation and chemotherapy patients.
- Aldea surface parking lots are located within the Aldea Housing Area in the southern portion of the campus site and contain 192 parking spaces reserved to UCSF residents.

In addition, the Kezar surface lot is a city-owned parking facility adjacent to Kezar Pavilion on Stanyan Street. UCSF has about 100 spaces reserved for staff and faculty use during the day. UCSF shuttle bus service is provided every 10 to 20 minutes on average between the lot and the campus from 5:30 AM to 9:00 PM.

The overall occupancy of the spaces in the above-described parking facilities is about 88% between 10:00 AM and 2:00 PM, and about 50% between 6:00 PM and 8:00 PM. An occupancy above 90% typically represents that the facility is at its effective capacity.

## 6.14.3 Transportation and Traffic – Parnassus Heights Campus Site Impacts and Mitigation Measures

### 6.14.3.1 Impact Methodology

#### ***Analysis Approach***

The transportation analysis in this EIR considers operations-related issues related to vehicular traffic, transit facilities, pedestrians, bicyclists, and parking, as well as construction-related impacts, associated with implementation of the 2014 LRDP at the Parnassus Heights campus site. To determine potential impacts on the transportation system, it was first necessary to establish the background transportation conditions for the horizon years. Future year background conditions for the LRDP are based on the countywide travel demand model developed and maintained by the San Francisco County Transportation Authority (SFCTA).

Vehicle, pedestrian, bicycle, and transit travel demand associated with the 2014 LRDP was estimated based on factors developed from extensive surveys conducted at existing UCSF facilities over the past few years, and through the use of a four-step process: trip generation, mode split, trip distribution, and trip assignment. In the first step, the number of person trips generated by the 2014 LRDP was estimated on a daily, AM and PM peak hour basis. Next, the person trips were assigned to different modes of travel (automobile, transit, UCSF shuttle, bicycles, etc.). Then, the geographic distribution of the trip origins and destinations was predicted, and finally, project trips for each mode were assigned to specific streets, UCSF shuttle routes and transit lines along the transportation network.

#### ***Travel Demand Estimates***

The 2014 LRDP proposes various levels of growth at each campus site through the plan horizon year of 2035. Some known projects, such as Phase 2 of the Medical Center in Mission Bay, are currently projected to occur between 2035 and 2040, after the 2014 LRDP horizon year, but have been incorporated into the travel demand estimates presented in this document. As such, the transportation analysis represents a conservative approach as it includes development five years past the 2015 LRDP horizon, to the year 2040. Each campus site is expected to increase in population through the 2014 LRDP horizon year of 2035, with the highest growth expected at the Mission Bay campus site.

The Parnassus Heights campus site is estimated to generate a total of approximately 3,055 new daily person trips by 2040. That number of trips reflects the total number of additional person trips that would be generated by the increased campus site population, but it does not reflect trips associated with the internal trips expected to occur within the campus site. An internal trip is a trip with its origin and destination within the same campus site (e.g., a researcher at the Parnassus Heights campus site traveling from her office to the Millberry Union to eat lunch and returning back to her office afterwards). Taking those internal trips into account, the Parnassus Heights campus site is estimated to generate approximately 1,928 new external daily person trips by 2040.

“Mode choice” is the designation of trips to the various means that people use to travel, such as automobile, transit, walking, bicycling, taxi, or other mode of transportation. The determination of the mode of transportation used in trips to and from the Parnassus Heights campus site would depend on many characteristics of the trip (e.g., the population group: that is, faculty, staff, vendor, patient, visitor), the type of trip (work, visit), and the specific site. Travel mode split and average vehicle occupancy assumptions were based on information collected by UCSF and its consultants, with the estimates of the future modal share based on the current modal splits for each campus site by population type, which take into account the transit accessibility, UCSF shuttle service, parking availability, and TDM measures being provided at each campus site; this approach is consistent with the travel demand methodologies established by the SF Planning Department. The majority of Parnassus Heights campus site trips arrive/depart the campus site by taking public transit or the UCSF shuttle service. The 1,928 external daily person trips generated by the Parnassus Heights campus site are expected to use the following travel modes:

274 Auto Drive Alone  
107 Drop-Off/Taxi  
48 Carpool/Vanpool  
400 Public Transit  
637 UCSF Shuttle  
171 Bicycle/Motorcycle  
291 Walk

The auto drive alone, drop-off/taxi, carpool/vanpool, and UCSF shuttle person trips would generate about 405 daily vehicle trips.<sup>15</sup>

Approximately 95 new vehicle trips would occur during both the AM and PM peak hour. There would be approximately 190 new transit riders in the AM peak hour and 170 new transit riders in the PM peak hour, with a majority of transit users using Muni and the UCSF shuttle bus service.

The new trips associated with the Parnassus Heights campus site were assigned to San Francisco and regional origins/destinations, including the four San Francisco Superdistricts (northeast, northwest, southeast, and southwest quadrants of the City), the East Bay, the North Bay, and the South Bay, as well as areas outside the Bay Area region. Information collected by UCSF as part of its yearly commute surveys of employees, patients, visitors and residents was used in this analysis.

### 6.14.3.2 Construction Period Impacts

**Impact TRAF-PH-1: Implementation of the 2014 LRDP on the Parnassus Heights campus site could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions during demolition and construction activities. (Potentially Significant)**

Impacts associated with demolition and construction activities that would occur as the 2014 LRDP is implemented are addressed in Chapter 5 (**Impact TRAF-LRDP-1**). That 2014 LRDP

<sup>15</sup> Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (UCSF Shuttle / 15).

Plan-Level analysis determined that although construction activities would be temporary, construction impacts would be considered potentially significant given the magnitude of 2014 LRDP development over the course of many years and need for on-going coordination and monitoring. The potentially significant determination would apply to the 2014 LRDP elements on the Parnassus Heights campus site. The implementation of LRDP **Mitigation Measure TRAF-LRDP-1: Construction Coordination and Monitoring Measures** would reduce construction-period impacts to less-than-significant levels.

**Mitigation Measure:** Implement **Mitigation Measure TRAF-LRDP-1**

**Significance after Mitigation:** Less than Significant

### 6.14.3.3 Operational Impacts

**Impact TRAF-PH-2: Implementation of the 2014 LRDP on the Parnassus Heights campus site would increase traffic at intersections on the adjacent roadway network. (Less than Significant)**

**Table 6.14-2** presents a summary comparison of Existing and Existing plus 2014 LRDP intersection LOS for the weekday AM and PM peak hours. In general, the addition of 2014 LRDP-generated traffic would result in small changes in the average delay per vehicle at the study intersections, and all study intersections would continue to operate at the same service levels as under Existing conditions. While the great majority of the study intersections operate at acceptable levels of service (LOS D or better) under both AM and PM peak hour conditions under Existing conditions, and would continue to operate acceptably under Existing Plus 2014 LRDP conditions, the following five study intersections (listed by intersection number in Table 6.14-2) currently operate at unacceptable levels of service (LOS E or F), and would continue to operate at the same LOS under Existing Plus 2014 LRDP conditions:

1. Oak Street – Fell Street – Kezar Drive / Stanyan Street (PM peak hour)
2. Lincoln Way / Ninth Avenue (PM peak hour)
4. Lincoln Way / Fourth Avenue (AM peak hour)
15. Judah Street – Parnassus Avenue / Fifth Avenue (PM peak hour)
21. Kirkham Street / Seventh Avenue (AM peak hour)

For these five intersections, the 2014 LRDP's contribution to the intersection's critical movements was calculated to determine if the 2014 LRDP would have a significant impact, and in each case, the 2014 LRDP contribution would not be considered significant. Therefore, the 2014 LRDP's traffic impact at intersections on the adjacent roadway network would be considered less than significant.

**Mitigation:** None required.

**TABLE 6.14-2  
 EXISTING AND EXISTING PLUS 2014 LRDP  
 PEAK-HOUR INTERSECTION LEVEL OF SERVICE (LOS) – PARNASSUS HEIGHTS**

Intersection	Traffic Control <sup>a</sup>	Peak Hour	Existing		Existing plus 2014 LRDP	
			Delay (sec.) <sup>b</sup>	LOS <sup>c</sup>	Delay (sec.) <sup>b</sup>	LOS <sup>c</sup>
1. Oak Street-Fell Street-Kezar Drive / Stanyan Street	Signal	AM	45	D	45	D
		PM	<b>58</b>	<b>E</b>	<b>59</b>	<b>E</b>
2. Lincoln Way / Ninth Avenue	Signal	AM	39	D	39	D
		PM	<b>65</b>	<b>E</b>	<b>67</b>	<b>E</b>
3. Lincoln Way / Seventh Avenue	Signal	AM	32	C	32	C
		PM	39	D	40	D
4. Lincoln Way / Fourth Avenue	SSS	AM	<b>&gt;50</b>	<b>F</b>	<b>&gt;50</b>	<b>F</b>
		PM	23	C	24	C
5. Lincoln Way-Kezar Drive / Third Avenue	SSS	AM	24	C	24	C
		PM	29	D	29	D
6. Fredrick Street / Stanyan Street	Signal	AM	26	C	27	C
		PM	24	C	24	C
7. Irving Street / Ninth Avenue	Signal	AM	17	B	17	B
		PM	20	B	20	B
8. Irving Street / Seventh Avenue	Signal	AM	24	C	24	C
		PM	25	C	26	C
9. Irving Street / Fourth Avenue	AWS	AM	11 (12)	B ( B )	11 (12)	B ( B )
		PM	11 (12)	B ( B )	11 (12)	B ( B )
10. Irving Street / Second Avenue	AWS	AM	10 (11)	B ( B )	10 (11)	B ( B )
		PM	11 (12)	B ( B )	11 (12)	B ( B )
11. Irving Street / Arguello Boulevard	SSS	AM	15	B	15	B
		PM	27	D	31	D
12. Judah Street / Ninth Avenue	Signal	AM	15	B	15	B
		PM	16	B	16	B
13. Judah Street / Seventh Avenue	Signal	AM	32	C	34	C
		PM	25	C	25	C
14. Judah Street / Sixth Avenue	AWS	AM	17 (18)	C ( C )	17 (18)	C ( C )
		PM	17 (22)	C ( C )	17 (23)	C ( C )
15. Judah Street-Parnassus Avenue / Fifth Avenue	SSS	AM	22	C	23	C
		PM	<b>42</b>	<b>E</b>	<b>44</b>	<b>E</b>
16. Parnassus Avenue / Fourth Avenue	AWS	AM	15 (18)	B ( C )	15 (18)	B ( C )
		PM	19 (23)	C ( C )	20 (25)	C ( D )
17. Parnassus Avenue / Third Avenue	SSS	AM	17	C	18	C
		PM	20	C	21	C
18. Parnassus Avenue / Hillway Avenue	SSS	AM	13	B	13	B
		PM	15	C	15	C
19. Parnassus Avenue / Hill Point Avenue	SSS	AM	17	C	17	C
		PM	16	C	16	C
20. Parnassus Avenue / Stanyan Street	Signal	AM	41	D	42	D
		PM	29	C	29	C
21. Kirkham Street / Seventh Avenue	Signal	AM	<b>70</b>	<b>E</b>	<b>74</b>	<b>E</b>
		PM	30	C	31	C
22. Kirkham Street / Sixth Avenue	AWS	AM	13 (16)	B ( C )	13 (16)	B ( C )
		PM	13 (14)	B ( B )	13 (15)	B ( B )
23. Kirkham Street / Fifth Avenue	AWS	AM	<10 (<10)	A ( A )	<10 (<10)	A ( A )
		PM	<10 (<10)	A ( A )	<10 (<10)	A ( A )

<sup>a</sup> AWS = All-way stop controlled; SSS = Side Street stop controlled; Signal = Signal controlled

<sup>b</sup> Delay reported as seconds per vehicle. For signalized intersections, a combined weighted average delay for the various movements within the intersection is reported. For SSS intersections, the highest average delay for an approach is reported. For AWS intersections, the combined weighted average delay of the intersection is reported, followed by the highest average delay for an approach (indicated in parentheses).

<sup>c</sup> For signalized intersections, LOS based on average intersection delay, based on the methodology in the Highway Capacity Manual, 2000. For unsignalized intersections, LOS is based on the worst approach, which for AWS is indicated in parentheses.

<sup>d</sup> **Bold** indicates unacceptable operations per UCSF LOS standards

SOURCE: Fehr & Peers, 2014.

**Impact TRAF-PH-3: Implementation of the 2014 LRDP on the Parnassus Heights campus site would increase transit ridership demand. (Less than Significant)**

As described in 6.14.3.1 above, approximately 190 and 170 new transit trips are expected during the AM and PM peak hour, respectively. About 50% of transit users will use a UCSF shuttle, and about 30% will use Muni, to commute to and from the campus site, with the remaining transit riders using BART, AC Transit, Caltrain, SamTrans or Golden Gate Transit.

**San Francisco Muni.** Existing Muni transit stops are located within a half-mile of the center of campus site, with multiple stops located through the campus site on Parnassus Avenue and adjacent to the campus site on Ninth Avenue, Irving Street and Lincoln Way. Major stop relocations adjacent to the campus site are not anticipated at this time. As part of the *Parnassus Avenue Streetscape Plan*, UCSF proposes that Muni consolidate the three transit stops on Parnassus Avenue into two transit stops in order to improve Muni’s operating efficiency and provide more flexibility with respect to curb space allocation. The TEP proposes to reduce headways for the following routes: 43 Masonic, 44 O’Shaughnessy, and 71/71L Haight-Noriega.

The estimated number of 2014 LRDP-generated Muni trips is about a 2% increase in ridership traveling to and from the Parnassus Heights campus site, which would not require the expansion of transit service or facilities. Additionally, none of the specific proposals of the 2014 LRDP would reconfigure, or reduce access to, transit stops in a way that would degrade transit service to the campus site. Therefore, the 2014 LRDP’s transit impact on Muni service would be considered less than significant.

**Regional Transit.** UCSF staff, patrons and students are anticipated to continue to use BART, AC Transit, Caltrain, SamTrans, and Golden Gate Transit for regional transit service through the 2014 LRDP horizon year. Regional service stations are likely to remain at existing locations, over a half-mile away, and can be accessed by other transit modes such as SF Muni and the UCSF shuttle. Fewer than 20 new regional transit trips are expected during each AM and PM peak hours, and that increase would not require the expansion of regional transit service or facilities. Therefore, the 2014 LRDP’s transit impact on regional transit service would be considered less than significant.

**UCSF Shuttle.** As part of the Parnassus Avenue Streetscape Plan, UCSF will reorganize UCSF shuttle operations by centralizing pick-up and drop-off locations. Existing shuttle stations located at the campus site gateways will be relocated to the center of the campus site on Parnassus Avenue, fronting the campus library in the westbound direction and the Clinical Sciences building in the eastbound direction. The 2014 LRDP does not propose specific changes to shuttle service headways, although UCSF Transportation Services may change headways based on shifting shuttle demand as 2014 LRDP projects are constructed and occupied at each respective campus site.

An approximately 15% increase in UCSF Shuttle ridership during both peak hours is anticipated through the 2014 LRDP horizon year, and that increase would not require the expansion of UCSF shuttle service or facilities. Therefore, the 2014 LRDP’s transit impact on UCSF Shuttle service would be considered less than significant.

**Mitigation:** None required.

**Impact TRAF-PH-4: Implementation of the 2014 LRDP on the Parnassus Heights campus site would not cause a substantial conflict with pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)**

UCSF proposes a variety of improvements to pedestrian and transit facilities at the campus site. The *Parnassus Avenue Streetscape Plan* proposes to make crossing Parnassus Avenue safer and more convenient for pedestrians, reorganize and improve transit and UCSF shuttle operations, create more usable outdoor space, and enhance the public realm. The *Parnassus Avenue Streetscape Plan* also proposes to modify the existing UCSF shuttle stops from the gateways of the campus site to a central location fronting the campus library in the westbound direction and the Clinical Sciences Building in the eastbound direction. In addition to the *Streetscape Plan*, the 2014 LRDP proposes to construct new trails in the Mount Sutro Open Space Reserve.

The 2014 LRDP would add approximately 210 pedestrian trips to the surrounding streets (mostly transit-access trips) during the AM peak hour, and about 190 pedestrian trips during the PM peak hour. Pedestrian trips would primarily use Parnassus Avenue and Carl-Irving Streets to travel to the surrounding residential neighborhoods or to the commercial areas in the Inner Sunset and Cole Valley.

Major stop relocations for Muni service adjacent to the campus site are not anticipated at this time. In addition to the above-cited proposed UCSF shuttle stop changes, proposed changes to buildings along Parnassus Avenue would likely shift some pedestrian traffic to the New Hospital Addition near Hillway Avenue and to the potential future housing at Parnassus and Fifth avenues.

Overall, the 2014 LRDP would improve pedestrian accessibility on the campus site frontage through the Parnassus Avenue Streetscape Plan and new trails in the Reserve. The immediate area surrounding the Parnassus Heights campus site includes robust pedestrian facilities that provide access to nearby neighborhoods, commercial uses, and transit stops, and that would accommodate the new pedestrian trips generated by the 2014 LRDP in addition to the shifts in pedestrian traffic that would occur in the future. The 2014 LRDP would not create substantial conflicts between pedestrians and autos, bicyclists, or transit vehicles. Therefore, the 2014 LRDP's impact to pedestrian circulation and facilities at the Parnassus Heights campus site would be less than significant.

**Mitigation:** None required.

**Impact TRAF-PH-5: Implementation of the 2014 LRDP on the Parnassus Heights campus site would not cause a substantial conflict with bicycle facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)**

The area around the Parnassus Heights campus site has a number of streets with bicycle lanes, and streets designated as bicycle routes, including Parnassus Avenue, Kirkham Street, Sixth Avenue, and Seventh Avenue. In addition, there are several bicycle paths and bicycle routes in

nearby Golden Gate Park. The Parnassus Heights campus site is within convenient bicycling distance of residential and commercial areas in surrounding neighborhoods. Within the campus site, the *Parnassus Avenue Streetscape Plan* proposes to convert the current Class III bicycle route to a Class II bicycle lane on steep portion of Parnassus Avenue, from Fifth Avenue to Third Avenue. The SF Bike Plan does not include any short- or long-term improvements in the campus site area.

The 2014 LRDP is expected to increase bicycle demand in the area by approximately 20 new trips during both the AM and PM peak hours. These trips would primarily occur on designated bicycle facilities in addition to other popular routes such as Irving and Carl streets, which connect to surrounding neighborhoods through the San Francisco Bike Route network. The increased bicycle demand would be accommodated at the campus site through additional bicycle parking provided as a part of UCSF's TDM program. In the near-term, UCSF plans to add one new bicycle cage and 20 new bicycle racks at the Parnassus Heights Campus Site. This would increase bicycle parking capacity and generally improve bicycle conditions on the campus site.

The expected increase in bicycle traffic would not represent a level that would adversely affect bicycle facilities on the campus site, nor would the 2014 LRDP create substantial conflicts between bicyclists and pedestrians, autos, or transit vehicles. Therefore, the 2014 LRDP's impact to bicycle circulation and facilities at the Parnassus Heights campus site would be less than significant.

**Mitigation:** None required.

**Impact TRAF-PH-6: Implementation of the 2014 LRDP on the Parnassus Heights campus site would increase loading demand. (Less than Significant)**

The San Francisco Planning Code requires that land uses, such as medical offices and hospitals, provide off-street loading spaces according to a prescribed schedule. The required loading supply was estimated based on that Code requirement, and the existing and proposed loading supply exceeds the Code requirement at the Parnassus Heights campus site.

The demand for loading spaces through the 2014 LRDP horizon year was calculated based on surveys from the Parnassus Heights campus site and methods described in the City's *Transportation Impact Analysis Guidelines for Environmental Review*. The existing peak hourly demand is estimated to be about 52 spaces on the Parnassus Heights campus site, and the 2014 LRDP horizon year peak hourly demand is estimated to be about 55 spaces.

It is expected that the estimated 2014 LRDP loading supply should be adequate for the estimated demand, however, as mentioned above, the campus sites are unique and should be monitored over time. This is considered a less-than-significant impact if UCSF continues to monitor loading operations and provide appropriate supply with guidance from the SF Planning Code and existing operations.

In addition to freight loading, there is a demand for passenger loading spaces, and in order to estimate passenger loading demand, the drop-off/taxi service mode split and a portion of the carpool mode split percentages presented in the Travel Demand Estimates discussion (Section 6.14.3.1) above was applied to the peak AM and PM peak-hour person trips. The peak-hour passenger loading demand is estimated to increase by approximately 5% at the Parnassus Heights campus site.

As indicated by observations made of very active loading areas that on occasion generate queues of vehicles awaiting entry, there is an existing deficit of passenger loading supply to accommodate the existing peak hour demand at the Parnassus Heights campus site. It should be noted that this deficit appears to be exacerbated during peak times by some vehicles not adhering to all peak hour parking and loading regulations. As part of the 2014 LRDP, the *Parnassus Avenue Streetscape Plan*, which seeks to alleviate parking and loading congestion among other goals, will be implemented. In addition to the *Parnassus Avenue Streetscape Plan*, as part of the New Hospital Addition, a new passenger loading loop, larger than the current Moffitt Loop and sized to compensate for the existing deficit of passenger loading supply, will be provided off Parnassus Avenue.

The combination of the Parnassus Avenue Streetscape Plan and new passenger loading loop at the New Hospital Addition will be sufficient to accommodate the estimated 2014 LRDP demand; therefore, the 2014 LRDP's impact to passenger loading is considered less than significant.

**Mitigation:** None required.

**Impact TRAF-PH-7: Implementation of the 2014 LRDP on the Parnassus Heights campus site would increase parking demand. (Less than Significant)**

Under the 2014 LRDP, additional parking would be provided on the Parnassus Heights campus site, as warranted by the proposed development (i.e., the number of any new parking spaces would be determined as projects are proposed). It is estimated that the number of parking spaces owned by UCSF at the Parnassus Heights campus site would increase by approximately 90 spaces (about 3%) by year 2040. The following list describes the currently proposed changes in parking supply:

- Upon demolition of the Laboratory of Radiobiology building, the remaining surface pad may be improved, then used for approximately 30 contractor-only spaces sometime between 2014 and 2019.
- Upon demolition of the Medical Research 4 building, the remaining lot may be graded and improved and used for approximately 30 contractor-only spaces sometime between 2014 and 2019.
- About 20 parking spaces at the Surge surface lot would be converted from permit holder to contractor-only parking sometime between 2014 and 2019.
- Upon demolition of the Koret Vision building, the remaining surface pad may be improved, then used for approximately 30 contractor-only spaces sometime between 2031 and 2035.

As described previously, the available on-street parking is well-occupied at the Parnassus Heights campus site, and has therefore not been considered as a resource for the future parking utilization analysis, which has focused instead on the availability of off-street parking. Assessment of the growth of peak parking demand under the 2014 LRDP shows that the future parking utilization at the Parnassus Heights campus site would be at its effective capacity. Because there would not be a shortfall in parking supply, the 2014 LRDP's impact to parking demand is considered less than significant.

**Mitigation:** None required.

## 6.15 Utilities and Service Systems

The Regional Setting, Regulatory Considerations, Significance Standards and Analysis Methodology for analysis of potential effects of Utilities and Service Systems are contained in Section 4.15 of this EIR. The CEQA Significance Standards presented in Section 4.15.3 are used to evaluate the potential utilities and service systems impacts of all proposed 2014 LRDP activities.

The overall effects on water supply, wastewater treatment, storm drainage facilities, solid waste disposal and energy demand resulting from implementation of the 2014 LRDP were evaluated in Chapter 5, *2014 LRDP – Impacts and Mitigation Measures*. No expansion of water, wastewater or storm drainage facilities beyond the standard service connections of future buildings to the City’s existing infrastructure is anticipated at the Parnassus Heights campus site.