CHAPTER 9
Mitigation Monitoring and Reporting Program

As a result of the analysis presented in this EIR, four project-specific mitigation measures were identified under the topics of Air Quality, Noise, and Transportation to address impacts resulting from construction and operation of the project. Also, two additional mitigation measures were identified under the topics of Aesthetics (including Visual Quality, Wind, Light and Glare) and Noise to address impacts resulting from helicopter operations, if and when approval of helicopter operations is sought. The "Monitor" referenced in this Mitigation Monitoring Program is the Senior Vice Chancellor, University Advancement and Planning, at UCSF.

In addition, for the convenience of the decision makers and individuals responsible for implementing all mitigation measures that apply to the proposed project, the previously adopted LRDP EIR mitigation measures relevant to the proposed project are reprinted here.

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MITIGATION MEASURES NEWLY IDENTIFIED IN THE UCSF MEDICAL CENTER AT MISSION BAY EIR				
4.1 AESTHETICS, VISUAL QUALITY, WIND AND LIGHT AND GLARE				
MCMB.1-5: Operation of the Medical Center at Mission Bay project would include a helicopter landing site ("helipad"), which would introduce lighting that would be noticeable after dark.	[Note: This mitigation will be triggered if the helicopter operations are approved.] UCSF shall develop a helipad design plan to minimize light and glare, including: • Lighting: – Perimeter Lights: Perimeter lights shall be flush mounted along the edge of the landing pad and shall have green lenses. A minimum of eight lights shall be spaced evenly around a square pad, or around the perimeter of a circular pad. Care shall be exercised in the design to ensure that perimeter lights do not impede movement of gurneys to and from the access ramp. The lighting layout shall be planned so that lights are to the sides of, rather than at the entrance to, the ramp. – Windcone: A windcone (windsock) shall be installed and lighted for nighttime operations. The windcone can also be located atop an elevator penthouse. Lighted windcones are normally equipped with four 150-watt flood lights mounted at the ends of crossbars, and are usually equipped with red obstruction lights at the top of their masts. The floods shine down on the orange cone so that it remains illuminated in all quadrants. The downward-directed	Issue instructions to the architect and helipad consultant to incorporate the mitigation as design criteria. Working with the project manager, require architects and design professionals to document how siting and design measures are addressed and incorporated. Review design plans for the proposed helipad to ensure that such features have been incorporated in the design to address the impacts.	UCSF Campus Planning, Medical Center Design and Construction Team	Provide written verification in report form to Monitor during design phase regarding helipad design plan and compliance with this mitigation measure. After construction, the Project Manager shall provide written verification to the Monitor that lights/equipment were installed according to the design.

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	lights do not normally cause glare to nearby land uses. As an alternate, an internally lighted windcone shall be used. This system employs two floodlights inside the windcone that rotate with it rather than the four external lights. • Lighting Activation: Activation of perimeter lights would occur only when a helicopter is on approach. Two remote activations are feasible: – Manually switched from inside the hospital: This would minimize energy usage and lamp replacement costs but would require that staff be available to activate lighting when an aircraft is inbound. – Pilot-controlled lighting: This system requires a radio receiver/lighting controller at the hospital. Pilots would tune the helicopter's communications radio to the receiver's frequency and key the microphone to activate the lighting. This would allow the pilot to activate the lighting when inbound, eliminating reliance on hospital staff. The weatherproof receiver/controller enclosure has a short whip antenna and can be located outside of the hospital in a secure location. Lighting deactivation can be set to a timer so that perimeter lighting would not remain on for a significant period following departure of the helicopter.			

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4.2 AIR QUALITY				
MCMB.2-1: Demolition and construction activities associated with the Medical Center at Mission Bay project would generate fugitive dust and criteria pollutant emissions that could adversely affect local air quality.	To further mitigate less-than-significant project-level impacts, additional measures related to the 2007 CARB off-road diesel rule on equipment exhaust emissions from construction equipment shall be required in UCSF construction contracts to comply with the following measures: • Prohibit the use of conventional cutback asphalt for paving to restrict the maximum VOC content of asphalt emulsion. Diesel portable generators less than 50 horsepower shall not be allowed at the construction site, except for those used by welders. • All diesel-fueled engines used for on- and offsite construction activities shall be fueled only with ultralow sulfur diesel, which contains no more than 15 ppm sulfur. • All construction diesel engines used for on- and offsite activities that have a rating of 100 hp or more shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless it is certified by the construction contractor that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be a Tier 1 engine. In the event a Tier 1 or Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a CARB Level 3-	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction air pollution control strategy to report on the implementation of the mitigation measure.	Project Manager, Medical Center Design and Construction Team, or Capital Programs Facilities Management, as appropriate.	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provision for construction air pollution control. Provide a report on construction air pollution control strategies and report to Monitor upon request; but no less than quarterly after beginning each construction phase.

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	verified diesel emission control device (e.g., catalyzed diesel particulate filter), unless the engine manufacturer or the construction contractor certifies that the use of such devices is not practical for specific engine types. In the event that a CARB Level 3 verified diesel emission control device is not practical for the specific engine type, then the engine shall be equipped with a CARB Level 1- or 2-verified control device (e.g., diesel oxidation catalyst), unless the engine manufacturer or the construction contractor certifies that such devices are not available for the engine in question. For purposes of this condition, the use of such devices is "not practical" if, among other reasons: 1. The construction equipment is intended to be onsite for ten (10) days or less. 2. The use of the diesel emission control device is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure. 3. The diesel emission control device is causing or is reasonably expected to cause significant engine damage. In the event that the use of a diesel emission control device is to be terminated, the construction contractor shall be required to inform the UCSF project manager within 10 days prior			

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	to such termination. • Construction equipment shall be properly tuned and maintained in accordance with manufacturers' specifications. • Best management construction practices shall be used to avoid (or limit) unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use, and to the extent practical, all diesel heavy construction equipment shall not remain running at idle for more than five minutes) • Use alternative fueled equipment when feasible (such as ULSD, CNG, biodiesel, water emulsion fuel, and electric). The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program. • Use on-site power when feasible to reduce reliance on portable generators. The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can			

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	provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.			
MCMB.2-3b: Operation of the Medical Center facilities in the Future Phase would generate vehicular, stationary source, and helicopter-related criteria pollutant emissions that would contribute to regional air pollution.	[Note: Regarding helicopter emissions, impacts would not occur until helicopter operations are approved.] UCSF would implement previously adopted measures and new measures identified in this EIR. In addition, prior to approval of the Future Phase project, UCSF would conduct additional CEQA review and would consider any new recommendations and methodologies for mitigating criteria pollutants available at the time of Future Phase project approvals.	Implement previously adopted measures, consisting of extending existing UCSF Transportation Demand Management programs to the project site to promote shuttle services, ride-sharing and bicycle programs to reduce the number of trips at the project site.	UCSF Campus Planning, Parking and Transportation Services	Prepare memo to Monitor within 30 days of the start of project operations confirming that Transportation Demand Management programs have been extended to the project site.
		Conduct additional CEQA review for Future Phase development and consider any new recommendations and methodologies for mitigating criteria pollutants available at the time of the Future Phase project approvals.	UCSF Campus Planning	Prepare memo to Monitor within 10 days of preparation of Project Planning Guide (PPG) for Future Phase development that additional CEQA review for Future Phase development will be prepared and will consider any new recommendations and methodologies for mitigating criteria pollutants available at that time.
4.5 NOISE				
MCMB.5-1: Demolition and construction activities associated with the proposed project would elevate noise levels in and around the project site, and particularly at nearby sensitive receptors.	UCSF shall require construction contractors to minimize unavoidable construction noise impacts by use of proper equipment and work scheduling: • Limit construction hours to the following schedule. [Monday through Friday, 7 a.m. to 5 p.m. for "Not Noisy" work; and Monday through Friday 8 a.m. to 5 p.m. for Noisy work] Approve extended hours [Monday through Friday, 5 p.m. to 8 p.m.; Saturday 7 a.m. to 8 p.m.; and Sunday 8 a.m. to 4:30 p.m.] only with advanced notice from the UCSF project manager. Prohibit high impact noise on Saturdays and Sundays.	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction noise impact abatement plan to report on the implementation of the mitigation measure.	Project Manager, Medical Center Design and Construction Team, or Capital Programs Facilities Management, as appropriate	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for construction noise abatement (including limitations on construction hours). Provide a report on construction noise abatement to Monitor upon request; but no less than quarterly after beginning each construction activity.

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	• Designate a UCSF Community Contact to receive and resolve construction complaints.	Designate a UCSF Community Contact to receive and resolve construction noise complaints.	UCSF Community Relations	Provide written verification to the Monitor within 10 working days of the first contract bid identifying the UCSF Community Contact and contact information.
MCMB.5-4: Operation of the helicopter landing site ("helipad") proposed as part of the project would lead to increased noise levels at nearby sensitive receptors. Operations at any time of day could cause speech interference. Nighttime helicopter operations could cause increased awakening of residents in the immediate vicinity of the helipad at the site.	[Note: This mitigation will be triggered if the helicopter operations are approved.] Prior to helicopter operations, UCSF shall implement the following: • The University shall continue to work with the community to develop a residential sound reduction program and to evaluate feasible noise mitigation measures related to UCSF helicopter operations. Once developed, this program shall undergo additional project-level environmental review prior to the start of helicopter operations at the site. Specific sound reduction measures identified in the program would be implemented after UCSF helicopter operations begin and the actual sound environment at that time is known.	Develop a residential sound reduction program as described in this mitigation measure. Conduct additional project-level environmental review, if required.	UCSF Medical Center, Campus Planning and Community and Governmental Relations	Provide report to Monitor describing the residential sound reduction program.
	The residential sound reduction program shall be implemented to the extent feasible to minimize significant disruption to receptors, and shall include the following elements: • Limit types of landings at the site to the most critically ill patients when time is of the essence, when helicopter transport is approved by a physician. • Limit activity to incoming interfacility transfers.	Issue instructions to UCSF Medical Center transport coordinator and transport team regarding limits on types of landings and limits to interfacility transfers only.	UCSF Medical Center	Provide copy of instructions to Monitor prior to start of helicopter operations. Confirm to Monitor in writing that instructions were sent to UCSF Medical Center transport coordinator, transport team, and any other relevant staff.

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	• Prepare a Helicopter Operations Plan that shall specify the following: 1. All helicopter operations shall use the flight paths described in the EIR, unless safety precautions require a diversion from any of the flight paths. 2. The primary approach and departure path is the least disruptive flight path (arrive from east and depart to east) and should be utilized as much as feasible. The alternate and secondary flight paths should be utilized only if the primary approach and departure path is not desirable due to safety considerations. 3. UCSF service contracts with air medical companies shall require that all pilots be routinely trained to ensure that optimum arrival and departure flight procedures are followed for each helicopter type that serves UCSF. Pilots would be instructed in the use of the primary east approach and departure path. 4. A log of helicopter activity shall be maintained which shall include a detailed record of the reason for the trip, and date and time of arrival and departure. If a diversion from prescribed flight paths occurred as discussed above, the reason for diversion shall be recorded in the log.	Prepare a Helicopter Operations Plan that at a minimum includes the elements described in this mitigation measure. Issue Helicopter Operations Plan to all air medical service companies that may land at the proposed UCSF helipad.	UCSF Medical Center in consultation with Campus Planning and Community Relations	Provide copy of Helicopter Operations Plan to Monitor prior to start of helicopter operations. Confirm in writing that Helicopter Operations Plan was sent to relevant air medical service companies.
	• Respond to noise complaints about helicopter overflight. UCSF shall investigate noise complaints and shall work to address the complaint if it is	Assign UCSF personnel to respond to and investigate noise complaints about helicopter overflight. Make UCSF contact information for registering	UCSF Medical Center in consultation with Campus Planning and Community Relations	Provide report to Monitor on helicopter noise complaints, investigative actions, and resolution. Provide report to Monitor upon request; but no less than quarterly

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	determined that the cause was from helicopter operations at UCSF. The investigation may include consultation with a noise engineer, a site assessment, noise monitoring of the affected property, and other actions as may be necessary. Contact information for registering complaints will be made publicly available.	complaints publicly available.		beginning within 3 months after the start of helipad operations.
	• Establish a UCSF community working group that meets periodically to provide a forum for UCSF and the community to discuss helicopter noise issues.	Establish UCSF community working group that meets periodically to provide a forum for UCSF and the community to discuss helicopter noise issues.	Community Relations in consultation with UCSF Medical Center.	Provide report to Monitor prior to the start of helipad operations identifying community working group members and anticipated meeting frequency.
	• Include additional mitigation developed as part of the community process.	Implementation to be determined.	To be determined	Provide report to Monitor confirming implementation of additional mitigation measures.
4.6 TRANSPORTATION AND TRAFFIC				
MCMB.6-3: Operation of the Medical Center at Mission Bay project would increase traffic at intersections on the adjacent roadway network in the Future Phase.	Regarding Owens Street at the Center Garage Access, UCSF would conduct project-level CEQA review at the time the Future Phase development is considered for approval. In addition, UCSF would coordinate with the City of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation in order to determine the need for LOS improvements on Owens Street between 16th and Mariposa Streets. UCSF would coordinate with the Municipal Transportation Agency (which includes the Department of Parking and Traffic) and the Planning Department to confirm the feasibility and effectiveness of mitigation measures resulting from future analysis or consider equivalent recommendations made by these agencies, and UCSF will pay its fair	Conduct project-level CEQA review for Future Phase development. Coordinate with the City of San Francisco in the periodic update of the Mission Bay traffic triggers survey. Monitor on-site parking access and circulation in order to determine the need for LOS improvements on Owens Street between 16th and Mariposa Streets. Coordinate with the Municipal Transportation Agency (including the Department of Parking and Traffic) and the Planning Department to confirm the feasibility and effectiveness of mitigation measures resulting from future analysis or consider equivalent recommendations made by these agencies. Pay for fair share of the cost of implementing selected mitigation.	UCSF Campus Planning	Prepare memo to Monitor within 10 days of preparation of Project Planning Guide (PPG) for Future Phase development that project-level CEQA review for Future Phase development will be prepared. Following project-level CEQA review for Future Phase development, prepare additional memo to Monitor describing status of LOS improvements on Owens Street between 16th and Mariposa, coordination efforts with the City to confirm the feasibility and effectiveness of mitigation measures, and status of fair share payments for cost of implementing selected mitigation.

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	share of the cost of implementing the selected mitigation.			
MITIGATION MEASURES CARRIED FORWARD FROM THE UCSF LRDP AMENDMENT #2 – HOSPITAL REPLACEMENT EIR				
4.1. AESTHETICS				
4.1-1: New hospital development at any of the sites could increase light and glare which could affect nighttime views at the selected site and in its vicinity.	Minimize light and glare from new hospital development through the orientation of buildings, use of landscaping materials, and choice of primary facade materials. Design standards and guidelines to minimize light and glare would be adopted for the new hospital development, including: Reflective metal walls and mirrored glass walls shall not be used as primary building materials for facades. Installation of illuminated building signage shall strive to be consistent with City Planning Code sign requirements and/or Mission Bay design guidelines. Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that direct the cone of light downward. (Modified from LRDP FEIR Mitigation Measure 12LI-3 for the LRDP and Future Phases)	Issue instruction in each bid package of each architectural services contract for architects and design professionals to incorporate the mitigation as design criteria. Working with the project and construction managers, require architects and design professionals to document how siting and design measures are addressed and incorporated. Review design plans for each new proposed structure to ensure that such features have been incorporated in the design to address light/glare impacts.	Medical Center Design and Construction Team, Project Manager.	Provide written verification in report form to Monitor within 10 working days of each contract bid on each phase. Report will certify that selected bids utilize design elements which maximize compliance with design criteria.
4.1-2: Construction of a new hospital could result in flood lighting at any of the sites during nighttime construction activities.	UCSF would require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences or other uses. (Modified from LRDP Mitigation Measure 12L1-4 for the LRDP and Future Phases)	Issue instructions in each bid package of each architectural services contract for architects and design professionals to incorporate the mitigation as design criteria. Working with the project and construction managers, require contractors to document how siting and construction lighting measures are	Medical Center Design and Construction Team, Project Manager.	Provide written verification in report form to Monitor within 10 working days of each contract bid on each phase. Report will certify that selected bids utilize design elements which maximize compliance with design criteria.

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		incorporated. Review construction documentation to ensure that mitigation is included to address lighting effects.		
4.1-4: Construction and operation of a hospital at the Mission Bay South site could substantially degrade the visual quality of the Mission Bay campus site or its surroundings.	Extend to the CMPDG to the Mission Bay South site or develop Mission Bay South site land use designations and design guidelines that apply 1996 LRDP goals and objectives for visual quality, protection of view corridors, creation of open space, and compatibility with the surrounding area. Implementation of this measure would avoid a substantial degradation of the visual quality due to the Mission Bay South site development. (Identified by this EIR for the LRDP and Future Phases)	Prior to or as part of project-specific planning and design, ~~revise existing CMPDG to include~~ develop design guidelines for the Mission Bay South site and adjacent blocks, as applicable.	UCSF Campus Planning and Medical Center Design and Construction Team	Issue new design guidelines with specific prescriptions for the Mission Bay South site and incorporate the site as appropriate into the revised CMPDG.
4.1-6: Operation of a hospital at Mission Bay North or South could include a helicopter landing site ("helipad"), which would introduce lighting that would be noticeable after dark.	[Note: This mitigation will be triggered if the helicopter operations are approved.] UCSF shall develop a helipad design plan to minimize light and glare, including: Lamp wattage shall be minimized to the extent allowed by Federal Aviation Administration requirements. Lighting shall be activated remotely as needed by an approaching helicopter pilot or by staff meeting an incoming flight to the extent allowed by Federal Aviation Administration requirements. [Superceded by Mitigation Measure MCMB.1-5] Project-specific environmental review shall be conducted on potential light and glare impacts when more specific hospital designs for either the North or South sites are available. (Identified by this EIR for the LRDP and Future	Issue instructions in each bid package of each architectural services contract for architects and design professionals to incorporate the mitigation as design criteria. Working with the project and construction managers, require architects and design professionals to document how siting and design measures are addressed and incorporated. Review design plans for each new proposed structure to ensure that such features have been incorporated in the design to address the impacts.	UCSF Campus Planning, Medical Center Design and Construction Team.	Provide written verification in report form to Monitor within 10 working days of each contract bid on each phase. Report will certify that selected bids utilize design elements which maximize compliance with design criteria.

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	Phases) [Implemented]			
4.2 AIR QUALITY				
4.2-1: Construction and operation of replacement hospital facilities would generate vehicular, stationary source, and helicopter-related emissions (depending on scenario) that would contribute to regional air pollution.	[Note: Regarding helicopter emissions, impacts would not occur until helicopter operations are approved.] UCSF shall continue its existing Transportation Demand Management programs to promote shuttle services, ride-sharing, and bicycle programs to reduce the number of trips at its campus sites. These transit options divert trips from single occupancy vehicles and would thus reduce impacts of vehicular trips generated by the project. (Modified from LRDP FEIR Mitigation Measures 12D4-2 for the LRDP and Future Phase)	Extend UCSF shuttle service to the project site; work to promote other TDM programs at the project site, such as pre-tax transit passes and ride-sharing; consider in parking plans allocations for vanpool, motorcycle, and bicycle parking.	UCSF Parking & Transportation Services in conjunction with UCSF Medical Center and Campus Planning	Provide written verification to Monitor regarding TDM programs considered and implemented.
4.2-2: Demolition and construction activities associated with the hospital construction would generate fugitive dust and criteria pollutant emissions that could adversely affect local air quality.	During construction, UCSF shall require the construction contractor to implement the appropriate level of BAAQMD's dust control procedures for all construction sites. UCSF shall include this requirement in all construction contracts. This mitigates this impact to less than significant. (Modified from LRDP FEIR Mitigation Measure 12D1-1 for the LRDP and Future Phase)	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction air pollution control strategy to report on the implementation of the mitigation measure.	Project Manager, Medical Center Design and Construction Team.	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for construction air pollution control. Provide a report on construction air pollution control strategies and report to Monitor upon request; but no less than quarterly after beginning each construction activity.
4.2-5: Vehicular traffic generated by construction and operation of a 400-bed or 650-bed hospital and associated facilities, in conjunction with traffic generated from concurrent LRDP projects at each campus site, plus non-UCSF projects, would result in criteria pollutant emissions that would have a significant cumulative impact on the ambient air quality.	Implement Mitigation Measure 4.2-1.			

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4.3 CULTURAL RESOURCES				
4.3-1: Building construction, including excavation and grading associated with the proposed project, could cause substantial adverse changes to archaeological resources at the project sites.	If the discovery includes human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed: In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken: (1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: (A) The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and (B) If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage Commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will demonstrate knowledge of procedures and requirements when cultural resources are discovered during construction activities.	UCSF Capital Projects Facilities Management Project Manager.	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for mitigation if cultural resources are discovered during construction activities. Provide construction status report to Monitor upon request.

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	(2) Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. (A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. (B) The descendant identified fails to make a recommendation; or (C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner. (Identified by this EIR for the LRDP and Future Phase)			
4.4 GEOLOGY AND SOILS				
4.4-4: In the event of a major earthquake in the region, seismic ground shaking could expose people and property to liquefaction and earthquake-induced settlement at Mission Bay.	A site-specific, design-level geotechnical investigation shall be completed based on the proposed project design and shall provide engineering recommendations for mitigation of liquefiable soils, in accordance with the California Geological Survey's Geology Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997). These	The successful architectural design team will prepare a geotechnical survey and incorporate the results of the investigation into the project design to address impacts.	UCSF Campus Planning, and Medical Center Design and Construction Team.	Provide Medical Center Design and Construction Team final geotechnical investigation that reports feasible measures and incorporates them into project design.

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	geotechnical recommendations shall be incorporated into the final design of the project. (Identified by this EIR for the LRDP Phase)			
4.5 HAZARDS AND HAZARDOUS MATERIALS				
4.5-4: Operation of the new hospital facilities would generate hazardous waste that could place an additional load on hazardous waste management facilities.	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	At the new hospital facilities, UCSF will extend its program for hazardous waste handling, minimization and disposal, including implementation of all the measures identified in the mitigation measure. In addition, in conjunction with bi-annual inspections of UCSF by the City and County of San Francisco Department of Public Health, and the Department of Health Services, Radiologic Health Branch, initiate a review by the Chemical Safety Officer and the Radiation Safety Officer (in consultation with the Chemical Safety Committee and the Radiation Safety Committee as required) of existing source reduction and management plans for additional measures that are feasible to implement at UCSF to minimize hazardous waste and dry long-lived radioactive waste.	Environmental Health & Safety, Chemical Safety Officer and Radiation Safety Officer.	Notify Monitor when hazardous waste handling, minimization and disposal measures are extended to the new hospital facilities. In addition, provide hazardous chemical waste and radioactive waste source reduction and management review to Monitor every other year as part of the bi-annual Business Plan inspection and RHB inspection. Report feasible measures to be implemented and timetable for such additional measures.

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	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)			
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.	UCSF shall develop a RMP for Parcel X-3 if it is acquired or extend the 1999 RMP to Parcel X-3, if feasible.	The UCSF Office of Environmental Health & Safety will coordinate with the current land owner to prepare or contract for preparation of a complete site assessment and implementation of the identified mitigation measures. Alternatively, UCSF could conduct the assessment and remediation itself in accordance with federal and state requirements.	Environmental Health & Safety, Asbestos / Hazardous Materials Removal Officer	Provide copies of the assessment and remediation plans to Monitor for each project and phase. Provide evidence from the Regulatory Agency of satisfactory completion of remediation.
4.6 HYDROLOGY AND WATER QUALITY				
4.6-3: Construction of new hospital buildings at the Mission Bay North or South sites by the LRDP Phase or Future Phases could result in hydrology and water quality impacts at Mission Bay.	UCSF shall adopt Mitigation Measures K.2, K.3 and K.4 of the Mission Bay Subsequent EIR as follows: K.2 Participate in the City's existing Water Pollution Prevention Program. Facilitate implementation of the City's Water Pollution Prevention Program by providing and installing wastewater sampling ports in any building anticipated to have a potentially	Issue instructions in each bid package of each construction project for contractor to incorporate the mitigation measures.	Medical Center Design and Construction Team	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for mitigation measures. Provide construction status report to Monitor upon request.

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	significant discharge of pollutants to the sanitary sewer, as determined by the Water Pollution Prevention Program of the San Francisco Public Utilities Commission's Bureau of Environmental Regulation and Management, and in locations as determined by the Water Pollution Prevention Program. This mitigation measure could be implemented by including the Water Pollution Prevention Program in the review process, as each individual construction is proposed. The Water Pollution Prevention Program would review each project, determine if one or more sampling ports should be installed in a particular building, and specify the location of the sampling port(s). K.3 Design and construct sewer improvements such that potential flows to the City's combined sewer system from the project do not contribute to an increase in the annual overflow volume as projected by the Bayside Planning Model by providing increased storage in oversized pipes, centralized storage facilities, smaller dispersed storage facilities, or detention basins, or through other means to reduce or delay stormwater discharges to the City system. K.4 Implement alternative technologies or use other means to reduce settleable solids and floatable materials in stormwater discharges to China Basin Channel to levels equivalent to, or better than, City-treated combined sewer overflows. Such alternatives technologies could include one or more of the following: biofilter system, vortex sediment system, catch basin filters, and/or additional source control			

Impact	Mitigation Measure	Implementation	Responsible Unit	Report Mechanism
	measures to remove particulates from streets and parking lots. (Identified by this EIR for the LRDP and Future Phase)			
4.8 NOISE				
4.8-1: The proposed Hospital Replacement Program would result in noise associated with demolition and construction activities.	Mitigation Measure 4.8-1: UCSF shall require construction contractors to minimize unavoidable construction noise impacts by use of proper equipment and work scheduling: Limit construction hours to between 7:00 a.m. and 8:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on weekends. Approve extended hours only with advanced notice from UCSF project manager. Prohibit high impact noise on Sundays. [Superceded by Mitigation Measure MCMB.5-1] Require use of construction equipment with noise reduction devices (i.e., mufflers in good working order). Erect temporary noise walls to protect adjacent noise-sensitive areas. Use of impact tools would be minimized to the extent feasible. Implement "quiet" pile-driving technology (such as pre-drilling of piles, and/or the use of more than one pile driver to shorten the total pile-driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions. Locate stationary noise sources away from residential or other sensitive-receptor areas, and require use of acoustic shielding with such equipment when feasible and appropriate. (Modified measure from LRDP FEIR	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction noise impact abatement plan to report on the implementation of the mitigation measure.	Capital Projects Facilities Management or Medical Center Design and Construction Team, as appropriate	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for construction noise abatement. Provide a report on noise abatement to Monitor upon request; but no less than quarterly after beginning each construction activity.

Impact	Mitigation Measure	Implementation	Responsible Unit	Report Mechanism
	Mitigation Measure 12E1-1)			
4.8-2: Operational activities and mechanical equipment would increase noise levels at sensitive receptors.	UCSF shall incorporate standard industrial noise control measures for stationary equipment at any site chosen for hospital replacement. UCSF shall also adopt noise performance standards to ensure that operational noise from UCSF sources would not exceed noise guidelines set forth in local General Plans or ordinances for adjacent areas based on use standards. If ambient noise levels in areas adjacent to the site(s)' proposed for hospital replacement already exceed local noise standards, UCSF shall not increase average daily noise levels (Ldn) from operational noise sources by 3 or more dBA at the property line. USCF shall use standard design features including installation of relatively quiet models, orientation or shielding to protect sensitive uses, and installation within enclosures when necessary to reduce noise. (Modified measure from LRDP FEIR Mitigation Measure 12E1-2)	All contractors and design professionals responsible for selecting mechanical equipment will be required to perform noise calculations based on mechanical equipment specifications of the vendor or measure equipment noise levels at the nearest property line to ensure the selected equipment meets the criteria. If the projected equipment noise levels exceed Noise Ordinance specifications, the contractor or design professional will be required to implement additional measures, to ensure that the standards are met, and re-monitor.	Medical Center Design and Construction Team, Project Manager.	Provide written verification to the Monitor of the inclusion of the performance standards and conduct final monitoring as required.
4.8-6: Operation of a hospital at Mission Bay North or South could include a helicopter landing site ("helipad") that would lead to increased noise levels at nearby sensitive receptors. Nighttime helicopter operations could cause increased awakening of residents in the immediate vicinity of the helipad at the North or South site.	[Note: This mitigation will be triggered if the helicopter operations are approved.] For the North site, none feasible. For the South site, nighttime departures shall be required to use the east or northeast flight path, as feasible. (Identified by this EIR for the LRDP and Future Phases) [Superceded by Mitigation Measure MCMB.5-4]	Include measures in helicopter service vendor contract.	Medical Center Administration Director, Medical Center Facilities	Provide written verification to the Monitor of the inclusion of the performance standards and conduct final monitoring as required.
4.8-7: Site-specific construction and demolition activities at each campus site would have a local, significant cumulative impact on	Implement Mitigation Measure 4.8-1.			

Impact	Mitigation Measure	Implementation	Responsible Unit	Report Mechanism
the local noise environment.				
4.11 TRANSPORTATION				
4.11-1: Building construction, including demolition, excavation, and grading associated with the proposed LRDP Amendment could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions.	Mitigation 4.11-1: To assure that construction and/or demolition activities minimize parking demand and circulation obstruction, UCSF shall require construction and/or demolition contractors to develop and implement construction traffic and parking management plans during demolition and/or construction activities at all campus sites. The plans would be expected to include measures such as the following: Develop a traffic management plan in consultation with the San Francisco DPT and Muni to minimize disruption due to lane closures. The plan should be consistent with the Regulations for Working in San Francisco Streets and Chapter 6 of the California Supplement to the Manual of Uniform Traffic Control Devices. Prepare an offsite parking plan for construction employees and subcontractor employees. An alternative plan would provide shuttle service to/from designated remote parking lots and/or public transportation transfer nodes. This plan would be incorporated into the construction contract between UCSF and the contractor. Schedule heavy-truck deliveries with the construction project manager at least one day in advance. Whenever possible, make deliveries using trucks of 40 feet maximum bumper-to-bumper length.	Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. Require the successful contractor to prepare a construction traffic and circulation plan for each new proposed construction project to report on the implementation of the mitigation measure.	Medical Center Design and Construction Team, Capital Projects Facilities Management, as appropriate.	Provide written verification in report form to the Monitor within 10 working days of each contract bid on each phase to certify that selected bid includes provisions for a construction traffic and circulation plan. Provide a construction traffic and circulation plan implementation report to Monitor upon request; but no less than quarterly after beginning each construction activity.

Impact	Mitigation Measure	Implementation	Responsible Unit	Report Mechanism
	Whenever possible schedule heavy trucks deliveries to arrive at off-peak hours, outside of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Note any deliveries that cannot comply with the above requirements for heavy trucks on the schedule, and notify the UCSF construction project manager at least 48 hours in advance. The contractor may provide flagmen to direct traffic in those cases. (Identified by this EIR for the LRDP and Future Phases)			
4.11-2: Operation of a hospital at the Mission Bay North or South sites would increase traffic at intersections on the adjacent roadway network.	See below.			
4.11-2a: Operation of a hospital at the Mission Bay South site would increase average delay per vehicle during the p.m. peak hour at the intersection of 16th Street / Owens Street.	UCSF shall coordinate with the City of San Francisco to provide the following lane configuration for the southbound approach on Owens Street at the intersection of 16th Street / Owens Street: one southbound shared through-left-turn lane, one southbound through-lane, and one southbound exclusive right-turn lane. (Identified by this EIR for Future Phases)	~~Work with appropriate City Departments to get Board of Supervisor approval for the dedication of land that would be required for the lane.~~ Work with appropriate City Departments on lane configuration at this intersection to achieve acceptable level of service.	Vice Chancellor - University Advancement & Planning, Campus Planning, Government Relations.	~~Report coordination efforts to Monitor. If UCSF cannot dedicate to City, this measure would remain a significant unavoidable impact.~~ Report coordination efforts to Monitor and provide documentation confirming lane configuration has been approved by City and implemented.
4.11-2b: Operation of a hospital at the Mission Bay South site would increase average delay per vehicle during the p.m. peak hour at the intersection of Mariposa Street / 3rd Street.	UCSF shall coordinate with the City and County of San Francisco to provide an additional southbound exclusive right-turn lane of a minimum 50-foot length on 3rd Street at the intersection of Mariposa Street / 3rd Street. (Identified by this EIR for Future Phase)	Work with appropriate City Departments to get Board of Supervisor approval for the dedication of land that would be required for the lane.	Vice Chancellor - University Advancement & Planning, Campus Planning, Government Relations.	Report coordination efforts to Monitor. If UCSF cannot dedicate to City, this measure would remain a significant unavoidable impact.