

Environmental Impact Report Long Range Development Plan LRDP Amendment #2 – Hospital Replacement

Certified by The Regents of the University of California
March 17, 2005
State Clearing House No. 2004072067



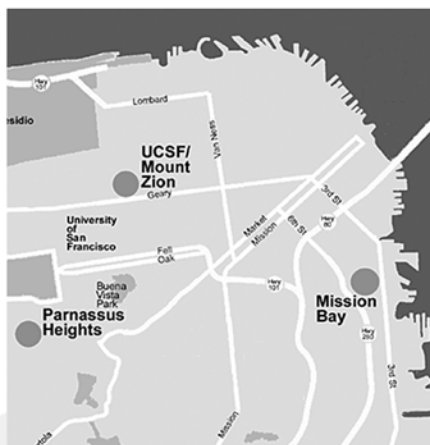
University of California
San Francisco



University Advancement & Planning
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Prepared by:

Environmental Science Associates
225 Bush Street, Suite 1700
San Francisco, CA 94104

University of California
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4.5 HAZARDS AND HAZARDOUS MATERIALS

4.5.1 INTRODUCTION

UCSF's widely varied research and medical center facilities at the Mission Bay, Parnassus Heights, and Mount Zion campus sites use many different hazardous materials and result in the generation of hazardous and medical waste.

Materials and waste may be considered hazardous if they are poisonous (toxic), can be ignited by open flame (ignitable), corrode other materials (corrosive), or react violently, explode, or generate vapors when mixed with water (reactive). The term "hazardous material" is defined in law as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.¹

A hazardous waste, for the purpose of this EIR, is any hazardous material that is to be abandoned, discarded, or recycled. The transportation, use, and disposal of hazardous materials, as well as the potential release of hazardous materials to the environment, are closely regulated.

Medical waste is generated or produced as a result of diagnosis, treatment, or immunization of human beings or animals, the production or testing of biologicals,² and is either biohazardous waste or sharps³ waste. Cultures, blood and blood products, tissues, and body parts are all considered medical waste. The transportation and disposal of medical waste are closely regulated under the California Medical Waste Management Program.⁴

The proposed helipad at the Mission Bay campus also presents potential hazards associated with helicopter flight traffic. Helipad construction and operation is closely regulated to protect public health and safety for both helicopter occupants and the public.

4.5.2 ENVIRONMENTAL SETTING

4.5.2.1 REGIONAL SETTING

The regional setting is the same as described in the LRDP FEIR; this section recaps that information and updates it, as appropriate. Hazardous materials used at UCSF hospitals and research facilities include hazardous chemicals, radioactive materials, and biohazardous materials. Hazardous waste generated at UCSF includes hazardous chemical waste, biohazardous waste, radioactive waste, and medical waste. Additional information regarding these materials and associated health hazards, as well as the controls in place to prevent accidents, are described in the Regulatory Setting.

¹ State of California, Health and Safety Code, Chapter 6.95, Section 25501(o).

² The term "biologicals" means medicinal preparations made from living organisms and their products, including but not limited to serums, vaccines, antigens, and antitoxins (CMWMP, 2004)

³ The term "sharps waste" refers to any device having acute rigid corners, edges, or proturbences capable of cutting or piercing, including but not limited to hypodermic needles and broken glass items (such as pipettes and vials) contaminated with biohazardous waste (CMWMP, 2004).

⁴ California Medical Waste Management Act, California Health and Safety Code Sections 117600-118360.

A number of existing structures at the Parnassus Heights, Mount Zion, and Mission Bay campus sites are many decades old. Structural demolition or renovation of buildings may expose individuals to hazardous building materials such as lead-based paint, asbestos, or polychlorinated biphenyls (PCBs), historically used in buildings. Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction before such uses were banned by the U.S. Environmental Protection Agency (US EPA) in the 1970s. Lead-based paint was commonly used on interior and exterior surfaces prior to 1978, when its use was banned by the EPA. PCBs are organic oils that were formerly used, primarily as electrical insulators, in many types of electrical equipment, including transformers and capacitors. In 1979, the EPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment. Fluorescent lighting ballasts manufactured after January 1, 1978, do not contain PCBs and are required to have a label clearly stating that PCBs are not present in the unit. Additional information about these materials and their potential health hazards are described in the Regulatory Setting.

Throughout the City of San Francisco soil and groundwater contamination resulting from past industrial activities may expose construction workers, the public, future occupants, and the environment to hazardous materials during and after construction in those areas. In the portions of the City that were formerly part of San Francisco Bay, the underlying artificial fills placed in the late 1860s and early 1900s often contain hazardous materials and debris. Additional information regarding hazardous materials oversight and artificial Bay fills are described in the Regulatory Setting.

4.5.2.2 LOCAL SETTING – MISSION BAY

As noted in the 1998 Mission Bay Subsequent EIR and LRDP FEIR, the Mission Bay site was part of San Francisco Bay prior to filling activities that began in the 1860s. Underlying fill is composed of sand and rock from Potrero Hill and debris from the 1906 earthquake and fire. Previous industrial and commercial uses at Mission Bay have resulted in soil and groundwater contamination. Subsurface investigations undertaken since completion of the LRDP FEIR have identified petroleum hydrocarbons, metals, and volatile organic compounds (VOCs) at varying concentrations in underlying soil and groundwater (City and County of San Francisco, 1998).

Under oversight from the California Department of Toxic Substances (DTSC) and San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB), a Risk Management Plan for the Mission Bay Redevelopment Area, referred to hereafter as the 1999 RMP, was developed based on the results of numerous subsurface environmental investigations and human health and ecological risk analyses (Environ, 1999). The 1999 RMP includes specific measures that must be implemented prior to, during, and after development at Mission Bay North and South Redevelopment Areas to protect construction workers, the public, the environment, and future occupants from hazards associated with subsurface soil and groundwater contamination. The 1999 RMP was approved by the San Francisco Bay RWQCB in coordination with state and local agencies and is being implemented during USCF development at Mission Bay (RWQCB, 1999). The 1999 RMP is recorded with the Mission Bay South site and runs with the land.

However, the 1999 RMP does not incorporate the entirety of the Mission Bay South Redevelopment Area. Parcel X-3, bounded by Mariposa Street to the south, 16th Street to the north, 3rd Street to the east, and adjacent to Blocks 38 and 39 to the west, was analyzed in the Mission Bay Subsequent EIR, but was not a part of the 1999 RMP.

The *Environmental Evaluation Land Acquisition Due Diligence* report for Mission Bay south blocks was completed in January 2002. That review encompassed the property assessed in the Mission Bay Subsequent EIR and 1999 RMP, including Parcel X-3. The review concluded that Parcel X-3 was likely to contain subsurface contamination similar to that found in the surrounding Mission Bay parcels assessed for the 1999 RMP, and that measures similar to those identified in the 1999 RMP would be required for hospital development on Parcel X-3. Furthermore, Phase I and Phase II Environmental Site Assessments were recommended in order to investigate potential soil and groundwater contamination and to identify the need for remediation (Harding ESE, 2002a).

A Phase I Environmental Site Assessment conducted for Parcel X-3 noted that both existing and former tenant activities at Parcel X-3 involved the use of hazardous materials, and that releases of hazardous materials or petroleum hydrocarbons to soil and/or groundwater have occurred at nearby properties. However, the Phase I study concluded that the majority of releases have been remediated, confined to their respective properties, or are otherwise unlikely to affect environmental conditions at Parcel X-3. A Phase II investigation was recommended to collect soil and groundwater samples in order to quantify potential constituent concentrations in soil and groundwater (Harding ESE, 2002b). However, there have been no further investigations since completion of the Phase I. As noted in the Mission Bay Subsequent EIR, a risk management plan is required for all sites in the Mission Bay Redevelopment Area and must be reviewed and approved by the San Francisco Bay RWQCB (City and County of San Francisco, 1998).

Surveys to determine the potential presence of asbestos, lead-based paint, and PCBs have not been conducted at structures that would be demolished under the proposed project. The Phase I report for Parcel X-3 concluded that asbestos, lead-based paint, and PCBs are likely present at 1900 3rd Street, in addition to mercury in lighting ballasts (Harding ESE, 2002b). The Mission Bay Subsequent EIR also concluded, based on the age of many structures at Mission Bay North and South, that asbestos, lead-based paint, and PCBs may be present (City and County of San Francisco, 1998).

A preliminary study of the feasibility of a helipad atop a hospital at either Mission Bay site has identified flight paths and described regulatory compliance procedures and schedules associated with helipad construction and safe operation (Heliplanners, 2004) (Appendix D).

4.5.2.3 LOCAL SETTING – PARNASSUS HEIGHTS

Two 12,500-gallon diesel underground storage tanks (USTs) have been removed under proper regulatory oversight from the Parnassus Heights site. Five 30,000-gallon diesel USTs, one 550-gallon UST, one 1,000-gallon UST, and two 3,000-gallon aboveground storage tanks (ASTs) are currently located at Parnassus Heights (Belk, 2004a). There have been no recorded spills or

leaks associated with these former or existing USTs or ASTs, with the exception damage incurred during nearby construction activities to a 30,000-gallon diesel UST in October 2001, resulting in an 800 gallon spill. EH&S spill clean-up was coordinated with SFDPH, and no residual hydrocarbons were identified in soil samples. There is no known soil or groundwater contamination at the Parnassus Heights site by petroleum hydrocarbons associated with the former or existing USTs or ASTs (Belk, 2004a).

Buildings that could be demolished under the 1996 LRDP during the LRDP Phase include UC Hall and the Laboratory of Radiobiology. Buildings that may be demolished or renovated in the Future Phase include Moffitt Hospital, the Langley Porter Psychiatric Institute and Long Hospital. UC Hall, the Laboratory of Radiobiology, and the Langley Porter Psychiatric Institute may contain asbestos, lead-based paint, and PCBs due to the age (pre-1979) of these structures. Moffitt Hospital, constructed in 1955, may also contain these substances. Long Hospital was constructed in 1982, after the EPA had banned asbestos, lead-based paint, and PCBs in building materials. Surveys to determine whether asbestos, lead-based paint, or PCBs are present have not been conducted at these five structures.

Many operations at Moffitt and Long Hospitals involve the use of hazardous chemicals, radioactive materials, and biohazardous materials and result in the generation of hazardous waste, biohazardous radioactive waste, and medical waste. Chemical use and storage at the Parnassus Heights site includes an aboveground ammonia storage facility.

4.5.2.4 LOCAL SETTING - MOUNT ZION

Operations at Mount Zion Hospital involve the use of hazardous chemicals, radioactive materials, and biohazardous materials and result in the generation of hazardous waste, radioactive waste, and medical waste. Existing conditions at Mount Zion were reported in the 1990 Mount Zion EIR, the 1992 Mount Zion Program Revisions SEIR, and the LRDP FEIR. This section recaps and updates that information.

As described in the *1989 Mount Zion Hospital and Medical Center Proposed Integration Agreement EIR*, Mount Zion historically had a 350-gallon diesel UST, 6,000-gallon diesel UST, and 7,500-gallon diesel UST. In addition, three diesel ASTs (a 15-gallon, 80-gallon, and 150-gallon tank) were located within the campus site. There had been no recorded spills or leaks associated with these USTs and ASTs, and no known soil or groundwater impacts from petroleum hydrocarbon contamination (UCSF, 1989). Several of these tanks have been removed, and Mount Zion currently has two 6,000-gallon USTs and several ASTs with capacities ranging between 75 and 400 gallons (Belk, 2004a).

The Mount Zion A and B Buildings, all constructed prior to 1979, may contain asbestos, lead-based paint, and PCBs (UCSF, 1989). Surveys to determine whether asbestos, lead-based paint, and PCBs are present have not been conducted at these three structures.

4.5.2.5 REGULATORY SETTING

Hazardous materials and waste are governed by an extensive regulatory structure to ensure the materials are handled, transported, stored, and disposed of safely. The regulatory setting for UCSF operations with respect to hazards and hazardous materials has changed since preparation of the LRDP FEIR, due to the passage of new legislation or adoption of new regulations by state agencies. Additionally, the development and operation of a helipad at a new hospital at Mission Bay would be subject to Federal Aviation Administration (FAA) and California Department of Transportation (Caltrans) Division of Aeronautics (DOA) regulations that were not discussed in the LRDP FEIR.

Responsible Agencies

Regulatory Context

UCSF is subject to government health and safety regulations applicable to the transportation, use, and disposal of hazardous materials and hazardous and biomedical wastes. This section provides an overview of applicable health and safety for the project site and introduces UCSF's current health and safety policies and procedures.

Federal

Hazardous Materials Management. The primary federal agencies with responsibility for hazardous materials management include the EPA, U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (DOT). Federal laws, regulations, and responsible agencies are summarized in Table 4.5-1, below, and are discussed in detail in this section.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law prevails over federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

Helipads. The FAA is the DOT agency charged with (1) regulating air commerce to promote its safety and development; (2) achieving the efficient use of navigable airspace of the United States; (3) promoting, encouraging, and developing civil aviation; (4) developing and operating a common system of air traffic control and air navigation for both civilian and military aircraft; and (5) promoting the development of a national system of airports.

The FAA's Heliport Design Advisory Circular (AC 150/53990-2A) and Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, define the final approach and takeoff area (FATO) and safety areas for helipads. Clear approach and takeoff areas that extend well beyond the landing pad must exist in order to permit the establishment of the helipad; and these areas must then be maintained clear of obstructions for operations to continue.

**TABLE 4.5-1
FEDERAL LAWS AND REGULATIONS RELATED TO
HAZARDOUS MATERIALS MANAGEMENT**

Classification	Law or Responsible Federal Agency	Description
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from “cradle to grave.”
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the “cradle to grave” system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	The DOT has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation, except packages shipped by mail (49 CFR).
Radioactive Materials ^a	Atomic Energy Act	Administered by the Nuclear Regulatory Commission, the act regulates the use and control of radioactive material. ^b
Biosafety Standards ^c	The National Institutes of Health, and the Centers for Disease Control and Prevention (CDC)	Operated under the U.S. Department of Health and Human Services, these agencies establish standards for working with biohazardous materials.
Structural and Building Components (Lead based paint, ^d PCBs, ^e and asbestos ^f)	Toxic Substances Control Act (TSCA)	Regulates the use and management of PCBs in electrical equipment and sets forth detailed safeguards to be followed during the disposal of such items (40 CFR).
	U.S. EPA	The EPA monitors and regulates hazardous materials used in structural and building components and their affects on human health.

^a U.S. Nuclear Regulatory Commission, Atomic Energy Act of 1954, as amended, <http://www.nrc.gov/who-we-are/governing-laws.html>, accessed November 15, 2002.

^b Radioactive material is any material or combination of materials that spontaneously emit ionizing radiation.

^c A hazardous biologic material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biologic material.

^d Lead-based paint was commonly used on interior and exterior surfaces prior to 1978, when its use was banned by the EPA.

^e Polychlorinated biphenyls (PCBs) are organic oils that were formerly placed in many types of electrical equipment, including transformers and capacitors, primarily as electrical insulators. It has been discovered that exposure to PCBs may cause various health effects, and that PCBs are highly persistent in the environment.

^f Asbestos is a naturally occurring fibrous material used as a fireproofing and insulating agent in building construction before these uses were banned by the EPA in the 1970s.

SOURCE: ESA (2004)

State

In January 1996, the California Environmental Protection Agency (Cal EPA) adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste onsite treatment; USTs; ASTs; hazardous materials release response plans and

inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. The Certified Unified Program Agency (CUPA) is the local agency that is responsible for the implementation of the Unified Program (Cal EPA, 2004). In San Francisco, the Department of Public Health (SFDPH) is the designated CUPA for all businesses.

Hazardous Materials Management. The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:⁵

- Details, including floor plans, of the facility and business conducted at the site
- An inventory of hazardous materials that are handled or stored on the site
- An emergency response plan
- A safety and emergency response training program for new employees with annual refresher courses

Hazardous Waste Handling. The Cal EPA Department of Toxic Substances Control (DTSC) regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or mitigate injury to health or the environment. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely.

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA) whose responsibilities are described in Table 4.5-1, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous material waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Hazardous Materials Transportation. The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the California Code of Regulations (CCR). In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California.

⁵ "Hazardous Materials Release Response Plans and Inventory Law," California Health and Safety Code, Chapter 6.95.

The two state agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and Caltrans.

The CHP enforces hazardous material and hazardous waste labeling and packing regulations to prevent leakage and spills of material in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the state that can respond quickly in the event of a spill. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the state.

Common carriers of hazardous waste are licensed by the CHP, pursuant to California Vehicle Code Section 32000. Every hazardous waste package type used by a hazardous materials shipper must undergo tests that imitate some of the possible rigors of travel.

Medical Waste. The Medical Waste Management Act created the Medical Waste Management Program which is managed by the California Department of Health Services (CDHS) and ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste offsite treatment facilities and transfer stations throughout the state. The CDHS also oversees medical waste transporters. The Medical Waste Management Program provides support and oversight to the San Francisco Department of Public Health, which enforces the Medical Waste Management Act locally.

Occupational Safety. In California, Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations (8 CCR) concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that materials safety data sheets be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

State laws, like federal laws, include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. Specific, more detailed

training and monitoring is required for the use of carcinogens, ethylene oxide, lead, asbestos, and certain other chemicals listed in 29 CFR. Emergency equipment and supplies, such as fire extinguishers, safety showers, and eye washes, must also be provided and maintained in accessible places.

Cal/OSHA (8 CCR), like Fed/OSHA (29 CFR), includes extensive, detailed requirements for worker protection applicable to any activity that could disturb asbestos-containing materials, including maintenance, renovation, and demolition. These regulations are also designed to ensure that persons working near the maintenance, renovation, or demolition activity are not exposed to asbestos.

Radioactive Materials. Pursuant to the federal Atomic Energy Act requiring states to assume responsibility for the use, transportation, and disposal of low-level radioactive material and for the protection of the public from radiation hazards, the Radiologic Health Branch (RHB) of the California Department of Health Services administers the state's Radiation Control Law, which governs the storage, use, transportation, and disposal of sources of ionizing radiation (radioactive material and radiation-producing equipment). Radioactive material regulations require registration of sources of ionizing radiation, licensing of radioactive material, and protection against radiation exposure. The RHB also regulates the transportation of radioactive materials and disposal of radioactive waste. Users of radioactive materials must maintain detailed records regarding the receipt, storage, transfer, and disposal of such materials (RHB, 2004). State regulations concerning radioactive substances are included in 17 CCR. The regulations specify appropriate use and disposal methods for radioactive substances, as well as worker safety precautions and worker health monitoring programs. Radioactive materials at UCSF are regulated under its broad scope Radioactive Material License issued by the Radioactive Health Branch of the California Department of Health Services.

Currently, low-level radioactive waste is hauled by licensed vendors out of state for volume reduction or incineration and subsequent disposal.

Biosafety Standards. Similar to federal laws, state laws establish standards for working with biohazardous materials. A hazardous biologic material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biologic material. The National Institutes of Health (NIH), and the Centers for Disease Control and Prevention (CDC) operate under the U.S. Department of Health and Human Services and establish standards for working with biohazardous materials.

Emergency Response. California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies, including the Cal EPA, CHP, the Department of Fish and Game, the San Francisco Bay RWQCB, and the San Francisco Fire Department (SFFD). The SFFD provides first response capabilities, if needed, for hazardous materials emergencies within the project area.

Structural and Building Components.

Asbestos. State laws and regulations prohibit emissions of asbestos from asbestos-related manufacturing, demolition, or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local governmental agencies prior to beginning renovation or demolition that could disturb asbestos. Asbestos represents a risk to human health when asbestos fibers become airborne (“friable”) and are inhaled into the lungs.

The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work. Cal/OSHA regulates asbestos removal to ensure the health and safety of workers removing asbestos containing materials and also must be notified of asbestos abatement activities. The University complies with all applicable Cal/OSHA regulations.

Polychlorinated Biphenyls. As previously discussed, PCBs are organic oils that were formerly placed in many types of electrical equipment and in fluorescent lighting ballasts. PCBs are highly persistent in the environment and are toxic. In 1979, the EPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain PCB-containing equipment. The use and management of PCBs in electrical equipment is regulated pursuant to the Toxic Substances Control Act (40 CFR). Fluorescent light ballasts that contain PCBs, regardless of size or quantity, are regulated as hazardous waste and must be transported and disposed of as hazardous waste. Ballasts manufactured after January 1, 1978 do not contain PCBs and are required to have a label clearly stating that PCBs are not present in the unit.

Lead and Lead-Based Paint. The California Code of Regulations, Title 22, considers waste soil with concentrations of lead to be hazardous if it exceeds a total concentration of 1,000 parts per million (ppm) and a soluble⁶ concentration of 5 ppm. Both the federal and California OSHAs regulate worker exposure during construction activities that involve exposure to lead-based paint. The Interim Final Rule found in 29 CFR 1926.62 covers construction work where employees may be exposed to lead during such activities as demolitions, removal, surface preparation for repainting, renovation, clean up, and routine maintenance. The OSHA-specified method of compliance includes respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance and training.

Underground and Aboveground Storage Tanks. The State Regional Water Control Board (SWRCB) administers the AST program. Facilities that store petroleum in a single tank greater than 1,320 gallons or facilities that store petroleum in aboveground tanks or containers with a cumulative storage capacity of greater than 1,320 gallons are subject to SWRCB regulations. The program requires that the owners or operators file a storage statement, pay a facility fee, and prepare and implement a federal Spill Prevention Control and Countermeasure (SPCC) Plan. The SPCC Plan must discuss the procedures, methods, and equipment in place at the facility to

⁶ Able to be dissolved, especially in water.

prevent discharges of petroleum from reaching navigable waters. As the ASTs at Parnassus Heights are located in the basement of Long Hospital, these tanks are regulated as USTs. The ASTs at Mount Zion have less than a 1,320-gallon capacity and are therefore not subject to regulation under the SRWCB AST Program. AST oversight is provided by the SFDPH and SFFD, in accordance with the Unified Program.

State laws governing USTs specify requirements for permitting, construction, installation, leak detection monitoring, repairs, release reporting, corrective actions, cleanup, and closure. The SFDPH and the SFFD are the local agencies designated to permit and inspect USTs and to implement applicable regulations.

Helipads. Caltrans' DOA issues permits for all helipads in the state of California. Helipads must meet the FAA's FATO standards in order to obtain a Caltrans operating permit, in addition to complying with Title 21 CCR, Airports and Heliports, which is based upon the FAA's Advisory Circular on Heliport Design.

Hospitals. The Office of Statewide Health Planning and Development (OSHPD) is a department of the California Health and Human Services Agency. The OSHPD serves as the building agency for hospitals and nursing homes in California. The OSHPD monitors the design and construction of inpatient facilities and assures code compliance in facility maintenance. OSHPD's primary goal in this regard is to ensure that patients in these facilities are safe in the event of an earthquake or other disaster, and that the facilities remain functional after such an event in order to meet the needs of the community affected by the disaster. Refer to Section 4.4, Geology and Soils, for more information regarding the OSHPD.

Local

UC is constitutionally exempt from local regulation whenever using its property in furtherance of its educational purposes. As noted in the LRDP FEIR, the SFDPH is the local delegated agency for the State hazardous materials business plan and inventory law requirements, UST and AST permits and closures, hazardous waste generator permits, and medical waste permits and inspections.

Soil and Groundwater Contamination. In San Francisco, remediation of contaminated sites is performed under the oversight of the SFDPH and the San Francisco Bay RWQCB. The SFDPH implements a local oversight program under contract with the SWRCB to provide regulatory oversight of the investigation and cleanup of soil and groundwater contamination from leaking petroleum USTs and ASTs. At sites where contamination is suspected or known to occur, the project sponsor is required to perform a site investigation and prepare a remediation plan, if necessary. For typical development projects, actual site remediation is completed either before or during the construction phase of the project. Site remediation or development may be subject to regulation by other agencies. For example, oversight of contamination at Mission Bay is provided by the San Francisco Bay RWQCB.

Additionally, groundwater from construction- or demolition-related dewatering activities must meet specific treatment standards before being discharged to the city's combined sewage/storage system under permits issued by the San Francisco Department of Public Works.

Maher Ordinance (Mission Bay RMP Appendix A)

San Francisco's Public Works Code, Article 20, Section 1000 et seq. (the "Maher Ordinance") encompasses the area of the city bayward of a historic, pre-1906 earthquake high-tide line. This area is the part of San Francisco largely created by landfill and where past industrial land uses and debris fill associated with the 1906 earthquake and Bay reclamation often left hazardous residue in local soils and groundwater. The Maher Ordinance requires that, if more than 50 cubic yards of soil are to be disturbed at certain construction sites and the project is on fill, or is at a location designated for investigation by the director of the SFDPH, project sponsors must, among other things, prepare a site history and analyze the site's soil for hazardous materials. The UCSF Mission Bay site is within the boundaries of the *Mission Bay South Plan* and RMP. Although as a state entity, UC is not subject to the Maher Ordinance, Appendix A of the RMP specifically references and incorporates the Maher Ordinance in measures that address potential hazards associated with excavation and removal of subsurface soil. Therefore, soil investigation reports are provided to the SFDPH and San Francisco Bay RWQCB prior to construction on each new UCSF building site.

UCSF Hazardous Materials Plans and Policies

As described in the LRDP FEIR, the UCSF Office of Environmental Health and Safety (EH&S) has primary responsibility for developing compliance strategies for applicable federal, state, and local environmental laws and regulations. In conformance with applicable laws and regulations, the EH&S establishes comprehensive programs and procedures for the handling and disposal of chemical wastes, issues authorizations to work with radioisotopes, and collects radioactive materials ready for discard from laboratories. EH&S minimizes waste volumes through a variety of systems, practices, and technologies for recycling, processing and decaying waste and implements feasible measures in its *Hazardous Waste Source Reduction and Management Plan*. In addition, EH&S oversees short-term storage of radioactive materials containing isotopes with half-lives less than or equal to 90 days.⁷

The EH&S assists the campus community with the evaluation, planning, development, and execution of health and safety programs. UCSF has established several safety committees, including the Chemical Safety Committee, the Radiation Safety Committee, the Biosafety Committee, and the Committee on Animal Research. Each committee is responsible for ensuring that appropriate procedures are followed for a particular area of concern.

The EH&S also is responsible for inspecting laboratories using hazardous, radioactive, or biohazardous materials and other campus facilities for conformance with applicable standards.

⁷ The interval of time during which the quantity of radioactivity decreases by one-half is called a half-life. Decay over the interval of 10 half-lives reduces the radioactivity to less than 1/1,000 of the original amount.

4.5.3 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGY

4.5.3.1 SIGNIFICANCE CRITERIA

This EIR assesses environmental impacts based on significance criteria contained in Appendix G of the CEQA Guidelines as well as from the criteria in the University of California CEQA Handbook, including LRDP or Program EIR criteria to incorporate local and regional standards. For purposes of the EIR, a project would have a significant effect on the environment if it would exceed the criteria listed below:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (“Cortese List”) and, as a result, would create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

The impact questions above constitute the significance standards for this environmental topic. Significance criteria for potential effects found to be less than significant in the Initial Study are not repeated here. A complete list of the standards of significance is included in the Initial Study, Appendix A of the EIR.

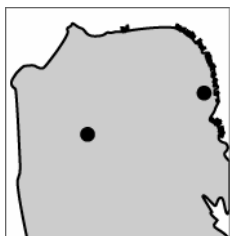
4.5.3.2 IMPACT METHODOLOGY

This section deals with the direct effects related to the transportation, use, and disposal of hazardous materials and with the physical hazards described above. Impacts associated with hazardous emissions and air quality are discussed and analyzed in Section 4.2, Air Quality.

4.5.4 IMPACTS AND MITIGATION MEASURES

Mount Zion. The LRDP Amendment proposes to expand the Mount Zion campus site boundary to include the building at 1545 Divisadero Street. This boundary expansion would not result in impacts to hazards and hazardous materials at Mount Zion or in the vicinity. Thus, the Mount Zion campus site is not discussed further in this section.

4.5.4.1 IMPACTS COMMON TO ALL SCENARIOS AND SITES



Impact 4.5-1: Demolition or renovation of existing structures that contain hazardous building materials, such as lead-based paint, asbestos, and PCBs could expose workers to those hazardous materials and would generate hazardous waste. (Less than Significant)

During the LRDP Phase, new construction on the Mission Bay south blocks would require demolition of existing industrial buildings. Future Phase actions could include the demolition of the Langley Porter Psychiatric Institute and Moffitt Hospital and substantial renovation of Long Hospital at Parnassus Heights and industrial buildings at Mission Bay.

These demolitions and renovations would be separate and distinct from the uncompleted projects in the 1996 LRDP that would demolish UC Hall, the Laboratory of Radiobiology and other buildings at Parnassus Heights, and commercial and industrial buildings at Mission Bay. Structures slated for demolition and renovation at Parnassus Heights have been identified as likely to contain lead-based paint, asbestos, and PCBs.

Demolition or renovation of any of these structures could expose construction workers, the public, and the environment to hazardous materials such as lead-based paint, asbestos, or PCBs.

Asbestos

Potential exposure to asbestos, and the potential for adverse health effects, is possible throughout the building demolitions and renovations if materials that contain this hazardous substance are present. Asbestos is likely to be present in some or all of the buildings that could be demolished, due to the ages of these structures. Asbestos-containing materials would be abated in accordance with applicable law prior to demolition. EH&S would prepare and implement asbestos abatement plans at Parnassus Heights. Catellus or UCSF would be responsible for implementation of EH&S asbestos abatement plans at Mission Bay. Compliance with these regulations and procedures during demolition or renovation would ensure that potential health impacts from asbestos exposure would be less than significant.

Lead-Based Paint

Given the ages of the structures that could be removed or renovated to facilitate construction of one or more hospitals, the demolition or renovation work could involve exposure to lead-based paints present in these structures. Dust-generating activities, such as demolition, cutting, sanding, welding, and material disposal, could produce airborne quantities of lead-containing dust. These materials could expose workers and persons in close proximity, and also contaminate offsite locations.

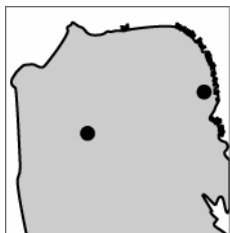
Both the Fed/OSHA and Cal/OSHA regulate worker exposure to lead-based paint during construction activities. Interim Final Rule, 29 CFR 1926.62, covers construction work in which employees may be exposed to lead during such activities as demolition, removal, surface

preparation for repainting, renovation, cleanup, and routine maintenance. The OSHA-specified method of compliance includes respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance, and training. All lead-based paint would be abated prior to demolition in accordance with applicable laws and abatement plans developed by EH&S. Lead-based abatement activities at Mission Bay would be implemented by UCSF or the previous landowner, Catellus Development Corporation. Disposal of any lead piping in an appropriate landfill facility would also ensure that environmental impacts are less than significant.

Polychlorinated Biphenyls

Fluorescent lighting ballasts made before 1978, and electrical transformers, capacitors, and generators made before 1977 may contain PCBs as a fluid. In accordance with the Toxics Substances Act and other federal and state regulations, EH&S would properly handle and dispose of electrical equipment and lighting ballasts that contain PCBs, thus keeping potential impacts less than significant.

Mitigation: None required.

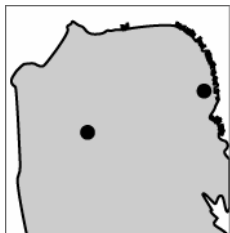


Impact 4.5-2: Construction of the new hospital facilities would include the use of hazardous materials which could pose health or safety risks for workers and the surrounding community. (Less than Significant)

Construction activities would involve the use of petroleum products, solvents, paints, and other hazardous materials. The storage, handling, and use of these materials would be subject to regulation by the San Francisco

Bay RWQCB in accordance with a Stormwater Pollution Prevention Plan, as described in Section 4.06, Hydrology and Water Quality.

Mitigation: None required.



Impact 4.5-3: Operation of the new hospital facilities would result in the transportation, use, and storage of hazardous chemicals, radioactive materials, biohazardous materials, and wastes which could present health or safety risks for patients, proposed project occupants and the community. (Less than Significant)

Hazardous Materials Use, Storage, and Disposal

Activities at new UCSF hospital facilities would be expected to continue to use a wide range of chemical compounds and products. Handling and use of these hazardous materials and the disposal of the resulting hazardous wastes would be required to follow the applicable laws and regulations, as described in the Regulatory Setting, above. UCSF would continue to implement its long established, comprehensive EH&S program to reduce the risks and hazards to workers,

public, and the environment to levels that are acceptable. EH&S compliance programs would be extended to all new facilities developed pursuant to the Hospital Replacement Program.

Hazardous Waste

Hazardous materials are used during hospital operations and materials that are not consumed or can no longer be used generate hazardous waste. EH&S has established programs to manage hazardous materials and wastes. Hospital operations at Parnassus Heights in 2003 produced 64 tons of hazardous waste. While actual generation would be dependent upon operations and could be less or more than estimated, the quantity of hazardous wastes generated during operation of a new hospital facility is estimated to be similar to the volumes currently produced, as the new hospital facility would be similar in size to existing UCSF facilities.

Biohazardous Waste

Biohazardous materials may contain infectious or bacterial agents or certain recombinant DNA molecules that contribute to human disease or mortality. A biohazardous material is one that would generally require Biosafety Level 2 or greater precautions (i.e., appropriate for agents that can cause human disease through cuts, ingestion, or mucous membrane exposure, but not serious or lethal diseases through aerosol transmission.)

Different types of biohazardous materials would be used at the project sites. EH&S has a well-established program to manage biohazardous waste. The employees that would occupy the proposed hospitals would be trained to work with these materials. Hospital operations at Parnassus Heights generated approximately 327 tons of biohazardous waste in 2003 (Belk, 2004b). While actual generation would be dependent upon operations and could be less or more than estimated, the quantity of biohazardous waste generated during operation of a new hospital facility is estimated to be similar to the volumes currently produced, as the new hospital facility would be similar in size to existing UCSF facilities.

Liquid biohazardous waste would be disinfected on the benchtop and disposed of in the sewer in accordance with local wastewater discharge regulations. This waste could vary, but would typically consist of absorbents, tissue cultures, and cell plates potentially contaminated with infectious agents. This waste would typically be collected in plastic biohazard waste bags and pails and then autoclaved onsite. When sterilized, the autoclaved waste would then be discarded into the regular facility trash as nonhazardous waste.

Potentially infectious sharps, including razor blades, syringes, and needles, would also be collected in plastic biohazard containers. These materials would be collected and autoclaved daily. Noninfectious sharps would also be collected from chemistry laboratories. Noninfectious sharps would then be shredded onsite to render the material unrecognizable, and the resulting material would then be consolidated into the general trash waste stream.

Radioactive Waste

Some project operations would require the use of radioactive materials, as permitted through a radioactive materials license issued by the RHB. Most radioactive materials are used in patient care. Since current UCSF hospital operations and laboratory work with radioactive materials involves handling relatively small quantities of relatively low levels it is expected that new hospital facilities would be similar. Liquid waste with sufficiently low levels of radioactivity could be disposed down identified disposal sinks in accordance with radioactivity limits and permit approvals from the local wastewater treatment authority. Based upon current hospital waste generation volumes, operation of a new hospital facility is anticipated to generate radioactive waste containing approximately 2 curies⁸ per year (Belk, 2004b).

Solid radioactive waste (plastic lab ware, gloves, etc.) constitutes less than one percent of all biohazardous waste generated at Parnassus Heights. It would be segregated by isotope and placed into radioactive solid drums. Waste containing isotopes with half-lives of less than or equal to 90 days would be stored onsite for decay. After ten half-lives, this waste would be unpacked, surveyed, and (if standards are met), disposed of offsite as biohazardous waste. Waste containing radioactive isotopes with half-lives greater than 90 days would be sent offsite to licensed out-of-state vendors for proper long-term disposal and/or processing.

Hazardous Materials and Hazardous Waste Transport

As currently occurs, all hazardous materials would be transported to the site in accordance with applicable hazardous materials shipping regulations. Chemicals, biohazardous materials, and other packages for laboratories would be delivered directly to users. Radioactive material shipments would be shipped to EH&S central receiving radiation laboratory to check for damage, external and internal contamination, and purchaser authorization for the type and amount of material in the package. Chemical, radioactive, and biohazardous waste would be picked up by EH&S on a regular basis (typically at least every six weeks) and transported by a properly licensed commercial waste transporter and disposed of or recycled at a properly licensed and permitted off-site disposal and/or recycling facility.

Compliance with applicable regulatory requirements would minimize hazards to workers, visitors, the public, and the environment. Conformance with applicable laws and regulations would be part of the proposed project. As noted in the LRDP FEIR, UCSF policies and procedures intended to protect the health and safety of UCSF employees would be followed for proposed improvements at the Parnassus Heights, Mount Zion, or Mission Bay sites. EH&S would perform responsibilities it currently performs at UCSF's existing sites where hazardous materials are used. Proposed buildings would also be equipped with state-of-the-art laboratory safety features for managing potentially hazardous materials to protect both hospital staff and the surrounding community. As noted in the LRDP FEIR, implementation of these health and safety procedures would protect UCSF staff, patient populations, visitors, and the surrounding community. There would be no significant increase in the hazardous material or waste volumes

⁸ A curie measures the rate of radioactive decay. A radioactive sample that has an activity of 74 billion disintegrations per second has an activity of 2 curies.

generated under the UCSF LRDP, and hazardous materials and waste would continue to be closely regulated.

With these controls in place, the project would not involve the use, production, or disposal of materials in a manner that poses a hazard to human health or the environment; create an undue risk of upset related to human or environmental health or safety; expose employees to working situations that exceed acceptable worker health standards; or violate applicable health and safety laws, resulting in a less than significant impact.

Mitigation: None required.



Impact 4.5-4: Operation of the new hospital facilities would generate hazardous waste that could place an additional load on hazardous waste management facilities. (Significant)

As noted in the LRDP FEIR, hazardous waste generators in California rely on out-of-state treatment and disposal facilities to meet waste disposal needs. Additionally, generators of long-lived radioactive waste cannot dispose of it in California until a disposal facility is approved and constructed in California. The volume of wastes generated at a new UCSF hospital is expected to be similar to existing volumes generated at UCSF hospital facilities slated for replacement, as discussed in Impact 4.5-2. UCSF would continue to implement hazardous waste handling, minimization, and disposal measures identified in Mitigation Measure 12F1-3 in the LRDP FEIR, as modified below.

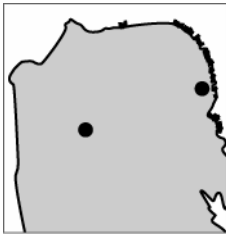
Mitigation Measure 4.5-4: UCSF shall implement hazardous waste handling, minimization, and disposal procedures at any chosen site for hospital replacement consistent with safety requirements and applicable laws and regulations.

- **UCSF shall extend its existing hazardous waste minimization plan to include any chosen site for hospital replacement.**
- **UCSF shall implement the operational controls required to comply with laws and regulations, including, but not limited to, monthly safety and compliance audits and training of staff at any chosen site for hospital replacement. This would 1) allow efficient processing of wastes for shipment to treatment facilities or disposal, reducing the time that hazardous wastes are at a chosen hospital replacement site, and 2) ensure that safety controls such as OSHA training, correct practices and safety equipment are in place.**
- **UCSF shall implement procedures to minimize increases in the long-lived radioactive waste generation. According to the California Department of Health Services Radiologic Health Branch, California, radiologic licenses should:**
 - 1) **minimize the amount of low-level radioactive waste in possession and avoid accumulating waste that cannot be disposed promptly;**
 - 2) **segregate for disposing radioactive wastes that are not subject to Southwestern Low-Level Radioactive Waste Disposal Compact regulations;**

- 3) segregate waste that can be disposed of or reduced in volume by approved treatment methods;
- 4) segregate short-lived radioactive waste for decay;
- 5) consider recycling radioactive materials;
- 6) consider extended on-site storage of any remaining low-level radioactive waste; and
- 7) consider non-radioactive substitutes.

(Modified Measure from LRDP FEIR Mitigation Measure 12F1-3)

Significance after Mitigation: Less than Significant.



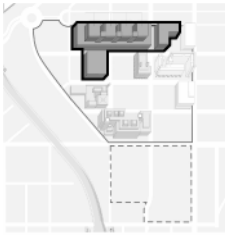
Impact 4.5-5: Demolition and construction activities could expose construction workers, the public, the environment, and future employees and patients to hazards associated with soil and groundwater contamination. (Less than Significant)

Several of the existing ASTs and USTs at the Parnassus Heights site are located in areas that could be disturbed by demolition and construction activities under any of the proposed project scenarios. For example, two 3,000-gallon ASTs are located in the basement of Long Hospital, which could be significantly reconfigured. As noted in the Environmental Setting section, there are no known areas of soil and groundwater contamination at Parnassus Heights. Therefore, potential hazardous materials issues associated with contaminated soil and/or groundwater are considered less than significant.

USTs also exist at Mission Bay and could be discovered during demolition or construction activities. Removal of ASTs and USTs in association with demolition and construction activities would occur in accordance with SFDPH and SFFD oversight and regulation. Any petroleum hydrocarbon contamination to soil or groundwater potentially identified during tank and associated product line removal would be investigated and remediated by EH&S in accordance with SFDPH requirements. Tank transport and disposal activities, and the handling, transport, and disposal of petroleum-hydrocarbon-contaminated soil or groundwater, if discovered at the site, would comply with state and federal regulations.

Mitigation: None required.

4.5.4.3 IMPACTS SPECIFIC TO MISSION BAY



Impact 4.5-6: Soil and groundwater contamination at the Mission Bay North and South sites could expose construction workers, the public, and the environment to hazards associated with soil and groundwater contamination. (Less than Significant)



Development at the Mission Bay North and South site during the LRDP Phase and Future Phase would comply with the RMP parameters described in the Mission Bay Subsequent EIR (City and County of San Francisco, 1998) and the 1999 RMP.

The 1999 RMP encompasses the entirety of the Mission Bay South Plan area (and therefore the Mission Bay North and South sites), with the exception of Parcel X-3. The 1999 RMP, which was approved by the San Francisco Bay RWQCB, is being implemented during development within the UCSF Mission Bay site. All future demolition and construction activities at the Mission Bay North and South sites, except at Parcel X-3, would be required to comply with measures identified in the 1999 RMP. The 1999 RMP was developed in accordance with the parameters identified in the Mission Bay Subsequent EIR and includes risk management measures that incorporate dust control measures, soil management protocols, stormwater pollution prevention plans, worker health and safety planning requirements, and a framework for complying with the Maher Ordinance.

Development under all scenarios at Mission Bay, including Parcel X-3, for which a RMP has not yet been completed, would be required to comply with the Mission Bay Subsequent EIR and the Risk Management parameters identified therein.

As previously discussed, groundwater from construction- or demolition-related dewatering activities at Mission Bay must meet specific treatment standards before being discharged to the city's combined sewage/storage system under permits issued by the San Francisco Department of Public Works.

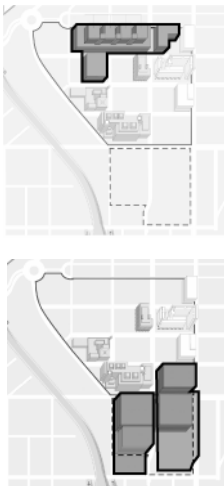
As discussed above, extensive subsurface testing has been conducted throughout the Mission Bay site, and the 1999 RMP approved by the San Francisco Bay RWQCB includes measures specifying compliance with the Maher Ordinance, with the exception of Parcel X-3. Compliance with the Maher Ordinance requires testing of subsurface soil to determine the magnitude and extent of soil contamination for any excavation disturbing more than 50 cubic yards of soil. The SFDPH or San Francisco Bay RWQCB would have to determine if additional testing at Parcel X-3 is needed.

The SFDPH implements the Maher Ordinance and would require full compliance with the ordinance prior to construction of the proposed project. UCSF would be required to comply with the 1999 RMP and an RMP would be required to be developed for Parcel X-3, as part of the project. Throughout Mission Bay, the construction contractor would handle and dispose of excavated soils properly, employ worker health and safety and dust control procedures, and have

a state registered professional geologist or engineer certify, at the completion of foundation activities, that all elements of the RMP have been performed in compliance with Article 20 requirements.

Mitigation Measure 4.5-6: UCSF shall develop a RMP for Parcel X-3 if it is acquired or extend the 1999 RMP to Parcel X-3, if feasible.

Compliance with the 1999 RMP and the required preparation of a Parcel X-3 RMP would reduce any potential impacts related to soil or groundwater at Mission Bay South or North sites to less than significant.

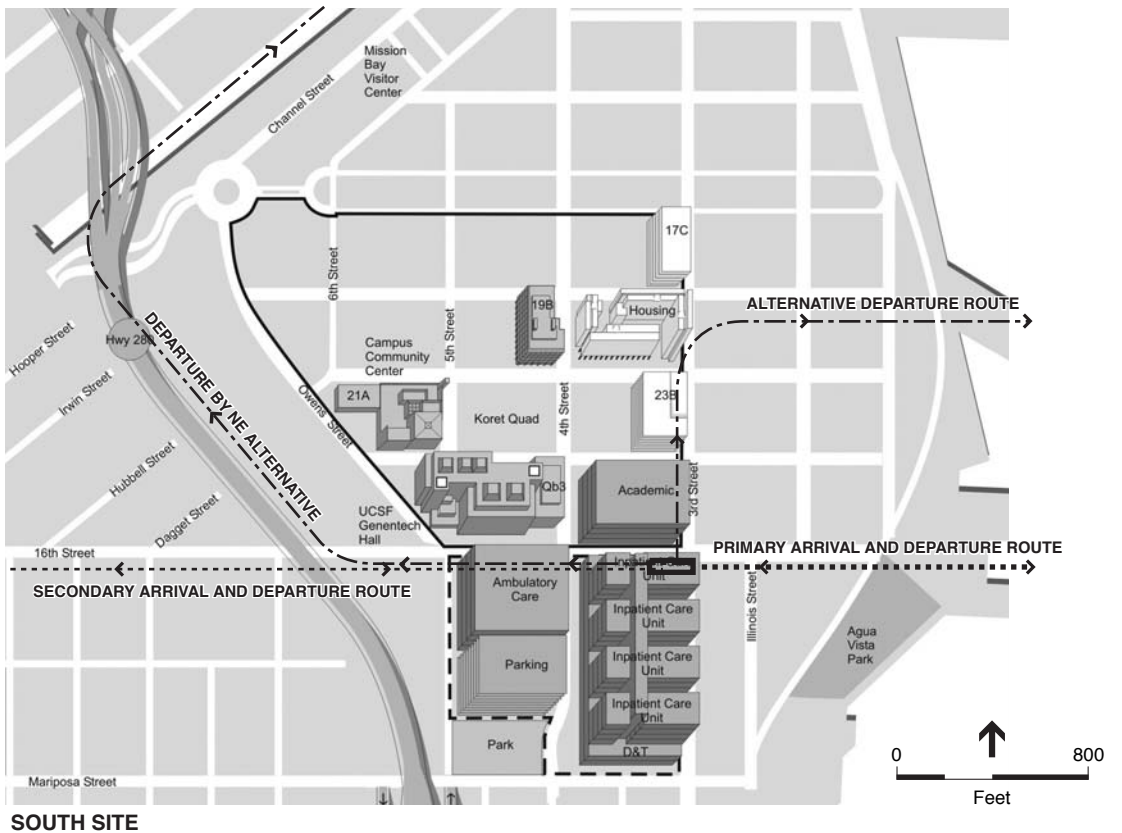
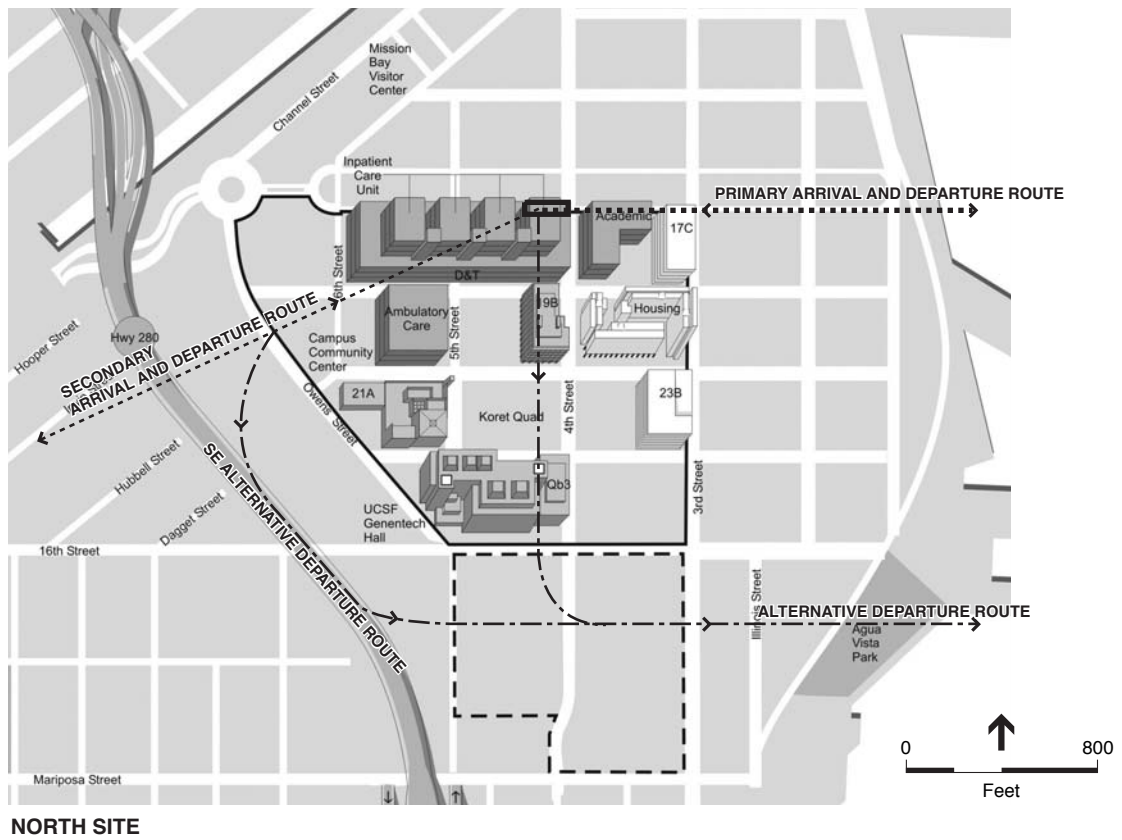


Impact 4.5-7: The operation of a 250-, 400-, or 650-bed hospital at Mission Bay could include the construction and operation of a helipad. Helicopter flight traffic could present physical safety risks for hospital employees, patients, visitors, and the surrounding community. (Less than Significant)

The proposed helipad could be built on the northeast corner of the hospital at the Mission Bay North or South sites, as depicted on Figure 4.5-1. The location and design of the proposed helipad would be required to comply with the FAA's Advisory Circular on Heliport Design and FAR Part 77 in order to meet FATO standards. The proposed helipad would also be required to comply with 21 CCR, Airports and Helipads, which is largely based on the FAA's Heliport Advisory Circular and is enforced by DOA.

A preliminary helipad feasibility study noted that height zoning limitations vary within Mission Bay; height limitations for the region north of the UCSF campus are generally 65 feet, although some buildings and towers would be allowed to extend 90, 110, or 160 feet in height to the parapet. Areas to the south, east, and west of the campus are limited to 90 feet in height, with some towers allowed to reach 110 or 160 feet in height. Rooftop features such as exhaust stacks are expected to extend above the height of these structures up to an additional 24 feet (Aviation Planning Consultants, 2004). Based upon zoning regulations, portions of future structures in the immediate vicinity of the proposed helipad could therefore reach 184 feet in height. The Mission Bay North hospital building upon which the helipad could be 110 feet in height at the parapet, while the proposed Mission Bay South hospital building could be 99 feet in height plus mechanical features.

The helipad feasibility study did not analyze in detail the relationship of building height limits in the Mission Bay area to possible FATO zones associated with the proposed helipad at Mission Bay North or South sites. Development in the Mission Bay South Redevelopment Area is incomplete, and there are no existing structures that would constitute an obstruction based upon FAA or DOA FATO standards for a helipad at the Mission Bay North or South hospital sites.



SOURCES: Heliplanners and ESA (2004)

UCSF LRDP Amendment #2 / 202590 ■

Figures 4.5-1
UCSF Mission Bay Helipad
North and South Sites

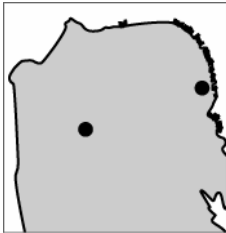
However, the maximum building height under existing development guidelines would be sufficient to be an obstruction for some of the possible FATO flight paths, so future development within the Mission Bay South Redevelopment Area has the potential to create a flight path obstruction.

Whether or not an obstruction would be created depends upon the hospital (and helipad) location at the Mission Bay North or South sites, hospital and helipad placement and design, identification of flight path corridors, and the precise relationship between the helipad location and the other structures proposed in the Mission Bay South Redevelopment Area. Planning for the project would consider these factors in the location and design of the hospital. Future design of a hospital building will be subject to compliance with CEQA, and the environmental analysis would assess potential safety conflicts associated with the Mission Bay hospital helipad and other existing and proposed building heights in the Mission Bay South Redevelopment Area.

Compliance with CEQA requirements for individual UCSF projects at Mission Bay, together with FAA and DOA review and approval for any subsequent Mission Bay South Redevelopment Area projects that could create an obstruction based upon FATO standards, would reduce this potential impact to a less-than-significant level.

Mitigation: None required.

4.5.5 CUMULATIVE IMPACTS



Impact 4.5-8: The cumulative hazards and hazardous materials impacts from project construction and operation at one or more campus sites as part of the project, when combined with other foreseeable development in the vicinity of the campus sites by the end of the LRDP Phase or the Future Phase, could be cumulatively considerable. (Less than Significant)

As the proposed project and other redevelopment projects at the UCSF sites near completion, handling, storage, use, and transport of hazardous materials and hazardous waste would continue within San Francisco. These substances would continue to be subject to oversight and regulation by federal, state, and local agency rules, regulations, and policies. Under the redevelopment plan for Mission Bay, excavation and disposal of contaminated soil and groundwater would continue to be performed in accordance with mitigation measures identified in the Mission Bay Subsequent EIR. These cumulative projects would not result in significant hazards or hazardous materials impacts. The project's contribution to hazards or hazardous materials impacts would not be cumulatively considerable due to similar oversight and regulation, and continued implementation of existing, comprehensive EH&S compliance programs.

Mitigation: None required.

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