November 18, 2014

ATTACHMENT B

DEPARTMENT OF PUBLIC WORKS:
LAC+USC MEDICAL CENTER CAMPUS MASTER PLAN
CERTIFY THE FINAL ENVIRONMENTAL IMPACT REPORT
ADOPT THE FINDINGS OF FACT AND
STATEMENT OF OVERRIDING CONSIDERATIONS
ADOPT THE MITIGATION MONITORING AND REPORTING PROGRAM
ADOPT THE CAMPUS MASTER PLAN
CAPITAL PROJECT NOS. 69698

FINAL ENVIRONMENTAL IMPACT REPORT
(See Attached)

Final Environmental Impact Report includes the following documents:

- Draft Environmental Impact Report, including Technical Appendices dated September 2014

- Response to Comments and Errata dated November 2014

Final Environmental Impact Report

SCH# 2014051061

LAC+USC Medical Center Campus Master Plan

Prepared for:

County of Los Angeles
900 South Fremont Avenue
Alhambra, California 91803

Prepared by:

ICF International

November 2014

ICF International. 2014. Final Environmental Impact Report. LAC+USC Medical Center Campus Master Plan. November. (ICF 00127.14.) Los Angeles, CA. Prepared for the County of Los Angeles, Alhambra, CA.

Contents

APPENDICES

Tables

Figures

Acronyms and Abbreviations

°F	degrees Fahrenheit
AAQS	ambient air quality standards
AB	Assembly Bill
ACA	Affordable Care Act
ACMs	asbestos-containing materials
ACWM	asbestos-containing waste materials
ADT	average daily traffic
ALS	Advanced Life Support
AQMPs	air quality management plans
ARB	California Air Resources Board
ASCE	American Society of Civil Engineers
ASFs	age sensitivity factors
ASTs	aboveground storage tanks
ATCS	Adaptive Traffic Control System
ATSAC	Automated Traffic Surveillance and Control
B.P.	Before Present
Basin	South Coast Air Basin
Basin Plan	Water Quality Control Plan, Los Angeles Region – Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BAU	business as usual
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
Board	Los Angeles County Board of Supervisors
BOS	City of Los Angeles Bureau of Sanitation
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal ARP	California Accidental Release Prevention
Cal/EPA	California Environmental Protection Agency
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery

Caltrans	California Department of Transportation
CBC	California Building Code
CBSC	California Building Standards Code
CCA	California Coastal Act
CCAA	California Clean Air Act
CCAP	Community Climate Action Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Los Angeles
CIWMP	County Integrated Waste Management Plan
CMA	Critical Movement Analysis
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Commission	California Building Standards Commission
County	County of Los Angeles
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSE	Countywide Siting Element
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted sound level
DOGGR	Division of Oil, Gas, and Geothermal Resources

DPM	diesel particulate matter
DPR	Department of Pesticide Regulation
DPW	Department of Public Works
DTSC	Department of Toxic Substances Control
du	dwelling unit
EDR	Environmental Data Resources
EG	electric generation
EIR	environmental impact report
EMS	emergency medical services
EO	Executive Order
EOR	enhanced oil recovery
EPA	U.S. Environmental Protection Agency
EPD	Environmental Programs Division
ESA	Endangered Species Act
EV	electric vehicle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
GWP	global warming potential
HABS/HAER	Historic American Buildings Survey/Historic American Engineering Record
HCFCs	halogenated chlorofluorocarbons
HCMs	Historic-Cultural Monuments
HFCs	hydrofluorocarbons
HMA	hazardous materials assessment
HMMP	Hazardous Materials Management Plan
HOT	high-occupancy/toll
HRA	health risk assessment
HSC	Health and Safety Code
HTP	Hyperion Treatment Plant
HVAC	heating, ventilation, and air-conditioning
HWCL	Hazardous Waste Control Law
Hz	Frequency
I	interstate

I-10	San Bernardino Freeway
I-5	Golden State Freeway
in/s	inches per second
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resources Plan
IRWMP	Integrated Regional Water Management Plan
ITE	Institute of Transportation Engineers
kHz	kilohertz
ksf	thousand square feet
LAC+USC	Los Angeles County University of Southern California
LACFCD	Los Angeles County Flood Control District
LACM	Natural History Museum of Los Angeles County
LACOE	Los Angeles County Office of Education
LADOT	Los Angeles Department of Transportation
LADPH	Los Angeles Department of Public Health
LADRP	Los Angeles Department of Recreation and Parks
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LAPL	Los Angeles Public Library
LARWQCB	Los Angeles Regional Water Quality Control Board
LASD	Los Angeles County Sheriff's Department
LAUSD	Los Angeles Unified School District
LBP	lead-based paint
LCFS	low-carbon fuel standard
L_{dn}	day-night average sound level
LED	light-emitting diode
L_{eq}	equivalent noise level
LID	low-impact development
L_{max}	maximum sound level
L_{min}	minimum sound level
LOS	level of service
LQG	large-quantity generator

LST	localized significance threshold
LUST	leaking underground storage tank
master plan	LAC+USC Medical Center Master Plan
MATES III	Multiple Air Toxics Exposure Study III
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
mg/m^3	milligrams per cubic meter
mgd	million gallons per day
MMRP	mitigation, monitoring, and reporting plan
MMT	million metric tons
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
mpg	miles per gallon
MPO	metropolitan planning organization
MS4	municipal separate storm sewer system
MT	metric tons
MWD	Metropolitan Water District
MWh	megawatt hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCPA	Natural Community Conservation Planning Act
NCP	National Contingency Plan
NEIS	North East Interceptor Sewer
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List

NPPA	Native Plant Protection Act
NRC	noise reduction coefficient
NRHP	National Register of Historic Places
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OITC	outdoor-indoor transmission class
OPD	Outpatient Department
OSHA	Occupational Safety and Health Administration
Pb	lead
PECs	potential environmental concerns
PFCs	perfluorocarbons
PFYC	Potential Fossil Yield Classification
PG&E	Pacific Gas and Electric
PIRP	Power Integrated Resource Plan
PM	particulate matter
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter 2.5 microns or less in diameter
Porter-Cologne or the Act	Porter-Cologne Water Quality Control Act
ppb	parts per billion
ppm	parts per million
ppt	parts per trillion
PPV	peak particle velocity
PRC	Public Resources Code
proposed project	LAC+USC Medical Center Project
RCNM	Roadway Construction Noise Model
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act of 1976
RENEW LA	Recovering Energy, Natural Resources, and Economic Benefit from Waste for Los Angeles Plan
RES	Renewable Energy Standard
RMP	Risk Management Plan
RMPP	Risk Management and Prevention Program
ROGs	reactive organic gases
RPS	Renewable Portfolio Standard

RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTPs	regional transportation plans
RWQCB	Regional Water Quality Control Board
SAR	Second Assessment Report
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal information Center
SCE	Southern California Edison
SDG&E	San Diego Gas & Electric
SDWA	Safe Drinking Water Act
SEAs	Significant Ecological Areas
SF_6	sulfur hexafluoride
SFM	State Fire Marshal
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SQG	small-quantity generator
SRA	Source Receptor Area
SSO	Sheriff’s Security Officer
ST	short term
STC	sound transmission class
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
Summary Plan	Integrated Waste Management Summary Plan
SUSMP	Standard Urban Stormwater Mitigation Plan
SWIRP	Solid Waste Integrated Resources Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis

TMDL	Total Maximum Daily Load
TMN	Traffic Noise Model
TPD	tons per day
TPH	total petroleum hydrocarbons
TSI	thermal system insulation
TSPs	total suspended particulates
U.S.C.	United States Code
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC HSC	USC Health Sciences Campus
USFWS	U.S. Fish and Wildlife Service
USTs	underground storage tanks
UWMP	Urban Water Management Plan
V/C	volume to capacity
VMT	vehicle miles traveled
WCI	Western Climate Initiative
WDRs	waste discharge requirements
WRCC	Western Regional Climate Center
WSA	Water Supply Assessment
$\mu g/m^3$	micrograms per cubic meter
µPa	micropascals

Introduction and Background

This draft program environmental impact report (EIR) evaluates potential environmental impacts that could result from the implementation of the proposed LAC+USC Medical Center Campus Master Plan Project (proposed project) in the City of Los Angeles, California. The proposed master plan will guide development for a series of improvements to the medical center campus over the coming decades.

The 600-bed Los Angeles County - University of Southern California (LAC+USC) Medical Center is one of the largest public hospitals in the country. It has played an active and integral role in the health of Los Angeles County since the mid-1800s, increasing its presence and services as the need for quality health care grew with the County's population.

The introduction of the Affordable Care Act (ACA) is expected to influence services and operational priorities at the LAC+USC Medical Center in upcoming years. The expansion of health insurance to some 34 million persons is expected by 2019. The resulting challenges facing the LAC+USC Medical Center, as well as other County hospitals, will be even greater than private sector hospitals because of the medical center's role as a safety-net hospital.

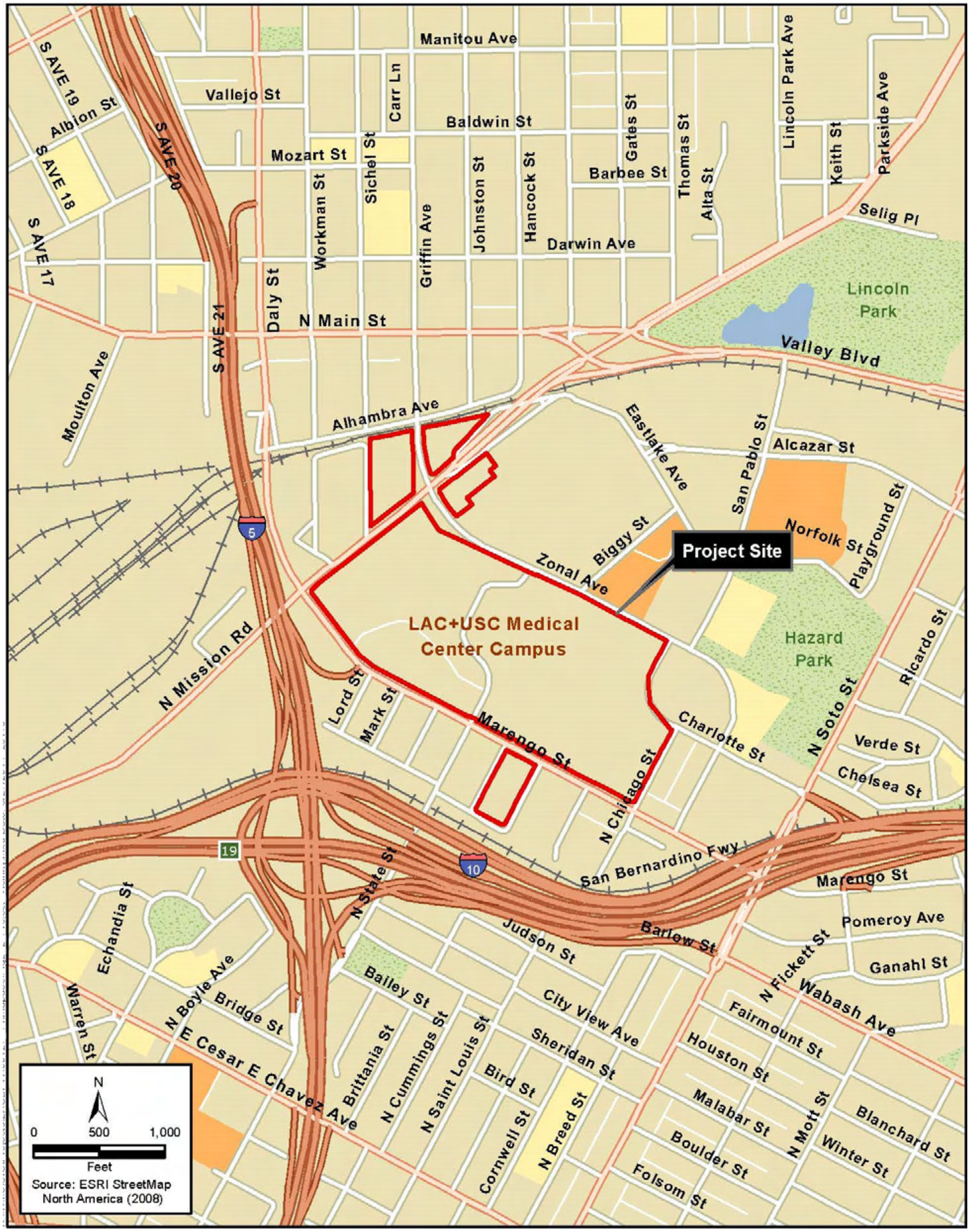
In October 2013, the County of Los Angeles (County) prepared the *LAC+USC Medical Center Campus Master Plan Report*, which summarized the research, findings, observations, and proposals for master planning options at the LAC+USC Medical Center Campus and identified seven master planning principles to determine the quality and effectiveness of the different options. Four master plan options were developed, which were based on an evaluation of the existing site, understanding of proposed program development, input from stakeholders, contributions from community residents and businesses, and vision for the site. A preferred master plan option (the proposed project) was subsequently selected.

Proposed Project Summary

Project Location

The LAC+USC Medical Center is located at 2051 Marengo Street, on several parcels of land owned by the County of Los Angeles. The proposed LAC+USC Medical Center Campus Master Plan (master plan) addresses issues concerning the entire LAC+USC Medical Center campus; therefore, the entire campus is considered the project site. The LAC+USC Medical Center Campus is surrounded by the Boyle Heights and Lincoln Heights neighborhoods of the City of Los Angeles, in Los Angeles County. Specifically, the main campus site is generally bounded by Zonal Avenue, Mission Road, Marengo Street, and Chicago Street. State Street bisects the project site. In addition, the project site extends to parcels on each side of Mission Road north of Zonal Avenue and on both sides of Griffin Avenue west of Mission Road. The site is located immediately northeast of Interstate (I) 5 (Golden State Freeway) and north of I-10 (San Bernardino Freeway). The project vicinity and master plan boundaries are shown in Figure S-1.

Figure S-1: Project Vicinity Map



Source: ICF International, 2014.

Proposed Project

The proposed LAC+USC Medical Center Campus Master Plan Project consists of a master plan, which is envisioned for a period of approximately 25 years, that would be used to guide future development of the campus and influence the delivery of health care services and health-related community programs.

The objectives of the master plan are to:

1. Achieve a community-friendly campus
2. Promote healthy lifestyles and wellness
3. Maximize access to the medical center by the community
4. Provide opportunities for appropriate education and job training
5. Incorporate on-campus business opportunities
6. Plan for future program development

Development under the master plan would include construction of new and renovated medically related office, retail, open space, and parking uses and demolition of existing buildings and structures to accommodate new development. Full build out of the master plan could result in a total of approximately 1,725,000 square feet of development throughout the campus.

The main elements of the proposed master plan are listed below:

- Inpatient Facilities
- Outpatient Facilities
- Medical Center Offices
- Central Utility Expansion
- Pedestrian Circulation and Access
- Biotech Research and On-campus Housing
- Parking Facilities
- Community Open Space and Landscape Conceptual Elements

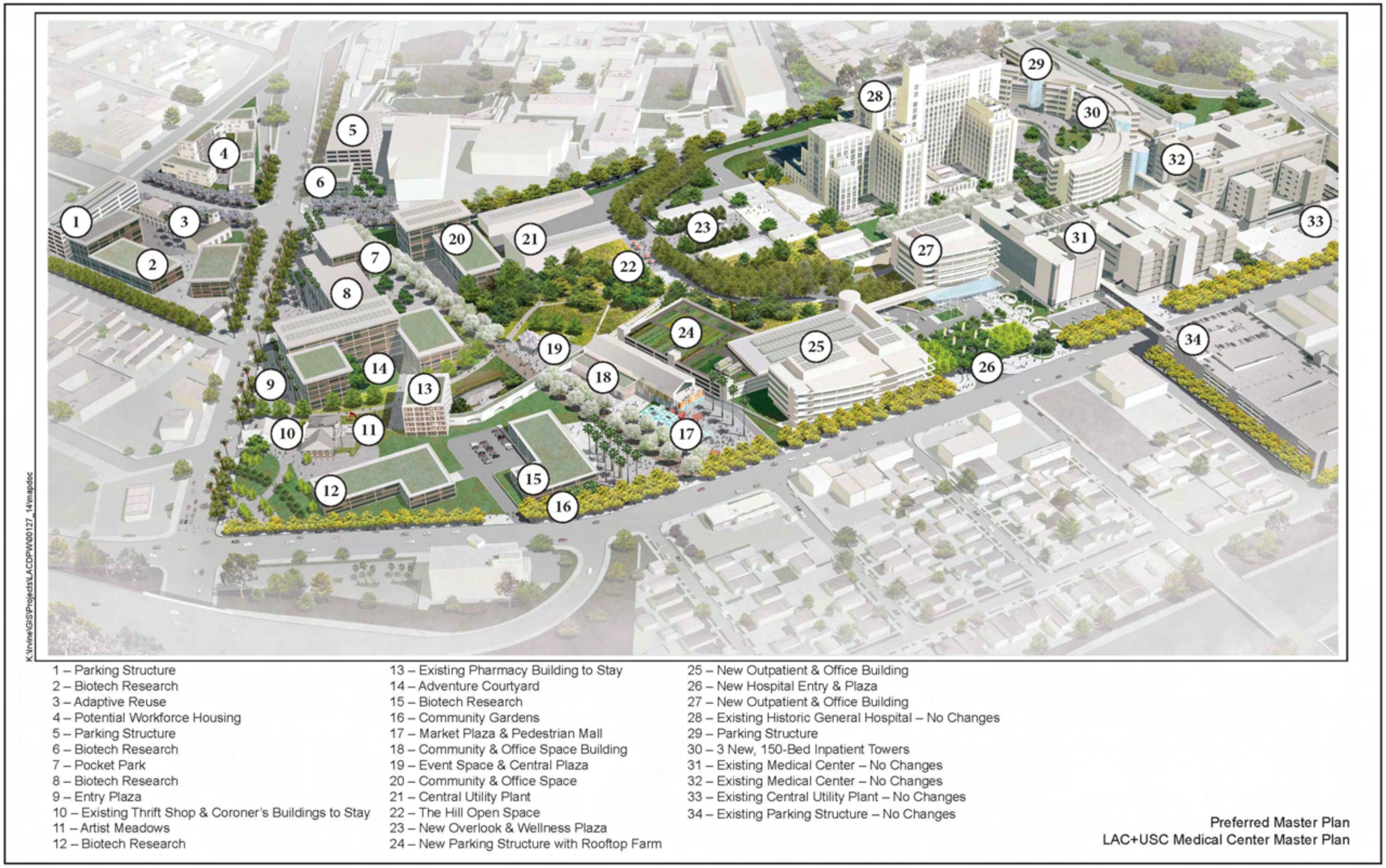
These are represented visually in Figure S-2 and are described in further detail in Chapter 2 of this environmental impact report (EIR).

Alternatives Considered

The following alternatives to the proposed project were considered and are evaluated in Chapter 5 of this EIR:

Alternative A – No-Project Alternative: California Environmental Quality Act (CEQA) Guidelines Section 15126.6(e) require that a No-Project Alternative be evaluated in an EIR. Under the No-Project Alternative, the proposed master plan would not be implemented.

Figure S-2: Preferred Master Plan



Source: LBL, Inc., 2014; ICF International, 2014.

Alternative B – Reduced Development Alternative: Alternative B would be a reduced-development alternative to the proposed master plan and would include the following exceptions:

Alternative B would only include one of the proposed three new inpatient towers in the area now occupied by the Outpatient Department and Interns and Residents buildings.

Alternative B would only include the development of 1/3 of the Biotech Research or workforce housing buildings proposed for the west campus. This would result in approximately 211,667 square feet, as opposed to 635,000 square feet of biotech research development under the proposed master plan.

Alternative C – Individual Development Zone Construction Alternative: Alternative C identifies distinct development zones as part of the master plan that would be constructed individually, rather than developing elements of the master plan on multiple zones concurrently. While this alternative would include the same elements as the proposed master plan, the elements would be constructed one zone at a time. By limiting construction activity to one development zone at a time, this alternative would reduce the potentially significant construction-related impacts of the master plan. The development zones consist of the Main Campus West, North of Mission Road, and Future Inpatient Bed Expansion zones (see Figures 5-1 through 5-3 in Chapter 5 of this EIR for depictions of these zones).

Issues to Be Resolved

The primary issue to be resolved is the lack of specificity regarding the projects that would be developed under the proposed master plan. As described in Chapter 2, the proposed master plan would be implemented over a period of approximately 25 years (2015–2040). The proposed master plan would guide future development on the campus and influence the delivery of health care services and health-related community programs over that timeframe. Development under the master plan would include the construction of new or renovation of existing office space for medical uses; development would also include new retail space, open space, and parking uses. The proposed master plan provides a framework for future development and conceptual plan for the campus; however, it does not include final and specific details on individual development projects such as proposed building locations and footprints, sizes, designs and architectural details, and construction schedules. Additionally, identification of funding for the individual projects that may be implemented under the master plan has not yet been determined.

Areas of Controversy

No significant areas of controversy were raised during the public scoping meeting held on June 4, 2014, or in response to the Notice of Preparation (NOP). However, concerns raised during the June 4, 2014, scoping meeting and in letters submitted to the County in response to the NOP and the draft EIR include the following:

- Design of proposed structures and the possible obstruction of views due to their proposed heights (e.g., obstruction of views of downtown Los Angeles from the Clinic Tower building)
- Access for special-needs individuals
- Sewer availability and capacity concerns

- Impacts on historic resources
- Increased traffic congestion and resulting safety hazards
- Pedestrian hazards
- Impacts on emergency vehicle access

Please see the public comments on the draft EIR and the responses to those comments in Chapter 6 as well as the public responses to the NOP provided in Appendix A to this EIR for additional information on these and other issues raised by the public during the scoping period.

Table ES-1: Summary of Environmental Impacts of the Proposed Project

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Aesthetics			
Impact AES-1: *Would the Proposed Project Have a Substantial Adverse Effect on Scenic Vistas?* No designated scenic highways, corridors, or parkways have been identified within the project viewshed, and no recognized scenic vistas were identified within the community. Significant impacts would not occur; nonetheless, given that vantages within the campus that offer views of downtown Los Angeles and the San Gabriel Mountains are among the few available elements of moderately high visual quality in the community, mitigation measure MM-AES-1 is proposed, which would protect such views, as appropriate.	No impact (construction) Less than significant (operation)	**MM-AES-1**: All new development proposed under the master plan shall be sited and designed to ensure that those views identified as important by the County are not obstructed.	No impact (construction) Less than significant (operation)
Impact AES-2: *Would the Proposed Project Substantially Damage Scenic Resources, Including, but not Limited to, Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway*? The Women's and Children's Hospital, which is a historic resource and aesthetically noteworthy because of its architectural design, would be demolished to accommodate future master plan development. This visual impact would be significant and unavoidable.	Significant (construction) No impact (operation)	See mitigation measure MM-CR-2 under Cultural Resources, below.	Significant and unavoidable (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact AES-3: *Would the Proposed Project Substantially Degrade the Existing Visual Character or Quality of the Site and Its Surroundings?* During construction, the temporary presence of construction-related vehicles, equipment, barricading and cranes, etc., and construction-related excavation and grading, would not result in significant changes to visual character, nor would these result in an overall significant reduction in visual quality. Because the project design elements would be appropriate to the setting in scale and design, no significant change in visual character or overall reduction in visual quality are anticipated to occur with implementation of the master plan.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact AES-4: *Would the Proposed Project Create a New Source of Substantial Light or Glare that Would Adversely Affect Day or Nighttime Views in the Area?* The net contribution of project construction and operation activities, when considered in addition to existing urban sources of light and glare, would be negligible.	No impact (construction) Less than significant (operation)	None	No impact (construction) Less than significant (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Air Quality			
Impact AQ-1: *Would the Proposed Project Conflict or Obstruct Implementation of the Applicable Air Quality Plan?* No significant impacts would occur, as the project would be consistent with the City of Los Angeles' General Plan and regional planning documents and thus consistent with the region's air quality plan.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact AQ-2: *Would the Proposed Project Violate an Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation?* During construction, estimated daily criteria pollutant emissions could exceed South Coast Air Quality Management District (SCAQMD) regional construction-period thresholds for volatile organic compounds (VOCs) and nitrogen oxides (NOx). However, mitigation to reduce construction-related emissions would eliminate this impact. Operational emissions with implementation of the master plan would be below thresholds.	Potentially significant (construction) Less than significant (operation)	**MM-AQ-1**: To reduce VOC emissions during construction, the County (or its contractors) shall use low-VOC coatings that go beyond the requirements of SCAQMD Rule 1113 and have a VOC content of 10 g/L or less during construction. **MM-AQ-2:** To reduce NO_X emissions during construction, the County (or its contractors) shall ensure that all off-road diesel-powered equipment used during construction will be equipped with an EPA Tier 4 Interim engine, except for specialized construction equipment in which an EPA Tier 4 Interim engine is not available. The use of Tier 4 Interim engines will also act to reduce ROG and PM emissions from construction equipment. **MM-AQ-3:** To reduce NO_X and PM emissions during construction, the County (or its contractors) shall implement the following measures during construction. • Haul and delivery truck idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to less than 3 minutes (beyond that required by the California airborne toxics	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		control measure, 13 California Code of Regulations [CCR] 2485). Clear signage shall be provided for construction workers and construction vehicles at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A traffic control plan shall be prepared. • A carpool program for construction workers, including incentivizing carpooling as well as providing bus service for crew members, shall be implemented. • Truck deliveries shall be consolidated when possible.	
Impact AQ-3: *Would the Proposed Project Result in a Cumulatively Considerable Net Increase in a Criteria Pollutant for which the Project Region Is a Nonattainment Area for an Applicable Federal or State Ambient Air Quality Standard (Including Releasing Emissions that Exceed Quantitative Thresholds for Ozone Precursors)?* Construction emissions could exceed thresholds for precursors to a nonattainment pollutant; however, mitigation to reduce construction-related emissions would eliminate this impact. No impacts would occur during operations because emissions would be below thresholds.	Potentially significant (construction) Less than significant (operation)	See MM-AQ-1 through MM-AQ-3, above.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact AQ-4: *Would the Proposed Project Expose Sensitive Receptors to Substantial Pollutant Concentrations?* Construction activities could expose nearby sensitive land uses to substantial pollutant concentrations. NOx, PM10, and PM2.5 emissions could exceed thresholds. Mitigation to reduce fugitive dust and exhaust emissions would reduce but not eliminate this impact. No significant impacts would occur with respect to health risks or operational pollutant concentrations.	Potentially significant (construction) Less than significant (operation)	See MM-AQ-1 through MM-AQ-3, above.	Potentially significant and unavoidable (construction) Less than significant (operation)
Impact AQ-5: *Would the Proposed Project Create Objectionable Odors that Would Affect a Substantial Number of People?* No significant impacts would occur, as the project would not create objectionable odors affecting nearby receptor locations.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Biological Resources			
Impact BIO-1: *Would Implementation of the Proposed Project Have a Substantial Adverse Effect, either Directly or through Habitat Modifications, on Any Species Identified as a Candidate, Sensitive, or Special-status Species in Local or Regional Plans, Policies, or Regulations or by CDFW or USFWS?* As discussed in Section 3.3.4.3 of this EIR, there are no candidate, sensitive, or special-status animal or plant species on-site, with the exception of	Potentially Significant (construction) No impact (operation)	**MM-BIO-1:** To avoid impacts on roosting bats, preconstruction surveys shall be conducted prior to the on-set of work within the vicinity of vacant buildings and prior to tree removal. During surveys, biologists shall avoid unnecessary disturbance of potentially occupied roosts. Full-spectrum acoustic detectors shall be used during emergence surveys to assist in species identification. If it is determined that trees or structures in the project area are being used by bats as roost sites, the following protective measures shall be implemented:	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
two California black walnut trees. Construction of the proposed project could affect these two trees. However, the two black walnut trees do not represent a regionally significant population. The proposed project could require the removal of palm trees or other potential roost sites for Western yellow bats.		• Disturbance of maternity roosting structures or trees (e.g., structure removal, construction equipment operation near roosts, tree trimming or removal) shall not occur during the maternity period (April 15 to September 15) to avoid impacts on reproductively active females and active maternity roosts (whether colonial or solitary). The maternity roost shall remain undisturbed from the time it is located until the following September 15 or until a qualified biologist has determined the roost is no longer active. No construction work shall occur at the roost or within a 100-foot-wide buffer zone (or an alternative width, as determined in consultation with CDFW) until September 15. • Exclusion devices may be installed outside of the maternity period (September 16 to April 14) to preclude bats from occupying buildings during, or prior to the on-set of, construction. Exclusionary devices shall be installed only by or under the supervision of an experienced bat biologist. Eviction of bats roosting in trees outside the maternity season shall be done in favorable weather under the supervision of a qualified bat biologist and adhering to the following two-step removal process: ○ On Day 1, for trees with cavities, crevices, and exfoliating bark, and that are found to support roosting bats, Step 1 would be the removal of branches and limbs with no cavities. These limbs shall be removed by hand (e.g., using chainsaws). This will create a disturbance (noise and vibration)	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		and physically alter the tree. Bats roosting in the tree, which may not have been detected during the preconstruction survey, will either abandon the roost immediately (rarely) or, after emergence, will avoid returning to the roost. For foliage roosting bats, Step 1 would be to remove adjacent, smaller, or non-habitat trees to create noise and vibration disturbance that would cause abandonment. On Day 2, under the supervision of a qualified biological monitor familiar with the life history of subject bat species, the tree may be removed. ○ Qualified biologists should search all downed roost trees for dead and injured bats. The presence of dead or injured bats that are species of special concern shall be reported to CDFW. Non-maternity roost trees should ideally be removed or trimmed in the fall between September 16 and October 31. If the removal of non-maternity roost trees cannot be timed to occur within this period, tree trimming and removal of non-maternity roost trees shall be timed to avoid periods of inclement or unseasonably cold weather to avoid impacts on bats in torpor (a period of seasonal inactivity). In all circumstances, qualified biologists shall monitor non-maternity tree removal.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact BIO-2: *Would Implementation of the Proposed Project Have a Substantial Adverse Effect on Federally Protected Wetlands, as Defined by Section 404 of the CWA, through Direct Removal, Filling, Hydrological Interruption, or Other Means?* No federally protected wetlands, as defined under Sections 401 and 404 of the Clean Water Act (CWA) or the California Coastal Act (CCA), are located within or immediately adjacent to the project site. Stormwater best management practices (BMPs) would be required to control erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. Additional source-control BMPs would also be required to prevent runoff contamination by potentially hazardous materials and eliminate non-stormwater discharges. Therefore, construction and operation of the proposed project would not affect federally protected wetlands.	No impact (construction and operation)	None	No impact (construction and operation)
Impact BIO-3: *Would Implementation of the Proposed Project Result in Substantial Interference with the Movement of any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors or Impede the Use of Native Wildlife Nursery Sites?* Bird species that are protected under the MBTA have the potential to nest in the existing ornamental vegetation on	Potentially significant (construction) No impact (operation)	**MM-BIO-2:** The County shall avoid the nesting season for birds or conduct preconstruction nesting bird surveys if construction activities are carried out during the nesting season. To ensure compliance with the MBTA and similar provisions under Sections 1600–1616 of the California Fish and Game Code, the County of Los Angeles, through the general contractor, shall conduct all vegetation removal during the non-breeding season, between September 1 and February 14, or implement the following:	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
the project site. Some bird species that are protected by the MBTA may also nest on existing buildings. Removal of vegetation and the demolition of buildings during construction could result in direct impacts on nests that are protected under the MBTA. Also, high noise levels and dust from construction activity could cause indirect impacts on nests and cause failure. The destruction of an occupied nest would be a significant impact and a violation of the MBTA and the California Fish and Game Code. Therefore, this impact could be significant.		• If the removal of vegetation, demolition of buildings, or noise-generating construction activities are scheduled between February 15 and August 31, the County of Los Angeles Department of Public Works or the construction contractor shall retain a qualified biologist (i.e., experienced with conducting nesting bird surveys) who shall conduct a focused nesting bird survey prior to the start of vegetation removal, building demolition, or noise-generating activities within any potential nesting habitat (i.e., all vegetation, buildings, eaves on buildings, etc.). The size of the nesting bird survey area shall be determined by a qualified biologist at the time of the survey and include the entire limits of disturbance. It may also include a buffer area if deemed necessary by the biologist. The preconstruction nesting bird surveys shall be conducted no more than 7 days prior to initiation of vegetation removal, building demolition, or noise-generating construction activities. If no active nests are detected during these surveys, no restrictions on project activities shall be necessary. • If active nests are found, a qualified biologist shall identify and flag an appropriate buffer around the nest, and no construction activities shall occur within the buffer until the qualified biologist has determined that the young have fledged or the nest is no longer active. The specific buffer width shall be determined by a qualified biologist at the time of discovery and vary according to the bird species, site conditions, and the type of work activities to be conducted. • The survey results shall be submitted to County of Los Angeles Department of Public Works for review and approval of the recommended nest	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		buffer areas, if any, prior to the commencement of any vegetation removal, building demolition, or noise-generating construction activities on the project site.	
Impact BIO-4: *Would Implementation of the Proposed Project Conflict with Any Local Policies or Ordinances to Protect Biological Resources, such as a Tree Preservation Policy or Ordinance?* Construction of proposed master plan facilities and structures could result in damage to or removal of vegetation on the project site, including native oak trees that have been planted in ornamental areas. These trees are protected under the Los Angeles County Oak Tree Ordinance. Protected trees include native oaks that measure 8 inches or more in diameter or oaks with multiple trunks, with a combined diameter of 12 inches or more for the largest two trunks measured 4.5 feet above the natural grade. Potential damage to or removal of oak trees that are protected by the Los Angeles County Oak Tree Ordinance would be a significant impact.	Potentially significant (construction) No impact (operation)	**MM BIO-3:** Prior to the removal of any trees, a qualified arborist shall inventory native oak trees on the project site to support the application regarding the impacts on oak trees. Oak tree permit requests require a property owner to file an application with the Department of Regional Planning and provide a filing fee, an oak tree report, site plans for the property, and maps of the surrounding area. The oak tree report shall include information about the protection of oak trees that may be adjacent to construction activities that are to remain. The oak tree report shall also include the proposed replanting plan, in accordance with the required replacement ratio, for any oak trees that are to be removed.	Less than significant (construction) No impact (operation)
Cultural Resources			
Impact CR-1: *Would the Proposed Project Cause a Substantial Adverse Change in the Significance of a Historical Resource, as Defined in Section 15064.5 of the State CEQA Guidelines?* Significant impacts on historical resources would occur when the resources are demolished or when the	Significant (construction) No impact (operation)	**MM-CR-1:** Prior to the removal of or alterations to the 1933 retaining walls or the overall setting of State Street, which are considered character-defining features of the General Hospital/Acute Unit setting, documentation of these features of the General Hospital setting in a manner that meets Historic American Buildings Survey/Historic American Engineering Record	Significant (construction – if the Women's and Children's Hospital, associated gatehouse, or other historic resources on the campus are demolished) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
characteristics that convey the resources' historical significance are materially altered. Proposed demolition of the Women's and Children's Hospital, which has been determined eligible for listing in the California Register of Historical Resources, would be a significant impact. Alterations to or demolition of contributing features of the General Hospital setting also has the potential to cause an adverse change in the significance of that resource. Operation of proposed master plan facilities would not have an adverse effect on historical resources.		(HABS/HAER) standards shall be prepared. This shall include photographs and drawings of the current conditions, including State Street, the retaining walls, the forecourt, and the ancillary buildings. Preservation of the character-defining features shall be attempted. **MM-CR-2:** Prior to demolition of the Women's and Children's Hospital, documentation of this property to HABS/HAER standards shall be prepared. Character-defining features shall be called out, and a historic context for this building shall be prepared. **MM-CR-3:** A protection plan for the viaduct/tunnel shall be prepared prior to the construction of any master plan project that would occur in the immediate vicinity of the viaduct/tunnel. This protection plan shall be prepared by a qualified historic preservation specialist who shall document the current condition of this structure before any construction begins and monitor the structure during construction. **MM-CR-4:** A historic structures report shall be prepared that identifies the character-defining features of the old Administration Building and the Pharmacy/Service Building, which will provide the basis for preparation of a protection and preservation plan for these buildings. The preservation and protection plan shall be prepared by a qualified historic preservation consultant who will document the current condition of the buildings and monitor the condition of the buildings during any construction activities. **MM-CR-5:** The County shall consult with a qualified historic preservation consultant to determine appropriate street and walkway	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		lighting that both enhances the historic setting of General Hospital and provides sufficient illumination. All new material, such as streetlights, benches, bollards, and other street/landscape furniture, shall be chosen in consultation with the historic preservation expert and meet the Secretary of the Interior's Standards. **MM-CR-6:** Prior to proceeding with construction of individual development projects that could adversely affect properties 50 years of age or older on the medical center campus, the County shall evaluate those properties to determine their eligibility for the CRHR and/or NRHP. **MM-CR-7:** An updated State of California Department of Parks and Recreation (DPR) 523 form shall be prepared by a qualified architectural historian, historian, or historical architect for General Hospital and its setting that specifically identifies the contributing and non-contributing features of the historic General Hospital and its setting. The DPR 523 form shall be prepared prior to undertaking of any work within the setting of General Hospital that could adversely affect this historic resource.	
Impact CR-2: *Would the Proposed Project Cause a Substantial Adverse Change in the Significance of an Archaeological Resource, as Defined in Section 15064.5 of the State CEQA Guidelines?* Given surface disturbances on the project site over the past 130 years, there is a low likelihood of encountering prehistoric and historic archaeological resources. Nonetheless, construction could affect and possibly	Potentially significant (construction) No impact (operation)	**MM-CR-8:** Prior to any demolition, grading, or excavation related to the construction of facilities or improvements under the master plan, a qualified archaeologist shall be retained by the County or construction contractor to determine which areas shall require cultural resources monitoring during initial ground disturbance. The location of construction activities that are likely to encounter subsurface sediments with archaeological sensitivity shall be determined by the qualified archaeologist upon review of project excavation and grading plans.	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
disturb or destroy unknown archaeological resources, a potentially significant impact. Construction impacts would vary, depending on final plans, and would need to be analyzed in detail to determine what level of monitoring, if any, would be required. Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect archaeological resources.		If determined necessary, monitoring by a qualified archaeologist shall be conducted in the project area during all initial ground-disturbing activities. If, during cultural resources monitoring, the archaeologist determines that the sediments being excavated have been previously disturbed and are unlikely to contain significant cultural materials, the archaeologist shall request that monitoring be reduced or eliminated. Spot-check monitoring shall occur during all construction, on a schedule determined by the project archaeologist. If buried cultural resources such as trash deposits, building foundations, privy pits, flaked or ground stone, or human remains are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find. Treatment measures for items that are not associated with human remains typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation.	
Impact CR-3: *Would the Proposed Project Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature?* Structural demolition and grading and excavation for new foundations and access routes, as well as excavation for parking structures, have the potential to destroy paleontological resources. Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect paleontological resources.	Potentially significant (construction) No impact (operation)	**MM-CR-9:** Prior to any excavation related to the construction of facilities or improvements proposed under the master plan, a qualified vertebrate paleontologist with a graduate degree and more than 10 years of experience shall be retained by the County or construction contractor to determine areas that shall require paleontological monitoring during initial ground disturbance. The locations for construction activities, especially excavation for the proposed parking garages, which is likely to encounter subsurface sediments with high paleontological sensitivity, shall be determined by the qualified	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		paleontologist upon review of project excavation and grading plans. Very shallow surficial excavations (i.e., less than 5 feet in depth) within areas of previous disturbance or areas of Quaternary younger alluvial deposits shall be monitored on a part-time basis to ensure that underlying sensitive units (i.e., Quaternary older alluvium) are not adversely affected. Areas consisting of artificial fill materials shall not require monitoring. If excavations for the project take place in Quaternary older alluvial deposits or within Fernando or Puente Formation bedrock, such excavations shall be monitored on a full-time basis by a qualified paleontological monitor and under the supervision of the qualified paleontologist. The paleontological resource monitoring shall include inspection of exposed rock units during active excavations within the geologically sensitive sediments. Monitoring may be reduced if some of the potentially fossiliferous units described herein are, upon exposure and examination by qualified paleontologic personnel, determined to have a low potential for containing fossil resources. The paleontologic monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have authority to temporarily divert grading away from exposed fossils to recover the fossil specimens professionally and efficiently and collect associated data. All efforts to avoid delays in project schedules shall be made. To prevent construction delays, paleontological monitors shall be equipped with	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		the necessary tools for the rapid removal of fossils and retrieval of associated data. This equipment shall include handheld global positioning system receivers, digital cameras, and cell phones as well as a tool kit with specimen containers, matrix sampling bags, field labels, field tools (e.g., awls, hammers, chisels, shovels, etc.), and plaster kits. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Fossils collected, if any, shall be transported to a paleontological laboratory for processing where they shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility (such as LACM). Following analysis, a Report of Findings with an appended itemized inventory of specimens shall be prepared. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, shall signify completion of the program to mitigate impacts on paleontological resources.	
Impact CR-4: *Would the Proposed Project Disturb Any Human Remains, Including Those Interred Outside of Formal Cemeteries?* Ground-disturbing activities have the potential to unearth human remains. Implementation of the master plan and operation of proposed facilities would not affect buried human remains.	Potentially significant (construction) No impact (operation)	**MM-CR-10:** In the event that human remains are uncovered, construction plans shall specify that construction shall halt in the area of discovery, the area shall be protected, and no further disturbance shall occur, as specified by State Health and Safety Code Section 7050.5. The County coroner shall determine the origin and disposition of the human remains pursuant to PRC Section 5097.98. If the coroner recognizes the remains to be Native American, he or she shall contact the NAHC within	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		24 hours. For remains of Native American origin, no further excavation or disturbance shall take place until the most likely descendant of the deceased Native American(s) has made a recommendation to the landowner or the person responsible for the excavation work regarding the means for treating or disposing of the human remains and any associated grave goods, with appropriate dignity, as provided by PRC Section 5097.9. In consultation with the most likely descendant, the project archaeologist and the project proponent shall determine a course of action regarding preservation or excavation of Native American human remains, and this recommendation shall be implemented expeditiously. If the NAHC is unable to identify a most likely descendant or the descendant fails to make a recommendation within 48 hours after being notified by the commission, the project archaeologist and the project proponent shall determine a course of action regarding preservation or excavation of Native American human remains, which shall be submitted to the NAHC for review prior to implementation.	
Geology/Soils			
Impact GEO-1: *Would the Proposed Project Expose People or Structures to Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death, Involving Earthquake Fault Rupture, Seismic Shaking, Ground Failure, or Landslides?* The campus is not located within the vicinity of any known active or potentially active earthquake faults, but lurching or cracking of the ground surface during seismic events could	Potentially significant (construction and operation)	**MM-GEO-1:** All recommendations included in the preliminary geotechnical evaluation prepared for the proposed project (see Appendix D) shall be followed. A detailed subsurface geotechnical evaluation shall be performed to address site-specific conditions at the locations of the planned improvements and provide detailed recommendations for design and construction. The geotechnical evaluation shall include the following measures to mitigate potential fault rupture, seismic ground shaking, and liquefaction hazards identified under Impacts GEO-1 and GEO-2.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
occur. The western portion of the project site is located within an area that is considered susceptible to liquefaction and could result in differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of pavement. The potential for landslides or mudflows in the vicinity of the project site is low.		• *Seismicity*: Structural elements of future improvements shall be designed to resist or accommodate appropriate site-specific ground motions and conform to the current seismic design standards. • *Liquefaction*: An assessment of the liquefaction potential shall be made prior to detailed design and construction of project improvements. Structural design and mitigation techniques, such as in situ ground modification or supporting foundations with piles at depths designed specifically for liquefaction, shall be included. To evaluate the potential for liquefaction, subsurface evaluation may be performed. Site-specific geotechnical evaluations that assess the liquefaction and dynamic settlement characteristics of the on-site soils shall include the drilling of exploratory borings, evaluation of groundwater depths, and laboratory testing of soils. Methods for construction in areas with a potential liquefaction hazard may include in situ ground modification, removal of liquefiable layers and replacement with compacted fill, or support of project improvements on piles at depths designed specifically for liquefaction. Pile foundations can be designed for a liquefaction hazard by supporting the piles on dense soil or bedrock located below the liquefiable zone or employing other appropriate methods, as evaluated during the site-specific evaluation. Additional recommendations for mitigation pertaining to liquefaction may include densification by installation of stone columns, vibration, deep dynamic compaction, and/or compaction grouting.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		The geotechnical evaluation shall include the following measures to mitigate unstable soil impacts identified under Impact GEO-3. • *Groundwater*: Excavations for foundations in areas with shallow perched groundwater may need to be cased/shored and/or dewatered to maintain stability of the excavations and provide access for construction. All recommendations included in the preliminary geotechnical evaluation pertaining to groundwater shall be followed. Excavations for underground structures will need to be performed with care to reduce the potential for lateral deflection of excavation sidewalls and/or shoring, which may also cause differential movement of structures located near the excavation. Further study, including subsurface exploration, shall be performed during the detailed design phase of future improvements to evaluate the presence of groundwater, seepage, and/or perched groundwater at the site and the potential impacts on design and construction of project improvements. An assessment of the potential for shallow groundwater shall be made during the design phase of the project, and mitigation techniques shall be developed as necessary. • *Collapsible Soils/Settlement:* An assessment of the potential for soils that are prone to settlement shall be made prior to detailed design and construction of project improvements, and mitigation techniques shall be developed, as appropriate, to reduce impacts related to settlement to low levels. During the detailed design phase of the project, surface reconnaissance and site-specific geotechnical evaluations shall be performed to	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		assess the settlement potential of the on-site natural soils and undocumented fill. This may include detailed surface reconnaissance to evaluate site conditions, drilling of exploratory borings or test pits, and laboratory testing of soils, where appropriate, to evaluate site conditions. Prescribed mitigation measures for soils with the potential for settlement shall include either removal of the compressible/collapsible soil layers and replacement with compacted fill, surcharging to induce settlement prior to construction of improvements, allowing for a settlement period after or during construction with new fills, or a specialized foundation design, including the use of deep foundation systems to support structures. Varieties of in situ soil improvement techniques are also available, such as dynamic compaction (heavy tamping) or compaction grouting. The geotechnical evaluation shall include the following measures to mitigate the expansive and corrosive soils hazards identified under Impact GEO-4. • *Expansive Soils*: Mitigation techniques to reduce expansive soil potential shall be included as necessary. Techniques shall include overexcavation and replacement with non-expansive soil, soil treatment, moisture management, and/or a specific structural design for expansive soil conditions developed during the design phase. • *Corrosive Soils*: An assessment of the potential for corrosive soils shall be made during the detailed design phase of the project through soil testing procedures. Mitigation techniques shall be developed, as appropriate, to reduce impacts related to corrosive soils to low levels.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Subsurface evaluation, including laboratory testing, shall be performed. Evaluation of the corrosive soil potential shall be accomplished through testing and analysis of soils at foundation design depths. The laboratory tests conducted on the soils prior to construction and improvement plan preparation shall include corrosivity tests. Review of these data by a corrosion engineer will result in corrosion protection measures that will be suitable to the project elements. Evaluation of the potential corrosive soils hazard shall be performed prior to detailed design and construction so that, in the event the hazard exists, mitigation techniques may be implemented. To avoid site-specific subsurface evaluation, corrosion protection measures may be included in the initial design for the proposed project improvements. Mitigation for corrosive soil conditions may involve the use of concrete that is resistant to sulfate exposure. Corrosion protection for metals may be needed for underground foundations or structures in areas where corrosive groundwater or soil could cause deterioration. Typical mitigation techniques include epoxy and metallic protective coatings, the use of alternative (corrosion-resistant) materials, and selection of the appropriate type of cement and water/cement ratio.	
Impact GEO-2: *Would the Proposed Project Result in Substantial Soil Erosion or the Loss of Topsoil?* During the construction period, excavation, grading, and trenching would occur, creating the potential for erosion. Implementation of a	Less than significant (construction) No impact (operation)	**MM-GEO-2:** All earthwork and grading shall be performed in accordance with the recommendations in the SWPPP and the Construction Activities Stormwater General Permit. Additionally, BMPs related to ongoing drainage design and maintenance practices shall be included in the SWPPP and implemented to	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Stormwater Pollution Prevention Plan (SWPPP) that incorporates BMPs in compliance with National Pollutant Discharge Elimination System (NPDES) permit requirements would ensure that sediment would be confined to the construction area. During operation of proposed developments, improvements at the project site and incorporation of BMPs would ensure that on-site soil erosion would be minimized.		reduce soil erosion during operation of the proposed project. The BMPs shall include design procedures such as a surface drainage design for roadways and facilities to provide for positive surface runoff and reduce concentrated runoff conditions. Other examples of BMPs include the use of erosion prevention mats or geofabrics, silt fencing, sandbags and plastic sheeting, and temporary drainage devices.	
Impact GEO-3: *Would the Proposed Project Be Located on a Geologic Unit or Soil that Is Unstable or that Would Become Unstable, Potentially Resulting in an On-site or Off-site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse?* For both construction and operation, the potential for subsidence on the project site is relatively low. However, groundwater may be encountered during excavation activities, which could cause soil instability. In addition, compressible/collapsible soils at the site would result in differential settlement and may contribute to soil instability.	Potentially significant (construction) Less than significant (operation)	See MM-GEO-1, above.	Less than significant (construction) Less than significant (operation)
Impact GEO-4: *Would the Proposed Project Be Located on Expansive Soil, as Defined in Table 18-1-B of the UBC (1994), or Corrosive Soils, Creating Substantial Risk to Life or Property?* Although not observed during the preliminary geotechnical evaluation, clayey soils may be present on the	Potentially significant (construction and operation)	See MM-GEO-1, above.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
site, which could result in impacts related to expansive soils. Corrosive soils may also be present on the site, which could result in premature deterioration of underground structures or foundations.			
Greenhouse Gas Emissions			
Impact GHG-1: *Would the Proposed Project Generate GHG Emissions, Either Directly or Indirectly, that May Have a Significant Impact on the Environment?* The projected level of development that could occur under the master plan could result in an estimated 37,281 metric tons (MT) of annual GHG emissions, which would exceed the 3,000 MT CO_2e threshold. Implementation of the project-related design features described in Chapter 2 of this draft EIR, as well as statewide measures associated with implementing AB 32, would reduce GHG emissions. However, construction- and operations-related GHG emissions would be considered a significant and unavoidable cumulative impact.	Significant (construction and operation)	**MM-GHG-1.** To reduce GHG emissions during operations, the County shall incorporate the following mitigation measures into the design of each new element, as practicable. • Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on the building roofs and/or on the Project site to generate solar energy for the facility. The project applicant should commit to applying to the local utility to install the maximum number of solar panels possible. • Require all lighting fixtures, including signage, to be state-of-the art and energy efficient, and require that new traffic signals have light-emitting diode (LED) bulbs and require that light fixtures be energy efficient compact fluorescent and/or LED light bulbs. Where feasible use solar powered lighting. • Maximize the planting of trees in landscaping and parking lots. • Use passive heating, natural cooling, solar hot water systems, and reduced pavement. • Utilize only Energy Star heating, cooling, and lighting devices, and appliances. • Install light colored “cool” roofs and cool pavements. • Limit the use of outdoor lighting to only that needed for safety and security purposes.	Significant and unavoidable (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		• Require use of electric lawn mowers and leaf blowers. • Require use of electric or alternatively fueled sweepers with HEPA filters. • Use of water-based or low VOC cleaning products. • Install Electric Vehicle (EV) Charging Stations on at-least 5% of all vehicle parking spaces, consistent with City of Los Angeles requirements for all new projects.	
Impact GHG-2: *Would the Proposed Project Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing Emissions of GHGs?* As discussed in Impact GHG-1, proposed project-related GHG emissions are expected to exceed the threshold of 3,000 MT of CO_2e. However, by adopting all feasible project design and mitigation measures to reduce GHG emissions, the proposed project would be consistent with and not frustrate any AB 32 Scoping Plan measures, nor be inconsistent in any way with the AB 32 goal of reducing state-wide GHG emissions to 1990 levels by 2020.	Less than significant (construction and operation)	See MM-GHG-1.	Less than significant (construction and operation)
Hazards and Hazardous Materials			
Impact HAZ-1: *Would the Proposed Project Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials?* During the construction period, routine transport, use, and disposal of hazardous materials such as solvents,	Potentially significant (construction) Less than significant (operation)	**MM-HAZ-1:** In order to minimize exposure, prior to demolition activities, asbestos-containing materials and lead-based paint surveys and evaluations shall be conducted in buildings that are to be demolished or renovated. Abatement measures shall be implemented in accordance with the recommendations of these evaluations. Asbestos surveys shall be conducted in	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
paints, oils, grease, and caulking would occur, which would not pose a significant hazard. Asbestos-containing materials (ACM), lead-based paints (LBP), soils contaminated with hydrocarbons, and underground storage tanks may be encountered during construction, a potentially significant impact. Operation would involve the use and occasional transport of non-acutely hazardous chemicals for maintenance and cleaning, as well as the disposal of biomedical wastes.		accordance with SCAQMD Rule 1403, which specifies that all surveys are to be carried out by a Cal/OSHA-certified asbestos consultant and will follow established survey protocols, notification, and work practice requirements. Lead-based paint surveys shall be carried out by California Department of Public Health(CDPH)-certified inspector/assessor. If necessary, a lead abatement plan would be prepared by the CDPH-certified project monitor or supervisor, and demolition activities would be performed by CDPH-certified workers. **MM-HAZ-2:** Prior to start of construction, an additional investigation of the leaking underground storage tank site at 1200 North State Street (according to SWRCB's GeoTracker website, groundwater is currently being monitored at the address) shall be conducted to determine its potential impact on project site development. In the event that environmental concerns are discovered, a certified geologist or industrial hygienist will specify an appropriate course of action, which may involve removal and disposal of contaminated materials, and remediation of the area of concern. **MM-HAZ-3:** As part of a Phase II Environmental Site Assessment, prior to construction, additional investigations at the former suspected locations of USTs (both abandoned in place and those where no records of removal have been found) and the former boilers and powerhouse. In the event that environmental concerns are discovered, a certified geologist or industrial hygienist will specify an appropriate course of action, which may involve removal, disposal, and remediation of the area of concern.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact HAZ-2: *Would the Proposed Project 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?* During the construction period, workers may encounter ACM, LBP, and other hazardous materials, which could be accidentally released into the environment, a potentially significant impact. Operation of future facilities and buildings on the campus would entail the use of solvents, cleaning agents, paints, pesticides, diesel, petroleum fuels, batteries, and the disposal of biomedical wastes.	Potentially significant (construction) Less than significant (operation)	See MM-HAZ-1 through MM-HAZ-3, above.	Less than significant (construction and operation)
Impact HAZ-3: *Would the Proposed Project Emit Hazardous Emissions or Involve Handling Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School?* The boundary of the campus is within 0.25 mile of Bravo Medical Magnet High School. The LAC+USC Children's Center is located on the western edge of the medical center campus. Demolition activities involving ACM and LBP or excavation activities in the vicinity of potential environmental conditions (PECs) may result in the release of hazardous materials, but such releases, if they occur, would be	Less than significant (construction and operation)	See MM-HAZ-1 through MM-HAZ-3, above.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
generally limited to the project site. Operation of facilities would entail the use of solvents, cleaning agents, paints, pesticides, diesel, petroleum fuels, and batteries, but in quantities that would not be considered hazardous.			
Impact HAZ-4: *Would the Proposed Project Be Located on a Site that Is Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5 and, as a Result, Create a Significant Hazard to the Public or the Environment?* Several underground storage tanks, an active oil well, petroleum tanks, and pumps are all PECs within the vicinity of the site and could potentially be disturbed by construction activities, a potentially significant impact. Operation of future campus facilities would not pose a risk of disturbing PECs.	Potentially significant (construction) Less than significant (operation)	See MM-HAZ-1 through MM-HAZ-3, above.	Less than significant (construction and operation)
Impact HAZ-5: *Would the Proposed Project Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan?* Construction activities could temporarily impair and/or interfere with emergency response access in the vicinity of the project site because of possible lane closures, detours, and construction-related traffic. Operation of future campus facilities would allow for adequate access within and around the project site.	Potentially significant (construction) No impact (operation)	See mitigation measures MM-PS-1 in Section 3.12, Public Services, and MM-TRAF-1 in Section 3.14, Transportation/Traffic.	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Hydrology and Water Quality			
Impact HYD-1*: Would the Proposed Project Violate Any Water Quality Standards or Waste Discharge Requirements?* During construction, site grading activities and exposed soil could temporarily increase the amount of suspended solids (sediment) in sheet flow or runoff, which would enter the existing storm drain system. Similar to existing conditions, runoff during operation would be typical of urbanized areas and would include pollutants such as sediment, hydrocarbons, oil, grease, heavy metals, nutrients, herbicides, pesticides, fecal coliform bacteria, and trash. However, a Standard Urban Stormwater Management Plan (SUSMP), BMPs, and low-impact development (LID) features would be implemented to minimize water quality impacts.	Less than significant (construction and operation)	To ensure that potential impacts would remain less than significant, the following measures are proposed: **MM-HYD-1**: Construction activity (clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement) resulting in a land disturbance of one or more acre, or less than one acre but part of the larger master plan for the campus must obtain the Construction Activities Storm Water General Permit. Prior to beginning any construction activity, the County shall require the contractor(s) to develop the SWPPP, Construction Activities Storm Water General Permit, erosion/sediment control plan, and submit these plans for approval by the governing regulatory agency. The contractor(s) shall then perform all construction activity in accordance with the recommendations in the SWPPP, the Construction Activities Storm Water General Permit, and erosion/sediment control plan. The contractor's erosion control plan must comply with the California Stormwater Best Management Practices Handbook and meet the requirements of the statewide Construction General Permit. **MM-HYD-2:** LID features shall be designed to improve water quality and minimize the leaching of nutrients from growing media. Best design practices based on the latest monitoring and research recommendations shall be incorporated. In addition to avoiding the use of growing media, mulch, and compost containing animal products, which may leach nutrients, design modifications may include incorporation of an internal storage zone. With an internal storage zone, the	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		underdrain is elevated and anaerobic conditions are created, causing denitrification to occur, provided that a carbon food source is provided for the denitrifying bacteria. Additionally, due to the large area of proposed landscaping, phosphorous is a likely pollutant in stormwater runoff from the site. Phosphorous can be minimized through organic maintenance methods, Integrated Pest Management, and avoiding products containing animal manure or other animal products.Although these practices apply specifically to bioretention, they should also be considered for other landscape-based LID features that could be included in the final design. If phosphorous is added to the 303(d) list for the Los Angeles River Reach 2 or the Tier 3 Pollutants of Concern for the Los Angeles River Watershed Management Area, then it becomes a pollutant of concern for the receiving water body and the specialized design measures shall be incorporated at the landscape-based LID features proposed for the site.	
Impact HYD-2: *Would the Proposed Project Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge?* Construction activities could involve excavation below normal or seasonally high groundwater levels and seepage may be encountered. Construction would not deplete groundwater nor would it interfere with groundwater recharge. Operation of future facilities would increase water demand, but would also increase the amount of pervious	Less than significant (construction and operation)	To ensure that impacts would remain less than significant, the following measures are proposed: **MM-HYD-3:** Where groundwater seepage is expected, permanent monitoring wells shall be installed during construction within and around the perimeter of each building to monitor the groundwater level and evaluate the performance of the dewatering system. Before starting dewatering operations, a baseline conditions survey shall be made of all adjacent foundations and structures to assess the impact of deep excavation dewatering on adjacent structures. All signs of existing distress shall be recorded.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
surfaces that allow for groundwater recharge. The site would be planted with drought-tolerant species and would use reclaimed water or other alternative water source for irrigation.		**MM-HYD-4:** Irrigation water demands above existing irrigation demands shall be met by alternative supply sources to the maximum extent technically feasible. The use of alternative water supply sources for irrigation shall be maximized to reduce the use of potable water for irrigation and approximate existing irrigation demands. Alternative water supply sources include, but are not limited to, reclaimed water, gray water, harvested rainwater (stormwater), and air-conditioning condensate (although not specifically mentioned in the master plan, this could represent a significant source of clean irrigation water).	
Impact HYD-3: *Would the Proposed Project Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alteration of the Course of a Stream or River, in a Manner that Would Result in Substantial Erosion or Siltation On- or Off-Site?* Grading and excavation would be required for building foundations, which could affect drainage on the project site, but standard construction-phase BMPs would decrease the potential for any significant erosion or sedimentation from soil disturbance. During operation, structural BMPs that may be used as part of the master plan include filtration, runoff-minimizing landscaping for common areas, energy dissipaters, inlet trash racks, and water quality inlets such that substantial erosion or siltation would not occur.	Less than significant (construction and operation)	See MM-HYD-1, above.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact HYD-4: *Would the Proposed Project Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate or Amount of Surface Runoff in a Manner that Would Result in Flooding On- or Off-Site?* Although grading would occur throughout the site during the construction period, the resultant ground disturbance would be spread over the site and would not alter the overall topography and the rate or amount of surface runoff resulting from project construction activities would be similar to the amount under existing conditions. Operation would entail increased amounts of pervious (landscaped) areas and the use of LID features; the amount of stormwater runoff from surface sheet flow and the storm drain system is anticipated to decrease as a result of the project.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact HYD-5: *Would the Proposed Project Create or Contribute Runoff Water that Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff?* Peak flow rates and runoff volumes from the campus would be the same or lower than existing rates/volumes and would not affect the capacity or hydraulic integrity of the existing public storm drain system.	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact HYD-6: *Would the Proposed Project Otherwise Substantially Degrade Water Quality?* See Impacts HYD-1 and HYD-5, above, for a discussion of potential impacts associated with degradation of water quality during construction and operation. There are no other methods by which water quality could be substantially degraded as a result of construction or operations on the project site.	Less than significant (construction and operation)	To ensure that impacts would remain less than significant, the following measures are proposed: **MM-HYD-5:** During and after construction, positive drainage shall be provided to direct water away from buildings and foundations. Where positive drainage is not provided, area drains shall be used to drain depressions or low spots that are not part of the designed LID features. Area drains shall not be placed next to buildings or in contact with buildings. All area drains and LID features shall be located, at a minimum, 8 feet away from building foundations or as directed in the International Building Code or other regulatory requirements. Roof drainage shall be controlled and directed to proper drainage devices in an acceptable manner or to LID features. **MM-HYD-6:** An Operations and Maintenance Plan shall be developed for LID features at the site during the design of the initial development projects and expanded as development progresses and different LID features are added. The plan shall consider impacts on water quality and address issues related to Integrated Pest Management or organic maintenance practices, including those for hand weeding. The use of fertilizers, pesticides, herbicides, and products containing animal manure or animal products shall be avoided within any LID features at the project site. Outside of the LID features, Integrated Pest Management and organic maintenance practices shall be used.	Less than significant (construction and operation)
Impact HYD-7: *Would the Proposed Project Contribute to Inundation by Seiche, Tsunami, or Mudflow?* The project site is not located within a potential inundation area resulting	No impact (construction and operation)	None	No impact (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
from a dam failure. Additionally, the project site is approximately 19 miles inland from the Pacific Ocean. It is not within a potential tsunami inundation area or seiche or landslide/mudslide hazard zone. No impact would occur during construction or operation.			
Land Use/Planning			
Impact LU-1: *Would the Proposed Project Physically Divide an Established Community?* No new structures are proposed that would result in the demolition of residential uses in the surrounding neighborhood or divide an established neighborhood. Temporary land use construction impacts would be less than significant.	Less than significant (construction) No impact (operation)	None	Less than significant (construction) No impact (operation)
Impact LU-2: *Would the Proposed Project Conflict with any Applicable Land Use Plan, Policy, or Regulation of an Agency with Jurisdiction over the Project Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect?* The proposed project would be supportive of, or consistent with, the goals of the Regional Transportation Plan/Sustainable Communities Strategy and most of the relevant policies and objectives included in the Northeast Los Angeles Community Plan. Although most historical resources on the campus would be preserved, demolition of the historic Women's and Children's Hospital	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
building would conflict with the Northeast Los Angeles Community Plan's Objective 14-1 to preserve, protect, and/or enhance the area's significant cultural and historical resources. The project's significant operational traffic impacts would also conflict with the relevant goals of the Northeast Los Angeles Community Plan. However, because the master plan would be consistent with most local land use plan policies and the because the medical center campus is not subject to the city's land use regulations, the proposed master plan would not result in significant impact due to conflicts with any applicable land use plans and policies.			
Noise			
Impact NOI-1: *Would the Proposed Project Expose Persons to or Generate Noise Levels in Excess of Standards Established in a Local General Plan or Noise Ordinance or Applicable Standards of Other Agencies?* Maximum construction noise levels would exceed the thresholds established for the project at on-site medical center buildings that house patients and at off-site residential properties. Proposed on-site non-residential buildings would be exposed to potentially significant exterior noise levels that would require exterior-to-interior noise mitigation per the California Green Building Standards Code (CALGreen).	Significant (construction and operation)	**MM-NOI-1: Reduce Construction Noise to the Extent Possible**. The County shall implement the following noise reduction measures during construction: • Construction activities should be limited to between the hours of 7 a.m. to 7 p.m. on Monday through Friday or 8 a.m. to 6 p.m. on Saturdays, and should not occur at any time on Sundays or legal holidays. Construction personnel should not be permitted on the job site, and material or equipment deliveries and collections should not be permitted outside of these hours. • To the fullest extent practicable, the quietest available type of construction equipment should be used. Newer equipment is generally quieter than older equipment. The use of electric powered equipment is typically quieter	Significant and unavoidable (construction) Less than significant (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Proposed on-site residential buildings would be exposed to potentially significant exterior noise levels that would require exterior-to-interior noise mitigation per the County of Los Angeles Building Code. Mechanical equipment at the project site (HVAC, ventilation fans, central plant, etc.) has the potential to exceed the applicable City of Los Angeles noise standards at off-site sensitive receptors. Large organized outdoor events at the project site have the potential to exceed the applicable City of Los Angeles noise standards at off-site sensitive receptors.		than diesel or gasoline powered equipment, and hydraulic powered equipment is typically quieter than pneumatic power. • Where possible, impact pile driving should be replaced with other piling techniques, such as vibratory pile driving or drilled and poured-in-place piles. • All mobile and fixed noise-producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulation while in the course of project activity. • All construction equipment should be properly maintained. Poor maintenance of equipment typically causes excessive noise levels. • All construction equipment, stationary and mobile, should be equipped with properly operating and maintained mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. • All noisy equipment should be operated only when necessary, and should be switched off when not in use. • The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. • To the extent practicable, temporary barriers should be employed around the project site and/or around noisy construction equipment.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		For barriers to be effective they should break the line-of site between the equipment and any noise-sensitive receiver. These barriers may be constructed as follows: ○ From commercially available acoustical panels lined with sound absorbing material (the sound absorptive faces of the panels should face the construction equipment). ○ From common construction materials such as plywood and lined with sound absorptive material (the sound absorptive material should face the construction equipment). ○ From acoustical blankets hung over or from a supporting frame. The blankets should provide a minimum sound transmission class (STC) rating of 28 and a minimum noise reduction coefficient (NRC) of 0.80 and should be firmly secured to the framework with the sound absorptive side of the blankets oriented towards the construction equipment. The blankets should be overlapped by at least 6 inches at seams and taped so that no gaps exist. The largest blankets available should be used in order to minimize the number of seams. The blankets shall be draped to the ground to eliminate any gaps at the base of the barrier. • Construction employees shall be trained in the proper operation and use of the equipment. Careless or improper operation or inappropriate use of equipment can increase noise and vibration levels. Poor loading, unloading, excavation, and hauling techniques are examples of how a lack of adequate guidance and training may lead to increased noise and vibration levels.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		• Storage, staging, parking, and maintenance areas shall be located away from sensitive receptors. Where this is not possible, the storage of waste materials, earth, and other supplies should be positioned in a manner that will function as a noise barrier to the closest sensitive receivers. • Stationary noise sources such as generators and compressors should be positioned as far away as possible from noise sensitive areas. • Construction equipment shall be stored on the project site while in use. This will eliminate noise associated with repeated transportation of the equipment to and from the site. • To the extent possible, haul roads should not be designated through noise-sensitive areas **MM-NOI-2: Design Non-Residential Project Buildings to Comply with CALGreen Exterior-to-Interior Noise Control Standards**. During the architectural and engineering design phase of each new non-residential building that would be located within the 65 dB CNEL contour of any of the surrounding roadways (i.e., within 129 feet of Marengo Street, 172 feet of Mission Road, 46 feet of Zonal Avenue, 590 feet of I-5, or 482 feet of I-10), and prior to the issuance of any building permits for the building, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to comply with the State of California Green Building Standards Code. Such mitigation measures may include, but are not limited to: installation of sound-rated windows or upgrades to façade wall elements. It is noted that this mitigation measure does not apply to "buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings." **MM-NOI-3: Design Residential Project Buildings to Comply with the County of Los Angeles Building Code's Interior Noise Standards**. During the architectural and engineering design phase of each new residential building to be developed as part of the project, and prior to the issuance of any building permits for the building, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to comply with the County of Los Angeles Building Code's interior noise standard of 45 dB L_{dn} or CNEL. Such mitigation measures may include, but are not limited to: installation of sound-rated windows or upgrades to façade wall elements. **MM-NOI-4: Design Project Facilities to Ensure All Mechanical Equipment Complies with Chapter XI of the City of Los Angeles Municipal Code.** During the architectural and engineering design phase of each new facility (building, central plant, parking structure, etc.) that would introduce new mechanical equipment to the project site, and prior to the issuance of any building permits for the facility, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to ensure that the mechanical equipment complies with Chapter XI of the City of Los Angeles Municipal Code. Such recommendations may include, but are not limited to: changes in equipment locations, upgrades to central plant buildings, rooftop parapet walls, acoustical louvers or screens, or intake and exhaust silencers.	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		MM-NOI-5: Design and Manage Outdoor Use Areas to Ensure Organized Outdoor Events Comply with Chapter XI of the City of Los Angeles Municipal Code. Prior to the issuance of any building permits for outdoor use areas that are anticipated to host organized events such as outdoor markets, farmers markets, summer concerts and health marches, etc. the County shall retain an acoustical consultant to evaluate the design (event layout, sound system design, etc.) and operational event details (crowd sizes, times of operation, etc.) to ensure that such events will comply with Chapter XI of the City of Los Angeles Municipal Code. Such recommendations may include, but are not limited to: controls on crowd sizes and event times, and limits on sound system power levels.	
Impact NOI-2: *Would the Proposed Project Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels?* Construction vibration levels would exceed the threshold established for the project at both on-site medical center buildings that house patients and at off-site residential properties. Activities associated with operation of proposed master plan facilities are not expected to expose sensitive receptors to excessive groundborne vibration or noise.	Significant (construction) Less than significant (operation)	**MM-NOI-6: Reduce Construction-Generated Groundborne Vibration to the Extent Possible.** The County shall implement the following vibration reduction measures during construction: • Where possible, impact pile driving should be replaced with other piling techniques, such as vibratory pile driving or drilled and poured-in-place piles. • To the extent possible, heavy construction equipment should not be operated within 111 feet of on-site or off-site sensitive receptors.	Significant and unavoidable (construction) Less than significant (operation)
Impact NOI-3: *Would the Proposed Project Result in a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project?*	Potentially significant (operation)	See mitigation measure MM NOI-4, above.	Less than significant (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
New on-site mechanical equipment has the potential to produce a substantial permanent increase in ambient noise levels at nearby off-site noise-sensitive receptors.			
Impact NOI-4: *Would the Proposed Project Result in a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project?* Project construction could cause a temporary substantial increase in ambient noise levels at nearby off-site sensitive receptors. Large organized outdoor events at the project site have the potential to cause a periodic substantial increase in ambient noise levels at nearby off-site sensitive receptors.	Potentially significant (construction and operation)	See mitigation measures MM-NOI-1 and MM-NOI-5, above.	Potentially significant and unavoidable (construction) Less than significant (operation)
Impact NOI-5: *Would the Proposed Project be Located in the Vicinity of a Private Airstrip and Expose People Residing or Working in the Project Area to Excessive Noise Levels?* Aircraft operations associated with the two on-site helipads are not expected to change significantly as a result of the project and noise impacts would be less-than-significant.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Population/Housing			
Impact POP-1: *Would the Proposed Project Induce Substantial Population Growth in an Area, either Directly (e.g., by Proposing New Homes and Businesses) or Indirectly (e.g., through the Extension of Roads or Other Infrastructure)?*	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process. Additionally, the County has a large pool of construction labor from which to draw within commuting distance of the project site. Therefore, most construction workers would not relocate their households to work on proposed master plan development and improvement projects. The potential level of new development under the master plan could result in a net increase of 2,416 employees on the campus, which represents a relatively small percentage of the employment growth has projected in its regional and city forecasts. Additionally, development of on-campus housing may occur under the proposed master plan. However, the proposed project does not include the extension of roads or other infrastructure improvements outside the boundaries of the campus that would induce growth in the surrounding area.			
Impact POP-2: *Would the Proposed Project Displace Substantial Numbers of Existing Housing Units, Necessitating the Construction of Replacement Housing Elsewhere?* Although development proposed under the master plan may include a	No impact (construction and operation)	None	No impact (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
small parcel dedicated to housing, there are currently no permanent housing units on campus. Thus, no displacement of existing housing as a result of implementation of the master plan would occur.			
Impact POP-3: *Would the Proposed Project Displace Substantial Numbers of People, Necessitating the Construction of Replacement Housing Elsewhere?* All development and facilities proposed under the master plan would be constructed within the existing boundaries of the medical center campus. No displacement of existing housing would occur; therefore, no persons would be displaced as a result of the proposed project.	No impact (construction and operation)	None	No impact (construction and operation)
Public Services			
Impact PS-1: *Would the Proposed Project Result in Substantial Adverse Physical Impacts Associated with the Provision of New or Physically Altered Government Facilities, Need for New or Physical Altered Government Facilities, the Construction of Which Could Cause Significant Environmental Impacts, in Order to Maintain Acceptable Services Ratios, Response Times or Other Performance Objectives for Any of the Public Services?* Emergency access to the project site could be affected by master plan construction activities. Temporary	Potentially significant (construction) Less than significant (operation)	**MM-PS-1:** The Los Angeles County project manager and construction contractor shall regularly notify and coordinate with the LAFD, LASD and LAPD on project construction design, activities, and scheduling, including any on and off campus street or lane closures related to the proposed developments before construction begins.	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
lane closures and construction related-traffic could delay or obstruct the movement of emergency vehicles, a potentially significant impact. New development under the master plan would increase the number of campus employees and visitors. These increases are not expected to substantially increase the demand for public services that would require construction of new or altered facilities to maintain acceptable service ratios.			
Recreation			
Impact REC-1: *Would the Proposed Master Plan Increase the Use of Existing Neighborhood and Regional Parks or Other Recreational Facilities such that Substantial Physical Deterioration of the Facility Would Occur or Be Accelerated?* Given the limited opportunities for workers to use nearby recreational facilities during their break times, it is not expected that local park and recreational facilities would experience a substantial increase in use or physical deterioration as a result of the construction of projects under the proposed master plan. Additionally, it is not expected that growth in on-campus patient, visitor, or employee populations would result in a significant increase in the use of existing local parks or substantial physical deterioration of park facilities.	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact REC-2: *Would the Proposed Master Plan Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities that Would Have a Substantial Adverse Physical Effect on the Environment?* Construction of new landscaped open space areas on the medical center campus, as proposed under the master plan, would be limited to the project site. Staging for construction equipment and activities would not occur within any off-campus parkland or recreational facility. However, construction activities could result in noise and air quality impacts on nearby sensitive receptors, including local residents, hospital patrons, or possibly users of local park and recreational facilities. (See Air Quality, Noise discussions.) It is not expected that routine daily use of these open space areas by the community would result in significant operational impacts on the environment. However, the use of outdoor passive recreational spaces for special events that would attract a "large" number of attendees may result in intermittent, short-term traffic, noise, or air quality impacts. The noise generated by outdoor events could exceed applicable standards.	Potentially significant (construction and operation)	See air quality and noise mitigation measures identified above.	Significant and unavoidable (construction) Less than significant (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Transportation/Traffic			
Impact TRAF-1: *Would the Proposed Project Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Taking into Account All Modes of Transportation, Including Mass Transit and Non-motorized Travel, and Relevant Components of the Circulation System, Including Intersections, Streets, Highways and Freeways, Pedestrian and Bicycle Paths, and Mass Transit?* The extent of lane and sidewalk closures will not be known until individual development projects are proposed and project plans are developed. Nonetheless, to ensure construction transportation impacts due to projects proposed under the master plan would be minimized and reduced to a less-than-significant level, construction traffic control measures would be developed and implemented. Buildout of the master plan would result in significant impacts on the level of service at four intersections under the existing baseline plus-project scenario (study intersections 1, 9, 13, and 19) and cumulative year (2040) plus-project scenario (study intersections 9, 13, 19, and 20).	Potentially significant (construction) Significant (operation)	**MM-TRAF-1:** The County shall develop and implement traffic control measures for master plan projects that would result in lane or sidewalk closures, removal of parking, or similar traffic disruptions. Temporary traffic control during construction shall meet the requirements of the California Manual on Traffic Control Devices (CA-MUTCD). Daytime closures shall be covered by the applications shown in Chapter 6 of the manual. Overnight closures, long-term closures, and detours shall require a Traffic Control Plan, which shall be prepared as part of the project design package according to CA-MUTCD requirements. The Traffic Control Plan may include, but is not limited to, the elements listed below. Note that some of these elements may not be feasible or appropriate in all circumstances. The project-level environmental analysis shall identify the appropriate measures for each project. • Provide a roadway layout that shows the locations of construction activity and surrounding roadways to be used as detour routes, including special signage. • Establish detour routes in coordination with the City of Los Angeles to minimize disturbances to local traffic conditions; review potential detour routes to make sure adequate capacity is available. • Avoid creating additional delay at intersections that are currently operating under congested conditions either by choosing haul routes that avoid these locations (such as choosing haul routes that avoid the State Street/Marengo Street and State Street/Cesar Chavez Avenue	Less than significant (construction) Significant and unavoidable under the existing baseline plus-project scenario (intersections 1, 9, and 19) and cumulative year (2040) plus-project scenario (intersections 9, 19, and 20); if LADOT does not approve proposed mitigation measures at intersection 13, then the impacts at that intersection would also be significant and unavoidable under both scenarios.

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		intersections) or constructing during non-peak times of day (peak periods are generally 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m., Monday through Friday). • Maintain access to existing residences at all times. • Work with LADOT, LASD, LAFD, and LAPD to coordinate all construction-related plans and minimize disturbances to local EMS providers; ensure that alternative evacuation and emergency routes are designed to maintain response times during construction. • Provide adequate off-street parking areas at designated staging areas for construction-related vehicles. • Work with local and regional transit providers to maintain access and circulation routes to existing stops and stations during construction phases and identify appropriate detours to provide traffic rerouting during construction while minimizing disturbance to bus services. • Work with the City of Los Angeles to maintain continuity and operation of existing pedestrian and bicycle facilities during construction. **MM-TRAF-2:** To mitigate the significant traffic impact at the intersection of State Street and Marengo Street (study intersection #13) during the AM and PM peak hours, the southbound approach on State Street (within the LAC+USC Medical Center) shall be widened and reconfigured to provide one left-turn lane, one through lane, and one shared through/right-turn lane. Traffic signal enhancements, such as additional closed-circuit television cameras, should also be considered. In addition, the existing westbound bus stop at this intersection on	

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
		Marengo Street shall be relocated eastward to allow for the introduction of a separate westbound right-turn lane. The County shall consult with affected transit providers as well as LADOT to coordinate relocation of this bus stop. All elements of this mitigation measure need to be implemented to mitigate the significant impact. **MM-TRAF-3:** The County shall explore implementation of the following TDM measures to further reduce vehicle trips: • provide bicycle parking for new development that exceeds the County's code requirement; • provide other bicycle-supportive amenities such as bicycle lockers; • locate a station of a bicycle-sharing system on-site; • expand the County-operated Wellness Center Shuttle to include more stops on or near the site; and, • work cooperatively with other transit providers (Metro, LADOT, Metrolink, Foothill Transit, USC) to establish new transit stops or stations or to upgrade existing transit stops adjacent to the Medical Center or in the local area.	
Impact TRAF-2: *Would the Proposed Project Conflict with an Applicable Congestion Management Program, Including LOS and Travel Demand Measures, or Other Standards Established by the County Congestion Management Agency for Designated Roads or Highways?* Construction may require temporary road or lane closures, which, in turn, would result in a decrease in roadway	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
capacity and increased congestion. However, the affected roadways would be located immediately adjacent to or in close proximity to the campus. No CMP arterials or freeway mainlines would be significantly affected by project construction activities. Because incremental project-related traffic in any direction during either peak hour is projected to be less than the criterion of 50 trips on CMP arterials and 150 trips in either direction during either the AM or PM peak hours, no further CMP arterial or freeway analysis is required, and the impacts are considered to be less than significant.			
Impact TRAF-3: *Would the Proposed Project Result in a Change in Air Traffic Patterns, Including either an Increase in Traffic Levels or Change in Location that Would Result in Substantial Safety Risks?* The proposed project would not result in a change in air traffic patterns or the location of the helipad. Helicopters would use the same routes they use now when landing on top of the new hospital emergency room.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact TRAF-4*: Would the Proposed Project Substantially Increase Hazards Due to a Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)?*	Potentially significant (construction) No impact (operation)	See mitigation measure MM-TRAF-1, above.	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
The impact of construction-generated traffic on safety could be significant for projects that would require roadways restrictions, lane closures, and similar actions. During operation of the proposed project, upgrades to the campus would improve design features for campus visitors and employees. These upgrades would include improved sidewalks and safe, pleasant pedestrian walking paths throughout the campus. Project improvements to access, wayfinding, and the general orientation of campus facilities would also improve safety for motorists, pedestrians, and bicyclists as they travel to and around the campus.			
Impact TRAF-5: *Would the Proposed Project Result in Inadequate Emergency Access?* Construction could require temporary road or lane closures. This, in turn, would result in a decrease in roadway capacity and increased congestion. However, coordination with EMS providers that serve the campus and surrounding communities, as described in mitigation measure MM-TRAF-1, would ensure that impacts on emergency access during construction would be less than significant. Operation of proposed facilities under the master plan would not affect emergency access to the campus.	Potentially significant (construction) No impact (operation)	See mitigation measure MM-TRAF-1, above.	Less than significant (construction) No impact (operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact TRAF-6: *Would the Proposed Project Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle Facilities, or Pedestrian Facilities or Otherwise Decrease the Performance or Safety of Such Facilities?* Construction of the proposed project could involve intermittent lane and sidewalk closures. These closures would occur for limited periods of time during construction of individual projects proposed under the master plan. Given the frequency and density of existing bus transit service in proximity to the project site, the incremental increase in the number of transit riders (on average, 3 or fewer passengers per bus) resulting from the project is not anticipated to result in a significant impact on the transit lines that serve the area.	Significant (construction) Less than significant (operation)	See mitigation measure MM-TRAF-1, above.	Less than significant (construction and operation)
Impact TRAF-7: *Would the Proposed Project Result in Inadequate Parking Capacity?* Construction workers could increase parking demand in the project vicinity; such demand could exceed the available parking supply. However, because development of the proposed master plan would result in a net increase in the number of parking spaces compared with what is currently available on the campus and the removal of existing parking would be phased with corresponding	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
development of new parking, the impact on parking demand on the campus during construction would be minimized. The provision of additional parking at the key locations identified above would minimize the project's operational parking impacts.			
Utilities and Service Systems			
Impact UTL-1: *Would the Proposed Project Exceed Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board?* Wastewater generated by construction workers would be relatively small and substantially less than the 501,393 gallons per day of wastewater generated by existing uses on the campus. Wastewater generated by future campus uses would be conveyed via sewer lines to the Hyperion Treatment Plant for treatment to full secondary standards. The treated wastewater, which is discharged via a 5-mile ocean outfall into Santa Monica Bay, is subject to state waste discharge requirements and federal NPDES permit requirements.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact UTL-2: *Would the Proposed Project Require or Result in the Construction of New Water or Wastewater Treatment Facilities or Expansion of Existing Facilities, the Construction of Which Could Cause Significant Environmental Impacts?*	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Although new on-campus sewer lines may have to be constructed or existing campus sewer lines relocated to accommodate future master plan projects, no new or expanded offsite water or wastewater treatment facilities would be required as result of development under the master plan and therefore, impacts would be less than significant. Increased water consumption and wastewater generation as a result of new uses that would be developed under the master plan would not require new water or wastewater treatment facilities.			
Impact UTL-3: *Would the Proposed Project Require or Result in the Construction of New Stormwater Drainage Facilities or the Expansion of Existing Facilities, the Construction of Which Could Cause Significant Environmental Effects?* New grading required to construct proposed projects under the master plan would closely follow existing contours and direct stormwater runoff toward the center of the west campus. Operation would not require or result in the construction of new off-campus stormwater drainage facilities or the expansion of existing facilities.	Less than significant (construction and operation)	None	Less than significant (construction and operation)

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Impact UTL-4: *Would Sufficient Water Supplies Be Available to Serve the Proposed Project from Existing Entitlements and Resources, or Require New or Expanded Entitlements?* Construction under the proposed project would not require new or expanded entitlements to ensure the availability of sufficient water supplies. Future development under the master plan would result in a net increase in water consumption compared with the existing baseline condition. The County of Los Angeles coordinated with LADWP to prepare a Water Supply Assessment (WSA) for the proposed master plan. LADWP prepared the WSA based on the net increases in building square footage on the campus that could occur under the master plan. The proposed project could result in a net increase in water consumption of 169,951 gpd. Based on this projected water demand, as well as water conservation design measures implemented as part the master plan, LADWP has determined that there are sufficient water supplies to meet project demand as well as LADWP's other existing and future commitments for water service. The WSA has been recommended for adoption by the LADWP Board. However, for master plan projects that may be proposed far in the future (i.e., beyond 2035), it is not known	Less than significant (construction) Potentially Significant (operation) if it is determined that water supplies will not be sufficient to meet future projects' demands	**MM-UTL-1:** In conjunction with preparation of a subsequent CEQA environmental document for any future development project under the master plan proposed in 2035 and beyond that is defined as a "water-demand project" in Section 15155 of the CEQA Guidelines, the County shall request, pursuant to Section 15155, that the water provider determine whether the projected water demand associated with the project was included in the most recently adopted urban water management plan. If required pursuant to Section 15155 and SB 610, the County shall request that LADWP prepare a water assessment for the proposed project. The County shall determine, pursuant to Section 15155, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.	Less than significant (construction) Significant (operation) if it is determined that water supplies will not be sufficient to meet future (i.e., 2035 and beyond) master plan projects' water demands.

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
whether sufficient water supplies and entitlements would exist to accommodate those projects' water demand. Therefore, water supply impacts for projects constructed far in the future (i.e., beyond 2035) could be potentially significant. Accordingly, in the future (i.e., 2035 and beyond), when individual development projects under the master plan are proposed and building plans are developed, prior to the issuance of building permits, LACDPW will coordinate with the water provider, LADWP, to confirm that adequate water supplies exist to serve these future master plan projects.			
Impact UTL-5: *Would the Proposed Project Result in a Determination by the Wastewater Treatment Provider that Serves or May Serve the Project that It Does Not Have Adequate Capacity to Serve the Project's Projected Demand in Addition to the Provider's Existing Commitments?* Construction workers on the project site could generate a minor incremental increase in wastewater flows to the city's wastewater system. This increase would be insignificant and could readily be accommodated by the city's existing wastewater treatment system. All wastewater generated on the campus would ultimately be conveyed to the Hyperion Treatment Plant, which has sufficient capacity to	Less than significant (construction) Less than significant if BOS conducts further gauging and evaluation and identifies a sewer connection point with sufficient capacity (operation).	**MM-UTL-2:** Prior to issuance of a building permit for any future development project under the master plan that could result in an increase in wastewater generation, the County shall coordinate with the City of Los Angeles Bureau of Sanitation to conduct further detailed gauging and evaluation to identify a specific sewer connection point with sufficient capacity. If the public sewer has insufficient capacity, then the County shall be required to build a sewer line to a point in the sewer system with sufficient capacity.	Less than significant (construction) Because the County cannot compel another public entity, in this case BOS, to conduct further gauging and evaluation, for the purposes of this EIR, the impacts (operation) on local sewer lines are considered to be significant and unavoidable.

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
accommodate the project as well as existing commitments.[1] Consequently, significant impacts on the city's wastewater treatment system are not anticipated. Additionally, the local sewer system may have sufficient capacity to accommodate wastewater flows from master plan development. However, if the City of Los Angeles Bureau of Sanitation (BOS) determines that there is insufficient capacity in local sewer lines to accommodate project flows, the impact would be significant.			
Impact UTL-6: *Would the Proposed Project Be Served by a Landfill that Has Sufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs?* Solid waste generated by construction activities and operation of new facilities proposed under the master plan can be served by a landfill that has sufficient permitted capacity to accommodate the project's solid waste disposal needs. Therefore, impacts would be less than significant.	Less than significant (construction and operation)	None	Less than significant (construction and operation)
Impact UTL-7: *Would the Proposed Project Fail to Comply with Federal, State, and Local Statutes and Regulations Related to Solid Waste?* Development under the LAC+USC Medical Center Campus Master Plan would be subject to and comply with	Less than significant (construction and operation)	None	Less than significant (construction and operation)

[1] A. Poosti, Los Angeles Bureau of Sanitation, personal communication, July 16, 2014.

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
AB 939 and other solid waste regulations such as the Industrial Waste Control Ordinance of the Los Angeles Municipal Code, the City of Los Angeles Sewer Allocation (Ordinance No. 166060), and the California Solid Waste Reuse and Recycling Access Act, which governs building permits that oversee the transfer, receipt, storage, and loading of recyclable materials.			
Impact UTL-8: *Would the Proposed Project Result in a Substantial Increase in Energy Demand that Would Affect Local or Regional Energy Supplies and Require Additional Capacity to Meet the Increased Demand?* Construction activities would not result in a permanent increase in demand for energy resources. Therefore, construction of projects under the master plan would not require additional energy capacity to meet the increased demand. The impacts would be less than significant. The proposed master plan includes energy-efficient project design features and outlines plans to construct and implement sources of solar electric power, solar thermal and hot water, as well as ground-source heating for various facilities. These efforts, combined with compliance with Title 24's energy conservation standards for new construction would help to offset any additional energy consumption as a	Less than significant (construction) Impacts (operation) on natural gas supplies are considered to be potentially significant for master plan projects developed beyond the year 2030. Other energy impacts would be less than significant (operation)	No mitigation measures are required for energy impacts that would be less than significant. No feasible mitigation measures have been identified to address long-term impacts on natural gas supplies due to master plan projects developed after 2030.	Less than significant (construction) Impacts (operation) on natural gas supplies are considered to be potentially significant for master plan projects developed beyond the year 2030. Other energy impacts would be less than significant.

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
result of the proposed project. SoCalGas has projected natural gas supplies through the year 2030 and estimates that available capacity will exceed demand by 48%. Given projected natural gas supply and consumption trends, it is likely that there will be sufficient supply beyond 2030, however, SoCalGas has not made projections beyond that year. Therefore, for the purposes of this EIR, the impacts on natural gas supplies due to master plan projects constructed after 2030 are considered to be potentially significant. The net increase in the consumption of transportation fuels would represent an insignificant percentage of the anticipated amount of fuel that would be consumed statewide in the future (year 2030).			
Source: ICF International, 2014.			

Chapter 1
Introduction

This draft environmental impact report (EIR) evaluates potential environmental impacts that could result from the implementation of the proposed LAC+USC Medical Center Campus Master Plan Project (proposed project) in the City of Los Angeles, California. The proposed master plan would guide development and a series of improvements to the medical center campus over the coming decades.

1.1 Background

The 600-bed Los Angeles County - University of Southern California (LAC+USC) Medical Center is one of the largest public hospitals in the country. It has played an active and integral role in the health of Los Angeles County since the mid-1800s, increasing its presence and services as the need for quality health care grew with the County's population.

In 1998, the County of Los Angeles (County) embarked on a replacement for the General Hospital, which called for a 600-bed facility and associated modifications. Changes in medical delivery and technology, infrastructure demands, code and fire life/safety requirements, and changing patient expectations were some of the factors driving the need for a replacement facility. A significant amount of funding for the replacement facility came from the Federal Emergency Management Agency (FEMA) after General Hospital suffered building damage during the 1994 Northridge earthquake. Completed in 2008, the new LAC+USC Medical Center provides trauma, inpatient, and primary and specialty outpatient care services. Specifically, the replacement medical center project resulted in a new 600-bed Inpatient Tower, Clinic Tower, Diagnostic and Treatment Building, Central Plant, and Parking Structure (Marengo Structure, PS #9).

The introduction of the Affordable Care Act (ACA) is expected to influence services and operational priorities at LAC+USC Medical Center in upcoming years. The expansion of health insurance to some 34 million persons is expected by 2019. The resulting challenges facing LAC+USC Medical Center, as well as other County hospitals, will be even greater than private sector hospitals because of the medical center's role as a safety-net hospital.

In October 2013, the Countybegan preparing the LAC+USC Medical Center Campus Master Plan Report. One of the goals of campus master planning was to develop a community-friendly campus to promote healthy lifestyles that meld the needs of the surrounding communities, constituents served, and existing operations. The report summarized the research, findings, observations, and proposals for master planning options at the LAC+USC Medical Center Campus and identified seven master planning principles to determine the quality and effectiveness of the different plan options.

The principles include the following:

- Principle 1: Optimize the Value of the Campus.
- Principle 2: Strengthen LAC+USC's Image, Place, and Presence in the Community.
- Principle 3: Promote Wellness Activities and Culture.
- Principle 4: Enhance the Campus Experience for Visitors, Patients, and Professionals.

- Principle 5: Restore LAC+USC Campus as a Vibrant Destination.
- Principle 6: Demonstrate Sustainable Development.
- Principle 7: Create a Coherent Campus at Every Phase.

Four master plan options were developed that were based on an evaluation of the existing site, understanding of proposed program development, input from stakeholders, contributions from community residents and businesses, and a vision for the site. The four options were presented at community outreach meetings and a preferred master plan option (proposed project) was subsequently selected (see Chapter 2 for a description of the preferred master plan).

1.2 Overview of the CEQA EIR Process

The California Environmental Quality Act (CEQA) was adopted in 1970 so that the significant environmental effects of proposed actions would be disclosed to decision-makers and the public. CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies. Approval of the proposed project is a discretionary act by a public agency, in this case the Los Angeles County Board of Supervisors, acting on behalf of the County of Los Angeles as the lead agency for the project. Therefore, compliance with CEQA is required. The informational document that was prepared in compliance with CEQA to describe the proposed project's significant environmental effects, measures to mitigate those significant effects, and alternatives to avoid or minimize the significant environmental effects, is an EIR. The lead agency under CEQA for this EIR for the proposed master plan is the County of Los Angeles. The major steps that have been and will be taken by the County in preparing and processing the EIR in compliance with CEQA regulations are described below.

1.2.1 Notice of Preparation and Scoping Period

The County, in accordance with CEQA, prepared a Notice of Preparation (NOP), which was released to the public and filed with the State Clearinghouse (SCH No. 2014051061) in the Office of Planning and Research on May 19, 2014. The NOP provided notice to the public and public agencies that an EIR would be prepared, described the proposed project that would be evaluated in detail in the EIR, listed the probable environmental effects of the proposed project, and identified the date, time, and location for a scoping meeting, which was held on June 4, 2014, at the LAC+USC Medical Center.

The NOP was distributed to involved public agencies and interested parties for a 30-day public review period, which began on May 19, 2014, and ended on June 18, 2014.

A copy of the NOP is included in Appendix A of this EIR, along with comments provided by the public and public agencies in response to the NOP. Comments received in response to the NOP during the scoping period were considered in preparing this EIR.

1.2.2 Draft EIR Public Review and Comment Period

The draft EIR was distributed to the public and interested or affected agencies for review during a 45-day comment period, extending from September 5 to October 20, 2014. During that timeframe, members of the public and public agencies were asked to review the draft EIR and provide comments on the document as well as the adequacy of the impact analyses.

The draft EIR was available for review on the County's website (http://ceo.lacounty.gov/pdf/NOA_08-26-2014.pdf), and copies of the draft EIR were made available for general public review at the following locations:

Chinatown Branch Library 639 N. Hill Street Los Angeles, CA 90012 (213) 620-0925	Lincoln Heights Library 2530 Workman Street Los Angeles, CA 90031 (323) 226-1692	El Sereno Branch 5226 Huntington Drive Los Angeles, CA 90032 (323) 225-9201
Malabar Branch Library 2801 Wabash Avenue Los Angeles, CA 90033 (323) 263-1497	Benjamin Franklin Library 2200 East 1st Street Los Angeles, CA 90033 (323) 263-6901	Anthony Quinn Library 3965 East Cesar Chavez Avenue Los Angeles, CA 90063 (323) 264-7715
City Terrace Library 4025 East City Terrace Drive Los Angeles, CA 90063 (323) 261-0295	LAC+USC Medical Center Inpatient Tower and Outpatient Clinic – Information Desks 2051 Marengo Street Los Angeles, CA 90033 (323) 409-1000	

Any individuals or parties could provide written comments on the draft EIR. Written comments on the draft EIR were required to be postmarked by October 20, 2014, and addressed to:

Clarice Nash, Project Manager
County of Los Angeles Department of Public Works
Project Management Division I
900 South Fremont Avenue
Alhambra, CA 91803-1331
E-mail: cnash@dpw.lacounty.gov

Public notice of the availability of the draft EIR was provided in the following publications:

- *Boyle Heights Beat/El Pulso de Boyle Heights*
- *Eastsider LA*
- *Downtown News*
- *Sing Tao.*

1.2.3 Preparation of the Final EIR and Project Approval

With completion of the 45-day draft EIR public review period, this final EIR has been prepared. It includes comments on the draft EIR received during the formal public review period as well as written responses to those comments. This final EIR also contains corrections to the text of the draft EIR, as needed. Changes to the text of this document are noted with a line in the margin. The draft EIR and this final EIR compose the EIR for the proposed project.

If the decision-making body of the lead agency (here, the Los Angeles County Board of Supervisors [Board]) approves the proposed project, CEQA requires the Board adopt "findings" with respect to each significant effect identified in the EIR (Public Resources Code Section 21081; State CEQA Guidelines Section 15091). For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- Changes or alterations have been required for, or incorporated into, the project that avoid or substantially lessen the significant environmental effect, as identified in the final EIR.
- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

In the event that the County, as the lead agency, concludes that the proposed project will result in significant effects that would not be substantially lessened or avoided by feasible mitigation measures and alternatives, the County must adopt a "statement of overriding considerations" (Public Resources Code Section 21081, subd. (b); State CEQA Guidelines Section 15093). Under CEQA, such statements are intended to provide a written means by which the lead agency balances the benefits of the proposed project and the significant and unavoidable environmental impacts. Where the lead agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable significant environmental impacts, the lead agency may find such impacts "acceptable" and approve the project. In addition, pursuant to Section 21081.6 of the Public Resources Code, public agencies, when approving a project, must also adopt a program for monitoring or reporting the changes that were incorporated into the project or made a condition of project approval to mitigate or avoid significant effects on the environment. The purpose of the monitoring and reporting program is to ensure mitigation measures and project revisions identified in the EIR are implemented. The program, which will be referred to as the Mitigation Monitoring and Reporting Plan (MMRP) for the proposed project, will be recommended for adoption by the Los Angeles County Board of Supervisors at the time project approval is considered by the Board.

1.3 About This EIR

1.3.1 Program EIR

This EIR for the proposed project is a program EIR. A program EIR is described in Section 15168 of the State CEQA Guidelines as an EIR that "may be prepared on a series of actions that can be characterized as one large project and are related either geographically, as logical parts in the chain of contemplated actions, [or] in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program…" Because the proposed project consists of a master plan with components that would be implemented over a period of years, the County determined that a program EIR would be the appropriate document for the proposed project.

According to the State CEQA Guidelines, a program EIR can provide the following advantages:

- Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
- Ensure consideration of cumulative impacts that may be slighted on a case-by-case basis;
- Avoid duplicative reconsideration of basic policy considerations;
- Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and
- Allow a reduction in paperwork.

Subsequent activities (or projects) in the program or plan requiring further discretionary approvals would be examined in light of the program EIR to determine whether an additional environmental document should be prepared, as well as the appropriate format for the documentation. If the lead agency finds that the subsequent activity or project would not result in new effects or require new mitigation measures, the lead agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. If an EIR is required for a subsequent activity, the subsequent EIR can focus solely on new effects that were not considered in the program EIR.

1.3.2 Organization and Content of This EIR

This draft EIR conforms to the content requirements of the State CEQA Guidelines. A list of the chapters and a brief description of their content is provided here to assist the reader in locating information.

Executive Summary: The Executive Summary provides a brief description of the proposed project, including an overview of the impact analysis, recommended mitigation measures, and net residual impact. Summary information regarding the proposed project and key conclusions is also provided.

Chapter 1: Introduction: The Introduction provides a general orientation regarding the purpose of CEQA, as well as this final EIR, and includes information on the CEQA EIR process.

Chapter 2. Project Description: This chapter presents a statement of the proposed project objectives, a description of the location and setting for the project, a detailed description of the proposed project's components, and related information regarding implementation.

Chapter 3. CEQA Environmental Impact Analysis: This chapter analyzes potential impacts under CEQA that could occur as result of approval and implementation of the proposed project. The impact discussion is organized into topical issues that have the potential to result in impacts on the environment.

Chapter 4. Other Analysis Required by CEQA: This chapter includes a discussion of other topics required by CEQA, including a listing of impacts found not to be significant, growth-inducing impacts, and irreversible changes that might occur as a result of the project.

Chapter 5. Alternatives Analysis: This chapter includes a discussion of the proposed alternatives to the proposed project and discusses the comparative merits of each, in accordance with State CEQA Guidelines Section 15126.6. The chapter also discusses alternatives that were considered but rejected as infeasible and identifies the environmentally superior alternative.

Chapter 6. Responses to Comments: This chapter lists the formal written comments received during the 45-day public review period and responses to those comments.

Chapter 7. List of Preparers This chapter lists persons who contributed directly to the preparation of this EIR.

Chapter 8. References: This chapter lists the sources of information that were referenced for the analyses contained within this EIR.

This final EIR also includes a number of appendices, including a copy of the NOP/IS and public responses to the NOP, and technical analyses, which were the basis for the evaluation of project impacts presented in Chapter 3 of this final EIR.

Chapter 2
Project Description

2.1 Introduction

This chapter describes the proposed LAC+USC Medical Center Campus Master Plan Project (proposed project). It includes a description of the project location and an overview of the existing environmental setting and discusses the project objectives, project elements, and construction schedule. A list of related projects is also provided.

2.2 Project Location and Environmental Setting Overview

The LAC+USC Medical Center campus is located at 2051 Marengo Street, on several parcels of land owned by the County of Los Angeles. The LAC+USC Medical Center campus is surrounded by the Boyle Heights and Lincoln Heights neighborhoods of the City of Los Angeles, in Los Angeles County. Specifically, the main campus site is generally bounded by Zonal Avenue, Mission Road, Marengo Street, and Chicago Street. State Street bisects the project site. In addition, the project site extends to parcels on each side of Mission Road north of Zonal Avenue and on both sides of Griffin Avenue west of Mission Road.

The site is located immediately northeast of Interstate (I) 5 (Golden State Freeway) and north of I-10 (San Bernardino Freeway). Figure 2-1 depicts the regional location of the proposed project, and Figure 2-2 depicts the boundaries of the master plan.

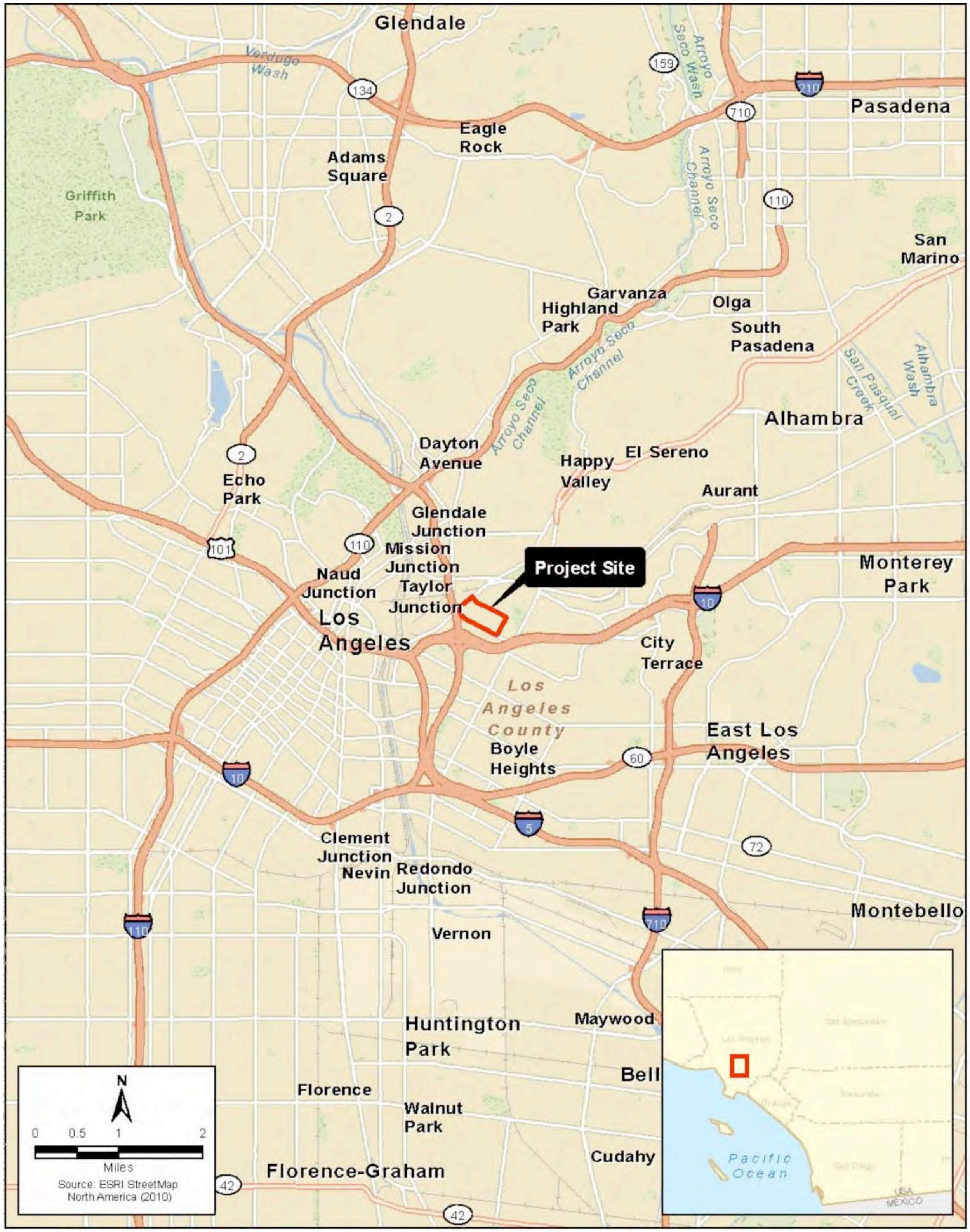
2.2.1 Surrounding Land Uses

The project site encompasses 76 acres owned by Los Angeles County in a completely developed area that supports a variety of land uses. Specifically, land uses located in the area surrounding the project site include County/public, residential, commercial, medical, and institutional uses. Residential neighborhoods are located to the east along Chicago Street and north of Alhambra Avenue. The USC Health Sciences Campus (USC HSC), which includes the Keck School of Medicine, USC School of Pharmacy, Keck Hospital, and the USC Norris Comprehensive Cancer Center, is located north of the project site, across Zonal Avenue. Hazard Park, and reservoir, is located 0.6 mile to the northeast. Francisco Bravo Medical Magnet High School is also located in the surrounding area, at the southwest corner of Zonal Avenue and Cornwell Street. Several County-operated services are located in the immediate area. Commercial uses are located west of the project site. Regional access to the project site is provided by I-5 and I-10.

2.2.2 Existing General Plan and Zoning

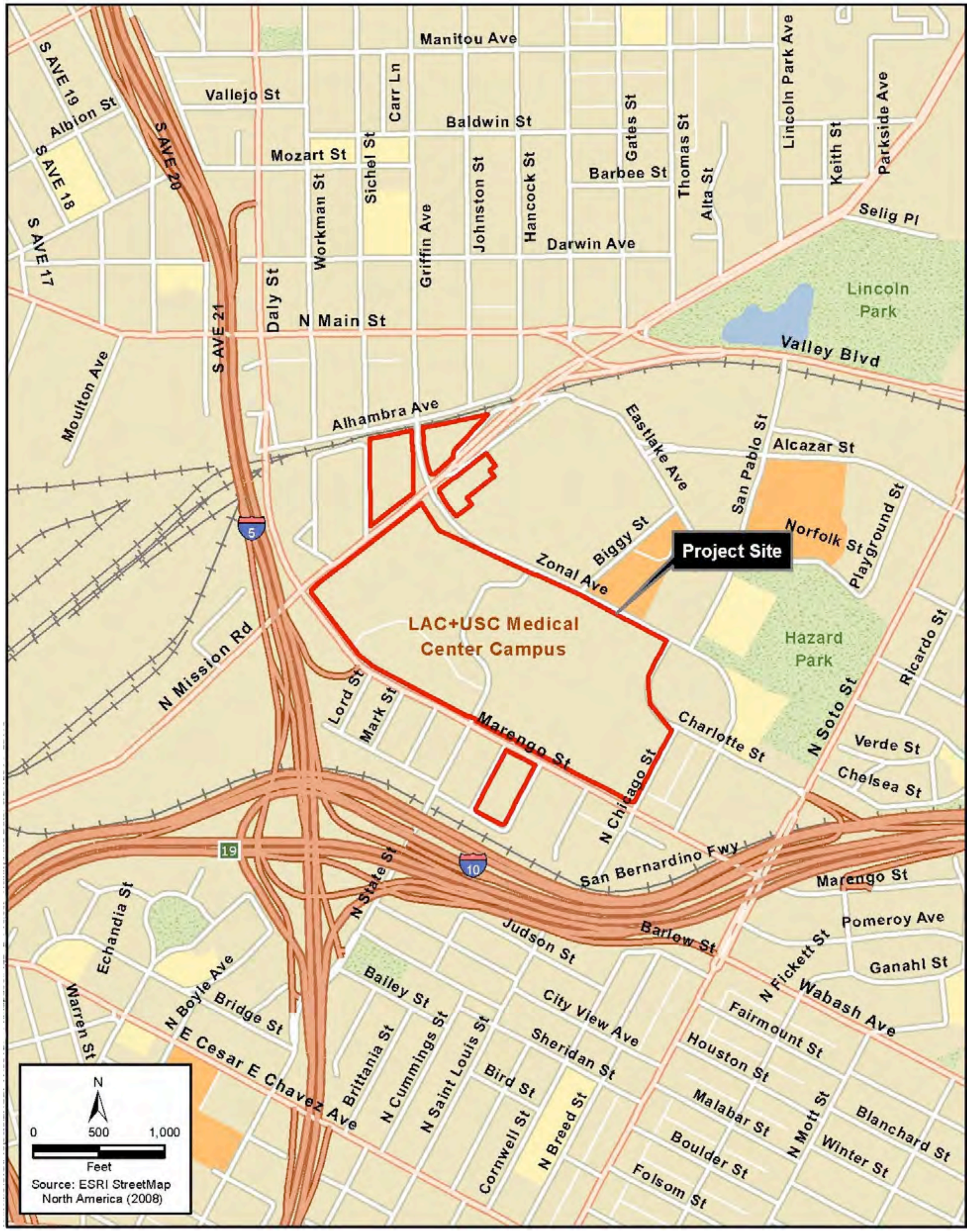
The properties that compose the LAC+USC Medical Center campus are zoned for public facilities (PF-1) by the City of Los Angeles. The area around the LAC+USC Medical Center campus is further defined by the City of Los Angeles as being part of a Community Center land use area.

Figure 2-1: Regional Location Map



Source: ICF International, 2014.

Figure 2-2: Project Vicinity Map



Source: ICF International, 2014.

2.3 Overview of Existing Campus Facilities

2.3.1 Site Attributes, Existing Buildings, and Current Utilization

The main campus (bounded by N. Mission Road on the west, Marengo Street on the south, North Chicago Street on the east, and Zonal Avenue on the north) is effectively divided into two distinct areas: the East Campus (east of State Street) and West Campus (west of State Street). State Street is the only street for vehicular traffic that crosses the main part of the campus. It bisects the campus between Zonal Avenue on the north and Marengo Street on the south and provides bus, shuttle, and private auto access to the existing plaza at General Hospital. It also provides a drop-off area for patients and visitors when going to the Clinic Tower building.

2.3.1.1 East Campus

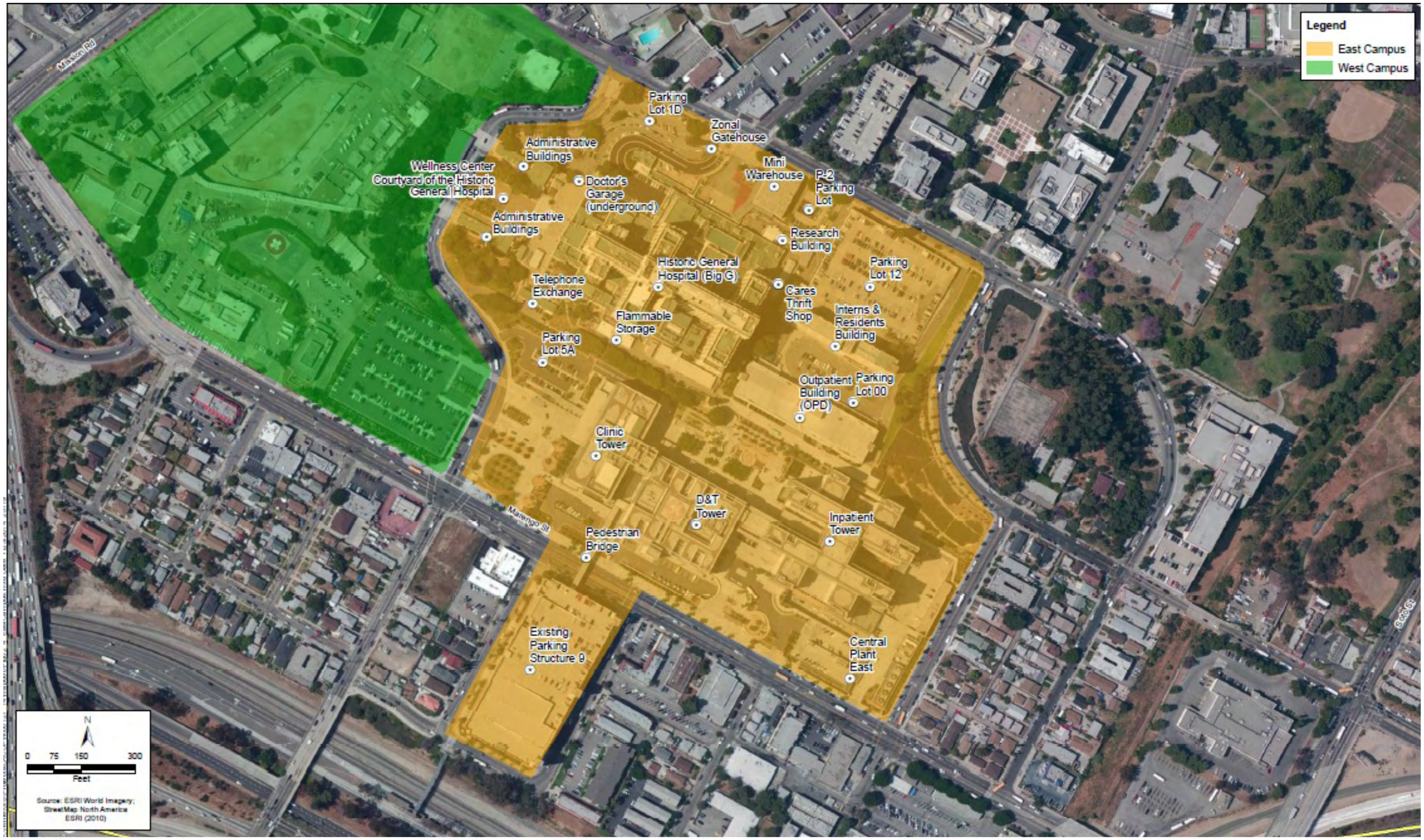
The area east of State Street contains the majority of the active clinical (both inpatient and outpatient) services on the campus. Figure 2-3 shows the existing configuration of the East Campus. This area contains the LAC+USC Replacement Hospital and Central Plant, the older Outpatient Department (OPD) building, and the new Clinic Tower (built in 2008). The Replacement Hospital buildings are connected to Parking Structure 9 by a pedestrian bridge that crosses over Marengo Street. This area is the primary public-facing portion of the LAC+USC Medical Center, representing the new "front door" of the LAC+USC Medical Center campus to the community.

Also located east of State Street is the former Interns and Residents building, currently used for hospital administration; several parking lots and Parking Structure 12 are also located east of State Street. However, the former General Hospital is the dominant building on this side of the campus because of its height and presence on a crest within the campus. General Hospital, a designated historic resource, was built in 1933 and will remain on the site at its current location and with its current façade elements. Although the recently opened Wellness Center describes planned changes on the 1st and 2nd floors of General Hospital and the surrounding gardens, there are no plans to implement any physical alterations to the outside appearance of General Hospital as part of this master plan. General Hospital was built along with two administrative buildings, a gatehouse, and a utility tunnel and bridge. Several modular structures have been added at the historic entry plaza as well as north, east, and south of General Hospital.

2.3.1.2 West Campus

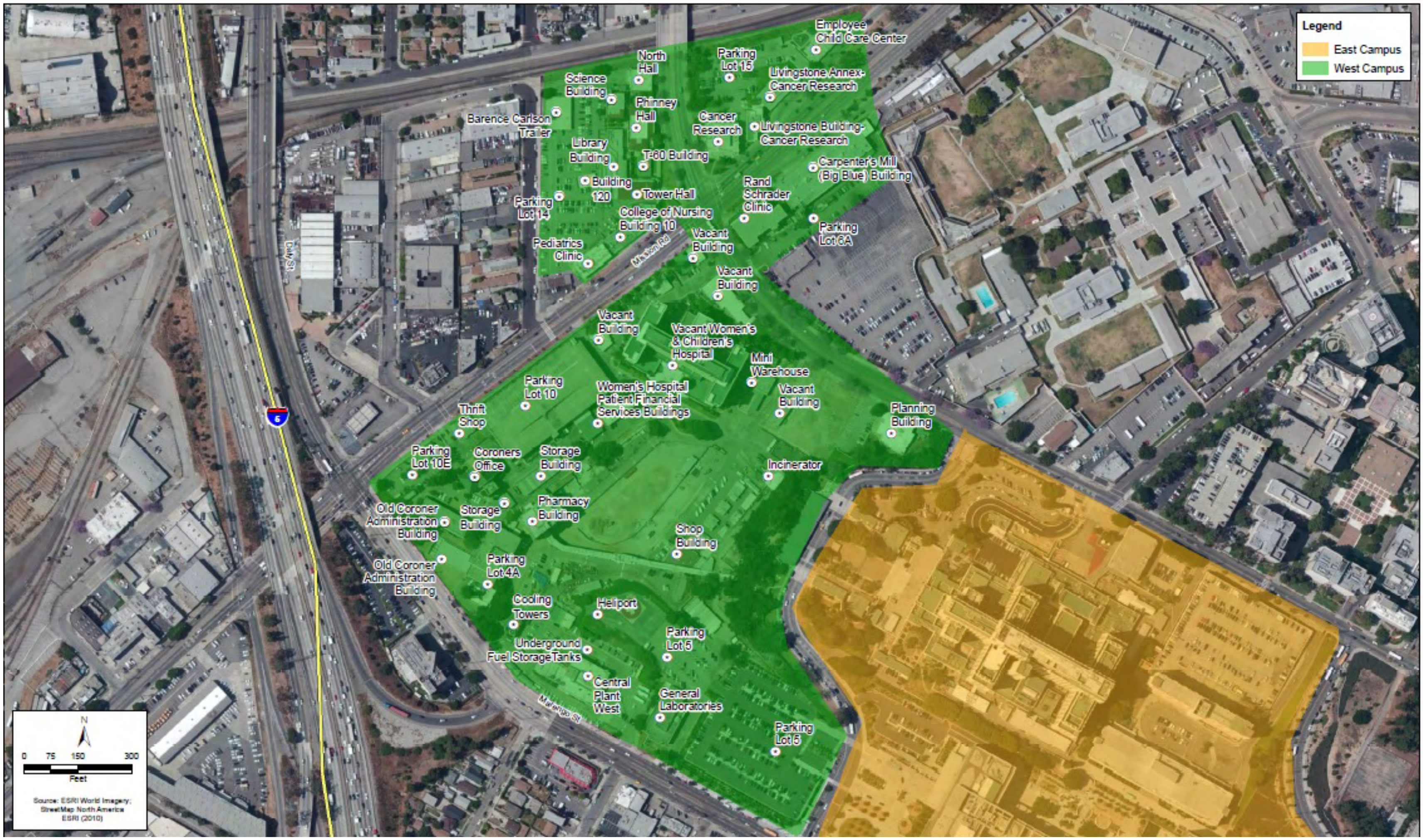
Most of the site west of State Street is under-utilized, and a large amount of open space is present. Figure 2-4 shows the existing configuration of the West Campus. The area west of State Street includes the Los Angeles County Coroner's facilities, on-grade and structural parking, and large under-utilized areas with a number of support buildings. Many of these buildings are one-story modular buildings and not in very good physical condition. Some are not fully functional; therefore, several campus programs are currently being housed in temporary buildings or trailers. During the building assessment analysis, many of the structures in this area were identified by the master plan team as candidates for eventual demolition or removal. Exceptions include the coroner's office, pharmacy building, and gatehouse, all of which are located on the southwest corner of the site. These three buildings have historic value and continue to be used for County functions.

Figure 2-3: East Campus



Source: ICF International, 2014.

Figure 2-4: West Campus



Source: ICF International, 2014.

At the southwest corner of Mission Road and Zonal Avenue is the decommissioned Women's and Children's Hospital. Directly across the street, to the northwest, a cluster of Spanish Colonial buildings houses facilities for administration, counseling, social work, facilities support, and clinical support. This area includes the College of Nursing and Allied Health as well as Parking Lot 14. At the southeast corner of Mission Road and Zonal Avenue is the Rand Schrader Clinic; the Carpenter's Mill building, known as "Big Blue"; and Parking Lot 6A. Across Mission Road, at the northeast corner of this intersection, several buildings are currently used for cancer research. Also on this corner are the Livingstone Annex, Parking Lot 15, and the employee childcare center.

The parcel on the northeast corner of Alhambra Avenue and Griffin Avenue is used for medical archive storage. It is also the site for Parking Lot 13. This parcel will not be included as part of the proposed master plan, and is thus not shown in the figures above. An additional parcel located between Valley Boulevard, Eastlake Avenue, and Alcazar Street is used as a storage and maintenance yard. This parcel is also not included as part of the proposed master plan, and is thus not shown in the figures above.

2.4 Proposed Project

The proposed LAC+USC Medical Center Campus Master Plan would be implemented over a period of approximately 25 years (2015–2040). The plan would guide future development on the campus and influence the delivery of health care services and health-related community programs. Development under the master plan would include the construction of new or renovation of existing office space for medical uses; development would also include retail space, open space, and parking uses. Demolition of some existing buildings and structures would be required to accommodate new development. Full buildout of the master plan could result in a total of approximately 1,725,000 square feet of development throughout the campus.

2.4.1 Master Plan Objectives

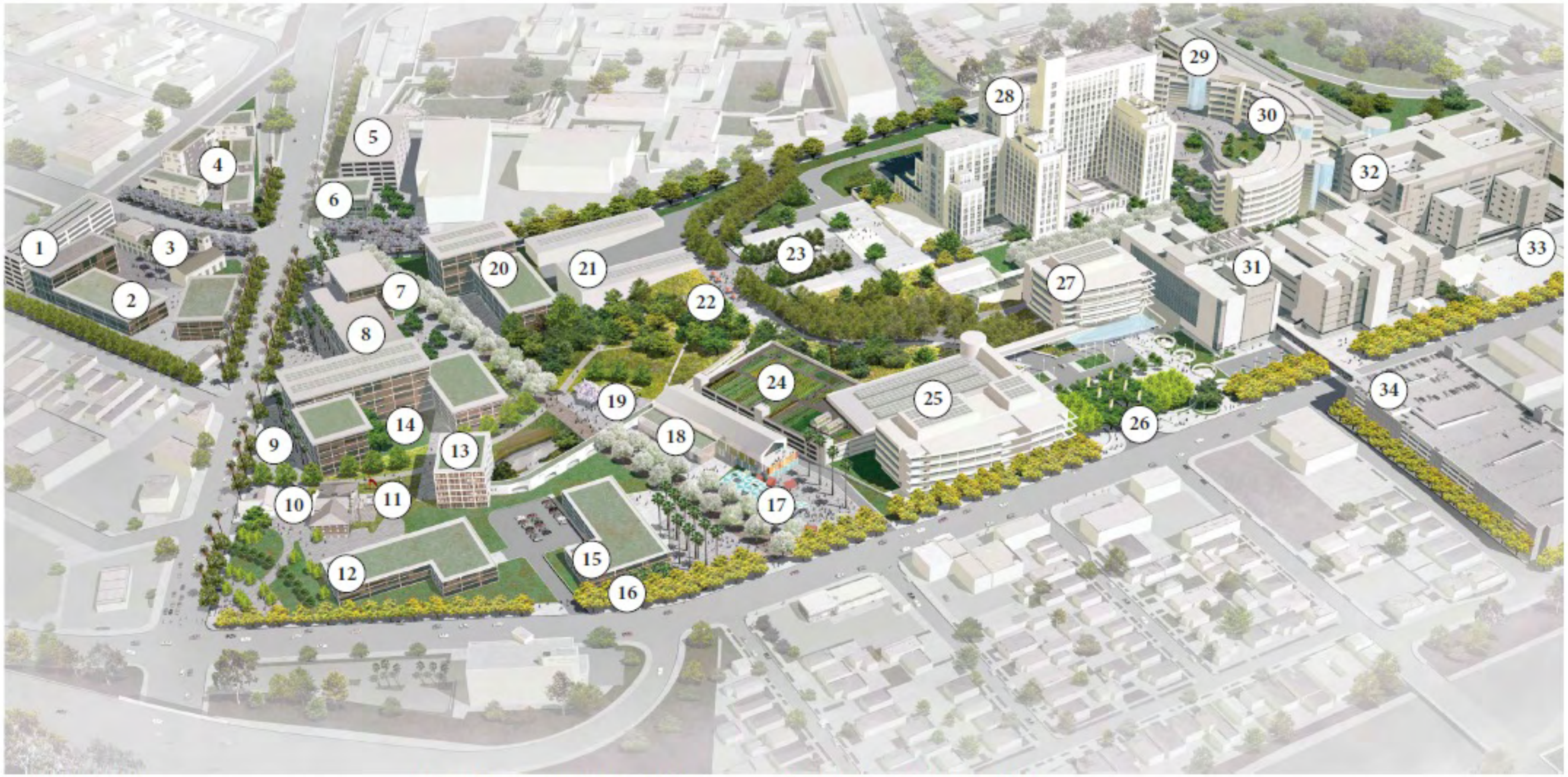
The objectives of the master plan are to:

1. Achieve a community-friendly campus
2. Promote healthy lifestyles and wellness
3. Maximize access to the medical center by the community
4. Provide opportunities for appropriate education and job training
5. Incorporate on-campus business opportunities
6. Plan for future program development

2.4.2 Elements of the Master Plan

The main elements of the proposed master plan are listed below. They are represented visually in Figure 2-5.

Figure 2-5: Preferred Master Plan



1 – Parking Structure	13 – Existing Pharmacy Building to Stay	25 – New Outpatient & Office Building
2 – Biotech Research	14 – Adventure Courtyard	26 – New Hospital Entry & Plaza
3 – Adaptive Reuse	15 – Biotech Research	27 – New Outpatient & Office Building
4 – Potential Workforce Housing	16 – Community Gardens	28 – Existing Historic General Hospital – No Changes
5 – Parking Structure	17 – Market Plaza & Pedestrian Mall	29 – Parking Structure
6 – Biotech Research	18 – Community & Office Space Building	30 – 3 New, 150-Bed Inpatient Towers
7 – Bike Depot Pocket Park	19 – Event Space & Central Plaza	31 – Existing Medical Center – No Changes
8 – Biotech Research	20 – Biotech Research Buildings	32 – Existing Medical Center – No Changes
9 – Entry Plaza	21 – Underground Parking Structure	33 – Existing Central Utility Plant – No Changes
10 – Existing Thrift Shop & Coroner's Buildings to Stay	22 – The Hill Open Space	34 – Existing Parking Structure – No Changes
11 – Artist Meadows	23 – New Overlook & Wellness Plaza	
12 – Biotech Research	24 – New Parking Structure with Rooftop Farm	

Source: LBL Inc., 2014; ICF International, 2014.

2.4.2.1 Inpatient Facilities

The master plan proposes up to three new inpatient towers with 150 beds each in the area now occupied by the OPD building, Interns and Residents building, and Parking Structure 12.

Figure 2-5, above, shows potential new connections and paths proposed as part of the master plan.

2.4.2.2 Outpatient Facilities and Medical Center Offices

The master plan addresses issues related to the medical center's ability to provide improved patient-centric services by planning for both the replacement of aging existing facilities (the OPD, for example) and the strategic expansion of outpatient clinic services in the future. New outpatient facilities proposed under the master plan would contain approximately 200,000 square feet of outpatient and clinic space. These outpatient buildings would be located on either side of State Street, in areas now occupied by Parking Lots 5 and 5A. In addition to providing much-needed administrative and office support space, the clinic space provided by the new buildings will allow for eventual replacement of the existing OPD and Interns and Residents buildings.

The master plan would include provisions to consolidate office space and improve current conditions by providing sufficient space for existing needs while providing for targeted growth. Specifically, the master plan would provide for approximately 265,000 square feet of new administrative office space, which would accommodate both existing needs as well as future needs with modest expansion. This office space would be located within the new outpatient facilities described above, which are envisioned for the space currently occupied by Parking Lots 5 and 5A.

2.4.2.3 Central Utility Expansion

Additional infrastructure would be provided to support future development proposed under the master plan. The existing central plant does not have sufficient capacity to support long-term planned growth on the campus.

Proposed improvements would include an increase in central plant capacity and additional space to support the central plant equipment required for full buildout of the master plan. The central plant would eventually be relocated to an area on the project site that is less visible to the public, an area that would total 40,000 square feet. Upon relocation, the central plant's current location would be used for future development of Market Park.

2.4.2.4 Pedestrian Circulation and Access

The existing topography of the LAC+USC Medical Center campus is difficult for pedestrians to navigate. This condition was frequently voiced by community residents during the public outreach effort at the community workshop sessions conducted as part of the master plan process. A critical component of the master plan is to alleviate these navigational challenges by specifically addressing the following:

- Create an "assisted grade transition" (with use of an escalator, for example) to improve accessibility between the existing courtyard of the LAC+USC Replacement Hospital and the upper OPD clinic building.
- Use elevators within the proposed parking structures west of State Street to provide an accessible route from Marengo Street to the Wellness Center at the historic General Hospital.

- Modify the slope of the hillside west of the historic General Hospital entry plaza and connect the proposed public-serving amenities at the base of the hill to the historic plaza with use of escalators.

2.4.2.5 Surrounding Streetscape, Vehicular Circulation, and Access

State Street

This is the only street that cuts through the center of the site. It is envisioned as a quiet street with limited vehicular access. Emergency and transit vehicles, as well as vehicles en route to the proposed parking areas, would have access but not the general public.

Proposed improvements along the street's extent would include sidewalks on both sides of the street, adequate lighting for pedestrian safety, an artistic canopied walk to connect the hospital's entry area to Wellness Center Park, and significant native canopy trees, such as California sycamores or coastal live oaks, to line the edges of the street.

Mission Road

The existing streetscape has little connection to the site because of walls and buildings, which block any physical or visual connection to the site. A priority will be to make the edge of the site more permeable. Some possible improvements could involve planting low-maintenance shrubs and groundcover in the parkways, supplementing the existing palm plantings with a flowering canopy tree, and adding site elements such as transit shelters, bike racks, pedestrian lights, and seating areas. The 2010 City of Los Angeles Bicycle Plan also includes the provision of bicycle lanes on Mission Road.

Marengo Street

Where feasible, the existing design in front of the Replacement Hospital, including the double row of trees, ample sidewalk widths, benches, and pedestrian lights, would be extended west of State Street to Mission Road. Additional streetscape amenities would be incorporated into the design, including a range of seating types, larger transit stations with ample seating, and navigational signage.

Zonal Avenue

Zonal Avenue is different from the previously described streets. It is quieter and less urban in character. The City's 2010 Bicycle Plan calls for making Zonal Avenue a bicycle-friendly street. The master plan proposes to support bicycle access with development of a new dedicated bike path within the campus property, inside the public sidewalk. The path would connect the proposed campus pocket park to the existing Hazard Park. Additional improvements would include flowering canopy trees along its extent, navigational signage, pedestrian lighting, and highlighted pedestrian crosswalks with decorative paving between the USC HSC and the project site.

Parking

Providing access to sufficient parking is a current challenge for the LAC+USC Medical Center. The proximity of parking to the campus is another issue. The master plan proposes additional parking in key locations by:

- Providing a new central drop-off location that would serve the existing hospital and future outpatient facilities, by expanding the current drop-off area on the east side of State Street, just north of Marengo Street.
- Providing additional parking in proximity to the new drop-off area.
- Providing parking for future outpatient, community, and office buildings.

2.4.2.6 Biotech Research and On-Campus Housing

The master plan would leverage the remaining underutilized areas in the northwest portion of the main campus by developing biotech research facilities. Under the proposed master plan, areas north of Mission Road and on either side of Griffin Avenue would include additional biotech research facilities, along with potential on-campus housing for members of the research and medical center community.

Additional community-serving functions along the north/south spine of the community could be combined with the new facilities for the College of Nursing and Allied Health. Although most of the proposed open space areas within the campus are intended to be open to the public, the biotech, research, and education courtyards are intended to be directly associated with the adjacent building uses. Public access would be determined by the building occupants.

It should be noted that the biotech research facilities and potential on-campus housing, because they are dependent on future market demand and funding availability, and would likely be developed in farther in the future, have not defined to the same extent as plans for other parts of the campus. The biotech research facilities and potential workforce housing in the northwest part of the campus are included for analysis at a more conceptual level to disclose to interested parties the current vision for development in the later years of the 25-year master plan. In particular, the potential workforce housing is undefined and the potential number of housing units have not been identified. However development of biotech research facilities is assumed to comprise 635,000 square feet for purposes of the analysis in this EIR. It is possible that the County may choose to revise the development vision for this portion of the campus at a later date, and in that case, the changes would be measured against the assumptions and analysis in this EIR to determine whether subsequent CEQA documents would need to be prepared to evaluate the environmental impacts of those changes.

2.4.2.7 The Adventure Courtyard

Using adjacent building façades, the Adventure Courtyard would provide an active and unique recreation space within the campus. Amenities would include an outdoor gym, a climbing wall, and an elevated rope course. This unique active recreation area on campus would be periodically open to the public. An ideal location would be within the courtyard space adjacent to The Commons near Mission Road.

2.4.2.8 Research Gardens

The proposed land use for this area would be related to education and research. Ideally, the gardens would be tied to the research that takes place within the buildings. Some ideas discussed as part of the master plan process include a medicinal plant garden, a pollinator garden, and a “water-wise” garden with both native and nonnative plant species that are appropriate for the area.

2.4.2.9 Community Open Space and Landscape Conceptual Elements

A total of 55,000 square feet of wellness-oriented meeting space and retail space as well as 50,000 square feet of community-serving education and office/recreation space would be located along a newly created north/south pedestrian circulation spine that would lead from Marengo Street to the corner of Zonal Avenue and Mission Road.

The Commons

The main public outdoor space proposed by the LAC+USC Medical Center Campus Master Plan would provide the campus with the following enhancements:

- A significant public outdoor space, linking the community and education facilities on Marengo Street with the Wellness Center at the historic General Hospital.
- Permanent administrative and office spaces for Department of Health Services functions, which are currently housed within General Hospital.
- Additional parking, both temporary surface parking as well as a new below-grade structure that would connect upper State Street with the lower Commons area.
- Expansion of the new central plant facility to support future development.

New Hospital Entry and Plaza Area at the State Street Entry

This area is intended to be an extension of the existing entry plaza on the east side of State Street. It would be designed to complement and build upon the style of the existing plaza. The new hospital entry and plaza area would become a "gateway" through the use of theme trees, colorful shrubs, and ground cover. The entry's design, complete with campus signage, would stand apart from the overall streetscape design.

Pedestrian Spines and Perimeter Landscaping

Improving pedestrian circulation on the grounds of the medical center would be provided through a series of pedestrian spines that would run north/south and connect access points along Marengo Street to access points along Zonal Avenue, thereby increasing the connectivity of the campus with respect to the adjacent community and the USC HSC to the north. These spines could be highlighted with improvements such as decorative paving, canopy trees, benches, signage, or lighting.

Overlook and Wellness Center Park at the Historic Plaza

Wellness Center Park would provide a variety of health-oriented amenities that would align with the master plan's open space vision. Maintaining the historical character and grand statement of the existing historic plaza would be a priority for the proposed improvements. However, providing shaded areas, a variety of gathering and seating options, a possible drop-off area, and accessible access to Wellness Center Park are other concerns.

The master plan proposes extending Wellness Center Park across State Street, with an overlook plaza that would provide views of the proposed Commons area. Key components of the plan include adequate shaded seating and a safe pedestrian crossing at State Street.

The Market Plaza

The proposed Market Plaza is envisioned as a major public pedestrian gateway to the campus and a significant public open space along Marengo Street. The plaza design would remain flexible to host a variety of community events and activities, such as outdoor markets with street vendors, organized weekly farmers markets, and other urban public events. Small-scale food kiosks and retail activities would also be part of the plaza. Canopy trees, public art, site lighting, seating areas, and shade canopies would all be incorporated into the plaza design. The Market Plaza would be located in the area between the existing central plant and Parking Lot 5.

The Community Garden

Located adjacent to the proposed Market Plaza and community buildings, a proposed community garden would provide accessible plots where residents of the adjacent community could maintain their own garden spaces. In addition to garden plots, the garden would have an outdoor classroom and gathering areas where local community groups could host meetings and other functions.

The Pedestrian Mall

The proposed Pedestrian Mall is envisioned as a vibrant pedestrian axis that would cut through the newly developed portion of the site, creating a public street that would be accessible to pedestrians and emergency vehicles only. The axis would be highlighted with a variety of shade trees, public art, navigational signage, lighting, and ample seating. The proposed Pedestrian Mall alignment would intersect an existing arched opening on an above-grade tunnel, thereby taking advantage of the historic site element and creating a gateway to the proposed community park, The Commons.

Pocket Park

Although much smaller in scale than the proposed Market Plaza, the proposed pocket park would mark the northern terminus of the Pedestrian Mall. It is envisioned as a small pocket park at the intersection of Zonal Avenue and Mission Road. Both of these streets have future bike lanes/bike-friendly street improvements planned for them.

Improving access to the site and encouraging alternative modes of transportation are high priorities. The proposed pocket park would include bike storage options, a bike maintenance area, transportation information (e.g., maps, schedules), and a rest area. The area would also serve as a site gateway and a community pocket park, with shaded gathering areas, appropriate vegetation, signage, and public art.

Entry Plaza at the Historic Gate

The plaza is intended as a pedestrian gateway to the western edge of the campus, with the historic Los Angeles County Department of Coroner building in the foreground. Amenities would include social gathering areas, public art, and, if feasible, connections to existing transit stops.

Artist Meadows

The proposed Artist Meadow would provide both permanent and temporary exhibit space for local artisans within the setting of a native grassland landscape. The proposed meadow would be planted with native grasses and wildflower species and designed to create a habitat for urban pollinator species.

Treatment Wetlands

A large engineered wetland, a site-wide stormwater treatment best management practice, is proposed along the pedestrian spine at the lowest point on the site. The wetland would be an exemplary model of stormwater treatment strategies, demonstrating a variety of applications for the urban environment. In addition to being an environmental amenity, the wetland would be designed to be an accessible open space enhancement and an educational resource that would convey the importance of stormwater-related issues and the region's larger hydrological context.

Event Space and Central Plaza

At the center of the site, a large-scale event space is proposed. It is envisioned that Central Plaza would host community events, such as a summer concerts and health marches.

The Hill

One objective of The Commons is to help people navigate the site's topography. The Hill area of The Commons would extend the existing slope and create a less steep incline, which could be used to accommodate an accessible route across the site's change in elevation of approximately 40 feet. The Hill is envisioned as lightly programmed terrain with an urban forest, a gently sloping great lawn with views of the proposed event space, and a woodland walk with small informal gathering areas.

In an effort to encourage people to get outside and use the proposed open space amenities, three routes are proposed for going up The Hill: a gently graded path for universal access, a challenging staircase, and an exterior escalator. All of these routes would terminate at the proposed Overlook and Wellness Center Park at General Hospital.

The Hill area would be developed on top of a proposed subsurface parking structure. Adequate soil depths would be required to create the proposed urban forest on top of the parking structure.

The Rooftop Farm

In addition to the proposed community garden area, a community farm is proposed on top of the proposed parking structure that would be nestled in the existing site topography. The vision is for the area to be operated more like a farm rather than a community garden. The Rooftop Farm would provide fresh produce that could be used by the Food Services Department on campus.

The farm would be operated by Los Angeles County or leased out to a community organization, providing job opportunities and occupational training for the community. A combination of fields, orchards, and greenhouses would be incorporated into the design to ensure a year-round range of growing opportunities.

A summary of the proposed increases in building square footages and number of hospital beds is provided by land use category in Table 2-1 below. The analyses of the proposed master plan's environmental effects presented in this program EIR are based on the land uses and building square footages presented in Table 2-1.

Table 2-1: Summary of Proposed Master Plan Land Uses

Land Use	Existing Use to Be Removed (sf)	Proposed New Use (sf)
Wellness-Oriented Community Facilities	N/A	85,000 sf of wellness-oriented meeting space and community-serving space 20,000 sf of wellness-oriented community retail space
New Utility Plant and Facilities	31,000 sf of maintenance facilities 20,938 sf of utility plant and cooling towers	40,000 sf of new utility plant and maintenance facility
Outpatient Clinics/ Laboratories/ Medical Offices	457,727 sf of outpatient clinics/ laboratories/medical offices	200,000 sf of outpatient clinics/laboratories/medical offices
Professional/ Administrative Offices	197,288 sf of administrative office space	265,000 sf of professional and administrative offices
Research and Development	N/A	635,000 sf of research and development space
Hospital Addition (Inpatient)	N/A	450 new hospital beds in three new 150-bed towers*
Warehouse/Storage	15,756 sf of warehouse and storage trailers	N/A
Total	**722,709 sf**	**1,245,000 sf and 450-bed hospital addition**
Net Proposed: ~522,000 sf and 450-bed hospital addition		
* An estimate of the square footage for these towers is not yet available. Source: County of Los Angeles. 2014. LAC+USC Medical Center Campus Master Plan.		

2.5 Construction Scenario

Construction activities on the campus would occur over a 25-year period, from 2015 to 2040. Elements of the master plan, as described above, would be built as the funding for each element is appropriated. General construction activities would include the demolition of several structures, including the old utility and maintenance facility, OPD building, Interns and Residents building, Parking Structures 10 and 12, several modular buildings, and storage and warehouse buildings. Excavation would be required to lay the foundations for the new buildings. Finally, substantial grading would occur in the middle part of the campus. This would be for the parking structures as well as the community amenities, open space, and paths that have been proposed for this part of the campus. Staging areas for construction would be located within the campus. The staging locations would be determined by the construction contractor(s) in consultation with the County. In identifying potential staging locations, the contractor and the County will consider whether there is a sufficient buffer between the staging area and offsite sensitive land uses to ensure the impacts from construction staging on these uses would be minimized. Potential staging locations could include areas in the west campus, south of Zonal Avenue.

The timing of construction for individual project elements over the 25-year master plan timeframe (2015 to 2040) is not known, as they are dependent on securing necessary funding, among other factors. For the purposes of this program level EIR analysis, a conservative, worst-case scenario was assumed that envisions all of the project elements being constructed at once and overlapping, rather than individual master plan projects occurring sequentially.

2.6 Project Approvals

Implementation of the proposed project would require the following discretionary actions and permits from the County of Los Angeles Department of Public Works and other bodies and agencies:

- Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] Construction General Permit).
- Haul Route Permit;
- Grading, excavation, and building permits;
- Approvals from the City of Los Angeles for off-site intersection improvements;
- Certification of the EIR and approval of the master plan by the County Board of Supervisors; and
- Any other permits or approvals that may be required.

2.7 Related Projects

A list of related projects has been developed. All projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment when considered in combination with the proposed project are included in an EIR. These projects can include, if necessary, projects outside of the control of the lead agency. Section 15130 of the State CEQA Guidelines stipulates that EIRs must consider the significant environmental effects of a proposed project as well as "cumulative impacts." A cumulative impact is defined as an impact that is created as a result of the project evaluated in the EIR combined with the impacts of other projects, thereby causing related impacts (State CEQA Guidelines Section 15355). As stated in the State CEQA Guidelines, Section 15130(a)(1), the cumulative impacts discussion in an EIR need not discuss impacts that do not result in part from the project evaluated in the EIR. Cumulative impacts may be analyzed by considering past, present, and probable future projects with related or cumulative impacts (State CEQA Guidelines Section 15130(b)(1)(A)).

In this draft EIR, cumulative impact analyses are provided for each environmental issue discussed in Chapter 3 (Environmental Analysis). The study areas for the cumulative impact analyses varies by impact. These can be found in each respective subsection (e.g., Air Quality, Transportation and Traffic, etc.). Table 2-2, Related Projects, lists the related projects that were considered in the cumulative impact analyses. The locations of the related projects are depicted in Figure 2-6, Related Projects Map.

Table 2-2: Related Projects

Map Reference No.	Status	Project Title	Project Type; Project Description/Scope	Environmental Document and Permits	Project Location/Limit
1	Ongoing master plan development	USC Health Sciences Campus Master Plan	Master plan with up to 99,800 sf of medical clinic facilities, 9,900 sf of non-clinical facilities, 238,500 sf of graduate student housing, a 250,000 sf hotel, and 256,000 sf of academic/medical research facilities	EIR Addendum	1510–1520 N. San Pablo Street (several parcels); bound by Zonal Avenue to the south, Mission Road to the west, Valley Boulevard to the north, and Playground Street and the Los Angeles County Department of Public Works yard to the east.
2	Seeking city approvals	1101 N. Main Condos	300 condominiums	EIR	1101 N. Main Street
3	Under construction	Los Angeles County Metropolitan Transportation Authority (Metro) Bus Facility	360,000 sf Metro bus maintenance and operations facility	MND	920 N. Vignes Street
4	Under construction	Marengo Ctr. Comm. Building – Mixed Use	27,235 sf Mixed-use development; retail, and commercial uses.	MND	1902 E. Marengo Street
5	Under construction	Medical Office Expansion	49,542 sf of Medical Office expansion	MND	1828 E. Cesar Chavez Street
6	Seeking city approvals	SPR – Medical Office and Retail	Development of 66,000 sf of medical office and retail space	MND	3303 N. Broadway
7	Seeking city approvals	Retail Pharmacy	Retail pharmacy development (15,112 sf)	MND	3617 E. Cesar E. Chavez Avenue
8	Seeking city approvals	Wyvernwood Garden Apartments Redevelopment	Redevelopment of an approximately 69-acre site into a mixed-use project containing retail, residential, office, and civic space amenities.	EIR	2901 E. Olympic Boulevard
9	Conceptual planning	Sears Building Adaptive Reuse	Redevelop the existing Sears building as an adaptive reuse mixed-use project consisting of apartments, retail, and office space; 562,000 sf and 1,000 dwelling units	MND or EIR	2650 E. Olympic Boulevard

Source: ICF, 2014.

Figure 2-6: Related Projects

Source: ICF International, 2014

Chapter 3
Environmental Analysis

This chapter describes the existing environmental conditions in the project area, the thresholds used to determine the significance of potential impacts, the construction and operational impacts that could occur due to the projected level of development under the master plan, measures to mitigate impacts that are identified as significant, and potential cumulative impacts. The thresholds that have been identified to determine the significance of project impacts are generally based on the environmental checklist questions in Appendix G of the State CEQA Guidelines. Where agencies that have jurisdiction over resources that could be affected by the proposed project have established specific quantifiable thresholds, those thresholds have been used to determine the significance of project impacts. The initial study attached to the notice of preparation (NOP) (see Appendix A) and public responses to the NOP were used to identify those impacts requiring further analysis in this chapter. Please see Chapter 4 of this draft EIR for a list of environmental categories where no impacts would occur, and therefore no further analysis was required.

3.1 Aesthetics

3.1.1 Introduction

This section describes the potential of the proposed LAC+USC Medical Center Campus Master Plan Project (proposed project) to affect aesthetics and visual resources within the project's visual setting.

The proposed project would entail the demolition of certain existing buildings; construction of new buildings; the reconfiguration of outdoor areas to create new usable park-like landscaped spaces for visitors and staff; parking facility enhancements and the establishment of new vehicular drop-off locations; relocation of the central utility plant; and the installation of miscellaneous short-term warehouse and trailer units at the LAC+USC Medical Center campus

Located in the Boyle Heights community in the City of Los Angeles, the LAC+USC Medical Center campus is located on property entirely owned by Los Angeles County. However, because the viewshed for evaluating aesthetics extends beyond the LAC+USC campus and includes areas within the adjoining neighborhood that fall under City of Los Angeles jurisdiction, the Regulatory Setting (Section 3.1.2) includes both County and City of Los Angeles aesthetics-related policies.

3.1.2 Regulatory Setting

3.1.2.1 Federal

There are no federal regulations pertaining to aesthetics and visual resources that are applicable to the proposed project.

3.1.2.2 State

California Environmental Quality Act

CEQA requires an evaluation of scenic resources when considering project effects on the environment. Such evaluations consider site-specific history, context, and area sensitivity, such as whether light and glare, demolition, and new development could potentially change visual character, and affect scenic views and natural and manmade visual resources.

California Scenic Highways Program

The California Department of Transportation (Caltrans) established and implemented the California Scenic Highway Program to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment (Streets and Highways Code, Section 260 et seq.).

Caltrans defines a State Scenic Highway as any freeway, highway, road, and other public right-of-way that "traverses an area of outstanding scenic quality, containing striking views, flora, geology, and other unique natural attributes" (Caltrans 2009).

Once a highway has been designated a state or national scenic highway, or a scenic corridor, special consideration must be made whenever a project proposes to develop the surrounding area.

No State Scenic Highways or Eligible/Officially Designated Scenic Routes have been identified in proximity to the project site. The closest such routes are SR-39 and SR-2 (Angeles Crest Highway) in the City of Azusa, approximately 17 miles to the northeast of the project site.[1]

3.1.2.3 Local

Los Angeles County General Plan

The current Los Angeles County General Plan and the Draft General Plan 2035 provide the policy framework for how and where unincorporated areas will grow, and establishes goals, policies, and programs to protect neighborhood character and promote aesthetically pleasing, sustainable development. Although the project site is owned by the County, it is located within the City of Los Angeles. The city's regulations and guidelines are discussed below.

Los Angeles Municipal Code

The Los Angeles Municipal Code (LAMC) sets forth regulations and standards regarding the allowable type, density, height, and design of new development projects. In particular, Chapter 1 of the LAMC, General Provisions and Zoning, provides development standards for the various zoning districts in the City of Los Angeles. In addition, the LAMC also sets forth the following specific regulations regarding lighting:

> Chapter 1, Article 2, Section 12.21 General Provisions, paragraph A, Section 5, Part (k) restricts light spill onto adjacent properties and provides minimum luminance levels for safety within and around parking facilities.

As part of the LAMC, the City of Los Angeles Planning and Zoning Code includes standards for different land uses and identifies which land uses are allowed in various zoning districts. The project site has a City of Los Angeles zoning designation of Public Facilities – PF (City of Los Angeles n.d.[b]). The PF zoning district allows public health facilities, including clinics and hospitals. PF-1 zoning does not have restrictions regarding the heights of buildings or any specific front-, side-, or rear-yard setbacks.

City of Los Angeles Walkability Checklist

The 2008 Walkability Checklist for Entitlement Review was developed by the City Planning Department's Urban Design Studio to encourage city planning staff, project proponents, and community stakeholders to pursue high quality urban design that provides enhanced pedestrian movement, access, comfort, and safety, both in the public right-of-way and on private properties. It specifies urban design guidelines that are generally applicable to all projects requiring discretionary approval for new construction. The Walkability Checklist consists of objectives, goals, and implementation strategies regarding various design elements that are intended to improve the pedestrian environment, protect neighborhood character, and promote high quality urban form. Such topics as sidewalks, crosswalks/street crossings, on-street parking, utilities, building orientation, off-street parking and driveways, on-site landscaping, building façades, and building signage and lighting are addressed and should be considered in the design of a project.

---

[1] Information provided at http://www.dot.ca.gov/hq/LandArch/Scenic/cahisys.htm.

City of Los Angeles General Plan

The City of Los Angeles General Plan, approved by the City Planning Commission and the mayor and adopted by the City Council, is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Los Angeles.

The Transportation Element of the city's general plan (1999) also provides a list of scenic highways and streets. The closest of these are Monterey Road/Huntington Drive as they approach the City of South Pasadena; and Stadium Way, north from the 110 Freeway (near Los Angeles Dodgers Stadium), which are located 1.5 and 2 miles away, respectively.[2] Views of the project site cannot be acquired from either of these scenic highways/streets.

The city's general plan is comprised of a series of 35 community plans that provide more specific development policy guidance for each community. The Northeast Los Angeles Community Plan governs physical development policy in the project area.

Northeast Los Angeles Community Plan

The Northeast Los Angeles Community Plan area encompasses the hills and valleys east of the Los Angeles River and north of the Boyle Heights Community Plan area within the City of Los Angeles. The 15,000-acre area, with roughly 250,000 inhabitants in a diverse collection of communities and neighborhoods, serves as a transition area between the downtown center of Los Angeles and the neighboring cities of Glendale, Pasadena, South Pasadena, and Alhambra to the north and east. The general purpose of the plan is to preserve and enhance the character of northeast Los Angeles by strengthening the viability and identity of its neighborhoods and communities and improving the quality of life for all its residents (City of Los Angeles 1999).

Citywide General Plan Framework Element

The 2009 Los Angeles General Plan Framework provides a series of policies, objectives, and goals addressing urban design topics throughout the City of Los Angeles. As it relates to the evaluation of aesthetics and views, the Framework's Urban Form and Neighborhood Design chapter establishes a goal of creating a livable city for existing and future residents with interconnected, diverse neighborhoods (Goal 5A). Also within the General Plan Framework, the Open Space and Conservation chapter calls for the use of open space to enhance community and neighborhood character (Objective 6.2). The policies in this chapter recognize that there are communities where open space and recreational resources are currently in short supply and, therefore, suggests that pedestrian-oriented streets and small parks, where feasible, might serve as important resources for meeting the open space and recreation needs of residents (Policy 6.2.1).

Applicable objectives from the Urban Form and Neighborhood Design chapter and the Open Space and Conservation chapter address such issues as pedestrian activity and orientation, transitions in building height, landscaping and landscape buffers, ground floor uses, sidewalks and other streetscape elements, and open space.

[2] Information provided at http://www.lacity.org/cwd/gnlpln/trans-elt/TE/TEToC.htm.

3.1.3 Environmental Setting

The project area is characterized by a diverse range of land uses, and includes property for general commercial, medical office, institutional, light-industrial, heavy industrial, single-family residential and multi-family residential uses, and open space. These uses occur within a very urbanized, densely-developed neighborhood setting transected by two heavily-trafficked, closely adjoining freeways: the Golden State Freeway (I-5), which abuts on the west at Mission Road and Marengo Street, and the San Bernardino Freeway (I-10), located to the south (at a distance of approximately 1,500 feet away). I-10 has a partially below-grade (depressed) configuration; in contrast, I-5, occurs in an elevated configuration at Marengo Street/Mission Road as it nears the interchange with I-10 farther south. The closest (non-campus) residential uses border the campus on the east along Chicago and Charlotte Streets. Other nearby residences occur in the densely developed neighborhood south of the campus, located between Marengo Street and I-10, along N. State Street, Kingston Avenue, and Britannia Street. A massive nine-level parking garage and Metro bus station facility form one of the most dominant visual elements south of Marengo Street.

Three closely adjoining railroad alignments also traverse the project area's visual setting—the Union Pacific Railroad (UPRR), which occurs on the north along Valley Boulevard (approximately 1,000 to 2,000 feet to the northwest and west); a second railroad, which runs along a north-south alignment west of Soto Street; and a third railroad—the Burlington Northern Santa Fe (BNSF), which follows a generally east-west alignment along the northerly border of I-10 (approximately 1,500 feet away). The concretized Los Angeles River is located to the west of the medical center campus (at a distance of approximately 0.7 mile). Industrial development and railroad alignments flank the river on both sides.

Physical development character within the project area was shaped by the proximity of the Los Angeles River, topographic variation, as well the community's long-standing, well-developed transportation infrastructure. This infrastructure includes ready railroad access and public transit connections across the river to Downtown. During the nineteenth and early twentieth century, in order to access flat land, the local railroads were laid along the western and eastern banks of the Los Angeles River. This, in turn, attracted extensive light and heavy industrial development to the flat, low-lying areas of Boyle Heights bordering the river (known by area residents as "The Flats"). That industrial development extended east from the river to Mission Road, which today serves as a border, in visual terms, for the heavy industrial uses (auto wrecking yards, truck yard, factories, metal plating operations, automotive repair facilities) in the flatlands bordering the river. During the early twentieth century, industrial uses (manufacturing plants, municipal facilities yards) began to develop east across Mission Road along Valley Boulevard, continuing east into the City of Alhambra.

During the late nineteenth century, middle-class residential development first got underway along the north/south-trending bluffs overlooking the flatlands (e.g., Boyle Avenue), while more modest working-class and lower-middle class housing followed in the areas east of Boyle Avenue, extending north to Marengo Street. Small, neighborhood-scaled commercial and retail uses followed the residential development, extending along major east-west streets, such as Cesar Chavez Avenue, First Street, and Whittier Boulevard. However, only sporadic development occurred in the hilly terrain north of Marengo Street. That absence of development allowed for the establishment and continued expansion of public facilities on and abutting the campus (e.g., the early County Hospital complex, as well as the no-longer-extant Henry Hazard Reservoir located south of Zonal Avenue and east of Cummings Street). During the second and third quarters of the twentieth century, later infill residential development of the hilly areas in Boyle Heights and the adjoining City Terrace neighborhood occurred. This was made possible as more area residents had access to automobiles.

The above-described land use patterns, a majority of which were established a century or more ago, continue to define the eclectic visual character of the project area.

Within the medical center campus, development dates both from the recent past (i.e., the 1970s and later; much of it from within the last 20 years), as well as from the early twentieth century, and includes a number of historic/architectural resources, such as the Old General Hospital Building (1933) and the Administration Building, Mission Road (1909). With the exception of the distinctive, visually unified landscape, hardscape, and architectural elements designed in conjunction with the Old General Hospital Building during the 1930s, design treatments, as measured by the choice of architectural style, building form/siting, and the design of parking areas, vary widely, appear to be typical of regional-scale medical facilities found across the Southern California region, and are not distinctive and/or unique to the campus setting in Boyle Heights. By contrast, the Old General Hospital Building and related landscape, hardscape and architectural features (concrete terrace walls, gate posts, perimeter walls, wrought iron, entry guard stations, as well as ornamental trees, shrubbery and grass turf areas) have a highly unified, visually distinctive, and vivid design character (Photos 1 through 4). Due to its massing, scale and height, and location atop high terrain, the Old General Hospital Building is one of the community's primary visual landmarks—one which can be readily seen in many north- and northeast-facing views from the east, south, and southwest (Photo 5).

Photo 1: Old General Hospital; View Facing East from North State Street

Source: ICF International, 2014.

Photo 2: Old General Hospital; Zonal Avenue Staff Vehicle Entrance/Gatehouse

Source: ICF International, 2014.

Photo 3: North State Street; View Looking Northeast, 100 feet North of Old General Hospital

Source: ICF International, 2014.

Photo 4: North State Street; View Looking Southeast, 100 feet South of Old General Hospital

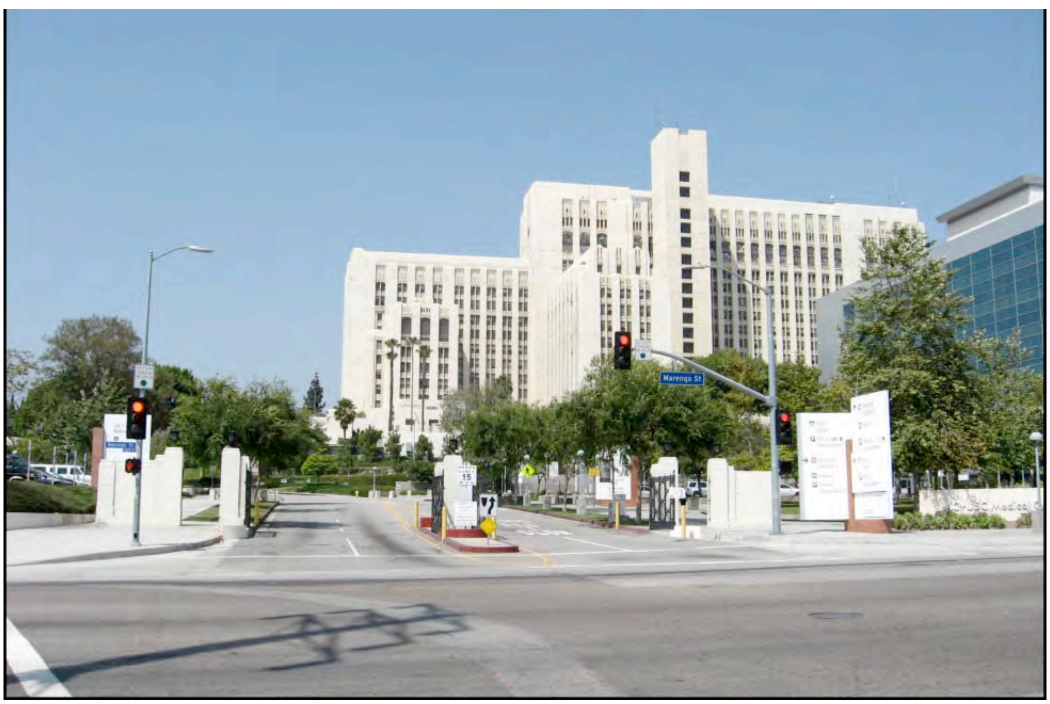
Source: ICF International, 2014.

Photo 5: LAC+USC Medical Center Campus; View North from North State Street and Pomeroy Avenue

Source: ICF International, 2014

Overall, the design setting is marked by abrupt changes in design character and in uses as the viewer looks across the *viewshed* (i.e., all the surface areas visible from an observer's viewpoint). There is a sharp visual divide between campus built features and landscape components and the surrounding neighborhood design elements. Non-cohesive streetscape features, and low-rise buildings of utilitarian design, and of straightforward frame and stucco/brick construction, predominate along the major streets adjoining the LAC+USC Medical Center campus along Marengo Street (Photos 6 through 8). Along Mission Road, the mix of uses includes light industrial (automotive repair, manufacturing), gas stations, LAC+USC Medical Center parking garage (Lot 10), and LAC+USC medical offices of disparate design define its design character (Photos 9 and 10). Zonal Avenue defines the northern border of the campus, and serves as a line of demarcation between the LAC+USC Medical Center campus and the USC HSC (north). It has a quieter, less trafficked character than Mission Road and Marengo Street; and is defined, in visual terms, by the moderately-steep to rolling grade, the presence of tall, mature parkway trees (e.g., live oak, pines, sycamores, ficus, and jacaranda trees, which produce bright lavender-colored blossoms during spring), and its mix of hospital and non-health service-related uses. The campus boundaries are very strongly defined along Zonal Avenue by parking garage placements, topography, perimeter walls, fencing and the campus' perimeter landscape features (Photos 11 through 13)

Photo 6: LAC+USC Medical Center Campus; View North from North State Street at Marengo Avenue Entrance

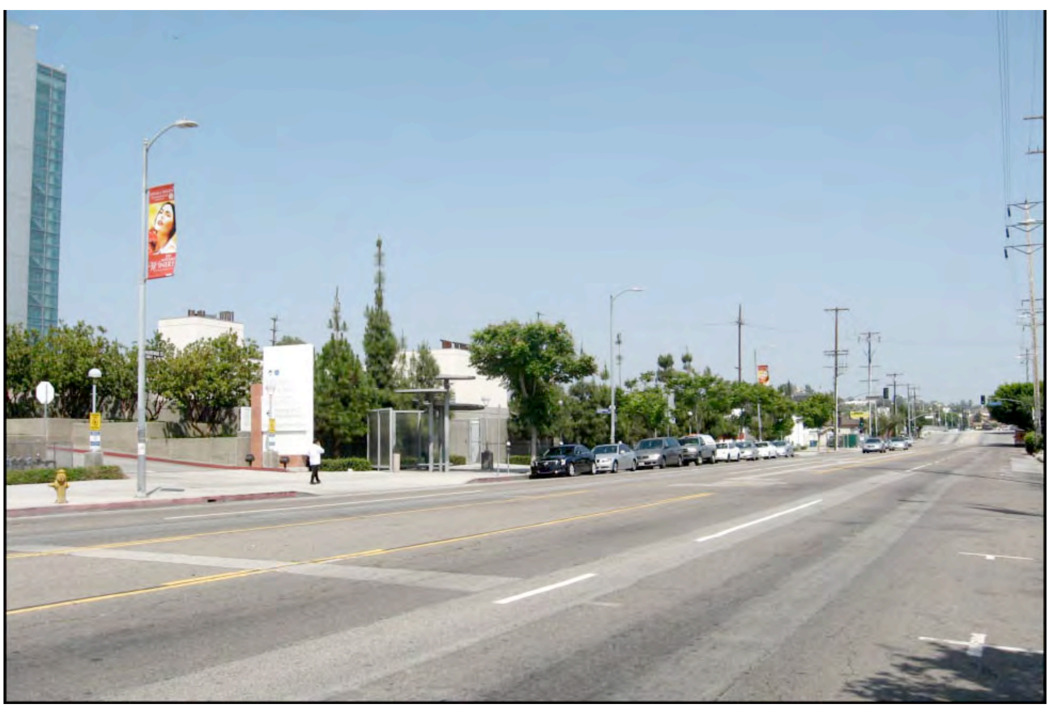


Source: ICF International, 2014.

Photo 7: LAC+USC Medical Center Campus; View Northwest from Marengo Street East of Britannia Street

Source: ICF International, 2014.

Photo 8: Southern Boundary of Campus, Looking Eastward along Marengo Street at Britannia Street



Source: ICF International, 2014.

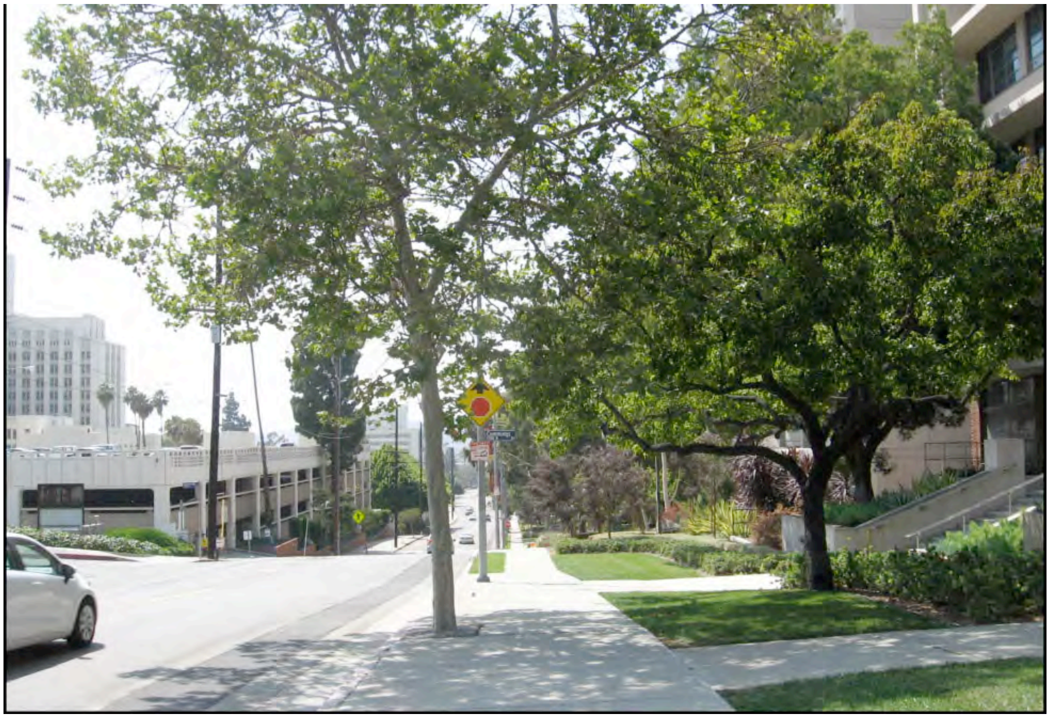
Photo 9: Mission Road at Sichel Street; View Looking Northeast

Source: ICF International, 2014.

Photo 10: Mission Road, Approaching Zonal Avenue/Griffin Avenue View South

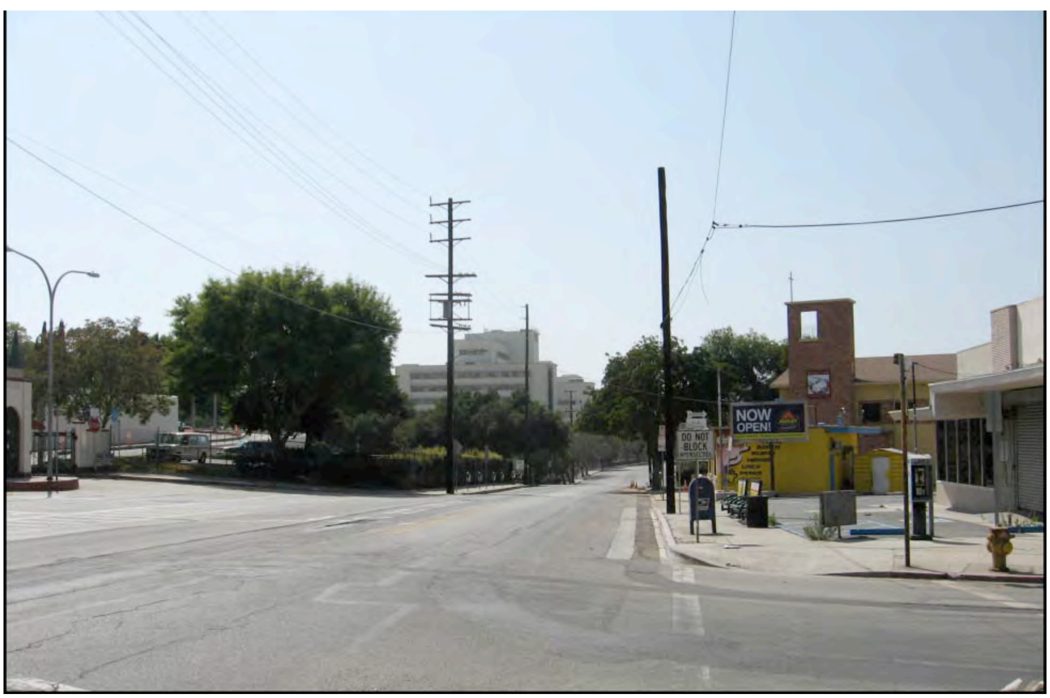
Source: ICF International, 2014.

Photo 11: Zonal Avenue at Cummings Street, Looking West along Southern Border of the USC HSC (on the right in the view)



Source: ICF International, 2014.

Photo 12: Zonal Avenue at Biggy Street, Looking West near Old General Hospital, Zonal Avenue Staff Vehicle Entrance/Gatehouse



Source: ICF International, 2014.

Photo 13: Looking across LAC+USC Medical Center Campus from Zonal Avenue, 200 feet West of North State Street; View Looking Westward

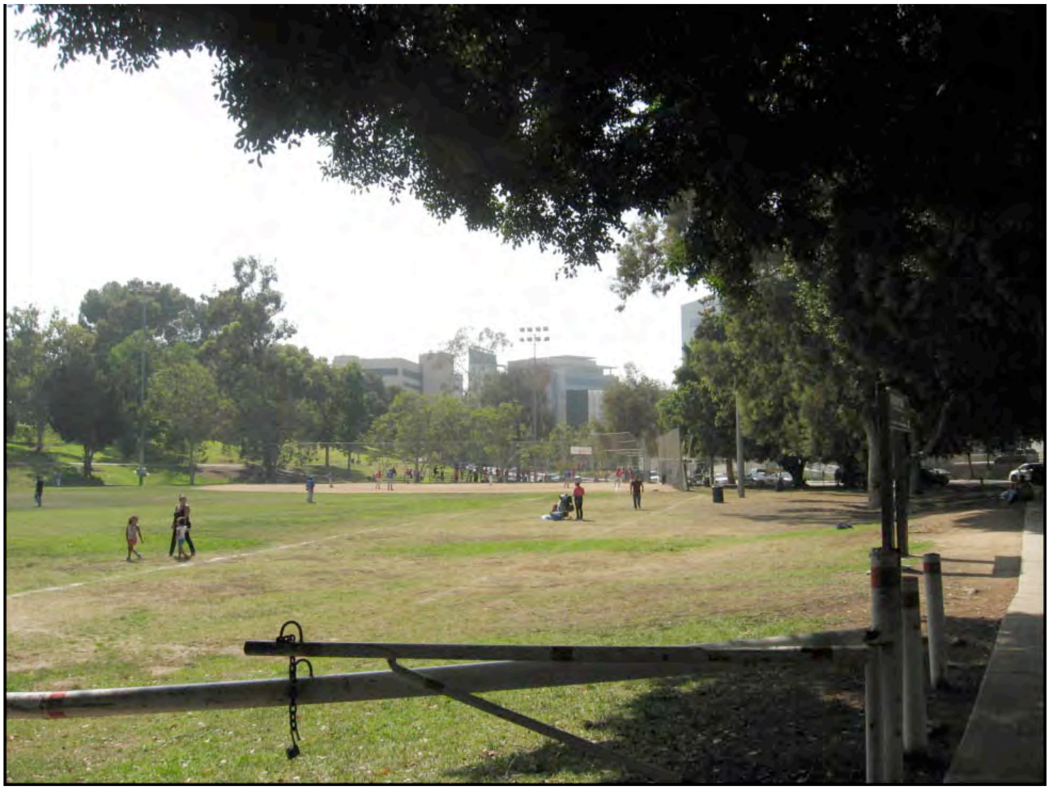
Source: ICF International, 2014.

Two public parks are located near the campus. Hazard Park, at San Pablo and Norfolk Streets, closely adjoins the campus on the northeast. The approximately 26-acre facility is actively used by area residents—particularly during early evening hours and on weekends—and contains a community center, baseball field, basketball courts, children's play area, barbeque grilles, and picnic tables. Due to the hilly terrain along the west and south borders of the park, off-site views in those directions are constrained.[3] On Zonal Avenue, east of San Pablo Street, the Raulston Medical Center, Elaine Stevely Hoffman Medical Research Center, and Stauffer Pharmaceutical Sciences Building office towers (ranging from five to eight stories tall) frame west-facing views from within the park. Views of the campus cannot be acquired from within the core portion (i.e., primary activity areas) of the park due to topography and off-site building placements (Photo 14).

Lincoln Park, which is located slightly less than one-half mile to the north, contains approximately 45 acres in which an 8-acre lake serves as the centerpiece for many park patrons and passing motorists along Valley Boulevard. The park, which sits on flat to nearly flat terrain, also contains a baseball field, children's play area, barbeque grilles, and picnic tables, as well as the renowned Plaza de la Raza Cultural Center, which serves as a gallery, small performing arts venue, and an assembly space for educational and cultural events. Views from the park looking west and south across Valley Boulevard and the UPRR tracks to the USC HSC and USC University Hospital are largely unobstructed but have a far-off character due to the intervening distances; views of the campus cannot be acquired from this location however (Photo 15).

[3] City of Los Angeles Department of Recreation and Parks. 2014. Descriptions of City Park Facilities

Photo 14: Hazard Park Ball Fields; View Looking West toward USC HSC (Along Zonal Avenue)



Source: ICF International, 2014.

Photo 15: View Looking South across Valley Boulevard from Lincoln Park's Southern Boundary

Source: ICF International, 2014.

3.1.3.1 Landforms and Topographic Character

Boyle Heights is located within the Los Angeles basin on the coastal plain, and falls within the Peninsular Ranges Geomorphic Province—a geomorphic unit that extends through Los Angeles south to the tip of Baja California.[4] A product of largely flat to gently-southeast sloping alluvial deposits, the basin is bounded by the San Gabriel Mountains and Elysian Hills on the north and northeast, Repetto Hills to the immediate south, and the Santa Ana Mountains and San Joaquin Hills to the far southeast and south, respectively, in Orange County.

Within this overall geomorphic setting, the project area occupies a range of flat to rolling and hilly terrain; the terrain ranging, on the west, from approximately 320 feet above mean sea level (msl), to approximately 440 feet above msl on the northeast where the campus borders Cornwell Street (i.e., at the Henry Hazard Reservoir site) (Photos 16 through 17).[5] Due to this topographic variation, views of portions of the campus can be acquired from a number of vantages in Boyle Heights. Similarly, the campus offers a number of vantages, at higher elevations and from the upper stories of the taller buildings, from which dramatic, informal (i.e., not officially recognized), off-site views from within the campus are also possible.

Although no officially recognized views were identified in Boyle Heights, dramatic, vivid informal west-facing views of the downtown Los Angeles skyline can be acquired from some higher-up vantages within the community, including upper-story locations within various multi-story buildings (e.g., USC HSC buildings, Old County General Hospital Building) and the residences atop the taller hills and foothill summits in Boyle Heights and the adjoining City Terrace neighborhood (East Los Angeles) (Photo 18).

[4] City of Los Angeles. 2011. Boyle Heights Mixed-Use Community Project EIR.

[5] Kimley-Horn and Associates, Inc. 2013. Phase I Environmental Site Assessment, LAC+USC Medical Center, 1744 Zonal Avenue.

Photo 16: View Showing Dramatic Topographic Contour Changes; View from North State Street Looking Westward toward Old Women's Hospital

Source: ICF International, 2014.

Photo 17: Representative View within the Essentially Flat Southwestern Portion of the Campus; View Looking Southwest

Source: ICF International, 2014.

Photo 18: Vivid Downtown Skyline View as Seen from a Terrace, Old General Hospital; View Looking Southwest

Source: ICF International, 2014.

East- and west-facing views across this landscape typically terminate at the horizon line where the flat to rolling terrain meets the skyline (Photo 18). Directly north-facing views within the core of the campus, or from its southern borders, are typically framed or obscured by campus medical buildings and the office towers comprising the USC HSC, as well as trees atop the varied topography within the campus. The northeast-facing views feature the slightly taller, more dramatic forms of the Elysian Hills, with the San Gabriel Mountains ridgelines forming a distant, moderately vivid backdrop element. Hillside colors range from the gray-green colored chaparral, and/or modest woodland and grassland vegetation that transforms from bright green to tan during the summer and fall seasons, to the more robust green colors of evergreen trees and shrubbery, sustained by irrigation, associated with private foothill residences.

3.1.4 Environmental Impact Analysis

3.1.4.1 Methods

This analysis uses a methodology that is based on the broad framework presented in the FHWA publication *Visual Impact Assessment for Highway Projects* (1981)—a methodology similar in many overall respects to that of BLM Visual Resource Management (VRM). This is a common methodology for conducting a visual assessment of this scope where project design is at a conceptual, program-level stage. The framework is applied to the State CEQA Guidelines Appendix G checklist questions. Together, these provide the analytical framework for guiding the visual impact assessment process for the proposed project. Although the FHWA guidelines were initially crafted to provide an analytical framework for transportation projects by identifying and assessing the qualitative changes to the visual environment a project could introduce, the methodology has become the industry standard for evaluating visual impacts associated with a host of other local and state non-transportation projects as well. The process, as outlined by the FHWA, includes the following basic steps:

a) Defining the project setting and viewshed.

b) Identifying the key view for visual assessment.

c) Assessing existing visual resources and viewer response.

d) Describing the visual appearance of the project alternatives.

e) Assessing the changes to visual resources while predicting viewer response to those changes.

f) Assessing the visual impacts of project alternatives.

g) Proposing methods to mitigate adverse visual impacts.

In a departure from a strict application of the FHWA and BLM methodologies, which typically rely upon geographical measures that subdivide the project area into a series of large outdoor rooms (e.g., spaces that exhibit distinct visual character apart from other portions of the project area), this analysis uses a series of representative views throughout key portions of the project area that would be seen by potential viewer groups, using those views to assess overall changes in visual character and quality that could occur as a result of the project. The analysis places a slightly greater emphasis on the proposed project's potential degree of contrast with the setting in which it is being proposed, similar to the VRM screening criteria (e.g., distance, the angle of observation, relative size or scale, spatial relationship). That approach is used in this analysis because of the conceptual nature of the master plan elements, and lack of specific architectural design information at this time (e.g., rough building dimensions, materials, colors, landscape plans), and the anticipated refinement and increased specificity of the master plan design components that would occur in the future.

The term *viewshed* is used throughout this analysis. A viewshed comprises all the surface areas visible from an observer's viewpoint. The limits of a viewshed are defined as the visual limits of the views from the proposed project. It also includes the locations of viewers likely to experience the changes brought about by the proposed project. In a densely developed urban setting, viewsheds are typically constrained by topography, clusters of mature trees, building placements—particularly buildings greater than two-stories in height—as well as street alignments. Due to the difficulty of discerning smaller scale design features, such as low-to-the- ground streetscape and open space features (e.g., street furniture and park hardscape elements) in an urban setting, a half-mile limit is frequently a defensible viewshed boundary marker; whereas viewshed boundaries are set at greater distances when significant large-scaled visual resources are present or are being proposed (e.g., tall buildings; local mountains; large tree clusters or geological formations) because, depending on the vantage point, such elements can often be seen across distances of several miles.

Due to building placements, street alignments, topography, and adjacent freeways, most mid-frame or middle-distance, off-campus views of project site details are highly constrained: only limited far-off views of the campus' tallest buildings from a half-mile or more are available, along with close-in views from the south (e.g., Marengo Street south to I-10), and from the immediate east (Chicago and Charlotte Streets). Thus, the project viewshed boundaries are more close in (at a closer range) than would be the case where less encumbered views are possible. North Main Street and Valley Boulevard form the northern boundary for the viewshed; N. Indiana Street/Evergreen Avenue form the eastern boundary; Wabash Avenue and I-10 form the southern boundary; and I-5—which is in an elevated configuration adjoining the campus and, thus partially obscures views to and from the west—forms a logical western boundary of the project viewshed.

This analysis assesses the anticipated changes in visual character (e.g., descriptive, non-evaluative characteristics such as land use, topography, scale, form, and color) and visual quality (e.g., a overall subjective assessment of the aesthetics of a view based on the FHWA criteria of the vividness, intactness, and unity of the view), with respect to anticipated viewer response.

Representative Views of Project and Viewer Groups

Because it is not feasible to analyze all the views in which the proposed project can be seen, a series of representative viewpoints that would most clearly display the project's potential visual effects is used in this analysis. Such views represent the primary viewer groups that would be potentially affected by the proposed project. This analysis identified 18 viewpoints that took into account views considered to be most sensitive to viewers, as well as the most common public views that can be acquired from varied locations within the project area.

Viewers include thousands of residents who reside in both single-family and low-rise multi-family residential buildings of varying densities on the streets adjoining the project area on the east (e.g., east from Chicago Street and continuing east across Soto Street—the closest residences being approximately 100 feet away) and south of Marengo Street and the San Bernardino (I-10) Freeway (the closest residences being approximately 350 feet away). This setting includes substantial traffic noise and visual intrusions from adjacent freeways and because of existing 24 hours a day/seven days a week health services, activities on and adjoining the campus. The setting itself has undergone continuous expansion and growth, marked by major project construction that has occurred over decades of time. Residential properties near the campus reflect concerted efforts to create greater privacy and visual screening from the visual intrusions posed by adjoining traffic, commercial, and institutional uses (e.g., trees, shrubbery, enclosed front porches, fencing). These features imply a measure of insulation exists currently from traffic, the campus, and new development proposed there.

The primary visual resources within the project area are the informal views of the local mountain and foothill ridgelines and views of the downtown Los Angeles skyline and of Old General Hospital than can be acquired in some residential views.

The other large viewing group includes commuting motorists, a group consisting of the following viewer sub-groups:

- employees, clients, and visitors at LAC+USC Medical Center, USC University Hospital, and the USC HSC and other neighborhood businesses;
- commuters on the adjoining Golden State (I-5) and San Bernardino Freeways who can acquire fleeting views of some of the taller buildings on the LAC+USC Medical Center campus—including long distance employee commuters and truckers traveling through the Boyle Heights neighborhood to and en route to other regional destinations;
- students traveling to and en route to the adjacent Francisco Bravo Medical Magnet High School (Cornwell Street), as well as local universities and colleges (e.g., California State University Los Angeles—which is located approximately two miles east of the project site).

Bicyclists are also present in the project viewshed. The 2012 County Bicycle Master Plan identifies one bike route that borders the project site—Griffin Avenue (north from Mission Road). There is also an existing Class II bikeway along Mission Road. Zonal Avenue/Cromwell Street is designated as a potential bicycle route as well. The proposed master plan includes design features along the Zonal Avenue border and in the core of the campus to serve such bicyclists. In addition, the 2010 City of Los Angeles Bicycle Plan calls for the provision of bicycle lanes on Mission Road, Griffin/Zonal Avenue, Main Street, Valley Boulevard, and Soto Street and bicycle-friendly street improvements on Zonal Avenue, Cromwell Street, and Cummings Street. This group of viewers has a moderately high level of sensitivity to changes in the visual setting because they are presumed to choose bicycle routes, in part, based on aesthetic considerations.

Other viewers include recreationists at local parks. Two public parks are located within less than one-half mile of the project site. As referenced previously, these include Hazard Park, which closely adjoins the campus on the northeast (San Pablo Street, between Zonal Avenue and Norfolk Street) and Lincoln Park, which is located to the north, along the north side of Valley Boulevard. Passive recreational users predominate within the southern portion of Lincoln Park bordering Valley Boulevard. These persons often come to the park to sit and look out over the lake, while supervising their small children at play; or to visit the Plaza de la Raza Cultural Center. The baseball field and more active sports programming areas within the park are located well to the north adjoining Selig Place, and these are effectively screened from the southern portion of the park by landscaping and topography. South-facing views from the lakeside portion of the park extend only as far as the USC HSC and USC hospital campus. The tall buildings in those locations block nearly all views of the project site, with the exception of the upper floors of Old General Hospital (Photo 15), Views of the project from Lincoln Park, therefore, would be highly obstructed. Views of the project site from the actively used core portions of Hazard Park would be similarly blocked by topography, landscaping, and buildings within the USC HSC (Photo 14).

Assessing Viewer Response

Viewer response is composed of two elements: *viewer sensitivity* and *viewer exposure*. These elements combine to form a method of predicting how the public might react to visual changes brought about by a project.

Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and position of the viewer. High viewer exposure heightens the importance of early consideration of design, art, and architecture and their roles in managing the visual resource effects of a project. Because objects in the foreground have more detail, views from nearby locations are more detailed compared to objects that are indistinguishable in the distance. Viewers would experience visibility of a proposed project to varying degrees in a particular viewshed, depending on distance or other intervening structures or obstacles.

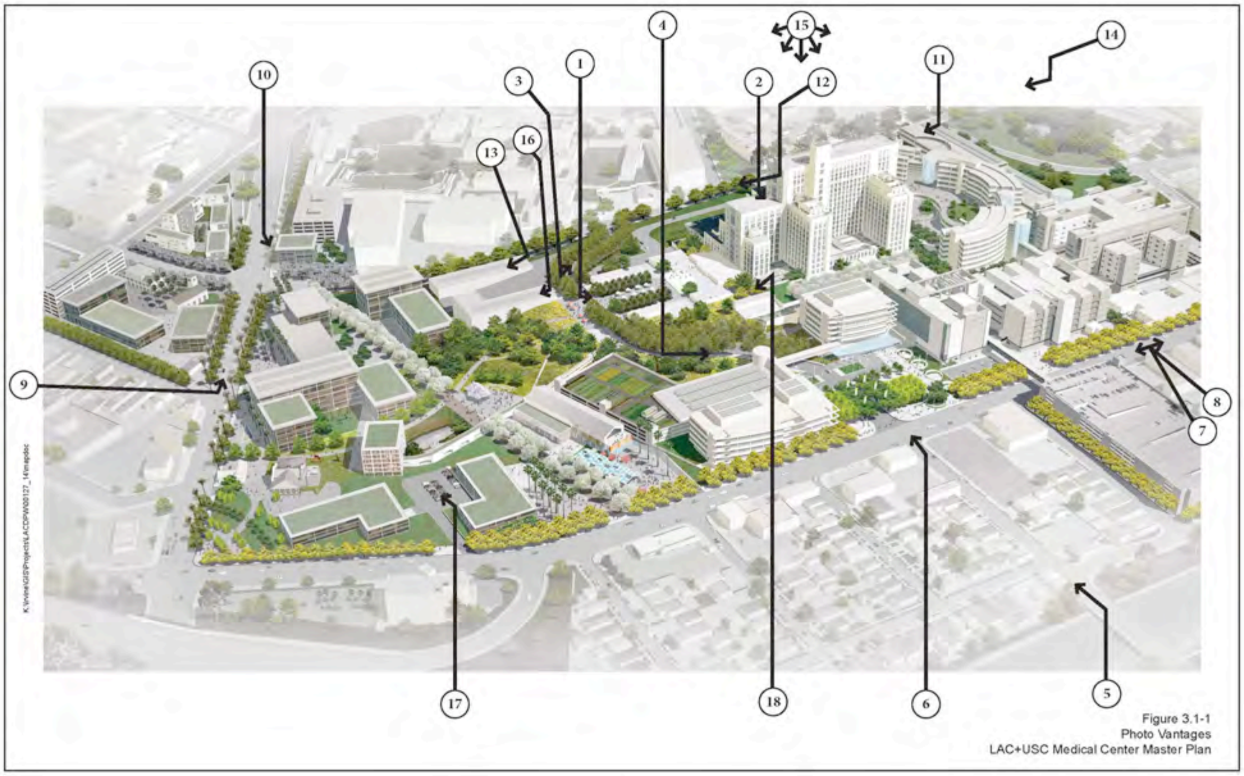
Viewer sensitivity is defined both as the viewer's concern for scenic quality and the viewer's response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. The sensitivity of viewers in their perception of visual quality, as well as their sensitivity to changes in visual quality, varies based on familiarity with the view, sense of ownership of the view, and the nature of one's activity while receiving the view. In turn, these considerations determine how much attention the receptor focuses on the view.

In an effort to describe the potential of the project to affect overall visual character and quality, a discussion of what is seen in the views at each of the 18 representative viewing locations (shown in Figure 3.1-1) follows.

The FHWA methodology uses the criteria of *vividness, intactness*, and *unity* to assess visual quality, and grants them equal weight in assessing visual quality of a landscape.

- Vividness ratings are based on the presence or absence of dramatic views of interesting natural landscape or man-made features, and the degree to which views of far-off mountain ridgelines—a key visual resource in this setting—can be readily acquired.
- Intactness ratings are based on the presence or absence of intrusive manmade structures in this otherwise largely natural setting.
- Unity ratings are based on the overall compositional harmony of the landscape and manmade structures present in it.

Views of high quality may have topographic relief, a variety of vegetation, rich colors, impressive scenery, and unique natural and/or built features. Views of medium quality may have interesting but minor landforms, some variety in vegetation and color, and/or moderate scenery. Views of low quality have uninteresting features, little variety in vegetation and color, uninteresting scenery, and/or common elements.



The 18 representative views that were analyzed include the following:

- **Photo 1** – View of Old General Hospital Building, facing directly east from N. State Street. View possesses a high degree of vividness and unity due to the highly articulated architectural form of the building and the massing. The formality of the architectural design is echoed in the forecourt with its symmetrically arrayed rows mature evergreen trees (e.g., large Ficus trees, Italian cypresses, bottle trees) and flower/shrubbery beds (parterres). The general absence of intrusive manmade elements also gives the view a high degree of intactness. **Visual quality rating: High**.
- **Photo 2** – View of Old General Hospital, Zonal Avenue staff vehicle entrance/gatehouse. Although the delivery bays, mechanical equipment installations, and parking lot detract from the intactness of the view, the massing and architectural form of the hospital building possess great visual quality (vividness). The gatehouse and its elegant wrought metal gates and fencing also amplify the building's formal design qualities, carrying them out to the public right-of-way along Zonal Avenue. Visual unity is moderately high due to the strong architectural forms, hardscape features (perimeter concrete walls; wrought metal gates), landscape (hedges) and decorative elements present in the view. **Visual quality rating: Moderately high**.
- **Photo 3 -** View of N. State Street, looking northeast. The view of the curving alignment of the roadway, the low concrete retaining walls, and the dense mature landscaping—much of which appears to date from the 1930s period when Old General Hospital was completed—carry the formality of the hospital building's architecture out into the landscape. This gives the view a moderately high level of vividness and unity. Few obtrusive manmade elements detract from the quality of the view (intactness). **Visual quality rating: Moderately high**.

- **Photo 4** – View of N. State Street, looking southeast. Similar to Photo 3, the image captures the curving alignment of N. State Street, which curves partly in response to the siting of Old General Hospital and its forecourt—which along with the dense mature landscaping/concrete retaining walls lend moderately high visual quality to the view (vividness and unity). Relatively few obtrusive manmade elements are present in the view, giving it a moderate level of intactness. **Visual quality rating: Moderately high**.
- **Photo 5 -** View of campus from N. State Street at Pomeroy Avenue (adjoining I-10). The view shows the rather ordinary design setting within the neighborhood bordering the campus on the south—many of the buildings being one or two stories tall, and of divergent and rather commonplace architectural design. Old General Hospital building, due to its massing, height and articulation, is a commanding element in the view and gives the view moderate visual quality. The view is one of a number of such north-facing and east-facing views that can be acquired in the neighborhood and documents the fact that Old General Hospital is a prominent visual landmark in the community. **Visual quality rating: Moderately low**.
- **Photo 6** – View of campus from Marengo Street and North State Street, Facing north. The view possesses moderate visual quality due to the commanding presence of the old hospital, subtle topographic variation, and the many trees and groundcover plantings present in the foreground and mid-frame portions of the view. Landscaped berms and perimeter walls serve to screen parking areas from full view, while gate pylons and wrought metal fencing convey some of the formality of the old hospital out to the public right-of-way. Signage and streetlights detract somewhat from the intactness of the view. **Visual quality rating: Moderately high**.
- **Photo 7** – View of campus from Marengo Street near Britannia Street, looking northwest. Consistent parkway tree plantings, and the strongly defined perimeter elements (nearly continuous concrete retaining walls and groundcover plantings), in addition to the visually commanding massing and cleanly defined architectural forms of the outpatient care buildings, are vivid and lend the view a dynamic quality and a moderate degree of compositional unity and visual quality. The pedestrian overcrossing adds a further unifying element to the view. **Visual quality rating: Moderate**.
- **Photo 8** – View looking east along Marengo Street near Britannia Street. Although there are few significant design elements in the view, the slightly rolling terrain and parkway trees lend the view a moderate degree of vividness. The dominance of paving and the presence of telephone poles, streetlights, and signage detract from the view's level of intactness. The overall level of compositional unity is moderately low. **Visual quality rating: Moderately low**.
- **Photo 9** – View looking northeast along Mission Road at Sichel Street. Subtle topographic variation in the backdrop of the view—where portion of the Elysian Hills can be seen—parkway trees (notably the tall Mexican fan palms), along with strongly defined campus borders (perimeter walls, fencing landscaping) give the view a moderate visual quality. However, no noteworthy architectural elements are present in the view, and built elements are of disparate and commonplace design. Only a small number of obtrusive manmade features are present, however, resulting in a view with a moderate degree of intactness. **Visual quality rating: Moderate**.
- **Photo 10** – View looking south along Mission Road at Zonal Avenue/Griffin Avenue. The view has a dynamic quality due to the presence of bold architectural form/massing of the old Women and Children's (WAC) Hospital building, and the landscape elements present in the view, which serve to define the border of the campus at the intersection of Zonal Avenue and Mission Road in a

moderately powerful manner. The non-continuous character of the landscaping and the presence of obtrusive manmade elements (trailers, traffic lights and signs, and construction barricading) reduce the unity and intactness of the view. **Visual quality rating: Moderately low**.

- **Photo 11** – View looking west along Zonal Avenue at Cummings Street. The pleasant groundcover plantings and trees, combined with the parkway trees lend an appealing, moderately vivid character to the view along the USC HSC (right) side of the street. In addition, the border of the campus on the left (south) side of the view (between Cummings and Biggy Street) is strongly, though less appealingly, defined by the north wall of the parking garage, retaining walls and hospital auxiliary buildings. Clustered, dense landscaping—including Jacaranda trees that provide vivid springtime color—located near the Zonal Avenue staff vehicle entrance softens the boundary near Biggy Street (mid-frame in the view), adding a modestly vivid element to the view on the left; as do far-off views to Downtown. The parking garage and views of parked vehicles, telephone poles, street signage, and other obtrusive manmade elements detract from the intactness of the view. **Visual quality rating: Moderate**.

- **Photo 12** – View looking west along Zonal Avenue at Biggy Street. This view captures the strongly defined borders that characterize the campus due to the perimeter landscape elements, mature trees, walls and fencing around its edges (left side of view). The WAC Hospital building serves as a far-off focal point in the view, and the dense green landscaping adds an element of moderate visual quality (vividness). By contrast, off-campus commercial and institutional buildings are of disparate and commonplace design and lack vividness. Detracting obtrusive manmade elements (signage, telephone poles, overhead wires) reduce the level of intactness. **Visual quality rating: Moderately low**.

- **Photo 13** – View looking southwest across the campus approximately 200 feet west of N. State Street. View captures the jumble of trailer units, mechanical equipment, parking lots and disparate architectural forms occupying the westernmost portion of the campus. Campus borders are clearly defined, but, in this instance, with utilitarian chain-link fencing. Although Jacaranda parkway trees provide a vivid display of springtime color when in bloom, in general, landscape features in this portion of the viewshed are scattered and discontinuous, possessing little visual quality. **Visual quality rating: Low**

- **Photo 14** – View from within Hazard Park, looking west towards the USC HSC. The view across the playfield in the park is defined by the topography on the left (south) and far mid-frame (west). The buildings in the USC HSC frame the view. The landscape features, the rolling terrain and the architectural elements in the backdrop combine to create a view that is vivid and possesses a moderate degree of compositional unity. Obtrusive manmade elements (viz., field light poles, baseball chain-link fencing, gating) are somewhat intrusive. The view documents the fact that the campus project area cannot be seen from this vantage. **Visual quality rating: Moderate.**

- **Photo 15** – View from Valley Boulevard border of Lincoln Park, looking south towards LAC+USC. This view from the southern border of Lincoln Park looks south across Valley Boulevard, UPRR tracks, and vacant land to the USC HSC and USC hospital. The only building within the campus that can be seen in the view is old County General Hospital, which appears as one of a number of tall buildings of disparate design in the view. Although these far-off architectural forms possess a moderately vivid quality, detracting manmade elements in the foreground of the view (viz., graffiti on fencing, telephone poles and overhead wires, bare gravel) and the minimal presence of landscaping diminish visual quality. **Visual quality rating: Moderately low**.

- **Photo 16** – View looking westward from N. State Street down a stairway and across the service court located to the east of the WAC Hospital. View captures the disparate and sometimes disordered design character of the newer temporary built features in the service areas of the west campus. These features have a utilitarian nature, low visual appeal. Landscape features (including Jacaranda and Eucalyptus trees) and the strong massing of the WAC Hospital add a degree of vividness, and a focal point. Unity and intactness are low. **Visual quality rating: Low**.
- **Photo 17** –Representative view across the west campus area looking southwestward. The view again captures the disparate architectural forms and prevalence of paved parking areas within the western campus. Although architectural forms add a small degree of vividness, the dominance of paved surfaces and minimal landscaping give the view a low degree of vividness and unity. **Visual quality rating: Moderately low**.
- **Photo 18** – Panoramic downtown Los Angeles skyline view as seen from a terrace, Old County General Hospital. Despite some of the construction activities in the foreground, the view possesses a moderately high degree of visual power (i.e., the view's vividness or eye-catching character) due to the sweeping nature of the view, the landscaping elements, and that fact that far-off downtown buildings can be seen in the view. Obtrusive manmade elements are minimal and overall compositional harmony is moderate. **Visual quality rating: Moderately high**.

3.1.4.2 Thresholds of Significance

For the purposes of this analysis, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would result in a significant environmental impact if it would:

AES-1 Have a substantial adverse effect on a scenic vista.

AES-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AES-3 Substantially degrade the existing visual character or quality of the site and its surroundings.

AES-4 Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.1.4.3 Impacts and Mitigation Measures

Impact AES-1: Would the Proposed Project Have a Substantial Adverse Effect on Scenic Vistas?

Construction

No designated scenic highways, corridors, or parkways have been identified within the project viewshed, and no recognized scenic vistas were identified within the community; only informal views were identified in which views of the Old General Hospital Building, the Downtown skyline, and local foothill and mountain ridgelines can be acquired. The closest officially recognized/designated local scenic highways include Stadium Way (north from I-110), which is approximately 2.0 miles to the northwest, and Monterey Road-Huntington Drive, which is approximately 1.5 miles to the northeast. Campus features are not visible from Monterey Road-Huntington Road due its intervening landforms and development; the campus would appear as a far-off backdrop feature along some segments of Stadium Way due to intervening distances. Construction activities, which are of temporary duration, would include the presence of construction vehicles, cranes, and barricading, and would include extensive grading (western campus), excavation, hauling, and new landscape installation activities. Although views from some locations on the campus may be obstructed by construction of new buildings (e.g., views of downtown Los Angeles from the existing Clinic Tower would be obstructed by a potential new Outpatient Department Building) (see Figure 2-6), these are informal views (e.g., ordinary views that can be acquired from hundreds of vantages throughout the viewshed, and which do not merit official recognition) and no views of designated or recognized scenic vistas would be obstructed. Thus, no impact on a scenic vista would occur as a result of the project construction activities.

Operation

As discussed above, no designated scenic highways, corridors, or parkways have been identified within the project viewshed, and no recognized scenic vistas were identified within the community; only informal views were identified in which views of the Old General Hospital Building, the downtown skyline, and local foothill and mountain ridgelines can be acquired. As noted above, informal views from some locations on the campus may be obstructed by new buildings; however, no designated scenic vista or views would be obstructed or affected. New low-rise buildings would be added to the campus, consistent in scale and massing with existing buildings; new street trees, and extensive new park-like landscaped spaces would also be added in areas that are now paved and occupied by infrastructure. Thus, no impact on a scenic vista would occur as a result of the operation of the project.

Mitigation Measures

Because no substantial adverse effects on scenic vistas would occur as a result of the master plan, no mitigation measures are required.

Impact AES-2: Would Proposed Project Substantially Damage Scenic Resources, including but Not Limited to Trees, Rock Outcroppings, and Historic Buildings within a State Scenic Highway?

Construction and Operation

The master plan does not propose new development near a scenic highway or within natural open space. No rock outcroppings were identified in the project area. During the construction process, most of the mature trees and the architectural/historical resources on the campus would be preserved as part of the project. While the specific trees that may be removed have not yet been determined, the trees are not considered scenic resources. Scenic resources on the campus include architectural/aesthetic resources such as Old County General Hospital and Administration Building, as well as the Women's and Children's Hospital, and mature landscaping and hardscape features that were installed as part of the circa 1933 Allied Architects architectural and landscape plans for the property. However, the Women's and Children's Hospital, which is historic resource and aesthetically noteworthy because of its architectural design, would be demolished to accommodate future master plan development. This visual impact would be significant and unavoidable.

Mitigation Measures

Please see MM-CR-3 in Section 3.4.4.2, for measures to partially mitigate the visual impact due to demolition of the Women's and Children's Hospital.

Level of Significance after Mitigation

Mitigation measure MM-CR-3 would not mitigate project impacts to a less-than-significant level. The impacts would remain significant and unavoidable.

Impact AES-3: Would the Proposed Project Substantially Degrade the Existing Visual Character or Quality of the Site and Its Surroundings?

Construction

Project construction would occur in a fairly flexible, fully urbanized setting that has seen extensive development occur over long period of time, and where a highly varied range of architectural styles and land uses are in close proximity; also, the visual setting displays a range of visual quality from high (close-in views of Old General Hospital) to low visual quality (e.g., off-site views across the project viewshed; on-site views across west campus). Consequently, the temporary presence of construction-related vehicles, equipment, barricading and cranes, etc., and construction-related excavation and grading, would not result in significant changes to visual character, nor would these result in a significant overall reduction in visual quality; thus, a less-than-significant impact on visual character and quality would result from project construction.

Operation

As noted above, the visual setting is characterized by a range from low to high visual quality, providing an often flexible urban design context for new development features. Since it is anticipated that new buildings would be generally compatible in architectural form, finishes and scale with existing campus buildings and because the project would preserve most of the significant architectural/historical resources within the campus, while adding extensive new landscape elements to create an inviting park-like setting for campus staff and visitors, the proposed project would not substantially degrade the existing visual character of the site and its surroundings. Impacts would be less than significant. Nonetheless, given that vantages within the campus that offer views of downtown Los Angeles and the San Gabriel Mountains are among the few available elements of moderately high visual quality in the community, mitigation measure MM-AES-1, below, is proposed, which would protect such views, as appropriate.

Mitigation Measures

MM-AES-1: All new development proposed under the master plan shall be sited and designed to ensure that those views identified as important by the County are not obstructed.

Impact AES-4: Would the Proposed Project Create a New Source of Substantial Light or Glare that Would Adversely Affect Day or Nighttime Views in the Area?

Construction

Construction activities are expected to occur during daylight hours, consistent with County and city regulations and are, therefore, unlikely to substantially alter ambient illumination light levels, or result in significant spill light impacts on surrounding land uses. The project is proposed in a fully urbanized setting in which there are numerous existing sources of light and glare. These include existing campus health services buildings and commercial buildings along adjoining streets.

In addition, although no shade-sensitive viewing groups are present within the campus or its immediate off-site perimeter, there is no potential for construction equipment and activities (e.g., cranes) to cast substantial shadow/shade. There is also little potential for construction activities to produce substantial glare.

The net contribution of project construction activities, when considered in addition to existing sources of light and glare, would be negligible; and no significant project construction impacts related to light, glare, and shadow would occur.

Operation

The project's buildings and parking areas and new shielded outdoor lighting features would not significantly alter ambient illumination light levels, or result in significant spill light impacts on surrounding land uses. The project is proposed in a fully urbanized setting in which there are numerous existing sources of light and glare. These include existing campus health services buildings and commercial buildings along adjoining streets. Vehicle headlights on the adjacent freeways, overhead street lighting, and vehicles headlights on streets also emit light at nighttime.

All project lighting features would be installed in accordance with applicable regulations designed to promote energy efficiency, avoid spill light and glare, and preserve nighttime sky viewing. In addition, project elements would be designed to be compatible with the design character of the setting in which they are being proposed, and would receive non-highly reflective finishes and colors. Therefore, it is not expected that the project would produce significant light or glare impacts. Although there is potential for buildings proposed as part of the project to cast new shadow/shade within the campus, no shade/shadow sensitive viewing groups are present within the campus or adjoining the perimeter of the campus who would be adversely affected. All shade-sensitive residential viewers are sufficient distances away from areas on the eastern and southern portions of the campus proposed for development that they are expected to be beyond the shadow impact zone.

Given all of the above, the project's net contribution, when considered in addition to existing sources of light and glare, would be negligible. Project impacts related to light, glare, and shadow would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

3.1.5 Cumulative Impacts

The study area for the cumulative impacts analysis is limited to locations that have clear sightlines to the built elements proposed as part of the project. The study area boundaries extend between 0.3 to 0.5 miles from the campus perimeter. Given the highly urbanized character of the cumulative impacts study area, and the hilly topography defining the north and northeastern border of the campus, and consistent with the overall project area viewshed, the boundaries for the cumulative impacts study area would extend out one-half mile to the east of the project site in recognition that sight lines are less obstructed by topography in that direction. I-10 /Wabash Avenue defines the cumulative impacts study area on the south (a distance of approximately 0.3 miles); I-5 in (which is an elevated configuration adjoining the campus and, thus, partially blocks east-west views of the project site is an appropriate boundary on the west, while N. Main Street/Valley Boulevard form an appropriate boundary on the north (at distances ranging from one-quarter to one-half mile).

A list of related projects (Chapter 2, Table 2-2) was reviewed as part of this cumulative impacts analysis; however, of the total list of nine projects, only one is within the project's cumulative viewshed—the ongoing USC HSC master plan development, which calls for extensive new medical clinical facilities, non-clinical facilities, graduate student housing, a 250,000-square-foot hotel, and a major academic/medical research facility expansion (256,000 square feet). The other eight projects do not have clear sightlines to the project due to topography, freeway and building placements, and range in distance from 0.6 to two miles away.

The USC HSC is currently developed with numerous buildings dating from the recent past that are typically five to eight stories in height. The buildings include multi-story parking garages along the campus' southern border, Zonal Avenue, serves as a visual screen that blocks most north-facing views from the LAC-USC Medical Center campus and south-facing views from the USC HSC from most locations north of Zonal Avenue. Only more sweeping, panoramic views from the upper stories of these buildings provide vantages across portions of the two already extensively developed campuses. Yet such views, due to their panoramic nature, tend to diminish the visual power of new development. Thus, the two campuses are essentially autonomous in visual terms and, despite their close proximity and additional development that is consistent with existing design elements in terms of scale, materials, color, and which integrate new sympathetic landscape features, is not expected to significantly nor negatively affect visual character and quality, nor result in effects that are potentially cumulatively significant.

As previously noted, with the exception of entirely informal views across the viewshed that capture Old General Hospital Building, the Downtown skyline and the local foothill and mountain ridgelines, no designated or formally recognized scenic vistas or scenic corridors have been identified within the project viewshed. Ordinary views within the viewshed, which do not capture the above-referenced visual resources, are generally of moderately low to moderate visual quality, would be mostly preserved. Building placements and, in some instances, freeway in elevated configurations serve to block many views across project area and serve to isolate views acquired in one portion of viewshed from other portions of project area. In addition, the diverse architectural and design treatments found within most portions of project area makes it a fairly forgiving and flexible urban design context in which to incorporate new architectural and landscape features proposed as part of the project. Furthermore, the project would be developed consistent with long-standing city and County urban design policies.

The history of the project area extends back to the beginning of the last quarter of the nineteenth century and includes extensive development, facilities expansion, and construction actions over more than a century that have thoroughly transformed the visual setting. Those changes have occurred not simply within the campus, but have transformed the adjoining neighborhood by drawing auxiliary facilities and health care service providers to the area (viz., Zonal Avenue; south side of Marengo Avenue east of State Street). As noted earlier, although individual features are present that possess high visual quality—the Old General Hospital Building and related landscape elements from the 1930s period; scattered architectural/historical resources - such as the Old Administration Building; informal community views of Old General Hospital, the Downtown skyline, and local foothill and mountain ridgelines—overall visual quality within the community is moderately low.

As previously noted, despite some potential for building placements to partially obscure informal views of the Old General Hospital Building in certain close-in locations on the south (e.g., Marengo Avenue and State Street) or views of downtown Los Angeles (e.g., from the existing Clinic Tower Building) the proposed project would generally give the campus a more attractive physical presence in its neighborhood setting by making the campus more physically and visually accessible to the surrounding community, adding perimeter street trees, and creating new community-accessible park-like areas in the interior of the campus where none currently exist. In addition, in instances where proposed project buildings would be more visible in the viewshed, they would not substantially obscure views of visual resources on the campus. The project would also preserve most of the campus' unique architectural/historical resources, while complying with applicable city and County design and lighting guidelines that are intended to ensure that visual quality in the viewshed is not degraded. Therefore, in most respects, the proposed master plan would not result in or contribute to significant cumulative visual impacts.

As noted above under Impact AES-2, the Women's and Children's Hospital, which is historic resource and aesthetically noteworthy because of its architectural design, would be demolished to accommodate future master plan development. The loss of this visual resource would be a significant visual impact of the proposed project. However, since the USC Health Sciences Campus EIR Addendum found impacts to visual resources to be less than significant, and the USC Health Sciences Campus Master Plan project is the only one of the related projects located within the proposed project's cumulative viewshed, the proposed project would not contribute to significant cumulative visual impacts. MM-CR-3 in Section 3.4.4.2 describes measures to partially mitigate the project's visual impact due to demolition of the Women's and Children's Hospital.

3.2 Air Quality

3.2.1 Introduction

This section describes air quality–related impacts of the proposed project. It includes a discussion of existing regulatory requirements, the existing air quality setting within the project area, and impacts on air quality that would result from implementation of the proposed master plan.

3.2.2 Regulatory Setting

At the federal level, the U.S. Environmental Protection Agency (EPA) is responsible for implementation of the Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile-source and other requirements) are implemented directly by EPA. Other portions of the CAA (e.g., stationary-source requirements) are implemented by state and local agencies.

Responsibility for attaining and maintaining air quality in California is divided between the California Air Resources Board (ARB) and the regional air quality districts. Areas of control for the regional districts are set by ARB, which divides the state into air basins.

Plans, policies, and regulations at the federal, state, and local level relevant to the proposed project are discussed below.

3.2.2.1 Federal

The CAA was first enacted in 1963 but has been amended numerous times in subsequent years (1967, 1970, 1977, and 1990). The CAA establishes the National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plans must include pollution control measures that demonstrate how the standards will be met. The City of Los Angeles is within a basin that is designated as a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emissions-reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 3.2-1 shows the NAAQS that are currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and adopt a standard for PM2.5. The Los Angeles County portion of the basin fails to meet national standards for O_3, PM10, PM2.5, and Pb and therefore is considered a federal nonattainment area for those pollutants. Table 3.2-2 lists each criteria pollutant and its related attainment status.

Table 3.2-1: Federal and State Ambient Air Quality Standards

			Standard (ppm)		Standard (µg/m^3)		Violation Criteria	
Pollutant	**Symbol**	**Average Time**	**California**	**National**	**California**	**National**	**California**	**National**
Ozone	O_3	1 hour	0.09	–	180	–	If exceeded	–
		8 hours	0.070	0.075	137	147	If exceeded	If fourth-highest 8-hour concentration in a year, averaged over 3 years, is exceeded at each monitor in an area
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded on more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded on more than 1 day per year
(Lake Tahoe only)		8 hours	6	–	7,000	–	If equaled or exceeded	–
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded on more than 1 day per year
		1 hour	0.18	0.100	339	188	If exceeded	–
Sulfur dioxide	SO_2	24 hours	0.04	0.14[1]	105	3651	If exceeded	–
		1 hour	0.25	0.075	655	196	If exceeded	If exceeded on more than 1 day per year
		3 hours	–	0.5[a,b]	–	1,300[a,b]	–	–
		Annual arithmetic mean	–	0.030[a]	–	801	–	If exceeded on more than 1 day per year
Hydrogen sulfide	H_2S	1 hour	0.03	–	42	–	If equaled or exceeded	–
Vinyl chloride	C_2H_3Cl	24 hours	0.01	–	26	–	If equaled or exceeded	–
Inhalable particulate matter	PM10	Annual arithmetic mean	–	–	20	–	–	–
		24 hours	–	–	50	150	If exceeded	If exceeded on more than 1 day per year
	PM2.5	Annual arithmetic mean	–	–	12	12.0[c]	If exceeded	If 3-year average from single or multiple community-oriented monitors is exceeded
		24 hours	–	–	–	35	–	If 3-year average of 98th percentile at each population-oriented monitor in an area is exceeded
Sulfate particles	SO_4	24 hours	–	–	25	–	If equaled or exceeded	–
Lead particles	Pb	Calendar quarter	–	–	–	1.5	–	If exceeded no more than 1 day per year
		30-day average	–	–	1.5	–	If equaled or exceeded	–
		Rolling 3-month average	–	–	–	0.15	If equaled or exceeded	Averaged over a rolling 3-month period

Notes:
[a] The final 1-hour SO_2 rule was signed June 2, 2010. The annual and 24-hour SO_2 standards were revoked in that same rulemaking. However, these standards remain in effect until 1 year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.
[b] Secondary standard.
[c] EPA finalized the new PM2.5 annual arithmetic mean standard of 12.0 µg/m^3 on December 14, 2012, which went into effect March 18, 2013. The previous 15 µg/m^3 standard remained in effect until March 18, 2013, and remains in effect as the secondary standard.
ppm = parts per million; µg/m^3 = micrograms per cubic meter.
Sources: ARB 2013a.

3.2.2.2 State

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin is in compliance with the California standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. Table 3.2-2 provides the Los Angeles County portion of the Basin's attainment status with respect to NAAQS and CAAQS.

Table 3.2-2: Federal and State Attainment Status for Los Angeles County Portion of the South Coast Air Basin

Pollutants	Federal Classification	State Classification
O_3 (1-hour standard)	—	Nonattainment
O_3 (8-hour standard)	Nonattainment, Extreme	Nonattainment
PM10	Attainment/Maintenance	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment/Maintenance	Attainment
SO_2	Attainment	Attainment
Pb	Nonattainment	Attainment
Sources: ARB 2013b; EPA 2014a.		

3.2.2.3 Local

The project lies within the Los Angeles County portion of the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD has jurisdiction over an area of approximately 10,743 square miles, including all of Orange County; Los Angeles County, except for the Antelope Valley; the non-desert portion of western San Bernardino County; and the western and Coachella Valley portions of Riverside County. The Basin is a sub-region of SCAQMD's jurisdiction. Although air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

SCAQMD has adopted a series of air quality management plans (AQMPs) to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources, control programs for area sources and indirect sources, an SCAQMD permitting system that allows no net increase in emissions from any new or modified (i.e., previously permitted) emissions sources, and transportation control measures. The most recent AQMP is the 2012 AQMP. The Final 2012 AQMP was adopted by the SCAQMD Governing Board on December 7, 2012. Control measure IND-01 was approved for adoption and inclusion in the Final 2012 AQMP at the February 1, 2013, Governing Board meeting. ARB approved the 2012 AQMP on January 25, 2013, and the AQMP has been submitted to EPA as a revision to the California SIP (ARB 2013c). The 2012 AQMP addresses CAA requirements and includes a 24-hour PM2.5 plan; additional 8-

hour O_3 measures, with a vehicle-miles-traveled (VMT) offset demonstration; and a 1-hour O_3 attainment demonstration with VMT offset demonstration. SCAQMD recently initiated development of the 2016 AQMP, which will be primarily focused on addressing the ozone standards.

SCAQMD published the *CEQA Air Quality Handbook* in November 1993[1] to help local governments analyze and mitigate project-specific air quality impacts. This handbook provides standards, methodologies, and procedures for conducting air quality analyses as part of CEQA documents prepared within SCAQMD's jurisdiction. In addition, SCAQMD has published two additional guidance documents, *Localized Significance Threshold Methodology for CEQA Evaluations* (2003, revised 2008) and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* (2006). These publications provide guidance for evaluating localized effects from mass emissions during construction. Both were used in the preparation of this analysis (SCAQMD 2006, 2008a).

Through the attainment planning process, SCAQMD develops rules and regulations to regulate sources of air pollution in the Basin (SCAQMD 2011a). Emissions sources associated with the proposed project are considered mostly mobile sources but also include SCAQMD stationary source rules, such as Regulation XIII (New Source Review), Rule 1401 (New Source Review of Toxic Air Contaminants), or Rule 431.2 (Sulfur Content of Liquid Fuels). The proposed project may be subject to the adopted SCAQMD rules and regulations listed below (as well as others).

SCAQMD Rule 402—Nuisance. This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403—Fugitive Dust. This rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area that remains visible beyond the property line of the emission's source. During construction of the project, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earthmoving and grading activities. These measures would include site pre-watering and re-watering as necessary to maintain sufficient soil moisture content. Additional requirements apply to construction projects on property with 50 or more acres of disturbed surface area or any earthmoving operation with a daily earthmoving or throughput volume of 5,000 cubic yards or more three times during the most recent 365-day period. These requirements include submittal of a dust control plan, maintaining dust control records, and designating a SCAQMD-certified dust control supervisor.

SCAQMD Rule 1108—Cutback Asphalt. This rule specifies VOC content limits for cutback asphalt.

SCAQMD Rule 1146—Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters. The purpose of this rule is to set NO_X limits for exhaust from large external combustion equipment, such as commercial boilers, steam generators, and process heaters

SCAQMD Rule 1166—Volatile Organic Compound Emissions from Decontamination of Soil. The purpose of this rule is to require a mitigation plan for soil contaminated with VOCs.

[1] Section updates provided on the district's website: http://www.aqmd.gov/ceqa/hdbk.html

SCAQMD Rule 1113—Architectural Coatings. This rule limits the VOC content of architectural coatings used in the district. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use in the district must comply with the current VOC standards.

SCAQMD Rule 1402—Control of Toxic Air Contaminants from Existing Sources. The purpose of this rule is to sets action triggers based on facility-wide risks for public notification and mandatory risk reduction

SCAQMD Rule 1403—Asbestos Emissions from Demolition/Renovation Activities. The purpose of this rule is to limit emissions of asbestos, a TAC, from structural demolition/renovation activities. The rule requires people to notify the SCAQMD of proposed demolition/renovation activities and survey structures for the presence of asbestos-containing materials (ACMs). The rule also includes notification requirements for any intent to disturb ACM, emissions control measures, and ACM removal, handling, and disposal techniques. All proposed structural demolition activities associated with proposed construction would need to comply with the requirements of Rule 1403.

SCAQMD Rule 1472—Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fueled Internal Combustion Engines. The purpose of this rule is to reduce diesel particulate emissions from facilities with three or more stationary emergency stand-by diesel engines/generator.

3.2.2.4 Description of Relevant Air Pollutants

Criteria Pollutants

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants, which are known as criteria air pollutants, are categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), VOCs, nitrogen oxides (NO_X), sulfur dioxide (SO_2), and most fine particulate matter (PM10, PM2.5), including lead (Pb) and fugitive dust, are primary air pollutants. Of these, CO, SO_2, PM10, and PM2.5 are criteria pollutants. VOC and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects (SCAQMD 2005).

Ozone

O_3, a colorless toxic gas, is found in two regions of the earth's atmosphere, at ground level and in the upper regions of the atmosphere. Both types of ozone have the same chemical composition (O_3). Although upper atmospheric O_3 protects the earth from the sun's harmful rays, ground level O_3 is the main component of smog (EPA 2012). It enters the blood stream and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen. It also damages vegetation by inhibiting growth. Although O_3 is not directly emitted, it forms in the atmosphere through a photochemical reaction between VOCs and NO_X in the presence of sunlight. O_3 is present in relatively high concentrations within the Basin, and the damaging effects of photochemical smog are generally related to the concentration of O_3. Meteorology and terrain play major roles in O_3 formation. Ideal smog conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies but can also occur during the winter months in high-elevation areas in the western United States with high levels of local VOC and NO_X emissions when snow is on the ground and temperatures are near or below freezing (EPA 2012). The greatest source of smog-producing gases is the automobile (SCAQMD 2012a).

Organic Gases—Precursors to Ozone

There are several subsets of organic gases, including reactive organic gases (ROGs) and VOCs. Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. ROGs include all hydrocarbons except those exempted by ARB. Therefore, ROGs are a set of organic gases based on state rules and regulations. VOCs are similar to ROGs in that they include all organic gases except those exempted by federal law. Both VOCs and ROGs are emitted from incomplete combustion of hydrocarbons or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of hydrocarbons. Another source of hydrocarbons is evaporation from petroleum fuels, solvents, dry-cleaning solutions, and paint. Generally speaking, and in this analysis, ROGs and VOCs are used interchangeably to refer to the hydrocarbons that are a precursor to O_3 formation. However, because SCAQMD uses VOCs in the formulation of its thresholds, VOCs are presented herein.

The primary health effects of hydrocarbons result from the formation of O_3 and its related health effects. High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. There are no separate NAAQS or CAAQS for VOCs or ROGs (EPA 2012). Carcinogenic forms of VOCs and ROGs are considered to be toxic air contaminants (TACs), which are described below. An example is benzene, which is a carcinogen.

Carbon Monoxide

CO is a colorless and odorless gas that can interfere with the transfer of oxygen to the brain. It can cause dizziness and fatigue and impair central nervous system functions. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. In urban areas, CO is emitted by motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. Automobile exhaust releases most of the CO in urban areas. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest CO concentrations measured in Los Angeles County are typically recorded during the winter (SCAQMD 2005).

Nitrogen Dioxide

NO_2 is a brownish gas that irritates the lungs. It can cause breathing difficulties at high concentrations. Similar to O_3, NO_2 is not directly emitted but is formed through a reaction between NO and atmospheric oxygen. Nitric oxide (NO) and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM10 (see discussion of PM10 below). At atmospheric concentrations, NO_2 is only potentially irritating. In high concentrations, the result is a brownish-red cast to the atmosphere and reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 to 3 years old) has also been observed at concentrations below 0.3 part per million (ppm) (SCAQMD 2005).

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air. These can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM10 and PM2.5 represent fractions of particulate matter. PM10 refers to particulate matter less than 10 microns in diameter, about $^{1}/7^{th}$ the thickness of a human hair. PM2.5 refers to particulate matter that is 2.5 microns or less in diameter, roughly $^{1}/28^{th}$ the diameter of a human hair. Major sources of PM10 include motor vehicles; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. PM2.5 results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM10 and PM2.5 can be formed in the atmosphere from gases such as SO_2, NO_X, and VOCs.

PM10 and PM2.5 pose a greater health risk than larger size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM10 and PM2.5 can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body; they can also transport absorbed gases such as chlorides or ammonium into the lungs and cause injury. Whereas particles measuring 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles measuring 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle and contribute to haze and reduce regional visibility (SCAQMD 2005).

Secondary PM2.5 Formation

PM2.5 particles are both directly emitted into the atmosphere (i.e., primary particles) and formed through atmospheric chemical reactions from precursor gases (i.e., secondary particles). Primary PM2.5 includes diesel soot, combustion products, road dust, and other fine particles. Secondary PM2.5, which includes products such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NO_X, SO_X, VOCs, and ammonia. Secondary formation of smaller particles can lead to elevated PM2.5 concentrations in the inland valley areas of the Basin (SCAQMD 2012a). The analysis herein focuses on the effects of direct PM2.5 emissions, consistent with the recommendations of the SCAQMD (SCAQMD 2006).

Sulfur Dioxide

SO_2 is a product of high-sulfur-fuel combustion. The main sources of SO_2 are coal and oil used in power stations, industries, and domestic heating. Industrial chemical manufacturing is another source of SO_2. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also cause plant leaves to turn yellow and erode iron and steel. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary-source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 concentrations have been reduced to levels well below the state and national standards, but further reductions are needed to attain compliance with standards for sulfates and PM10, for which SO_2 is a contributor (SCAQMD 2012a).

Lead

Pb is a natural constituent of air, water, and the biosphere and listed as both a criteria pollutant and a carcinogenic TAC. Pb is neither created nor destroyed in the environment, so it essentially persists forever. Pb was used several decades ago to increase the octane rating in automotive fuel. Because gasoline-powered automobile engines were a major source of airborne Pb through the use of leaded fuels and because the use of leaded fuel has been mostly phased out, the ambient concentrations of Pb have dropped dramatically. Short-term exposure to high levels of Pb can cause vomiting, diarrhea, convulsions, coma, or even death. However, even small amounts of Pb can be harmful, especially to infants, young children, and pregnant women. Symptoms of long-term exposure to lower Pb levels may be less noticeable but are still serious. Anemia is common, and damage to the nervous system may cause impaired mental function. Other symptoms are appetite loss, abdominal pain, constipation, fatigue, sleeplessness, irritability, and headache. Continued excessive exposure, as in an industrial setting, can affect the kidneys.

Emissions of Pb have dropped substantially over the past 40 years. However, sources of Pb emissions within the Basin remain, primarily the lead-acid battery recycling industry. Monitoring at two large battery recycling facilities is responsible for the Basin’s recent nonattainment designation under the NAAQS for Pb for Los Angeles County (SCAQMD 2012b).

Toxic Air Contaminants

With respect to criteria pollutants, federal and/or state ambient air quality standards (AAQS) represent the exposure level (with an adequate margin of safety) deemed safe for humans. No AAQS exist for TACs because no exposure level has been deemed safe for humans. Pollutants are identified as TACs because of their potential to increase the risk of developing cancer or their acute or chronic health risks. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor, called a Hazard Index, is used to evaluate risk. In the early 1980s, ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807) created California’s program to reduce exposure to air toxics. The Air Toxics “Hot Spots” Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (ARB 2010). AB 2588 requires local air districts like SCAQMD to designate high, intermediate, and low priority categories and report on facilities that may pose a risk to the public.

To date, ARB has identified 21 TACs and adopted EPA's list of hazardous air pollutants as TACs. In August 1998, ARB identified diesel exhaust particulate matter (DPM) emissions as a TAC (ARB 1998). In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan was to reduce DPM emissions and the associated health risk by 75 percent by 2010 and by 85 percent by 2020 (ARB 2000).

3.2.3 Environmental Setting

3.2.3.1 Regional Context

The project site is located within the Basin, an area covering approximately 6,745 square miles and bounded by the Pacific Ocean to the west and south and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography) as well as human-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

The greatest air pollution impacts in the Basin occur from June through September. These are generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. This condition frequently reduces pollutant dispersion, thereby causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. O_3 concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert.

SCAQMD completed an ambient air monitoring and evaluation study in the Basin (i.e., the Multiple Air Toxics Exposure Study III [MATES III]). MATES III was a follow-up to previous air toxics studies in the Basin and part of the SCAQMD Governing Board's Environmental Justice Initiative. The MATES III study concluded that the average carcinogenic risk throughout the Basin, which was attributed to TACs, is approximately 1,194 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) are the greatest contributors. About 83.6 percent of all risk is attributed to DPM emissions (SCAQMD 2008b).

SCAQMD has initiated its MATES IV study, which is currently holding Technical Advisory Group meetings.

Local Climate

Data from the closest climate monitoring station—Western Regional Climate Center's (WRCC's) Los Angeles Civic Center Station (COOPID 045115)—was used to characterize project vicinity climate conditions. Over the period of record (1906–2012), the average study area summer (August) high and low temperatures were 83.1°F and 63.8°F, respectively, while temperatures exceed 90°F an average of 8.5 times per year. The average winter (January) high and low temperatures were 66.4°F and 48.3°F, respectively, while temperatures rarely drop below 32°F. Rainfall varies widely from year to year, with an annual average of 14.77 inches with an average of 36 days with measureable rainfall (greater than or equal to 0.01 inches) (WRCC 2014).

The closest wind monitoring station, located approximately 1.5 miles northeast of the study area, is the Central Los Angeles wind monitoring station (1630 Main Street). Wind patterns in the project vicinity arise primarily from the west-southwest, with seasonal and diurnal variations resulting in northeast (during Santa Ana events) and southerly winds (before and during winter storms) (National Oceanic and Atmospheric Administration [NOAA] n.d.). Over the period of record (1/1/2006 to 12/31/2009), winds at the Central Los Angeles station averaged a speed of 2.23 meters per second (5.0 miles per hour), while calm wind conditions were present only 0.32 percent of the time (SCAQMD 2011b).

Local Air Quality

The SCAQMD has divided the Basin into air monitoring areas and maintains a network of air quality monitoring stations located throughout the Basin. The project site is located in the Central Los Angeles County Monitoring Area (Source Receptor Area [SRA] 1). The nearest monitoring station is the Los Angeles - North Main Street station (ARB 70087, 1630 North Main Street), located approximately 1 mile west-northwest of the project Site. Criteria pollutants monitored at the Los Angeles – North Main Street station include O_3, CO, NO_2, PM10, and PM2.5.

Information regarding concentrations of pollutants over the last 3 years (2011–2013) has been compiled from the stations' data (see Table 3.2-3). The monitoring data show the following trends for pollutant concentrations: The 1-hour CAAQS was not exceeded in any year; the 8-hour O_3 CAAQS and NAAQS were only exceeded in 2012; the 24-hour PM10 CAAQS was exceeded several times per year; the 24-hour PM10 NAAQS were not exceeded in any year; the PM2.5 24-hour NAAQS was exceeded each year; and the 1-hour NO_2 NAAQS was exceeded once in 2011. In addition, no violations of the CO CAAQS or NAAQS occurred, and no violations of the NO_2 CAAQS occurred.

Local Health Risk

According to SCAQMD inhalation cancer risk data (MATES III), the study area is within cancer risk zones of approximately 1,390 in one million.[2] For comparison, the average cancer risk in the Basin is approximately 1,200 in one million.

Sensitive Receptors and Locations

SCAQMD defines sensitive receptor locations as residential, commercial, and industrial land use areas as well as other locations where sensitive populations may be located. Other sensitive receptor locations include schools, hospitals, convalescent homes, day care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed (SCAQMD 2005).

The project site is surrounded by County/public, residential, commercial, industrial, medical, and institutional uses. Sensitive receptors within the project vicinity include the surrounding residences in all directions as well as patients and workers on the project site itself, as a hospital is considered a sensitive receptor. Figure 3.9-2 shows the land uses of the project site and the surrounding area.

[2] South Coast Air Quality Management District. 2008b. *Multiple Air Toxics Exposure Study III, Model Estimated Carcinogenic Risk*. Available: <http://www3.aqmd.gov/webappl/matesiii/>.

Table 3.2-3. Air Quality Data from Los Angeles – North Main Street Station (ARB 70087)

Pollutant and Standard	2011	2012	2013
Ozone (O_3)			
Maximum concentration 1-hour period	0.087	0.093	0.081
Maximum concentration 8-hour period	0.065	0.077	0.069
4th Highest concentration 8-hour period	0.060	0.068	0.060
Days state 1-hour standard exceeded *(0.09 ppm)*	0	0	0
Days state 8-hour standard exceeded *(0.070 ppm)*	0	2	0
Days national 8-hour standard exceeded *(0.075 ppm)*	0	1	0
Suspended Particulates (PM10)			
Maximum state 24-hour concentration	119.7	90.9	74.5
Maximum national 24-hour concentration	53.0	80.0	57.0
Annual average concentration	28.7	30.0	35.3
Days state standard exceeded (*50 $\mu g/m^3$*)	9	43	20
Days national standard exceeded (expected) (*150 $\mu g/m^3$*)	0.0	0.0	0.0
Suspended Particulates (PM2.5)			
Maximum 24-hour concentration	49.3	58.7	43.1
National 98th Percentile concentration	31.5	32.0	29.0
State annual average concentration	13.3	12.7	12.0
National annual average concentration	12.9	12.5	12.0
Days national standard exceeded (*35 $\mu g/m^3$*)	4	4	1
Carbon Monoxide (CO)			
Maximum Concentration 8-hour Period	2.4	1.9	2.0
Maximum Concentration 1-hour Period	2.8	2.2	2.5
Days state 8-hour standard exceeded *(9.0 ppm)*	0	0	0
Days national 8-hour standard exceeded *(9 ppm)*	0	0	0
Days state 1-hour standard exceeded *(20 ppm)*	0	0	0
Days national 1-hour standard exceeded *(35 ppm)*	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour Concentration	109.6	77.3	90.3
Annual Average Concentration	NA	NA	NA
Days exceeding state standard (*0.18 ppm*)	0	0	0
Days exceeding national standard (*0.100 ppm*)	1	0	0
Lead (Pb)			
Maximum 24-hour Concentration	0.017	0.024	0.019
Rolling 3-month Average	NA	NA	NA

Source: ARB 2014, EPA 2014b. Compiled by ICF, July 2014.

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; NA = data not available.

3.2.4 Environmental Impact Analysis

3.2.4.1 Methods

The methodology for identifying construction- and operations-related emissions is presented below.

Construction

Construction associated with of the project level of development under the master plan would result in the generation of criteria pollutant and TAC emissions. Construction of the master plan elements would occur over a period of approximately 25 years (2015–2040). While the master plan guides development, a specific construction schedule has not been determined and is unknown at this point. Mass daily combustion exhaust, fugitive dust (PM10 and PM2.5), and fugitive off-gassing (VOC) from paving and architectural coatings were estimated using SCAQMD's California Emissions Estimator Model (CalEEMod), version 2013.2.2 (SCAQMD 2013). Given that the specific construction timeline is unknown at this point, modeling defaults regarding construction phase types, phase lengths, equipment assumptions, and vehicle trip assumptions within CalEEMod were used to provide a reasonable yet conservative analysis based on projected master plan square footage (see Table 2-1 in Chapter 2 of this EIR). A summary of CalEEMod inputs (equipment assumptions, trips lengths, etc.) is presented in Appendix B. For purposes of analysis, it was assumed that construction would begin in January 2015 and all projects (medical uses, office uses, retail, etc.) and each construction phase for each project (demolition, building construction, etc.) would occur concurrently.

Regarding localized effects, SCAQMD's localized significance threshold (LST) methodology was developed to aid in the analysis of construction associated with land use development projects. It directs analyses to focus on emissions from mobile construction equipment (i.e., loaders, backhoes, forklifts, generators, etc.) and stationary sources (i.e., natural gas furnaces, emergency generators, etc.) and mobile equipment (i.e., forklifts) operating on-site. The LST methodology and lookup tables are not designed to evaluate localized impacts from mobile sources traveling over roadways. Therefore, the LST analysis only includes those emissions that would occur on-site, and does not include emissions from motor vehicles traveling on roadways.

For purposes of analysis, fugitive dust emissions assume compliance with SCAQMD Rule 403. According to SCAQMD guidance, Rule 403 would reduce fugitive dust emissions by 61 percent by watering three times per day. The exact dust-control methods used for construction will be specified in a dust-control plan that would be submitted to the SCAQMD per Rule 403 once construction begins.

Emissions are presented at the daily time scale and compared with the thresholds discussed in Section 3.2.4.2, below. All emissions calculation worksheets and air quality modeling output files are provided in Appendix B.

Operation

Existing uses at the project site currently result in a source of criteria pollutant and TAC emissions, including emissions associated with motor vehicle travel to and from the site, natural gas combustion for space and heating, and area sources associated with consumer products (cleaning supplies, kitchen aerosols, cosmetics, toiletries), architectural coatings, and landscaping. Buildout of the proposed master plan would result in a change in land uses on-site, as well as increased intensity of existing uses, and would thus result in emissions in different quantities than existing uses.

Criteria pollutant and TAC emissions associated with both existing and proposed uses were estimated using CalEEMod, utilizing motor vehicle trip generation data from the traffic impact analysis (Fehr & Peers 2014) and CalEEMod defaults for natural gas consumption and area sources for both existing and proposed land uses. It was assumed that the proposed master plan would be fully built out and operational by 2040. Note that the latest operational year in CalEEMod is 2035. Emissions are presented at the daily time scale and the net contribution of the proposed project (master plan buildout over existing uses) compared with the thresholds discussed in Section 3.2.4.2, below. In addition, the current LAC/USC Medical Center results in emissions from various permitted sources located on-site, including emergency generators, boilers, storage tanks, and other sources that emit both criteria pollutant and TAC emissions. Annual emissions from existing permitted sources was obtained from SCAQMD's FIND database for the most recent year data was available (year 2013), converted to daily emissions to represent average daily emissions, and scaled based on the change in square footage between the existing campus and buildout of the new master plan. Particulate emissions, reported as total suspended particulates (TSPs) in the AER, were converted to PM10 and PM2.5 based on the conservative assumption that PM10 and PM2.5 were the same as TSPs.

Regarding localized effects, SCAQMD's LST methodology was developed to aid in the analysis of operations associated with land use development projects. It directs analyses to focus on criteria pollutant emissions from stationary sources (i.e., natural gas furnaces, emergency generators, etc.) and mobile equipment (i.e., forklifts) operating on-site. The LST methodology and lookup tables are not designed to evaluate localized impacts from mobile sources traveling over roadways or to analyze the effects of TACs on nearby receptors. Therefore, the LST analysis only includes those criteria pollutant emission sources that would occur on-site, and does not include emissions from motor vehicles traveling on roadways.

With regards to the effects of TAC emissions, existing permitted equipment on-site (boilers, generators, etc.) generate TACs, and in 2007 SCAQMD performed a site-specific health risk assessment (HRA) to analyze the cancer and acute and chronic non-cancer effects that permitted source have on sensitive receptors in the area. Buildout of the master plan would inevitably increase TAC emissions by introducing new natural-gas boilers and emergency (most likely diesel) generators to support the expanded facilities on-site. The specifics regarding potential new sources, in terms of location, size, source parameters (fuel type, stack height, exhaust controls, etc.) is unknown at this point. However, for purposes of analysis, cancer and acute and chronic non-cancer shown in the 2007 HRA were scaled based on the change in square footage from existing conditions to conditions with the projected level of development that could occur under the master plan. This method is based on the assumption that 2007 and existing square footage is the same and that health effects are directly proportional to facility square footage.

Regarding CO hot spots, SCAQMD recommends a hot-spot evaluation of potential localized CO impacts when volume-to-capacity (V/C) ratios are increased by 2 percent or more at intersections with a level of service (LOS) of C or worse. The 21 intersection locations within the traffic impact analysis were screened using the above criteria. To simplify the CO hot-spot analysis, the analysis focuses on the three intersections that comprise the worse V/C ratios and highest volumes under both existing plus project and 2040 cumulative year with project conditions. CO hot-spot impacts were evaluated consistent with the California Department of Transportation (Caltrans) T*ransportation Project-Level Carbon Monoxide Protocol* (Garza et al. 1997) and SCAQMD's CO modeling protocol. CO hot spots were analyzed using the CALINE-4 line-source dispersion model developed by Caltrans, combined with ARB's EMFAC2011 emission factors, with all four corners of each intersection analyzed to determine whether project development would result in a CO concentration that exceeds federal or state CO standards.

All emissions calculation worksheets and air quality modeling output files are provided in Appendix B.

3.2.4.2 Thresholds of Significance

For the purposes of the analysis in this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

AQ-3: Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is a nonattainment area with respect to the applicable federal or state ambient air quality standard (this includes releasing emissions that would exceed quantitative thresholds for ozone precursors).

AQ-4: Expose sensitive receptors to substantial pollutant concentrations.

AQ-5: Create objectionable odors that would affect a substantial number of people.

Appendix G, Section III, of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding air quality impacts. Given SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies established by SCAQMD are relied upon to make determinations regarding air quality impacts.

Criteria Pollutants

The significance thresholds and analysis methodologies outlined in SCAQMD's *CEQA Air Quality Handbook*, *Localized Significance Threshold Methodology for CEQA Evaluations*, and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents were used in evaluating project impacts. Specifically, the SCAQMD construction and operational regional mass emissions thresholds identified in Table 3.2-4 were used for the regional assessment of criteria pollutants herein.

With respect to localized emissions, SCAQMD has developed LSTs and mass rate look-up tables to help public agencies analyze the project-related effects of pollutants on nearby receptors. The LSTs are based on the size or total area of the emissions source, the ambient air quality in each SRA where the emissions sources are located, and the distance to nearby sensitive receptor locations. The project site encompasses 76 acres within the Central Los Angeles Monitoring Area (SRA 1). The proposed LAC+USC Medical Center Campus Master Plan addresses issues concerning the entire LAC+USC Medical Center campus; therefore, the entire campus is considered the project site. However, construction associated with the master plan would be implemented over a period of approximately 25 years (2015–2040) and construction of the various elements of the master plan would occur in small areas over the entire 86-acre project area over the 25-year time frame. Therefore, because LSTs are based on the potential area disturbed on any given day and in any portion of the site (i.e., at the edge of the site near adjacent receptors), the LST analysis for construction assumes one-acre is disturbed per day and the most conservative 25-meter receptor distance to receptors.

Table 3.2-4: SCAQMD Significance Thresholds (pounds per day)

	VOC	NO_X	CO	SO_2	PM10	PM2.5	Pb[a]
Construction							
Localized Significance Thresholds [b]	N/A	74	680	N/A	5	3	N/A
Regional Significance Thresholds	75	100	550	150	150	55	3
Operations							
Localized Significance Thresholds [c]	N/A	173	4,547	N/A	26	9	N/A
Regional Significance Thresholds	55	55	550	150	150	55	3

[a] The proposed project would result in no lead emissions during construction or operations. As such, lead emissions are not evaluated herein.
[b] Localized thresholds for construction based on a 1-acre construction site and 25-meter distance to receptors within SRA 1(Central LA). SCAQMD has not developed LSTs for VOC, SO_2, or Pb emissions.
[c] Localized thresholds for operations based on a 5-acre project site and 200-meter distance to receptors within SRA 1(Central LA). SCAQMD has not developed LSTs for VOC, SO_2, or Pb emissions.
Source: SCAQMD 2009, 2011c.

For operations, emissions from on-site sources (permitted sources, landscaping, etc.) would occur throughout the entire site. Therefore, the maximum allowed acreage within the LST methodology of five acres is utilized for the operational analysis. Further, because emissions would occur throughout the entire site, receptor distance was taken from the center of the project site, as opposed to the edges for the construction site. Therefore, a 200-meter receptor distance was utilized for the operational analysis herein.

Toxic Air Contaminants

Regarding sensitive receptors' exposure to substantial pollutant concentrations, SCAQMD states that the project would have a significant impact from TACs if:

- TACs increase the non-cancer health risk due to short-term (acute) or long-term (chronic) exposures. The screening risk assessment for those TACs must estimate the acute and/or chronic Hazard Index, as applicable. On-site stationary sources emit carcinogenic or TACs that individually or cumulatively exceed the maximum incremental cancer risk of 10 in 1 million (1.0×10^{-5}) or an acute or chronic Hazard Index of 1.0 (SCAQMD 2005, 2011c).
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials, posing a threat to public health and safety (SCAQMD 1993).

Carbon Monoxide Hot Spots

Regarding carbon monoxide hot spots, SCAQMD states that a project impact is significant if it causes or contributes to an exceedance of the following attainment standards:

- 1-hour standards of 20 ppm (state) and 35 ppm (federal), and
- 8-hour standards of 9.0 ppm (state) and 9 ppm (federal).

Cumulative Impacts

Potential cumulative air quality impacts would result when other projects' pollutant emissions combine to degrade air quality conditions below acceptable levels. This could occur on a local level (e.g., increased vehicle emissions at congested intersections or concurrent construction activities at sensitive receptor locations), a regional level (e.g., potential O_3 impacts from multiple past, present, and reasonably foreseeable projects within the Basin), or globally (e.g., the potential impact of greenhouse gas [GHG] emissions on global climate change [GHGs are analyzed in Section 3.6, Greenhouse Gases]).

The Basin experiences chronic exceedances of the NAAQS and CAAQS and is currently in nonattainment status for various pollutants. These nonattainment conditions within the region are considered cumulatively significant. SCAQMD thresholds have been established to ensure attainment of the NAAQS and CAAQS; therefore, an exceedance of SCAQMD threshold levels must be considered a significant cumulative impact and an adverse cumulative consequence.

3.2.4.3 Impacts and Mitigation Measures

Impact AQ-1: Would the Proposed Project Conflict or Obstruct Implementation of the Applicable Air Quality Plan?

Construction and Operation

SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Basin is in nonattainment status. SCAQMD's most recent plan to achieve air quality standards is the 2012 AQMP, adopted by the SCAQMD Governing Board on December 7, 2012. The 2012 AQMP outlines a comprehensive control strategy to meet the requirement for expeditious progress toward attainment of the 24-hour PM2.5 NAAQS in 2014 through all feasible control measures. The 2012 AQMP also includes specific measures for implementing the O_3 strategy from the 2007 AQMP and attaining the 8-hour ozone standard by 2023 (SCAQMD 2012a). These strategies are based, in part, on regional population, housing, and employment projections prepared by the region's cities and counties and incorporated by SCAG. As such, projects that propose development that is consistent with the growth anticipated in the relevant land use plans used in the formulation of the AQMP are considered to be consistent with the AQMP. The governing land use document relevant to the project area is the City of Los Angeles General Plan. Therefore, projects that propose development consistent with the growth anticipated in the current City of Los Angeles General Plan are considered consistent with the AQMP.

As discussed in Section 3.9, Land Use/Planning, the project would be consistent with the city's general plan and the goals of SCAG's RTP/SCS and the RCP. The master plan would guide development over the next 25 years, envisioning a series of improvements that includes new or renovated buildings for medical facilities and offices, laboratories, retail, and outdoor space. Buildout of the master plan would increase development within the campus, which would increase motor vehicle travel to the site. The master plan would include sustainable design practices, including energy and water efficiency measures, implementation of LEED and CALGreen program goals, a pedestrian mall and bicycle depot to promote alternative forms of transportation, and would be situation near existing transit services. Therefore, because the project would be consistent with the land use designation and regional planning documents (SCAG RTP/SCS and RCP), the project is considered consistent with the governing land use document, which is the City of Los Angeles General Plan. Furthermore, pursuant to

SCAQMD guidelines, the proposed project is considered consistent with the region's AQMP. As such, project-related emissions are accounted for in the AQMP, which has been crafted to bring the Basin into attainment status for all nonattainment pollutants and precursors thereof. Accordingly, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan. This impact is considered less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact AQ-2: Would the Proposed Project Violate an Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation?

The project site is located within an area where state and federal air quality standards are often exceeded. SCAQMD has promulgated regional and localized significance thresholds to help the Basin attain federal and state air quality standards and protect public health. The proposed project would contribute to regional air pollutant emissions during short-term construction and long-term operations. An analysis of the construction- and operations-related effects of the proposed project is presented below.

Construction

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction workers' vehicle trips, material deliveries, and trips by heavy-duty haul trucks. In addition, earthwork activities would result in fugitive dust emissions, and paving operations would release VOCs from off-gassing. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources. Fugitive PM10 and PM2.5 emissions estimates take into account compliance with SCAQMD Rule 403.

Construction-related emissions are shown in Table 3.2-5. To provide a worst-case scenario, the analysis herein assumes all phases of construction would overlap and occur concurrently (see methodology discussion in Section 3.2.4.1). The analysis also assumes that the construction of individual projects under the proposed master plan would also overlap. As shown in Table 3.2-5, maximum daily project-related criteria pollutant emissions would exceed SCAQMD regional construction-period thresholds for VOC and NO_X. Therefore, mitigation is proposed to reduce emissions.

Mitigation Measure AQ -1, which would require low-VOC coatings beyond SCAQMD requirements for non-residential uses, would reduce VOC emissions. Mitigation Measures AQ-2 and AQ-3, which would require a clean construction and diesel-reduction measures, would reduce NOx emissions from vehicle exhaust. As shown in Table 3.2-6, implementation of Mitigation Measures AQ -1 through AQ-3 would reduce emissions to below SCAQMD thresholds. Impacts are considered less than significant with mitigation incorporated.

Table 3.2-5: Estimate of Unmitigated Regional Construction Emissions associated with Buildout of the Master Plan (pounds per day)

	VOC	NO_X	CO	SO_2	PM10	PM2.5
Demolition	6	64	49	<1	8	3
Site Preparation	5	57	44	<1	10	7
Grading	7	79	52	<1	7	5
Building Construction	14	85	157	<1	18	7
Paving	1	14	15	<1	1	1
Architectural Coatings	884	3	11	<1	2	1
Maximum Daily Emissions	**917**	**301**	**329**	**1**	**46**	**23**
SCAQMD Regional Construction Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed Significant Threshold?	**Yes**	**Yes**	No	No	No	No
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

Table 3.2-6: Estimate of Mitigated Regional Construction Emissions associated with Buildout of the Master Plan (pounds per day)

	VOC	NO_X	CO	SO_2	PM10	PM2.5
Demolition	2	18	37	<1	5	1
Site Preparation	1	2	23	<1	7	4
Grading	1	3	36	<1	3	1
Building Construction	11	57	156	<1	16	5
Paving	0	1	18	<1	0	0
Architectural Coatings	36	1	11	<1	2	1
Maximum Daily Emissions	**50**	**82**	**280**	**1**	**34**	**12**
SCAQMD Regional Construction Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed Significant Threshold?	No	No	No	No	No	No
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

Operation

Existing and proposed uses would result in emissions from similar sources, but in different quantities. Emissions associated with motor vehicle trips; on-site consumption of natural gas for space and water heating; on-site use of solvents and consumer products; and emissions associated with landscaping were estimated using trip generation data from the traffic analysis as well as CalEEMod defaults regarding area and energy sources for the various land uses. Emissions associated with permitted sources were obtained from SCAQMD's FIND database and scaled based on the change in total square footage between existing and buildout conditions. See the detailed methodology in Section 3.2.4.1.

As shown in Table 3.2-7, maximum daily project-related criteria pollutant emissions over existing conditions are not expected to exceed SCAQMD operations-period thresholds for any pollutant. Similarly, maximum daily project-related criteria pollutant emissions over future no-project conditions are not expected to exceed SCAQMD operations-period thresholds for any pollutant. Consequently, the impact of operations-related emissions from the project is considered less than significant.

Table 3.2-7: Estimate of Unmitigated Regional Operational Emissions associated with Existing Uses and Buildout of the Master Plan (pounds per day)

	VOC	NO_X	CO	SO_X	PM10	PM2.5
Existing Uses (2014)						
Motor Vehicles	67	193	752	1	101	29
Natural Gas	<1	3	3	<1	<1	<1
Architectural Coatings	5	-	-	-	-	-
Consumer Products	14	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	48	20	84	1	28	28
Daily Existing Uses	*134*	*216*	*839*	*2*	*129*	*57*
Future No Project (2040)						
Motor Vehicles	29	76	332	1	100	28
Natural Gas	<1	3	3	<1	<1	<1
Architectural Coatings	5	-	-	-	-	-
Consumer Products	14	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	48	20	84	1	28	28
Daily No Project	*96*	*100*	*419*	*2*	*129*	*57*
Master Plan Buildout (2040)						
Motor Vehicles	37	93	408	2	119	34
Natural Gas	1	11	9	<1	1	1
Architectural Coatings	18	-	-	-	-	-
Consumer Products	31	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	59	25	104	1	35	35
Daily Master Plan Buildout	*146*	*128*	*521*	*3*	*155*	*69*
Net Daily Emissions – Master Plan over Existing Uses	**12**	**-88**	**-318**	**1**	**26**	**12**
SCAQMD Regional Operational Threshold	55	55	550	150	150	55
Exceed Significant Threshold?	*No*	*No*	*No*	*No*	*No*	*No*
Net Daily Emissions – Master Plan over Future No Project	**50**	**29**	**102**	**1**	**26**	**13**
SCAQMD Regional Operational Threshold	55	55	550	150	150	55
Exceed Significant Threshold?	*No*	*No*	*No*	*No*	*No*	*No*
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

Mitigation Measures

The following measures are proposed to mitigate potential construction impacts (see AQ-2 above) that could occur under the master plan.

MM-AQ-1: To reduce VOC emissions during construction, the County (or its contractors) shall use low-VOC coatings that go beyond the requirements of SCAQMD Rule 1113, and have a VOC content of 10 g/L or less during construction.

MM-AQ-2: To reduce NO_X emissions during construction, the County (or its contractors) shall ensure that all off-road diesel-powered equipment used during construction will be equipped with an EPA Tier 4 Interim engine, except for specialized construction equipment in which an EPA Tier 4 Interim engine is not available. The use of Tier 4 Interim engines will also act to reduce ROG and PM emissions from construction equipment.

MM-AQ-3: To reduce NO_X and PM emissions during construction, the County (or its contractors) shall implement the following measures during construction.

- Haul and delivery truck idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to less than 3 minutes (beyond that required by the California airborne toxics control measure, 13 CCR 2485). Clear signage shall be provided for construction workers and construction vehicles at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- A traffic control plan shall be prepared.
- A carpool program for construction workers, including incentivizing carpooling as well as providing bus service for crew members, shall be implemented.
- Truck deliveries shall be consolidated when possible.

Level of Significance after Mitigation

Impacts would be less than significant with mitigation during construction and less than significant before mitigation during operation.

Impact AQ-3: Would the Proposed Project Result in a Cumulatively Considerable Net Increase in a Criteria Pollutant for which the Project Region Is a Nonattainment Area for an Applicable Federal or State Ambient Air Quality Standard (Including Releasing Emissions that Exceed Quantitative Thresholds for Ozone Precursors)?

Construction and Operation

The Basin is currently in nonattainment status for O_3, PM2.5, and Pb under the NAAQS as well as O_3, PM10, and PM2.5 under the CAAQS. This is the result of past and present projects and will be further impeded by reasonably foreseeable future projects. As discussed in Section 3.2.4.2, SCAQMD has developed thresholds to ensure attainment of the NAAQS and CAAQS; therefore, exceedance of SCAQMD threshold levels must be considered a significant cumulative impact and adverse cumulative consequence. As discussed under Impact AQ-2 and shown in Tables 3.2-5 through 3.2-7, criteria pollutant emissions are not expected to exceed SCAQMD regional thresholds during construction and operation of the proposed project after mitigation relative to both existing and future no project conditions. Therefore, because the proposed project would not exceed the thresholds for a nonattainment pollutant (in this case, an ozone precursor [VOC and NO_X], PM10, PM2.5, or Pb), the proposed project would not result in a net increase in pollutants (including ozone precursors) that would be cumulatively considerable. See Section 3.2-5, Cumulative Impacts, below, for a complete discussion on the proposed project's cumulative air quality impacts.

Mitigation Measures

Please see mitigation measures MM-AQ-1 through MM-AQ -3.

Level of Significance after Mitigation

Impacts would be less than significant.

Impact AQ-4: Would the Proposed Project Expose Sensitive Receptors to Substantial Pollutant Concentrations?

The proposed project would contribute to localized air pollutant emissions during construction (short term) and project operations (long term). The analysis of receptor pollutant exposure includes a discussion of short-term exposure to criteria pollutants (i.e., LSTs) and TACs (i.e., exposure to diesel exhaust), while the long-term analysis includes a discussion of criteria pollutants, TACs, as well as concentrations of CO (i.e., CO hot spots) due to increased congestion and degraded roadway conditions as a result of project implementation.

Construction

Project construction would emit localized pollutants through the on-site use of heavy-duty construction equipment as well as fugitive dust from ground-disturbing activities. These localized emissions could expose nearby sensitive receptors to substantial pollutant concentrations. SCAQMD has developed a set of localized mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction- and operations-period emissions. According to SCAQMD, only those emissions that occur on-site are to be considered in the LST analysis. Consistent with SCAQMD LST guidelines, emissions related to haul truck and employee commuting activity during construction are not considered in the evaluation of localized impacts.

As shown in Table 3.2-8, localized emissions during construction are expected to exceed the appropriate LSTs for NO_X, PM10, and PM2.5 before mitigation. Note that the localized analysis is inherently conservative in that it assumes maximum daily construction activities are concentrated in a one-acre area near offsite receptor locations.

Mitigation measure MM-AQ-2 would require clean diesel equipment and is expected to reduce maximum daily NOx emissions by approximately 95 percent. Reductions associated with Mitigation measure MM-AQ-3 were not quantified but the diesel reductions measures would reduce NO_X and PM emissions associated with diesel truck activity.

The primary source of PM10 and PM2.5 emissions after implementation of mitigation measures MM-AQ-2 and MM-AQ-3 is fugitive dust from on-site clearing and demolition. Unmitigated PM10 and PM2.5 emissions shown in Table 3.2-8 take into account watering three times daily, which results in a 61% reduction relative to uncontrolled conditions. As shown in Table 3.2-9, implementation of

Table 3.2-8: Estimate of Unmitigated Localized Construction Emissions associated with Buildout of the Master Plan (pounds per day)

	VOC	NO_X	CO	SO_X	PM10	PM2.5
Demolition	5	48	36	<1	6.4	2.9
Site Preparation	5	57	43	<1	10.1	6.7
Grading	7	79	51	<1	6.4	4.8
Building Construction	4	30	19	<1	2.1	2.0
Paving	1	14	14	<1	0.7	0.7
Architectural Coatings	883	2	2	<1	0.1	0.1
Maximum Daily Emissions	**905**	**230**	**164**	**<1**	**25.9**	**17.2**
SCAQMD Localized Significance Threshold	N/A	74	680	N/A	5.0	3.0
Exceed Significant Threshold?	N/A	**Yes**	No	N/A	**Yes**	**Yes**
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

Table 3.2-9: Estimate of Mitigated Localized Construction Emissions associated with Buildout of the Master Plan (pounds per day)

	VOC	NOX	CO	SOX	PM10	PM2.5
Demolition	0	2	24	<1	4.0	0.7
Site Preparation	0	2	21	<1	7.1	3.9
Grading	1	3	35	<1	2.7	1.4
Building Construction	0	2	17	<1	0.0	0.0
Paving	0	1	17	<1	0.0	0.0
Architectural Coatings	35	0	2	<1	0.0	0.0
Maximum Daily Emissions	**38**	**11**	**116**	**<1**	**13.9**	**6.1**
SCAQMD Localized Significance Threshold	N/A	74	680	N/A	5.0	3.0
Exceed Significant Threshold?	N/A	No	No	N/A	**Yes**	**Yes**
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

mitigation measures MM-AQ-1 and MM-AQ-2 would reduce emissions, but PM10 and PM2.5 levels would remain in excess of SCAQMD thresholds. Compliance with Rule 403 would reduce PM emissions, but not to a level below thresholds. Therefore, this impact is considered significant and unavoidable.

With respect to TACs, the closest sensitive land uses are the residential areas surrounding the project site. Construction would be sporadic in both duration and location, with actual construction taking place during a few years over the 25-year master plan timeframe, which is much shorter than the assumed 70-year exposure period used to estimate lifetime cancer risks. Furthermore, SCAQMD does not consider diesel-related cancer risks from construction equipment to be an issue because of the short-term nature of construction activities. Construction activities associated with the proposed project would be sporadic, transitory (i.e., occurring over the entire LAC/USC property), and short term in nature at any given location on-site. As such, construction of the proposed project alone is not anticipated to result in an elevated health risk to exposed persons because of the short-term nature of construction-related diesel exposure.

Operation

Once constructed, project operations would emit localized pollutants. SCAQMD's LST methodology was developed to aid operational analysis of land use development projects. It directs analyses to focus on emissions from stationary sources (i.e., natural gas furnaces, emergency generators, etc.) and mobile equipment (i.e., landscaping equipment) operating on-site. Consistent with SCAQMD's LST guidelines, emissions related to vehicle travel are not considered in the evaluation of localized impacts. Note that the LST analysis only analyzes the concentrations of criteria pollutants at nearby receptors.

As shown in Table 3.2-10, localized emissions during operations would not exceed LSTs for the project area relative to both existing and future no project conditions. Impacts would be less than significant. Therefore, no mitigation is proposed.

With respect to TACs, long-term operations would increase building square footage, which would increase the use of existing or introduction of new permitted sources on-site. As briefly mentioned in the master plan, new natural-gas boilers and emergency (most likely diesel) generators are likely to be added in the future to support the expanded facilities. The increase in on-site activity and fuel combustion would increase TACs and subsequent health risk to the surrounding community.

As shown in Table 3.2-11, health risk associated with master plan buildout is expected to remain below SCAQMD thresholds. Therefore, impacts related to potential project-generated exposure to TACs on surrounding land uses would be less than significant.

It should be noted that cancer risk would be directly proportional to facility square footage, and a more refined analysis would take into account source specifics (emission rates, location of emission sources, etc.) and technological advances and SCAQMD rule changes that could reduce emission rates in the future. Also note that the HRA methodology has changed since the time of the 2007 HRA, as health effects values (e.g., reference exposure levels) exposure pathway variants (e.g., breathing rates) have been updated, and age sensitivity factors (ASFs) introduced, by the Office of Environmental Health Hazard Assessment (OEHHA), the state agency tasked with developing HRA guidelines. These changes, if applied to an individual HRA, may result in a different cancer risk determination.

With respect to CO hot spots at nearby intersections, the project would not substantially increase congestion. According to the traffic impact analysis (Fehr & Peers 2014), implementation of the proposed project would create congested conditions at various intersections near the project site. As discussed in Section 3.2.4.1, the CO hot-spot analysis focuses on the three intersections that comprise the worse V/C ratios and highest volumes under both existing plus project and 2040 cumulative year with project conditions. Table 3.2-12 indicates that implementation of the project is not expected to result in violations of the state or federal 1- or 8-hour CO standards at the three most congested and heavily-trafficked intersections within the project vicinity. Consequently, the project would not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of CO NAAQS. The impact of traffic from the project on ambient CO levels is considered less than significant. No mitigation is required.

Table 3.2-10: Estimate of Unmitigated Localized Operational Emissions associated with Existing Uses and Buildout of the Master Plan (pounds per day)

	VOC	NO_X	CO	SO_X	PM10	PM2.5
Existing Uses (2014)						
Natural Gas	<1	3	3	<1	<1	<1
Architectural Coatings	5	-	-	-	-	-
Consumer Products	14	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	48	20	84	1	28.2	28.2
Daily Existing Uses	67	23	87	1	28.5	28.5
No Project (2040)						
Natural Gas	<1	3	3	<1	<1	<1
Architectural Coatings	5	-	-	-	-	-
Consumer Products	14	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	48	20	84	1	28.2	28.2
Daily No Project	67	23	87	1	28.5	28.5
Master Plan Buildout (2040)						
Natural Gas	1	11	9	<1	1	1
Architectural Coatings	10	-	-	-	-	-
Consumer Products	57	-	-	-	-	-
Landscaping	<1	<1	<1	<1	<1	<1
Permitted Sources	59	25	104	1	34.8	34.8
Daily Master Plan Buildout	135	36	113	1	35.6	35.6
Net Daily Emissions – Master Plan over Existing Uses	**68**	**12**	**26**	**<1**	**7.1**	**7.1**
SCAQMD Localized Operational Threshold	--	173	4,547	--	26	9
Exceed Significant Threshold?	--	No	No	--	No	No
Net Daily Emissions – Master Plan over No Project	**68**	**12**	**26**	**<1**	**7.1**	**7.1**
SCAQMD Localized Operational Threshold	--	173	4,547	--	26	9
Exceed Significant Threshold?	--	No	No	--	No	No
Emissions may not add up because of rounding. Source: Emissions modeling by ICF 2014 (Appendix B).						

Table 3.2-11: Estimate of Health Risk from Existing Uses and Buildout of the Master Plan

Scenario	Maximum Incremental Cancer Risk	Cancer Burden	Acute Hazard	Chronic Hazard
2007 HRA	7.5	0.031	0.7	0.38
2040 Master Plan Buildout	9.2	0.038	0.9	0.47
Project Increment	*1.7*	*0.007*	*0.2*	*0.09*
SCAQMD Thresholds	10	0.5	1.0	1.0

Note: HRA for year 2007 found in SCAQMD's *2013 Annual Report on AB 2588 Air Toxics Hot Spots Program.* Risk scaled based on 1.4 million square feet of uses active during year 2007 and 1.725 million square feet of uses assumed with master plan buildout.
Sources: SCAQMD, 2014; ICF, 2014.

Table 3.2-12: Modeled Carbon Monoxide Levels Measured at Receptors in the Vicinity of Affected Intersections during Peak Periods.

Intersection	Peak Hour Period	2014 Existing Plus Project		2040 Cumulative With Project	
		1 Hr	8 Hr	1 Hr	8 Hr
Soto Street at Marengo Street	AM	7.5	6.3	6.0	5.2
	PM	7.2	6.1	5.9	5.2
Soto Street at Charlotte Street/I-10 WB Ramps	AM	7.1	6.0	5.9	5.2
	PM	7.2	6.1	5.8	5.1
Daly Street/Marengo Street at Mission Road	AM	7.3	6.1	5.9	5.2
	PM	7.3	6.1	5.9	5.2

Notes:
Background concentrations of 5.1 and 4.6 ppm were added to the modeling for 1- and 8-hour results, respectively, based on SCAQMD projected future-year concentrations for Central Los Angeles.
The federal and state 1-hour standards are 35 and 20 ppm, respectively.
The federal and state 8-hour standards are 9 and 9.0 ppm, respectively. The difference lies in the rounding convention.
Source: EMFAC2011 and CALINE4 modeling by ICF (Appendix B).

Mitigation Measures

To mitigate localized construction impacts (see AQ-4, Construction, above) please see mitigation measures MM-AQ-1 through MM-AQ-3 above.

Level of Significance after Mitigation

Potential emissions of PM2.5 and PM10 during construction would remain significant after mitigation.

Impact AQ-5: Would the Proposed Project Create Objectionable Odors that Would Affect a Substantial Number of People

Construction and Operation

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. The proposed project does not include any uses identified by SCAQMD as being associated with odors and therefore would not produce objectionable odors.

Odors resulting from construction of the proposed project are not likely to affect a substantial number of people because construction activities usually do not emit offensive odors. Potential odor emitters during construction activities include asphalt paving and architectural painting activities. SCAQMD Rule 1108 limits the amount of VOC emissions from cutback asphalt and Rule 1113 limits VOC content of architectural coatings. Given mandatory compliance with SCAQMD rules, no construction activities or materials are proposed that would create a significant level of objectionable odors. As such, potential impacts during short-term construction would be less than significant. No mitigation measures are required.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

3.2.5 Cumulative Impacts

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. The study area for analysis of cumulative effects on air quality is the Basin. The Basin experiences chronic exceedances of state and federal ambient air quality standards as a consequence of past and present projects and is subject to continued nonattainment status by reasonably foreseeable future projects. These nonattainment conditions within the region are considered cumulatively significant. Therefore, SCAQMD thresholds have been established to ensure attainment of the NAAQS and CAAQS.

As discussed above, the project is consistent with the AQMP and SIP (see Impact AQ-1). Furthermore, emissions would be below SCAQMD regional construction and operational thresholds (see Impact AQ-2) and would not result in substantial pollutant concentrations at nearby sensitive receptors during operations but would affect receptors during construction (see Impact AQ-4). The proposed project would comply with SCAQMD rules and regulations, including Rule 403 (Fugitive Dust Control) and Rule 1108 (Cutback Asphalt), during construction as well as all other adopted AQMP emissions control measures while fully implementing buildout of the master plan. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on all projects Basin-wide, which would include all nearby projects. As such, cumulative impacts on Basin air quality with respect to criteria pollutant emissions would be less than significant. Therefore, the project's long-term contribution to regional cumulative air quality impacts would be less than cumulatively considerable. However, as noted above, the proposed project would result in significant unavoidable localized construction impacts on nearby sensitive receptors due to PM10 and PM2.5 emissions after implementation of Mitigation Measures MM-AQ-1 through MM-AQ-3. Therefore, the proposed and related projects (see Table 2-2 in Chapter 2 for a list of related projects) would result in significant localized cumulative PM10 and PM2.5 pollutant emissions impacts. It's also possible that the impacts of cumulative emissions of other criteria pollutants due to the proposed project and related projects on sensitive receptors in the vicinity of the project site could be significant during construction (if, for example, two or more construction projects overlap) and operation if the cumulative emissions exceed SCAQMD daily emissions thresholds for construction and operation.

3.3 Biological Resources

3.3.1 Introduction

This section identifies biological resources in the project vicinity and evaluates potential impacts on those resources that could occur as result of construction and operation of the campus improvements proposed under the master plan. To reduce impacts identified as significant, mitigation measures are also identified.

3.3.2 Regulatory Setting

3.3.2.1 Federal

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was enacted in 1918. Its purpose is to prohibit killing or transporting native migratory birds or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The list of migratory bird species that are protected by the MBTA is maintained by the U.S. Fish and Wildlife Service (USFWS), which regulates most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. Under the MBTA, "take" means only to kill, directly harm, or destroy individuals, eggs, or nests or to otherwise cause failure of an ongoing nesting effort. Permits are available under the MBTA through USFWS, and authorization for potential take under MBTA is addressed as part of the federal Endangered Species Act (ESA) Section 7 consultation process.

The proposed project must be analyzed to ensure consistency with the MBTA, including avoidance of take with respect to nesting birds, their eggs, or activities that may cause nest failure. This applies to all migratory species protected under the MBTA that may be directly or indirectly affected by the project. Any potential take must be either avoided or minimized through mitigation measures or permitted through consultation with USFWS.

Federal Endangered Species Act

The federal ESA was enacted in 1973 to protect threatened and endangered species and their associated ecosystems. "Take" of a listed species is prohibited except when specific authorization has been granted through a USFWS permit under Sections 4(d), 7, or 10(a) of the ESA. "Take" is defined as to harass, harm, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any of these activities without a permit.

Clean Water Act

In 1948, Congress first passed the Federal Water Pollution Control Act. This act was amended in 1972 and became known as the Clean Water Act (CWA), which regulates the discharge of pollutants into the waters of the United States. Under Section 404, permits need to be obtained from the U.S. Army Corps of Engineers (USACE) for the discharge of dredged or fill material into jurisdictional waters of the United States. USACE-regulated activities under Section 404 involve a discharge of dredged or fill material, including, but not limited to, grading, placing of riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner that avoids discharges) include driving pilings, some drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling. USACE issues Nationwide Permits for activities that require discretionary authority and do not exceed specific impact requirements (e.g., less than 0.5 acre of impacts, no impacts on special aquatic sites, etc.). USACE requires individual permits for activities that exceed the requirements of Nationwide Permits.

Under Section 401 of the CWA, Water Quality Certification from the State Water Resources Control Board/Regional Water Quality Control Board needs to be obtained if an action could result in any impacts on jurisdictional waters of the United States.

3.3.2.2 State

California Endangered Species Act

The California ESA authorizes the California Fish and Game Commission to designate endangered, threatened, and rare species and regulate the taking of these species (California Fish and Game Code Sections 2050–2098). The act defines “endangered” species as those whose continued existence in California is jeopardized. State-listed “threatened” species are those that are not presently facing extinction but that may become endangered in the foreseeable future.

Section 2080 of the California Fish and Game Code prohibits the taking of state-listed plants and animals. The California Department of Fish and Wildlife (CDFW) also designates “fully protected” or “protected” species as those that may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. Species that have been designated as fully protected or protected may or may not be listed as endangered or threatened.

California Fish and Game Code

The California Fish and Game Code is regulated by the California Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. Sections 3503, 3503.5, 3505, 3800, and 3801.6 of the California Fish and Game Code protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that occur naturally within the state that are not already listed as fully protected. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, falcons), including their nests or eggs. CDFW’s Lake and Streambed Alteration Program (Sections 1600–1607) requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed to notify the CDFW before beginning the project.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977. It allows the California Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are designated as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations, emergencies, and, after properly notifying CDFW, vegetation removal from canals, roads, and other sites, changes in land use, and certain other situations.

A consortium of scientists, botanists, and enthusiasts, the California Native Plant Society (CNPS) has a mission to review and categorize native plants in California. The resulting list of sensitive plant species produced by CNPS can be above and beyond the federal and state lists of threatened and endangered species. CNPS rankings can therefore be used as a criterion for environmental review in the CEQA process. If a property has suitable habitat, CEQA may require analysis of all CNPS Rank 1B, Rank 2, Rank 3, and Rank 4 plants that could occur in the vicinity. Surveys should be completed in accordance with CDFW and CNPS protocols during the plant species' blooming period to stand up to rigorous environmental review.

Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act (NCCPA) allows for the development of broad-based ecosystem-level plans for the protection and perpetuation of biological diversity. The primary objective of Natural Community Conservation Plans prepared under the NCCPA is to conserve natural communities at the ecosystem level while accommodating compatible land use. Although plants that are protected under an approved Natural Community Conservation Plan may be "taken" by activities that are covered under the plan, they typically receive a high level of conservation and protection.

California Coastal Act of 1976

The California Coastal Act (CCA), administered by the California Coastal Commission, includes policies for development proposed within the Coastal Zone and recognizes California's ports, harbors, and coastline beaches as economic and coastal resources. Decisions to implement specific development, where feasible, are to be based on consideration of alternative locations and designs to minimize any adverse environmental impacts. The California Coastal Commission regulates all jurisdictional wetlands that are under the joint jurisdiction of USACE and the Regional Water Quality Control Boards as well as riparian habitat that is under the jurisdiction of CDFW. The CCA also defines "Environmentally Sensitive Area" as "any area in which plant or animal life, or their habitats, is either rare or especially valuable because of its special nature or role in an ecosystem, which could be easily disturbed or degraded by human activities and developments" (Section 30107.5). The CCA requires such areas to be protected and development projects within or adjacent to such areas to be planned and sited to prevent degradation of the Environmentally Sensitive Area.

3.3.2.3 Local

Los Angeles County Significant Ecological Areas

As part of the general plan's Conservation/Open Space and Land Use Elements, the County has identified and adopted policies for Significant Ecological Areas (SEAs), which represent a wide variety of biological communities within the County. The SEAs are intended to preserve and protect regional biodiversity; however, SEAs do not preclude limited compatible development.

Los Angeles County Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance requires an oak tree permit to be obtained to cut, destroy, remove, relocate, inflict damage, or encroach upon a protected oak tree or its protected zone. The ordinance protects any tree, shrub, or plant of the oak tree genus, *Quercus*, with a diameter of 8 inches or more; for oaks with multiple trunks, a combined diameter of 12 inches or more, measured 4.5 feet above the natural grade, is required for the two largest trunks. The protected zone for oaks is defined as the area beneath the dripline or canopy of the tree plus 5 feet beyond the dripline or 15 feet from the trunk, whichever distance is greater. Impacts can include pruning or cutting the trunk to apply pesticides to a protected tree for the benefit of the tree.

There are two types of permits, administrative and discretionary. Actions that would affect one protected tree on a property with a single-family residence require an approved administrative oak tree permit. Actions that would affect protected oak trees on any other type of property require a discretionary oak tree permit.

Oak tree permit requests require the property owner to file an application with the Department of Regional Planning and provide a filing fee, an oak tree report, site plans for the property, and maps of the surrounding area.

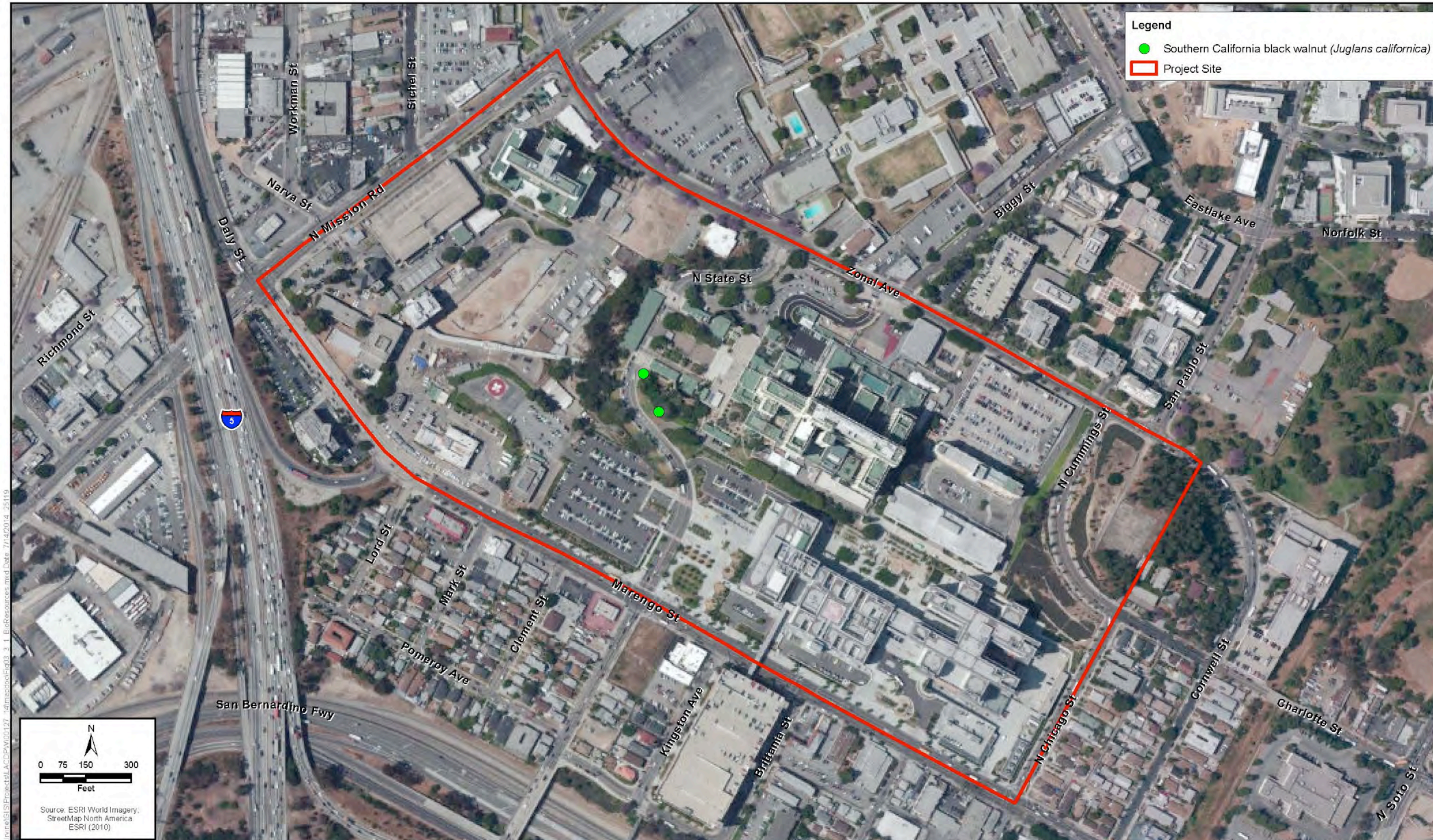
3.3.3 Environmental Setting

The following discussion is based primarily on literature review and a biological resources field survey conducted on the project site on May 21, 2014. The project site contains developed areas and ornamental landscaping. Existing development includes buildings, parking structures, paved surface parking, roadways, and gravel lots. Ornamental landscaping, including trees, shrubs, and turf areas, has been planted throughout the site. The majority of the trees on the site are nonnative species in an ornamental setting; however, native tree species have also been planted on the medical center campus. The vegetation in the ornamental areas within and adjacent to the project site could support nesting habitat for bird species, most of which are common residents and found in similar urban areas throughout Southern California. No County designated SEAs encompass the project site. A biological resources map is provided in Figure 3.3-1.

3.3.3.1 Migratory Bird Species

A number of the native migratory bird species that are protected under the MBTA are tolerant of urban development and are expected to forage and/or nest within the ornamental landscaping and/or structures on the project site. The local bird species that were identified during the May 21, 2014, ICF field survey are typical of urban areas. These include black phoebe (*Sayornis nigricans*), American crow (*Corvus brachyrhynchos*), song sparrow (*Melospiza melodia*), and house finch (*Haemorhous mexicanus*).

Figure 3.3-1: Biological Resources Map



[this page left blank intentionally]

3.3.3.2 Sensitive Vegetation Communities

Vegetated areas within the project site consist of landscaped areas with mostly nonnative ornamental species and some native tree species. The native trees detected during the May 21, 2014, ICF field survey included coast live oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*), and California black walnut (*Juglans californica*). On-site, these native trees do not constitute native habitats because they are interspersed among nonnative trees in relatively small groupings within or immediately adjacent to developed areas. No native terrestrial vegetation communities were observed on the site; therefore, the proposed project site does not support any vegetation communities considered sensitive by CDFW.

3.3.3.3 Jurisdictional Waters and Wetlands

The project site is developed with the LAC+USC Medical Center. No wetlands are located on the project site or in the immediate vicinity. The freshwater pond at Lincoln Park and the Los Angeles River are both more than 0.25 mile from the project site. No jurisdictional waters or wetlands regulated under Sections 401 and 404 of federal CWA or the California Coastal Act were observed during the May 21, 2014, field survey within the project site. Similarly, no riparian vegetation or state streambeds regulated under Sections 1600–1607 of the California Fish and Game Code by CDFW were observed.

3.3.3.4 Sensitive Plant Species

No federal or state-listed endangered or threatened plant species were observed within the project site, and none are expected to occur because the proposed project would not change this condition. Two individual California black walnut trees, a California Rare Plant Rank (CRPR) 4.2 species, were detected on the site during the May 21, 2014 survey. These California black walnut trees are the only species of plants considered California Rare Plants (see Figure 3.3-1). Plant species afforded the 4.2 category are considered to be of “limited distribution,” with a threat rank of “fairly endangered in California” by the CNPS, in accordance with the Native Plant Protection Act. These two individuals are interspersed with ornamental trees adjacent to the sidewalk along North State Street. The California black walnut individuals do not represent a regionally significant population because they occur in isolation, are interspersed among other ornamental trees, do not form part of a grove, and are not considered regionally significant as individuals. No other plant species considered to be rare according to the CRPR (i.e., List 1, 2, or 4 species) were observed, and no others are expected to occur. The majority of the vegetation on the project site is nonnative, ornamental landscape plant species, which provide minimal habitat value for supporting sensitive plant species. Moreover, based on the results of the California Natural Diversity Database query, no sensitive plant species have moderate or high potential to occur within or adjacent to the project site (see Table 3.3-1).

3.3.3.5 Sensitive Wildlife Species

No federal or state-listed terrestrial wildlife species, per the federal or state ESA, were observed within the project site and none are expected to occur. The vegetated areas occurring within the project site are landscaped areas with mostly nonnative ornamental plant species. They do not provide habitat that would support the sensitive wildlife species known to occur in the vicinity of the proposed project (Table 3.3-1).

Table 3.3-1. Potentially Occurring Special-Status Species

Species	Status	Habitat Requirements	Potential to Occur
Plants			
Marsh sandwort (Arenaria paludicola)	CRPR 1B.1	Perennial herb. Sandy openings in fresh water or brackish marshes and swamps; 3–170 m (9–558 ft). Blooming period: May–August.	None. Suitable habitat and soils do not occur on-site.
Coastal dunes milk-vetch (Astragalus tener var. titi)	FE, SE, CRPR 1B.1	Annual herb. Often in vernally mesic areas in sandy coastal bluff scrub, coastal dunes, and mesic coastal prairie; 1–50 m (3–164 ft). Blooming period: March–May.	None. Suitable habitat and soils do not occur on-site.
Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)	CRPR 1B.2	Annual herb. Alkaline conditions in coastal bluff scrub and coastal scrub; 10–200 m (32–656 ft). Blooming period: April–October.	None. Suitable habitat does not occur on-site.
Nevin's barberry (Berberis nevinii)	FE, SE, CRPR 1B.1	Evergreen shrub. Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub; 274–825 m (898–2,707 ft). Blooming period: March–June.	None. Suitable habitat and soils do not occur on-site.
Round-leaved filaree (*California macrophylla*)	CRPR 1B.1	Annual herb. Clay soils in cismontane woodland and valley and foothill grassland; 15–1200 m (50–3,936 ft). Blooming period: March–May.	None. Suitable habitat and soils do not occur on-site.
Plummer's mariposa-lily (*Calochortus plummerae*)	CRPR 4.2	Perennial bulbiferous herb. Granitic and rocky areas in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland; 100–1,700 m (328–5,576 ft). Blooming period: May–July.	None. Suitable habitat and substrates do not occur on-site.
Santa Barbara morning-glory (*Calystegia sepium* ssp. *binghamiae*)	CRPR 1B.1	Perennial herb. Historically associated with wetland and marshy places, such as marshes and coastal swamps, and alluvial riparian scrub but possibly in drier situations as well; 0–220 m (0–722 ft). Blooming period: April–May.	None. Suitable habitat does not occur on-site.
Southern tarplant (Centromadia parryi ssp. australis)	CRPR 1B.1	Annual herb. Found within the margin of marshes and swamps, vernally mesic soils in valley and foothill grassland, and vernal pools; 0–480 m (0–1,574 ft). Blooming period: May–November.	None. Suitable habitat does not occur on-site.
Many-stemmed dudleya (*Dudleya multicaulis*)	CRPR 1B.2	Perennial herb. Often in clay soils in chaparral, coastal scrub, and valley and foothill grassland; 15–790 m (49–2,591 ft). Blooming period: April–July.	None. Suitable habitat and soils do not occur on-site.
Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*)	CRPR 1A	Perennial herb. Coastal salt and freshwater marshes and swamps; 10–1,675 m (32–5,494 ft). Blooming period: August–October.	None. Suitable habitat does not occur on-site.

Species	Status	Habitat Requirements	Potential to Occur
Mesa horkelia (Horkelia cuneata var. puberula)	CRPR 1B.1	Perennial herb. Sandy and gravelly soils within maritime chaparral, cismontane woodland, and coastal scrub; 70–810 m (229–2,657 ft). Blooming period: February–September.	None. Suitable habitat and soils do not occur on-site.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CRPR 1B.1	Annual herb. Coastal salt marsh, coastal salt swamps, playas, vernal pools; 1–1,220 m (3–4,001 ft). Blooming period: February–June.	None. Suitable habitat does not occur on-site.
Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)	CRPR 4.3	Annual herb. Openings in chaparral and sage scrub; below 885 m (2,900 ft). Blooming Period: January–July.	None. Suitable habitat does not occur on-site.
Prostrate vernal pool navarretia (*Navarretia prostrata*)	CRPR 1B.1	Annual herb. Mesic coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools; 15–1,210 m (49–3,968 ft). Blooming period: April–July.	None. Suitable habitat does not occur on-site.
Parish's gooseberry (*Ribes divaricatum* var. *parishii*)	CRPR 1A	Perennial shrub. Riparian woodland; 65–300 m (213–984 ft). Blooming period: February–April.	None. Suitable habitat does not occur on-site.
Greata's aster (Symphyotrichum greatae)	CRPR 1B.3	Perennial herb. Mesic areas in broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, riparian woodland; 300–2,010 m (984–6,593 ft). Blooming period: June–October.	None. Suitable habitat does not occur on-site.
Reptiles			
Western pond turtle (Actinemys [=*Emys*] *marmorata*)	CSC	Requires slack- or slow-water aquatic habitat as well as aerial and aquatic basking sites. Also requires an upland oviposition site on an unshaded slope with clay soils in the vicinity of the aquatic site.	None. Suitable habitat does not occur on-site.
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Inhabits grasslands, brushlands, woodlands, and open coniferous forests with sandy or loose soil; requires abundant ant colonies for foraging.	None. Suitable habitat does not occur on-site.
Birds			
Swainson's hawk (*Buteo swainsoni*)	FT	Forages in open stands of grass-dominated vegetation, sparse shrublands, and small, open woodlands. In many parts of its range, has adapted well to foraging in agricultural areas (e.g., wheat and alfalfa) but cannot forage in most perennial crops or annual crops, which grow much higher than native grasses. Usually nests in scattered trees within these grassland, shrubland, or agricultural landscapes.	None. Suitable foraging and nesting habitat does not occur on-site.

Species	Status	Habitat Requirements	Potential to Occur
Burrowing owl (Athene cunicularia)	CSC	Inhabits prairies, grasslands, lowland scrub, agricultural lands, coastal dunes, desert floors, and some artificial, open areas. Requires large, open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small-mammal burrows. Uses rodent or other burrows for roosting and nesting cover; also uses pipes, culverts, and nest boxes when burrows are scarce.	None. Suitable foraging and nesting habitat does not occur on-site.
American peregrine falcon (*Falco peregrinus anatum*)	CFP	Forages over a variety of habitats; however, breeds only near water, typically with the nest placed on a cliff ledge.	None. Suitable foraging and nesting habitat does not occur on-site.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE, SE	Breeds in riparian woodlands along rivers, streams, or other wetlands. Usually nests in proximity to water or very saturated soil.	None. Suitable foraging and nesting habitat does not occur on-site.
Least Bell's vireo (Vireo bellii pusillus)	FE, SE	Inhabits riparian thickets either near water or in dry portions of river bottoms. Nests along margins of bushes, and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons.	None. Suitable foraging and nesting habitat does not occur on-site.
Coastal California gnatcatcher (Polioptila californica californica)	FT, CSC	Prefers open, scrubby habitats such as coastal sage scrub and some forms of chaparral.	None. Suitable foraging and nesting habitat does not occur on-site.
Mammals			
Pallid bat (Antrozous pallidus)	CSC	Found throughout Southern California, from the coast to mixed conifer forests, grasslands, shrublands, and woodlands. Most common in open, dry habitats with rocky areas for roosting; yearlong resident in most of its range. Roosts under bridges and in rock crevices, caves, mine shafts, buildings, and tree hollows.	Foraging: Low Roosting: None
Western yellow bat (*Lasiurus xanthinus*)	CSC	Inhabits extremely arid areas to dry areas. Inhabits savannas, secluded woodlands, and regions dominated by pastures or croplands and even tolerates residential areas. Roosts in trees; commonly found in the skirt of dead fronds of both native and nonnative palm trees.	Foraging: Low Roosting: Low
Western mastiff bat (Eumops perotis californicus)	CSC	Forages in a variety of habitats, such as dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas. Primarily a cliff-dwelling species for breeding.	Foraging: Low Roosting: None

Species	Status	Habitat Requirements	Potential to Occur
Big free-tailed bat (Nyctinomops [=Tadarida] macrotis)	CSC	Inhabits arid, rocky areas; roosts in crevices in cliffs.	Foraging: Low Roosting: None
American badger (Taxidea taxus)	CSC	Inhabits a diversity of habitats, with the principal requirements being sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, and mountain meadows near timberline are preferred.	None. Suitable habitat does not occur on-site.
Notes: CSC = California Species of Concern; FT = Federal Threatened; FE = Federal Endangered; SE = State Endangered Species; CFP = California Fully Protected. Source: California Department of Fish and Wildlife, 2014.			

3.3.4 Environmental Impact Analysis

3.3.4.1 Methods

The following sections evaluate the biological resources impacts that would result should the proposed project be implemented. The existing conditions described in Section 3.3.3, which presents the results of a field survey conducted on May 21, 2014, and a search of the CDFW California Natural Diversity Database, and the significance thresholds identified below provide the basis for assessing the direct and indirect impacts on plants and wildlife of anticipated development of the campus master plan.

3.3.4.2 Thresholds of Significance

For the purposes of this EIR, in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact under CEQA if it would:

BIO-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS.

BIO-2 Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the CWA, through direct removal, filling, hydrological interruption, or other means.

BIO-3 Result in substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

BIO-4 Conflict with any local policies or ordinances to protect biological resources, such as a tree preservation policy or ordinance.

The County of Los Angeles determined in the NOP/IS prepared for this EIR (see Appendix A) that the proposed project would result in no impacts in the areas listed below; therefore, these issues were not carried forward for further analysis in this EIR.

BIO-5 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.

BIO-6 Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.3.4.3 Impacts and Mitigation Measures

Impact BIO-1: Would Implementation of the Proposed Project Have a Substantial Adverse Effect, either Directly or through Habitat Modifications, on Any Species Identified as a Candidate, Sensitive, or Special-status Species in Local or Regional Plans, Policies, or Regulations or by CDFW or USFWS?

Construction

As discussed in Section 3.3.3, Environmental Setting, the project site and its surroundings contain developed land uses and ornamental landscaping. No sensitive animal species have been documented on-site, and none have the potential to occur. Therefore, the proposed project would not have the potential to adversely affect, either directly or through habitat modification, any wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS. (Note: For a discussion of potential impacts on nesting migratory birds during construction, please see Impact BIO-3.)

The project site does not support suitable habitat for federal- or state-listed threatened or endangered plant species and, therefore, would not affect any federal- or state-listed plant species. Construction of the proposed project could affect the two California black walnut trees (a CRPR 4.2 species); however, the two trees do not represent a regionally significant population. Therefore, damage to or the removal of these trees during construction would be a less-than-significant impact.

There is some limited potential for several bat species, all considered California Species of Concern, to occur in the project site due to some limited foraging and roost potential. Though the likelihood is low, there is potential for roosting Western yellow bats to be present in palm trees on the project site. If individual development projects under the proposed master plan would require removal of palm trees or other potential roost sites, a potentially significant impact to CDFW species of concern could occur.

Operation

As discussed above, there are no candidate, sensitive, or special-status animal or plant species on-site, with the exception of the two California black walnut trees that were identified on the project site or in its surroundings. If the two California black walnut trees remain on the site, it is not anticipated that operational activities would have an adverse impact on these trees. Operational activities on the campus, which would not differ significantly from current activities, are also not expected to result in significant impacts on bat species that may roost on the project site. Therefore, operation of the facilities and buildings proposed under the master plan would not have an adverse impact on any candidate, sensitive, or special-status animal or plant species. Accordingly, operational impacts associated with buildout of the master plan would be considered less than significant.

Mitigation Measures

The following measure is proposed to mitigate potential construction impacts to roosting bat species described above under Impact BIO-1:

MM-BIO-1: To avoid impacts on roosting bats, preconstruction surveys shall be conducted prior to the on-set of work within the vicinity of vacant buildings and prior to tree removal. During surveys, biologists shall avoid unnecessary disturbance of potentially occupied roosts. Full-spectrum acoustic detectors shall be used during emergence surveys to assist in species identification. If it is determined that trees or structures in the project area are being used by bats as roost sites, the following protective measures shall be implemented:

- Disturbance of maternity roosting structures or trees (e.g., structure removal, construction equipment operation near roosts, tree trimming or removal) shall not occur during the maternity period (April 15 to September 15) to avoid impacts on reproductively active females and active maternity roosts (whether colonial or solitary). The maternity roost shall remain undisturbed from the time it is located until the following September 15 or until a qualified biologist has determined the roost is no longer active. No construction work shall occur at the roost or within a 100-foot-wide buffer zone (or an alternative width, as determined in consultation with CDFW) until September 15.
- Exclusion devices may be installed outside of the maternity period (September 16 to April 14) to preclude bats from occupying buildings during, or prior to the on-set of, construction. Exclusionary devices shall be installed only by or under the supervision of an experienced bat biologist. Eviction of bats roosting in trees outside the maternity season shall be done in favorable weather under the supervision of a qualified bat biologist and adhering to the following two-step removal process:
    - On Day 1, for trees with cavities, crevices, and exfoliating bark, and that are found to support roosting bats, Step 1 would be the removal of branches and limbs with no cavities. These limbs shall be removed by hand (e.g., using chainsaws). This will create a disturbance (noise and vibration) and physically alter the tree. Bats roosting in the tree, which may not have been detected during the preconstruction survey, will either abandon the roost immediately (rarely) or, after emergence, will avoid returning to the roost. For foliage roosting bats, Step 1 would be to remove adjacent, smaller, or non-habitat trees to create noise and vibration disturbance that would cause abandonment. On Day 2, under the supervision of a qualified biological monitor familiar with the life history of subject bat species, the tree may be removed.
    - Qualified biologists should search all downed roost trees for dead and injured bats. The presence of dead or injured bats that are species of special concern shall be reported to CDFW.
- Non-maternity roost trees should ideally be removed or trimmed in the fall between September 16 and October 31. If the removal of non-maternity roost trees cannot be timed to occur within this period, tree trimming and removal of non-maternity roost trees shall be timed to avoid periods of inclement or unseasonably cold weather to avoid impacts on bats in torpor (a period of seasonal inactivity). In all circumstances, qualified biologists shall monitor non-maternity tree removal.

Level of Significance after Mitigation

Implementation of MM-BIO-1 would ensure that the potential impacts of construction activities on roosting bats would be reduced to less than significant.

Impact BIO-2: Would Implementation of the Proposed Project Have a Substantial Adverse Effect on Federally Protected Wetlands, as Defined by Section 404 of the CWA, through Direct Removal, Filling, Hydrological Interruption, or Other Means?

Construction and Operation

No federally protected wetlands, as defined under Sections 401 and 404 of the CWA or the CCA, are located within or immediately adjacent to the project site. Additionally, as discussed in Section 3.8, Hydrology and Water Quality, projects implemented under the master plan would be required to obtain and comply with a General Construction Permit through the State Water Resources Control Board. This permit and associated NPDES requirements include development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), with associated monitoring and reporting. Stormwarter BMPs would be required to control erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. Additional source-control BMPs would also be required to prevent runoff contamination by potentially hazardous materials and eliminate non-stormwater discharges. Therefore, construction and operation of the proposed project would not adversely affect any federally protected wetlands.

Mitigation Measures

No impacts to wetlands would occur; therefore, no mitigation is required.

Impact BIO-3: Would Implementation of the Proposed Project Result in Substantial Interference with the Movement of any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors or Impede the Use of Native Wildlife Nursery Sites?

Construction and Operation

The project site is located in an urban setting; there is no natural habitat on-site. Moreover, the project site is not within or part of a wildlife corridor. Construction of the proposed project may temporarily cause portions of the site to be inaccessible to bird species in the surrounding area. Although construction of projects implemented under the master plan could occur over a period of 25 years, the project site is not considered to be critical to wildlife movement and therefore, construction and operational activities proposed under the master plan would not pose substantial barriers or other impediments to wildlife movement. Therefore, this impact would be less than significant.

Bird species that are protected under the MBTA have the potential to nest in the existing ornamental vegetation on the project site. Some bird species that are protected by the MBTA may also nest on existing buildings. Removal of vegetation and the demolition of buildings during construction could result in direct impacts on nests that are protected under the MBTA. Also, high noise levels and dust from construction activity could cause indirect impacts on nests and cause failure. The MBTA prohibits take of nearly all native birds. Under the MBTA, “take” means to kill, directly harm, or destroy individuals, eggs, or nests or otherwise cause failure of an ongoing nesting effort. Similar provisions within the California Fish and Game Code protect all native birds of prey (Section 3503.5) and all non-game birds that occur naturally in the state (Section 3800). The destruction of an occupied nest would be a significant impact and a violation of the MBTA and the California Fish and Game Code. Therefore, this impact could be significant. However, Mitigation Measure MM-BIO-1 would reduce the significant impact associated with MBTA-protected bird species to less than significant.

Mitigation Measures

The following measure is proposed to mitigate construction impacts to nesting birds described above under Impact BIO-3:

MM-BIO-2: The County shall avoid the nesting season for birds or conduct preconstruction nesting bird surveys if construction activities are carried out during the nesting season. To ensure compliance with the MBTA and similar provisions under Sections 1600–1616 of the California Fish and Game Code, the County of Los Angeles, through the general contractor, shall conduct all vegetation removal during the non-breeding season, between September 1 and February 14, or implement the following:

- If the removal of vegetation, demolition of buildings, or noise-generating construction activities are scheduled between February 15 and August 31, the County of Los Angeles Department of Public Works or the construction contractor shall retain a qualified biologist (i.e., experienced with conducting nesting bird surveys) who shall conduct a focused nesting bird survey prior to the start of vegetation removal, building demolition, or noise-generating construction activities within any potential nesting habitat (i.e., all vegetation, buildings, eaves on buildings, etc.). The size of the nesting bird survey area shall be determined by a qualified biologist at the time of the survey and include the entire limits of disturbance. It may also include a buffer area if deemed necessary by the biologist. The preconstruction nesting bird surveys shall be conducted no more than 7 days prior to initiation of vegetation removal, building demolition activities, or noise-generating construction activities. If no active nests are detected during these surveys, no restrictions on project activities shall be necessary.
- If active nests are found, a qualified biologist shall identify and flag an appropriate buffer around the nest, and no construction activities shall occur within the buffer until the qualified biologist has determined that young have fledged or the nest is no longer active. The specific buffer width shall be determined by a qualified biologist at the time of discovery and vary according to the bird species, site conditions, and the type of work activities to be conducted.
- The survey results shall be submitted to County of Los Angeles Department of Public Works for review and approval of the recommended nest buffer areas, if any, prior to the commencement of any vegetation removal, building demolition, or noise-generating construction activities on the project site.

Level of Significance after Mitigation

Implementation of MM-BIO-1 would ensure that the potential impacts of construction activities on nesting birds that are protected under the MBTA and California Fish and Game Codes would be reduced to less than significant.

Impact BIO-4: Would Implementation of the Proposed Project Conflict with Any Local Policies or Ordinances to Protect Biological Resources, such as a Tree Preservation Policy or Ordinance?

Construction

Native oak trees have been planted as part of the ornamental landscape in the project area. Approximately 45 coast live oak (*Quercus agrifolia*) trees occur on the project site. These trees are interspersed with nonnative ornamental trees in landscaped areas.

Construction of proposed master plan facilities and structures could result in damage to or removal of vegetation on the project site, including native oak trees that have been planted in ornamental areas. While coast live oak trees are not considered special-status plant species, these trees are protected under the Los Angeles County Oak Tree Ordinance. Protected trees include native oaks that measure 8 inches or more in diameter or oaks with multiple trunks, with a combined diameter of 12 inches or more for the largest two trunks measured 4.5 feet above the natural grade. Potential damage to or removal of oak trees that are protected by the Los Angeles County Oak Tree Ordinance would be a significant impact.

Operation

Operation of facilities and buildings proposed under the master plan, including routine maintenance and pruning of ornamental vegetation and trees, is not expected to result in significant impacts on protected biological resources such as oak trees, which are protected by the Los Angeles County Oak Tree Ordinance.

Mitigation Measures

The following measure is proposed to mitigate the impact to oak trees described above under Impact BIO-4:

> **MM-BIO-3:** Prior to the removal of any trees, a qualified arborist shall inventory native oak trees on the project site to support the application regarding the impacts on oak trees. Oak tree permit requests require a property owner to file an application with the Department of Regional Planning and provide a filing fee, an oak tree report, site plans for the property, and maps of the surrounding area. The oak tree report shall include information about the protection of oak trees that may be adjacent to construction activities that are to remain. The oak tree report shall also include the proposed replanting plan, in accordance with the required replacement ratio, for any oak trees that are to be removed.

Level of Significance after Mitigation

Implementation of MM-BIO-3 would ensure that potential oak tree removal and resulting replanting per the County's tree protection ordinance, would result in less than significant impacts.

3.3.5 Cumulative Impacts

The study area for cumulative biological impacts consists of the general project area encompassing the related projects identified in Chapter 2 of this EIR, which includes the neighborhoods of Boyle Heights, Lincoln Heights, and Chinatown. As discussed in the impacts section above, construction of individual projects under the proposed master plan could result in impacts to roosting bats, the destruction of active bird nests, and removal of oak trees. It is possible that other related projects could also result in similar impacts and the cumulative impacts on these species could be significant. However, with implementation of the mitigation measures identified above and avoidance of potential impacts to the affected species, the proposed master plan project would not contribute to significant cumulative impacts. Additionally, because the majority of the project site and surrounding area is currently developed or disturbed, the proposed master plan is not anticipated to result in cumulative impacts on biological resources beyond those identified above. Therefore, the proposed project would not contribute to any significant cumulative impacts to biological resources.

3.4 Cultural Resources

3.4.1 Introduction

This section discusses potential impacts on cultural resources the could result from the proposed project.

3.4.2 Regulatory Setting

The proposed project is subject to several laws regarding historical resources as well as regulations and building codes regarding built-environment historical resources. The term "historical resources" in this context encompasses all cultural resource types, including built-environment resources, prehistoric archaeological sites, and historical archaeological sites. Additionally, paleontological resources are considered cultural resources for the purposes of the California Environmental Quality Act (CEQA). In addition, the appropriate treatment of historic properties is guided by federal guidelines promulgated by the Secretary of the Interior.

3.4.2.1 State

The National Historic Preservation Act of 1966 mandated the selection and appointment of a State Historic Preservation Officer (SHPO) in each state. Each SHPO is tasked, among other duties, with maintaining an inventory of historic properties. In California, the state legislature established additional duties for the SHPO. These include maintenance of the California Register of Historical Resources (CRHR). Established by California Public Resources Code (PRC) Section 5024.12(a) in 1992, the CRHR serves as "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent feasible, from substantial adverse change." According to PRC Section 5024.1(c), the CRHR criteria broadly mirror those of the National Register of Historic Places (NRHP). The CRHR criteria found at PRC Section 5024.1(c) are as follows:

A historical resource is considered significant at the local, state, or national level if it meets one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. It is associated with the lives of person important to local, California, or national history.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The general rule is that a resource must be 50 years old to qualify for the CRHR. In addition to meeting one or more of the significance criteria, the resource must possess integrity. Integrity is defined as "the authenticity of a historical resource's physical identity evidence by the survival of characteristics that existed during the resource's period of significance."

There are several ways for resources to be included in the CRHR. A resource can be *listed* in the CRHR based on a nomination and public consideration process. In addition, a resource that is subject to a discretionary action by a government entity will be evaluated with respect to *eligibility* for the CRHR. Properties that are listed in or formally determined eligible for listing in the NRHP are *automatically* listed in the CRHR.

California Environmental Quality Act

Established in 1970, CEQA directs state and local government entities to analyze and publically disclose environmental impacts of proposed projects. Moreover, it requires the development and adoption of mitigation measures to lessen impacts. At PRC Section 21060.5, the State CEQA Guidelines define the environment to include "objects of historic… significance." For the purposes of CEQA, "historical resources" are defined at PRC Section 15064.5(a) of the State CEQA guidelines. Paleontological resources are provided protection as historical resources, as discussed in State CEQA Guidelines Section 15064.5(a)(3).

The text below regarding historical significance is abbreviated and excerpted.

1. A resource listed in or determined eligible by the State Historical Resources Commission for listing the CRHR.

2. A resource included in a local register of historical resources… or identified as significant in a historical resource survey… shall be presumed historically significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the CRHR.

State Health and Safety Code Section 7050.5/California Public Resources Code Section 5097.9

Under State Health and Safety Code (HSC) Section 7050.5, if human remains are discovered during any project activity, the County coroner must be notified immediately. If human remains are exposed, HSC Section 7050.5 states that no further disturbance shall occur until the County coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. Construction shall halt in the area of the discovery of human remains, the area of the discovery shall be protected, and consultation and treatment shall occur as prescribed by law. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased person so they can inspect the burial site and make recommendations for treatment or disposal.

Public Resources Code Section 50987.5

PRC Section 50987.5 states that no person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any…vertebrate paleontological site, including fossilized footprints…or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

3.4.2.2 Local

City of Los Angeles Cultural Heritage Ordinance

The City of Los Angeles maintains a list of all sites, buildings, and structures that have been designated through the Cultural Heritage Ordinance as Historic-Cultural Monuments (HCMs). This list was reviewed to determine if any properties on the project site have been listed as HCMs. No HCMs were identified on the master plan campus.

Historic-Cultural Monument

Section 22.1717.7 of the Cultural Heritage Ordinance defines HCMs as follows:

1. Any site (including significant trees or other plant life located on the site), building, or structure of particular historic or cultural significance to the City of Los Angeles, including historic structures or sites in which the broad cultural, economic, or social history of the nation, state, or community is reflected or exemplified.
2. Any site identified with historic personages or important events in the main currents of national, state, or local history.
3. Any site that embodies the distinguishing characteristics of an architectural type specimen that is inherently valuable for a study of a period, style, or method of construction or a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

Any person may submit an application for HCM designation. However, the Cultural Heritage Commission determines whether or not the application merits consideration. If the commission recommends for approval of the application, the resource is included in the list of HCMs, and no permit for the demolition, substantial alteration, or relocation of the HCM may be issued (Section 22.171.14) unless:

1. The Superintendent of Building determines that the demolition, relocation, or substantial alteration is necessary in the interest of the public health, safety, or general welfare.
2. The substantial alteration complies with the Secretary of the Interior's Standards for Rehabilitation.
3. The substantial alteration protects and preserves the historic and architectural qualities and the physical characteristics that made the site, building, or structure a designated HCM.
4. The proposed action is in compliance with PRC Section 21000 et seq.

The Conservation Element of the City of Los Angeles General Plan (adopted September 2001) specifically addresses archaeological and paleontological resources. The Conservation Element's paleontological objective is to “protect the city’s archaeological and paleontological resources for historical, cultural, research, and/or educational purposes.” Moreover, its policy is to “continue to identify and protect significant archaeological and paleontological sites and/or resources that are known to exist or identified during land development, demolition, or property modification activities.”

3.4.3 Environmental Setting

This section provides information on the archaeological, historical, and paleontological resources at the LAC+USC campus. The setting for the proposed project is urban East Los Angeles, in the Lincoln Heights neighborhood. The project site is located approximately 2 miles east/northeast of downtown Los Angeles and the Los Angeles Civic Center area. Several blocks to the south is Interstate 10 (the San Bernardino Freeway) and several blocks to the west is Interstate 5 (the Golden State Freeway), both of which provide easy access to the hospital. Although this was once a neighborhood that had a mix of commercial, industrial, and residential uses, today, the streets immediately surrounding the project area are dominated primarily by properties with commercial, industrial, and medical uses. A small residential area remains to the southwest. Hazard Reservoir is just one block east of General Hospital, as is Hazard Park; the USC Keck School of Medicine is one block to the northeast. Less than 1 mile to the northeast is Lincoln Park, a city-owned recreation area with a small lake. Lincoln Park opened in 1901 and was original known as East Los Angeles Park or Eastlake Park.

3.4.3.1 Geologic Setting

The project area is situated in the Los Angeles Basin, south of the Santa Monica Mountains. The basin is bounded to the north by the Santa Monica Mountains, to the east by the Santa Ana Mountains and associated hills (Puente/Chino, San Jose, and Repetto), to the south by the San Joaquin Hills and the Pacific Ocean, and to the west by the Palos Verdes Hills and the Pacific Ocean. This area is part of the northernmost Peninsular Ranges, part of the California geomorphic province. This series of ranges is separated by northwest trending valleys that run subparallel to faults branching from the San Andreas fault, which, for the most part, lies east of this geomorphic province.

Stratigraphy

Dibblee (1989) maps the area as primarily Quaternary alluvium, with Quaternary older alluvium and two units of an unnamed late Miocene marine shale. Yerkes and Campbell (2005) indicate that surficial deposits in the project study area are primarily part of a Quaternary old alluvial fan, with some Quaternary alluvial fan, and the Puente Formation. Given the fossils that were recovered adjacent to the project study area, Dibblee’s (1989) mapping of the Quaternary units is considered to be more accurate. Additionally, because of the scale of the maps, Dibblee’s (1989) sedimentary descriptions are closer to what is seen within the project study area; however, Yerkes and Campbell’s (2005) naming system for the Miocene units follows the local naming system more closely.

Quaternary Alluvium

Dibblee (1989) describes these sediments primarily as Holocene (< 11,000 years old) alluvium (Qa) of the valley floodplains. The Holocene alluvium consists of unconsolidated sediments, ranging from silts to gravels.

Quaternary Older Alluvium

Dibblee (1989) indicates that the Quaternary (11,000–2.5 million years old) older alluvium (Qoa) deposits include weakly consolidated sediments, ranging from silts to gravels.

Puente Formation; Unnamed Shale

Yerkes and Campbell (2005), and many prior workers, map the northern portion of the project study area as Puente Formation siltstone (Tpnz) and the southern portion as Puente Formation sandstone (Tpna), while Dibblee (1989) maps the same regions as unnamed silty shale (Tush) and unnamed sandstone (Tuss), respectively. Yerkes and Campbell's (2005) naming will be followed because of the number of other regional authors who follow this same system.

Puente Formation, Siltstone; Unnamed Shale, Silty Shale

Yerkes and Campbell (2005) describe this unit as a light grey, well-bedded siltstone (Tpnz). Interbeds are noted lower in the section, with thicker beds at the top of the section.

Dibblee (1989) indicates that this unit is a grey to light brown, thinly bedded silty clay shale (Tush). Locally large calcareous nodules are present as well as thin interbeds of fine-grained sandstone, diatomite, and semi-siliceous shale.

Puente Formation, Sandstone; Unnamed Shale, Sandstone

Yerkes and Campbell (2005) note that this medium to light brown and light grey, fine to very coarse sandstone (Tpna) is well-bedded with discoidal concretions locally that become more frequent near the base of the unit. Most of the base of the unit is well cemented but becomes more friable in the upper portion of the unit.

Dibblee (1989) describes this unit is a semi-friable, light grey to tan sandstone (Tuss) with thin interbeds of silty shale.

3.4.3.2 Prehistoric Setting

The prehistoric occupation of Southern California is divided chronologically into four temporal phases or horizons (Moratto 1984). Horizon I, or the Early Man Horizon, began at the first appearance of people in the region, approximately 12,000 years ago, and continued until about 7,000 years Before Present (B.P.). Although little is known about these people, it is assumed that they were semi-nomadic and subsisted primarily on game.

Horizon II, also known as the Millingstone Horizon or Encinitas Tradition, began around 7,000 B.P. and continued until about 3,500 B.P. The Millingstone Horizon is characterized by widespread use of milling stones (manos and metates), core tools, and few projectile points or bone and shell artifacts. This horizon appears to represent a diversification of subsistence activities and a more sedentary settlement pattern. Archaeological evidence suggests that hunting became less important and that reliance on collecting shellfish and vegetal resources increased (Moratto 1984).

Horizon III, the Intermediate Horizon or Campbell Tradition, began around 3,500 B.P. and continued until about 1000 B.P. Horizon III is defined by a shift from the use of milling stones to increased use of mortar and pestle, indicating a greater reliance on acorns as a food source. Projectile points become more abundant and, together with faunal remains, indicate increased use of both land and sea mammals (Moratto 1984).

Horizon IV, the Late Horizon, which began around 1000 B.P. and terminated with the arrival of Europeans, is characterized by dense populations; diversified hunting and gathering subsistence strategies, including intensive fishing and sea mammal hunting; extensive trade networks; use of the bow and arrow; and a general cultural elaboration (Moratto 1984).

3.4.3.3 Native American Ethnographic Setting

The project site is located within the traditional use area of the Gabrielino. Gabrielino territory included the watersheds of the San Gabriel, Santa Ana, and Los Angeles Rivers; portions of the Santa Monica and Santa Ana Mountains; the Los Angeles Basin; the coast from Aliso Creek to Topanga Creek; and San Clemente, San Nicolas, and Santa Catalina Islands.

The Gabrielino are characterized as one of the most complex native societies in Southern California. This complexity derives from their overall economic, ritual, and social organization (Bean and Smith 1978; Kroeber 1925). Similar to their Chumash neighbors to the north, the Gabrielino had an elaborately developed material culture. The Gabrielino's technological and artistic items included shell set in asphalt, carvings, painting, baskets, and a wide range of stone, shell, and bone objects that were both utilitarian and decorative.

Gabrielino subsistence was based on a varied hunting and gathering strategy that included large and small land and sea mammals, river and ocean fish, and a variety of plant resources. Deep-sea fishing was accomplished from boats of wooden planks tied together and sealed with asphalt and other materials. Sea mammals were taken with harpoons, spears, and clubs. River fishing was done with the use of line and hook, nets, basket traps, spears, and poisons. Land mammals were hunted with bow and arrow, clubs, and traps.

The Gabrielino first encountered Europeans in 1542 when the Spanish conquistador Juan Rodriguez Cabrillo and his crew entered Gabrielino territory. Spanish colonization of the region began in 1769 and resulted in the establishment of Missions San Fernando and San Gabriel. Disease and violence resulting from Spanish colonization, as well as the harsh effects of mission life, diminished Gabrielino populations. Following the secularization of the missions, most surviving Gabrielino became wage laborers on the ranchos of Mexican California. In the early 1860s, a smallpox epidemic nearly wiped out Gabrielino culture.

One major ethnographic Gabrielino village close to the project site was the village of Yaanga, one of the largest Gabrielino villages in the region. The precise location of Yaanga is uncertain because the original community was abandoned sometime prior to 1836 (Robinson 1952:16). Yaanga was most likely located slightly south of the old Spanish plaza of El Pueblo de Los Angeles, near where the former Bella Union Hotel was later built (Dillon 1994:30) on Main Street above Commercial Street (Newmark 1916:25–26). The reference to this well-known 19th-century Los Angeles hotel places this village location about two city blocks northwest of the project site. The village of Yaanga was later instrumental in the founding of El Pueblo de Los Angeles because the Spanish colonial governor wanted a Native American village population to support the new civil community with labor and materials.

3.4.3.4 Historical Setting

Southern California and Los Angeles County

Spanish occupation of California began in 1769 in San Diego. Mission San Gabriel was established in the Los Angeles Basin in 1771, and the Los Angeles pueblo was established as a civilian settlement on September 4, 1781. In 1821, Mexico won independence from Spain and subsequently became a republic. In 1833, the Mexican government secularized the missions. Although secularization was intended to distribute the mission lands to the settlers and native population, few Native Americans received land grants. The large-scale cattle ranchers, or rancheros, claimed the bulk of the resources. These cattle ranches became the driving force in the economy.

At the end of the war between Mexico and the United States in 1848, the Treaty of Guadalupe Hidalgo was signed, giving control of California to the United States. In 1850, California was admitted into the Union. Los Angeles County was one of the original counties in the state, although parts of the County were later removed to form Orange County and parts of San Bernardino County. On April 4, 1850, the City of Los Angeles was incorporated as a municipality. Although an important town in California at that time, the city's resident population in 1850 was only 1,610, while the County population was estimated to be 3,530. Los Angeles grew very slowly for the next 30 years, with the city population reaching 11,183 by 1880 and the County population reaching 33,381.

Los Angeles was connected to the national railroad system by 1876 and the Southern Pacific Railroad by 1885. Promotion of Southern California by the Southern Pacific led to a real estate boom (and bust) in the late 1880s. By 1890, the population of Los Angeles County had tripled, reaching a total of 101,454 individuals. The County had a population of 170,298 by 1900 and then experienced another massive surge of growth, reaching 504,131 by 1910. By 1920, the County population was 936,455; by the time of the 1930 census, it had more than doubled, reaching 2,208,492.

Los Angeles County Hospital

Provided below is an excerpt from the *National Register Eligibility and Findings of Effects Report, Los Angeles County University of Southern California Medical Center Replacement Hospital*, prepared by Mellon & Associates in February 1999. It briefly summarizes the history of General Hospital.

> Los Angeles County Hospital was established in an adobe home in 1858 by the Sisters of Charity. In 1878, the Los Angeles County Board of Supervisors purchased 37.72 acres of land on Mission Road in Boyle Heights.[1] The land was acquired for construction of a County hospital and poor farm,[2] and the first hospital building was constructed[3] within a few months of wooden materials and with almost no planning. Expansion of the hospital campus has since progressed successfully eastward with the acquisition of additional land and vacation of neighboring streets.

[1] The land was purchased from Dr. John S. Griffin for the sum of $7,544.

[2] The farm was established as a separate unit in 1888.

[3] The contract was awarded to George F. Leonard for a 100-bed hospital building. Mr. Leonard must have been the contractor because Buchanan & Herbert are identified as the architects of the two-story building, which has since been demolished.

Late 19th Century through 1920

Construction began in 1897 to replace the hospital's inadequate wooden buildings with larger brick buildings. In 1900, electric lighting was installed, followed in 1902 by the first elevator. By 1904, there was a telephone system with an annunciator, intercom, and call bells. A contract was awarded to San Francisco–based architect William Mooser for design of four new buildings, which were completed in 1904. In 1909, a contract was let for construction of a new Administration Building. Designed by Hudson & Munsell, this is currently the oldest extant building. These buildings were all constructed of brick with classically inspired details.

By 1915, the hospital buildings were clustered along Mission Road between South Griffin Avenue (later Zonal Avenue) and Marengo Road. According to a 1915 map, the hospital landscape also included a tennis court, handball court, covered walkways, cement walks, and dedicated lawns. The administrative and residential buildings faced Mission Road, while the various medical wards were allocated to spaces along the secondary roads; service buildings, shops, kitchens, and the power houses were located toward the rear of the property. These buildings were most likely not visible to the general public while traveling on the surrounding roads.

A library building, now gone, was built in 1913. The original building for psychopathic patients was constructed in 1914; it is no longer extant. The gatehouse on Mission Road first appears on a 1915 map of the hospital campus; it was expanded between 1920 and 1951. The Service Building, also known as the Pharmacy Building, is the third-oldest extant building on the property, having been constructed in 1918. A power plant was also constructed in 1918; however, it too has been demolished.

1920s to 1932

Between 1920 and 1930, the County's population doubled, and the hospital was forced to expand.[4] Overflow patients were housed in corridors that connected some of the buildings or makeshift wards. County Hospital patients who were stricken with tuberculosis and other highly contagious illnesses were isolated in the largest building constructed during this period, the first Communicable Diseases Building (1924), designed by County architect Montrose Warn.

The first Tuberculosis Ward, which had been operating in a temporary building, was constructed in 1925. The Laundry Building was constructed in 1926. Additional support buildings, such as the Paint Shop, were constructed in the 1920s. Despite the need to expand, County Hospital buildings remained clustered along Mission Road, Marengo Street, and South Griffin Avenue.

Beginning in 1920, several buildings were constructed to house the nurses and other employees and staff members at the hospital. The nurses home and associated cottages, as well as other employee housing, were in existence as early as 1894, as seen on a map prepared at that time. Through the late 19th century and early 20th century, employees took up residence wherever there was space available, such as the Surgical Pavilion, as seen in the 1906 Sanborn map. Additional residential units for employees and nurses were constructed along (but set back from) Marengo Street, and by 1920, cottages and a hall were being constructed.

---

[4] Additional land was acquired in 1923. Over the next decade, original buildings were replaced to increase the number of patients that could be treated and provide fire-safe buildings for patients and staff.

In 1927, the former Contagious Ward was converted to an osteopathic hospital; the Contagious Ward was originally constructed in 1905. All of these buildings have been demolished. Los Angeles County Osteopathic Hospital was founded in 1928 and housed in Unit II on the campus of County Hospital. The School of Nursing was founded in 1895. Known as the "College of Training for Nurses Attached to the County Hospital," student nurses received training at County Hospital, but only graduate nurses worked at the osteopathic hospital.

The Construction of the Acute Unit, 1932–1933

Widespread prosperity and a pressing need for more beds initiated planning in 1922 for a modern hospital. Upon completion, the new facility would eclipse the small scale of the 19th-century campus buildings located along Mission Road. A bond measure for construction was passed in 1923, and the Board of Supervisors selected Allied Architects Association to design the new hospital. Additional property was purchased and annexed to the campus for construction of the Acute Unit, as General Hospital was called at the time.

Development plans called for construction of a state-of-the-art high-rise hospital tower, which would be set on a promontory that overlooked downtown Los Angeles. Extensive terracing was required as well as reconfiguration of North State Street to create a formal vehicular drive that would lead up the hill to the hospital entrance. Construction was originally projected to cost about $5 million but reached nearly $13 million when completed in late 1933.

When constructed, General Hospital was the largest hospital facility in the country. It incorporated a number of innovations related to hospital organization and administration. Construction of the Acute Unit dramatically changed the landscape of the County Hospital campus. Not only did it open up additional lands for development of hospital buildings east of the original campus, it allowed the County to make a statement both physically and visually that affirmed its goal to take care of residents in a state-of-the-art facility that reflected current innovations in hospital organization and patient care. It supported the belief that hospital-related activities should be contained within one or a few buildings, as opposed to the way County Hospital had operated for 50 years, with scattered and isolated buildings of varying ages and condition.

Post-World War II through 1968

Post-World War II was a period of rapid growth and development. With increasing population, County Hospital was forced to expand and provide additional services. Many new buildings were constructed, which required demolition of the earliest hospital buildings. Property was purchased south and east of General Hospital, with several residential blocks becoming annexed to the hospital campus. Construction of the Psychiatric Hospital (1951), Graduate Hall (1953/1955), Pediatric Pavilion (New Communicable Diseases Unit, 1955), Osteopathic Hospital (Women's and Children's Hospital, 1959), Muir Hall (1962), Outpatient Department Building (1963), and Intern-Resident Dormitory (1965) took place. Improvements to the campus thereafter were generally limited to modular buildings and trailers, which were placed where space allowed, including the roof terraces of General Hospital.

The post-World War II era saw a continuation to the monumental building phase started by construction of the Acute Unit east of the original County Hospital campus. Buildings were often designed by locally known and respected architects or through collaborations between architectural firms. For example, the first five buildings mentioned above were designed by Architects Associated, which included Paul R. Williams and Adrian Wilson. Photographs and newspaper articles from the time period indicate that all of the buildings shared similar massing, window types, and exterior treatments.

The County would return to the same architectural firms throughout the 1950s and 1960s, which seems to suggest a County belief that consistency in style equates to dependability in patient care. Many of these architects and firms would be responsible for other County buildings through the region. For example, both the Outpatient Department Building and Intern-Resident Dormitory (or the Interns and Resident Building) were designed by Arthur Froelich and Associates; architects Douglas Honnold and John Rex were also involved in the design of the Outpatient Department Building. The firm of Honnold and Rex was also responsible for the design of the General Laboratory (1965) at 1801 Marengo Street. Honnold and Rex also collaborated with Richard Neutra and others on the County Hall of Records, while Williams and Wilson collaborated with other architects on the design of the Hall of Administration, both located in the downtown Los Angeles Civic Center.

Arthur Froelich and Associates designed the Flammable Storage Building (1970) as well as the Cancer Research Lab (1970), which is at the corner of Mission Road and Griffin Avenue, the location where the Livingston Research Building (1962), designed by Donald S. Gill, had been constructed. A later building, the Livingston Annex, by Norbert W. Pieper, was built in 1976. Mr. Pieper also remodeled the Livingston Research Building in 1977.

Donald S. Gill and Vincent Palmer were the architects for the 1956 addition to the Rehabilitation Center (Pediatrics Clinic/School of Nursing), which was originally constructed in 1951 and designed by W. C. Pennell. This building, which fronts Mission Road south of Griffin Avenue, is the former campus of the College of Osteopathic Physicians and Surgeon, which later became the California College of Medicine. This collection of buildings from the first half of the 20th century includes the 1920s Tower Hall and the 1937 Phinney Hall/Building 40, the later designed by architect Louis L. Dorr. The Library (1943) and Science (1946) buildings were not designed by any architects of note, nor was the associated college cafeteria (1948) across Griffin Avenue (demolished).

1968 to 1978

The period of 1968 to 1978 brought some favorable developments. One was the name change in July 1968, from Los Angeles County Hospital to Los Angeles County University of Southern California (LAC+USC) Medical Center. This new name recognized the existing USC Health Sciences and School of Medicine facilities, located across Zonal Avenue, which were available to serve the hospital. After 1968, General Hospital underwent several physical improvements, including smaller wards for patients, redecoration, new lighting, and high-speed elevators.

The new Administration Building and the associated Medical Examiner's Building, located near the corner of Mission Road and Marengo Street, opened in 1969. The two new buildings stood at the former site of some of the original County Hospital buildings, such as the Surgical Wards and Pavilion and the Tuberculosis Ward. Although a few buildings in the Livingston mini-campus area were constructed in the 1970s, no large construction activities took place at the LAC+USC campus. When additional space was needed, modular buildings were constructed.

The Northridge earthquake on January 17, 1994, caused extensive damage on the campus, resulting in the closure or demolition of many individual buildings.

Current Campus

For the purposes of this discussion, the LAC+USC campus is divided into five parts. The first and second sections are bounded by Zonal Avenue to the north, Cummings Street to the east, Marengo Street to the south, and Mission Road to the west; this is where the highest concentration of hospital buildings is located. This very large parcel is divided asymmetrically by State Street, which provides access between Zonal Avenue and Marengo Street. Section 3 consists of the former College of Osteopathic Physicians and Surgeons/College of Medicine campus, now occupied by the School of Nursing. Section 4 is the Livingston mini-campus, a collection of four research buildings. Section 5 denotes the two buildings located at the southeast corner of Mission Road and Zonal Avenue.

LAC+USC Section 1/General Hospital Hill

East of State Street, the campus is located on a hillside; on top of the hill is the Acute Unit, or General Hospital, which dates to 1932 and is the most recognizable building on the campus. Designed by Allied Architects Association and constructed of reinforced concrete, this monumental Art Deco building rises 19 stories (including a subterranean basement with parking and offices) and was determined eligible for listing in the NRHP under Criteria A and C in 2002 by consensus between FEMA and the SHPO. In addition to the Acute Unit, the forecourt, including the planters, fountains, paving pattern, and concrete retaining walls, as well as the one-story former Patient's and Visitor's buildings are considered character-defining features of the hospital. North State Street is also considered a character-defining feature because it was designed to complement the setting and scale of General Hospital. A gatehouse on Zonal Avenue, as well as the associated metal gates, is also considered a contributing feature. There are two detached one-story buildings with gable roofs at the northeast corner of the hospital (Barracks D and G).

Farther east of General Hospital is the seven-story Outpatient Clinic, constructed in 1961, and the Interns and Residents Building, constructed in 1962. The former was designed by Arthur Froelich, Douglas Honnold, and John Rex; the latter was designed by Arthur Froelich and Associates. Neither building has been evaluated for NRHP eligibility. On the north side of the Interns and Resident's Building is a multi-story garage, Parking Structure 12, which was constructed after 1967 but before 1983, based on available plot plans. There is an open stairwell on the west side of the Interns and Residents Building that leads down from the parking lot to the courtyard space created by the three buildings. Another set of stairs leads down from the courtyard to the rear of General Hospital and along a pathway to the two barracks. Both the Interns and Residents Building and the Outpatient Clinic are accessible from this courtyard. Each also has another entrance on the opposite side of the buildings. In the courtyard, there is a single-lane one-way road that provides access for the public and buses to and from Zonal Avenue; there is also short-term and handicapped parking.

LAC+USC Section 2/Old County Hospital Campus

West of State Street are three of the oldest hospital buildings, the old Administration Building (1910), the Pharmacy (Service) Building, and the gatehouse/thrift store. All three were built between 1900 and 1920 with brick construction and located in the oldest section of the hospital grounds, near the intersection Marengo Street and Mission Road. Connecting the 1918 Pharmacy to the basement of the General Hospital is an enclosed reinforced-concrete viaduct that transitions to a tunnel below the hillside west of State Street. The concrete viaduct is considered a character-defining feature of General Hospital and NRHP eligible; portions were constructed in 1933 and 1955 to connect to the Psychiatric Unit (no longer extant). The new (1969) Administration Building and associated Medical Examiner's Building are located along Marengo Street; both were designed by Robert Kliegman. Farther southeast, along Marengo Street, is the 1962 Central Steam Plant, designed by civil engineer M. A. Nishkian, and the 1965 General Laboratory, designed by Douglas Honnold and John Rex.

Along Mission Road, north of the gatehouse, is the three-story, metal-frame Parking Lot Structure 10, which was constructed in the 1980s. A stucco and metal fence runs south along Mission Road from the entrance and east along Marengo Street, with two additional breaks for ingress/egress. The fence ends at the General Laboratory.

In the area between these buildings and the viaduct are several buildings that serve as shops and maintenance facilities as well as parking areas. Most are one-story and simple in construction. On the north side of the viaduct is the Mason Shop, a large one-story stucco building with a hipped roof, several square modular buildings containing off-site operations, and the incinerator. The two- and three-story incinerator building appears to be a replacement for similar earlier structures at the same location. Just north of the incinerator is the MRI building, which was constructed in 1988.

Several one-story modular buildings between the administration buildings and the former Women's and Children's Hospital house patient services. The Women's and Children's Hospital, the last of the Williams and Wilson–designed building remaining at LAC+USC, rises 10 stories at the southeast corner of Mission Road and Zonal Avenue. Behind it are several one-story modular buildings/trailers and a one-story brick gatehouse, which may have been constructed at the same time as the hospital building. An associated curved Roman brick wall, which wraps around the north and east sides of the building, was also built at the same time; similar brick walls were built concurrently with the Pediatric Pavilion and Psychiatric Unit, which are no longer standing.

LAC+USC Section 3/School of Nursing (formerly the College of Osteopathic Physicians and Surgeons)

On the north side of Mission Road, bounded on the east by Griffin Avenue, is a large parcel that contains buildings that are now associated with the School of Nursing. Two post-World II–era buildings, primarily brick construction, are located along Mission Road: Building 10/20 (1951) and the adjoining Pediatrics Clinic (1956) to the south. Tower Hall (1920s), the former library, and the former Science Building/Building 90 all exhibit elements of the Spanish Colonial and Mission Revival styles; a one-story arcade fronts a portion of the Tower Hall and Central Files Building (library) façades. The former Science Building is a one-story brick building that has a false parapet with clay tile. Phinney Hall, constructed in the late 1930s, was designed by architect Louis Dorr in a Mission Revival style. It now houses the S. Mark Taper Foundation Family Advocacy Center. The three-story North Hall is located at the far northwest corner of the parcel; a modular building with the Premature Infant Clinic is located between Tower Hall and Phinney Hall. This parcel was historically the College of Osteopathic Physicians and Surgeons. The college was formed from two separate local colleges of osteopathy in 1914. By 1920, the renamed Pacific College of Osteopathy was operating in a building at 1057 Mission Road, across the street and one block southwest of the Los Angeles County Hospital campus.

In 1928, the osteopathic hospital opened in Unit II on the campus and then moved to a new building, constructed in 1959 and designed by Paul R. Williams and Adrian Wilson, at the same location. Sanborn maps from 1951 indicate that the college constructed laboratories, an auditorium, a cafeteria, and classrooms on Griffin Avenue, across the street from the hospital. The cafeteria, constructed in 1948, was located on the east side of Griffin Avenue. The campus along Griffin Avenue and Mission Road was constructed from the late 1920s through the early 1950s.

LAC+USC Section 4/Livingston Mini-Campus (formerly the College of Osteopathic Physicians and Surgeons)

Located to the east of Griffin Avenue, where the cafeteria for the College of Osteopathic Physicians and Surgeons once stood, is the Livingston mini-campus. There are four buildings on this parcel: the Cancer Research Building, a two-story structure situated prominently at the corner of Mission Road and Griffin Avenue, the two-story Livingston Research Building, and the one-story Livingston Annex and child care center. None of these buildings were constructed when the 1951 Sanborn map was prepared. The Cancer Research Building (also known as the Cancer Research Lab) was constructed in 1970, and the child care center, a modular building, was constructed in 1994. The Livingston Research Building was constructed in 1962 and was originally part of the College of Osteopathic Physicians and Surgeons. It was designed by Donald S. Gill and remodeled in 1977 by Norbert W. Pieper. Mr. Pieper was the architect of note for the Livingston Annex, which was constructed in 1976. Between these buildings and the railroad tracks is a surface parking lot.

LAC+USC Section 5

At the southeast corner of Zonal Avenue and Mission Road are two buildings, along with a parking lot, which is accessed from Zonal Avenue. The buildings, 5P21 and the Carpenter's Mill (also referred to as 'Big Blue'), are associated with the LAC+USC Medical Center. The building at the corner was constructed in 1994; the Carpenter's Mill was constructed in between 1970 and 1982 and is currently used both for storage and as a crafts shop for on-site electricians, carpenters, roofers, glazers, millwrights, plumbers, and painters.

3.4.3.5 Historical and Archaeological Resources

The identification of historical and archaeological resources within the project area was based on a review of existing sources of information and field surveys by architectural historians. No field survey was conducted for archaeological resources because the proposed project area is entirely built up, and there is no ground visibility for archaeological survey. The review of existing sources of information, combined with information collected during the field visits, was used to determine the historical resource significance of buildings, structures, objects, sites, and districts and evaluate potential effects on such resources.

Information Review Results

The sources of information that were reviewed included:

- National Register of Historic Places
- California Historical Landmarks
- California Points of Historical Interest
- California Register of Historical Resources
- City of Los Angeles Historic-Cultural Monument List
- Facilities Management Archival Files at LAC+USC Medical Center
- City of Los Angeles Building and Safety (permits)
- Los Angeles Public Library (online databases)
    - *Los Angeles Times* Historical Newspapers
    - Los Angeles Public Library Photo Database
- Architects Database (online)
- American Architects Dictionary, 1962 (American Institute of Architects [online])

On March 28, 2014, a records search was conducted at the South Central Coastal information Center (SCCIC) in Fullerton, California. The research focused on the identification of previously recorded historic built-environment, archaeological, and prehistoric resources at the project site and within a 0.25-mile radius of the project site. Research included a search of records, including historical site inventories, archaeological site records and reports, and historic U.S. Geological Survey topographic maps. National, state, and local inventories of architectural and historical resources were reviewed to determine the location of previously documented historic and architectural resources proximate to the project area. These included standard sources of information, such as the NRHP, CRHR, California Historical Landmarks, California Points of Historical Interest, and HCMs. The record search identified 16 cultural resource studies that were completed for all or part of the project area.

Six previously recorded built-environment resources were identified on the LAC+USC medical center campus. The purposes for which these resources were evaluated are not always known. Some, for example, were identified as the result of the survey of individual buildings, or in response to FEMA actions. No complete identification or evaluation of historical resources has been undertaken at the LAC+USC campus.

These include five NRHP-eligible resources, the Administration Building/ Los Angeles County Hospital/Coroner's Building (P-167090), Pharmacy Building, Science Hall/Building 90 (P-175288), new Pediatric Outpatient Clinic/Building 10/20 (P-19-175266), and General Hospital – Acute Unit (P-156354), and one non-eligible resource, the Livingston Research Center/Building 210 (P-19-175482). No properties that have been listed in the NRHP or the CRHR are located on the project site.

Within a 0.25-mile radius surrounding the project site, 18 built-environment resources and one historical archaeological resource, LAN-3659H, have been recorded. No prehistoric-era resources have been recorded within a 0.25-radius of the project site. LAN-3659H is composed of a light scatter of historic-era artifacts on a small hill remnant in the western corner of the Hazard Park U.S. Army Reserve Center. It was determined ineligible for the CRHR. Artifacts observed included solarized, cobalt, and light aqua-colored glass bottle glass fragments; fragments of an earthernware crock; and fragments of several improved earthernware dishes within a 20- by 15-meter area. No human remains have been identified on the project site.

The six previously recorded built-environment resources and one historical archaeological resource identified above are listed in Tables 3.4-1 and 3.4-2.

Table 3.4-1: Properties Previously Determined Ineligible for the NRHP and Not Listed in the CRHR

Trinomial	Date/Age	Other Name	Discussion of Significance
LAN-3659H	ca. 1900–1920		6Z – Determined ineligible for listing in the NR or CR or local designation through survey evaluation.
Livingston Research Center	1962	Building 210	6Z – Determined ineligible for listing in the NR or CR or local designation through survey evaluation.
Source: ICF International, 2014.			

Table 3.4-2: Properties Previously Determined Eligible for the NRHP and Listed in the CRHR

Name of Building/ Building Number	Building Date	Other Name	Discussion of Significance
Old Administration Building	1910		3B – Determined eligible for listing in the NRHP as a separate property (1976) and eligible for its association with the General Hospital complex.
Pharmacy Building	1917/1918	Service Building	3S – Determined eligible for listing in the NRHP as a separate property (1976).
Science Hall (School of Nursing)	1946	Building 90	3D – Appears eligible for NRHP as a contributor to an NRHP-eligible district through survey evaluation. Potential district or multiple-resource property not defined (1994).
New Pediatric Outpatient Building (School of Nursing)	1951/1956	Building 10/20	3D – Appears eligible for NRHP as a contributor to an NRHP-eligible district through survey evaluation. Potential district or multiple-resource property not defined (1994).
General Hospital complex	1933	Acute Unit	3S – Determined eligible for listing in the NRHP as a separate property (1976).
General Hospital complex	1933	Payroll Building	3D – Associated with the General Hospital complex.
General Hospital complex	1933	Quality Assurance Utilization Building	3D – Associated with the General Hospital complex.
General Hospital complex	1933	Entrance Forecourt	3D – Associated with the General Hospital complex.
General Hospital complex	1933	Vehicular/ Pedestrian Tunnel/ Tramway	3D – Associated with the General Hospital complex.
General Hospital complex	1933	Marengo Street and Zonal Avenue Gateways	3D – Associated with the General Hospital complex.
General Hospital complex	1933	Configuration of N. State Street	3D – Associated with the General Hospital complex.
Source: ICF International, 2014.			

The old Administration Building, also known as the Coroner's Building at the Los Angeles County Hospital, was determined eligible for the NRHP in 1976. It was constructed in 1909 and designed by Hudson and Munsell. As one of the oldest buildings on the hospital campus, it dates to an era when County Hospital was the largest west of Chicago. It represents the rapid growth of Los Angeles, which made this building inadequate and led to the construction of the Acute Unit. Its status is 3S;

this was confirmed in 1994 when it was established that the building and the Acute Unit, Pharmacy (Service) Building, Women's and Children's Hospital, arcade, and tunnel were eligible for listing in the NRHP as contributors to an (undefined/unnamed) district.

General Hospital, or the Acute Unit, was determined individually eligible for the NRHP in 1976 because, at the time of its construction, it was the largest single hospital unit in the United States. This was confirmed in 1994 when it was determined that General Hospital, which was given 3S status; the Quality Assurance Utilization Building (former Patient's Building); the Payroll Building (former Visitor's Building); and forecourt to General Hospital were contributing features to a potential multiple-resource property or NRHP-eligible district. The light standards on North State Street, but not the globes, were also found to be contributors to the multiple-resource property or district. In 1994, Building 10/20 and Building 90/Science Hall, both located on the School of Nursing campus, were found eligible as contributors to a potential (but unnamed and undefined) NRHP-eligible multiple-resource property or district.

In 1999, Mellon & Associates reconfirmed that the Acute Unit; Payroll Building; Quality Assurance Utilization Building; entrance forecourt; configuration of the North State Street, Marengo Street, and Zonal Avenue gateways; vehicular/pedestrian tunnel/tramway; Pharmacy Building; and old Administration Building appeared eligible for listing in the NRHP. Their report, *National Register Eligibility and Finding of Effects Report*, prepared in support of the LAC+USC Medical Center Replacement Hospital, also determined that the streetlights on North State Street were more recent and not eligible for the NRHP.

At no time was a district nomination prepared that would have clarified whether or not all of the aforementioned resources were contributors to a single district or discontiguous multiple-resource property or whether smaller districts, which are representative of various building periods, such as those between 1932 and 1933 and associated with General Hospital, would be a more accurate representation.

No properties at the LAC+USC Medical Center campus are listed as City of Los Angeles HCMs.

Field Investigation Results

Architectural historians visited the project site on two occasions. The first was on April 4, 2014, which consisted of a general windshield survey of the LAC+USC campus, which did not include visitation of all buildings on the property. In addition, a reconnaissance survey was conducted on May 21, 2014. The latter survey included a walk-through of the accessible campus areas and photo documentation of all buildings constructed in 1965 or earlier. A few areas were not accessible due to construction activities.

The identification effort found that four potentially significant historical architectural resources that were not previously identified in earlier surveys are present (see Table 3.4-3). Table 3.4-4 identifies properties constructed in 1965 or earlier on the LAC+USC Medical Center campus that were determined not eligible for the CRHR based on the results of the field survey. Unless otherwise noted, the determination of eligibility for these resources occurred as a result of this survey.

Table 3.4-3. Properties Eligible for the CRHR (constructed in 1965 or earlier)

Name of Building/ Building Number	Building Date	Other Name	Discussion of Significance
Women's and Children's Hospital	1959	Osteopathic Hospital	3B – Criteria 1 and 3 (planning, location, design)
Gatehouse associated with Women's and Children's Hospital	Est. 1959		3D – Criterion 3 (design, association with hospital)
School of Nursing/ Building 40	1937	Phinney Hall	CRHR Criterion 3 (design)
School of Nursing/Building 30	1920s	Tower Hall	CRHR Criteria 1 and 3 (association with College of Medicine/ Osteopathic Physicians and Surgeons campus, design)
Source: ICF International, 2014.			

Photo 1: Women's and Children's Hospital – Looking East at the South Wing and Entry

Photo 2: Gatehouse – Looking West/Southwest, Primary and Secondary Façade

Photo 3: Building 40 – Looking Southwest, Primary Façade/South Wing and Entry

Photo 4: Building 30 – Looking West, Primary Elevation

Table 3.4-4: Properties Not Eligible for the CRHR (constructed in 1965 or earlier)

Name of Building/ Building Number	Building Date	Other Name	Discussion of Significance
School of Nursing Property/Former College of Osteopathic Physicians and Surgeons/Building 110	1943	Library Building	Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
School of Nursing Property/Former College of Osteopathic Physicians and Surgeons/Building 50	1936	North Hall	Significantly altered, lacks integrity.
Mission Road Gatehouse/Thrift Store	1912 (1920 – 1951)		Significantly altered, lacks integrity.
Outpatient Clinic	1961	Outpatient Department Building	Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Interns and Residents Building	1962		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Barracks D	Unknown		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Barracks G	Unknown		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Telephone Exchange Building	1957		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
General Laboratory	1965		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Central Steam Plant	1962		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Incinerator	Unknown		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.

Name of Building/ Building Number	Building Date	Other Name	Discussion of Significance
Livingston Research Building[5]	1962		Does not embody the distinctive characteristics of a type, period, or method of construction; is not the work of a master; does not possess high artistic value.
Source: ICF International, 2014.			

3.4.3.6 Paleontological Resources

Searches for paleontological records were completed through the Natural History Museum of Los Angeles County (LACM) (McLeod 2014); published and online resources were also consulted (Jefferson 1991a, 1991b; Hay 1927; Miller 1971; LACM Invertebrate Paleontology 2014; Paleobiology Database 2014; University of California Museum of Paleontology 2014). A copy of the LACM records search is provided as an appendix to the paleontological literature search materials (see Appendix C).

There are no known fossil localities within the project site; however, five localities are present within 1 mile of the project site (Miller 1971; McLeod 2014). These are listed in Tables 3.4-5 and 3.4-6 and described below.

Table 3.4-5: Fossil Localities Near the Project Site in the Quaternary Older Alluvium

Common Name	Taxon	Locality; Reference(s)
Mammoth, possibly Columbian mammoth	† Mammuthus sp. cf. M. columbi	Los Angeles Brickyard, Mission Road and Daly Street – LACM 2032. Miller 1971, Jefferson 1991a, Jefferson 1991b, McLeod 2014; 20 to 30 feet below ground surface.
American mastodon	† Mammut americanum (much of a single individual)	
Horse	† Equus sp.	
Camel	† Camelops sp.	
Harlan's ground sloth	† Paramylodon harlani	
Western pond turtle	Clemmys marmorata	
Saber-toothed cat	† Smilodon fatalis (originally Smilodon cf. S. californicus)	Workman storm drain, Workman Street and Alhambra Avenue – LACM 1023; Miller 1971, Jefferson 1991a, Jefferson 1991b, McLeod 2014: storm drain.
Horse	† Equus sp.	
Deer, possibly mule deer	Odocoileus sp.	
Turkey	† Melegris californica (originally cf. Paraparvo sp.)	
Note: † indicates extinct species. Source: Cogstone, 2014.		

[5] The Livingston Research Building was determined ineligible on June 4, 1994. See correspondence from Historic Resources Group to the Federal Emergency Management Agency.

Table 3.4-6: Fossil Localities Near the Project Site in the Puente Formation

Common Name	Taxon	Locality; Reference(s)
Bristlemouth	† Cyclothone sp.	1st and Hill Streets – LACM 5961; McLeod 2014.
Fish	Unidentified fish	Chester Street and Vaquero Avenue – LACM 7007; McLeod 2014.
Herring	† Xyne grex	Valley Boulevard and Highbury Avenue – LACM 1027; McLeod 2014.
Note: † indicates extinct species. Source: Cogstone, 2014.		

Quaternary Alluvium

Quaternary alluvium typically is not old enough to contain fossils; however, given the local geology, Quaternary alluvium units can cover older fossiliferous formations. Additionally, such sediments may contain archaeological resources, particularly in an area close to a large waterway.

Quaternary Older Alluvium

Numerous localities are known from Quaternary older alluvium sediments in the City of Los Angeles, and two localities are known within 1 mile of the project site (Table 3.4-5).

Los Angeles Brickyard Number 3 (LACM 2032) at Mission Road and Daly Street, just north of the LAC+USC Medical Center campus, is the closest locality to the project site; fossils were found between 20 and 35 feet below ground surface (Miller 1971; Jefferson 1919a, 1991b; McLeod 2014 pers. comm.). Mammoth (†), mastodon (†), horse (†), camel (†), giant ground sloth (†), and pond turtle fossils were recovered.

A storm drain excavation at Workman Street and Alhambra Avenue (LACM 1023), also just north of the LAC+USC Medical Center campus, produced saber-toothed cat (†), horse (†), deer, and turkey (†) fossils (Miller 1971; Jefferson 1919a, 1991b; McLeod 2014).

Puente Formation; Unnamed Shale

Within the Los Angeles area, the Puente Formation contains numerous fossils of plants and animals. Although no localities are known from the project study area, three localities are known from the Puente Formation within 1 mile of the project study area (Table 3.4-6).

At 1st Street and Hill Street, almost due west of the project site, LACM 5961 produced a deep-sea fish known as a bristlemouth (†). At LACM 7007, northeast of the project site, west of Chester Street and Vaquero Avenue, an unidentified fossil fish was recovered. East of the project site, at Valley Boulevard and Highbury Avenue, a herring (†) was recovered from LACM 1027 (McLeod 2014).

3.4.4 Environmental Impact Analysis

3.4.4.1 Thresholds of Significance

For the purposes of this EIR, and in accordance with Section 21084.1 of CEQA and Appendix G of the State CEQA Guidelines, the proposed project would have a significant adverse environmental impact if it would:

CR-1: Cause a substantial adverse o change in the significance of a historical resource, as defined in Section 15064.5 of the State CEQA Guidelines.

CR-2: Cause a substantial adverse change in the significance of an archaeological resource, as defined in Section 15064.5 of the State CEQA Guidelines.

CR-3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

CR-4: Disturb any human remains, including those interred outside of formal cemeteries.

3.4.4.2 Impacts and Mitigation Measures

Construction Scenario

Impact CR-1: Would the Proposed Project Cause a Substantial Adverse Change in the Significance of a Historical Resource, as Defined in Section 15064.5 of the State CEQA Guidelines?

Construction

Construction of facilities and improvements proposed under the master plan would occur over a period of years as funding for each individual project is appropriated. General construction activities would include demolition of several structures, including the Women's and Children's Hospital, old Utility and Maintenance Facility, Outpatient Department Building, Interns and Residents Building, Parking Structure 12, several modular buildings, and storage and warehouse buildings. Next, excavation for the foundations of the proposed new buildings would be required. Finally, substantial grading would occur in the middle part of the campus to construct the parking structures, community amenities, open space, and paths that are proposed for this part of the campus.

The project site contains buildings, structures, and districts that have been determined eligible for listing in the NRHP and/or CRHR. The fact that a resource is not listed in, or determined eligible for listing in, the CRHR or local register does not preclude an agency from determining that the resource may be a historical resource, as defined by PRC Section 5020.1(j) or 5024.1.

Significant impacts on historical resources would occur when the resources are demolished or when the characteristics that convey the resources' historical significance are materially altered. Potential impacts on individual historical resources resulting from development under the master plan could include, but may not be limited to, the following:

- **Demolition of Women's and Children's Hospital**: As part of the proposed master plan, one building that has been determined eligible for listing in the CRHR would be demolished: the Women's and Children's Hospital, determined eligible for the CRHR under Criteria 1 and 3. Demolition of a historical resource would be considered a significant impact.

- **Alterations to General Hospital Retaining Walls**: Changes in pedestrian access and development of "the hill" may require retaining walls to be removed or altered. The retaining walls that support the west side of the hill below the historic General Hospital are considered character-defining features of the General Hospital setting. Demolition of, damage to, and/or alteration of these features has the potential to cause an adverse change in the setting of General Hospital, which is NRHP eligible.
- **Alterations to Setting of State Street**: Any alterations to the overall setting of State Street, which is considered a character-defining feature of the General Hospital/Acute Unit setting, may have an adverse impact on the setting of General Hospital, which is NRHP eligible.
- **Impacts on Viaduct/Pedestrian Tunnel**: Construction of the proposed Market Plaza, Community Garden, and Pedestrian Mall have the potential to affect the existing viaduct/pedestrian tunnel that connects the Service Building to the basement of General Hospital indirectly. Although direct impacts are not anticipated as a result of construction of the Market Plaza, Community Garden, or Pedestrian Mall, indirect impacts related to excavation and/or grading, along with temporary increases in vibration as a result of these actions, could occur. The viaduct/tunnel is one of the oldest elements of the hospital grounds, and although it has been expanded and altered over the years, the portion that was constructed in 1933 is considered a contributing element of the General Hospital setting. Any actions that would damage, alter, or demolish this structure may cause a substantial adverse change in the significance of the setting of the General Hospital/Acute Unit setting.
- **Impacts on Old Administration Building and Service Building**: The proposed Artist Meadow would be located between two historical resources: the old Administration Building and the Service Building; both buildings have been determined eligible for listing in the NRHP. Although direct impacts are not anticipated as a result of construction of the meadow, indirect impacts related to excavation and/or grading, along with temporary increases in vibration as a result of these actions, could occur.

Construction impacts on identified historical resources due to individual projects proposed under the master plan could be significant but would vary, depending on final plans, and would need to be analyzed in detail to confirm the level of impact and what type of mitigation, if any, would be required (see the proposed mitigation measures below). However, the proposed demolition of the Women's and Children's Hospital would be a significant and unavoidable impact of the master plan.

Operation

Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect historical resources.

Mitigation Measures

The measures listed below are proposed to mitigate the potential construction impacts on historical resources described above (Impact CR-1). These measures would be implemented, as appropriate, as individual development projects are proposed and approved under the master plan. Please note that since this is a program EIR, the mitigation measures are by necessity broad in scope. Any subsequent environmental documents for individual projects under the proposed master plan may require additional specific mitigation measures.

MM-CR-1: Prior to the removal of or alterations to the 1933 retaining walls or the overall setting of State Street, which are considered character-defining features of the General Hospital/Acute Unit setting, documentation of these features of the General Hospital setting in a manner that meets Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) standards shall be prepared. This shall include photographs and drawings of the current conditions, including State Street, the retaining walls, the forecourt, and the ancillary buildings. Preservation of the character-defining features shall be attempted.

MM-CR-2: Prior to demolition of the Women's and Children's Hospital, documentation of this property to HABS/HAER standards shall be prepared. Character-defining features shall be called out, and a historic context for this building shall be prepared.

MM-CR-3: A protection plan for the viaduct/tunnel shall be prepared prior to the construction of any master plan project that would occur in the immediate vicinity of the viaduct/tunnel. This protection plan shall be prepared by a qualified historic preservation specialist who shall document the current condition of this structure before any construction begins and monitor the structure during construction.

MM-CR-4: A historic structures report shall be prepared that identifies the character-defining features of the old Administration Building and the Pharmacy/Service Building, which will provide the basis for preparation of a protection and preservation plan for these buildings. The preservation and protection plan shall be prepared by a qualified historic preservation consultant who will document the current condition of the buildings and monitor the condition of the buildings during any construction activities.

MM-CR-5: The County shall consult with a qualified historic preservation consultant to determine appropriate street and walkway lighting that both enhances the historic setting of General Hospital and provides sufficient illumination. All new material, such as streetlights, benches, bollards, and other street/landscape furniture, shall be chosen in consultation with the historic preservation expert and meet the Secretary of the Interior's Standards.

MM-CR-6: Prior to proceeding with construction of individual development projects that could adversely affect properties 50 years of age or older on the medical center campus, the County shall evaluate those properties to determine their eligibility for the CRHR and/or NRHP.

MM-CR-7: An updated State of California Department of Parks and Recreation (DPR) 523 form shall be prepared by a qualified architectural historian, historian, or historical architect for General Hospital and its setting that specifically identifies the contributing and non-contributing features of the historic General Hospital and its setting. The DPR 523 form shall be prepared prior to undertaking of any work within the setting of General Hospital that could adversely affect this historic resource.

Level of Significance after Mitigation

Demolition of the Women's and Children's Hospital or other historical resources such as the associated gatehouse, would be an unavoidable significant adverse impact. The mitigation measures identified above may reduce the impacts due to alteration or removal of contributing features of the General Hospital setting to a less-than-significant level. However, that determination can not be made until individual development projects are proposed, further historical analysis of the General Hospital setting has been completed, and the extent of potential alterations to the contributing features are identified.

Impact CR-2: Would the Proposed Project Cause a Substantial Adverse Change in the Significance of an Archaeological Resource, as Defined in Section 15064.5 of the State CEQA Guidelines?

Construction

Generally, for the project area, no impacts on archaeological resources are anticipated. Surface disturbances over the past 130 years have probably destroyed intact archaeological resources. Therefore, there is a low likelihood of encountering prehistoric and historical archaeological resources. Nonetheless, the possibility remains that structural demolition and grading and excavation for new foundations and access routes, as well as excavation for parking structures, could affect unknown buried archaeological resources. Disturbance or destruction of archaeological resources resulting in a substantial adverse change in the significance of the resource would be a significant impact. Construction impacts would vary, depending on final plans, and would need to be analyzed in detail to determine what level of monitoring, if any, would be required. Mitigation measure MM-CR-8, below, explains how this mitigation would be carried out to mitigate potential impacts on archaeological resources.

Operation

Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect archaeological resources.

Mitigation Measures

The following measure is proposed to mitigate Impact CR-2, as described above:

MM-CR-8: Prior to any demolition, grading, or excavation related to the construction of facilities or improvements under the master plan, a qualified archaeologist shall be retained by the County or construction contractor to determine which areas shall require cultural resources monitoring during initial ground disturbance. The location of construction activities that are likely to encounter subsurface sediments with archaeological sensitivity shall be determined by the qualified archaeologist upon review of project excavation and grading plans.

If determined necessary, monitoring by a qualified archaeologist shall be conducted in the project area during all initial ground-disturbing activities. If, during cultural resources monitoring, the archaeologist determines that the sediments being excavated have been previously disturbed and are unlikely to contain significant cultural materials, the archaeologist shall request that monitoring be reduced or eliminated. Spot-check monitoring shall occur during all construction, on a schedule determined by the project archaeologist.

If buried cultural resources such as trash deposits, building foundations, privy pits, flaked or ground stone, or human remains are inadvertently discovered during ground-disturbing activities, work shall stop in that area and within 100 feet of the find. Treatment measures for items that are not associated with human remains typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation.

Level of Significance after Mitigation

Impacts on archaeological resources, if any are found, are expected to be reduced to a level of less than significant with implementation of mitigation measure MM-CR-8.

Impact CR-3: Would the Proposed Project Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geologic Feature?

Paleontological Sensitivity

A multilevel ranking system was developed by professional resource managers as a practical tool for evaluating the potential for paleontological resources. This is the Potential Fossil Yield Classification (PFYC) system (Bureau of Land Management 2007). With the PFYC system, geologic units are classified according to the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts. This ranking is not intended to be applied to specific paleontological localities or small areas within units. Although significant localities may occasionally occur in a geologic unit, a few widely scattered important fossils or localities do not necessarily indicate a higher PFYC value; instead, the relative abundance of localities is intended to be the major determinant for the value assignment. The system has five numbered scores, from 1 to 5, but score 3 is subdivided into a and b.

The Quaternary alluvium is assigned a PFYC value of 2, with a low sensitivity for fossil resources because of the young age of the sediments. However, these units do cover older fossiliferous units. The Puente Formation is assigned PFYC 3a, with a moderate potential for fossils. The Quaternary older alluvium is assigned PFYC 4, with a high potential for fossils because of significant finds adjacent to the project site (shown in Table 3.4-7 and Figure 3.4-1).

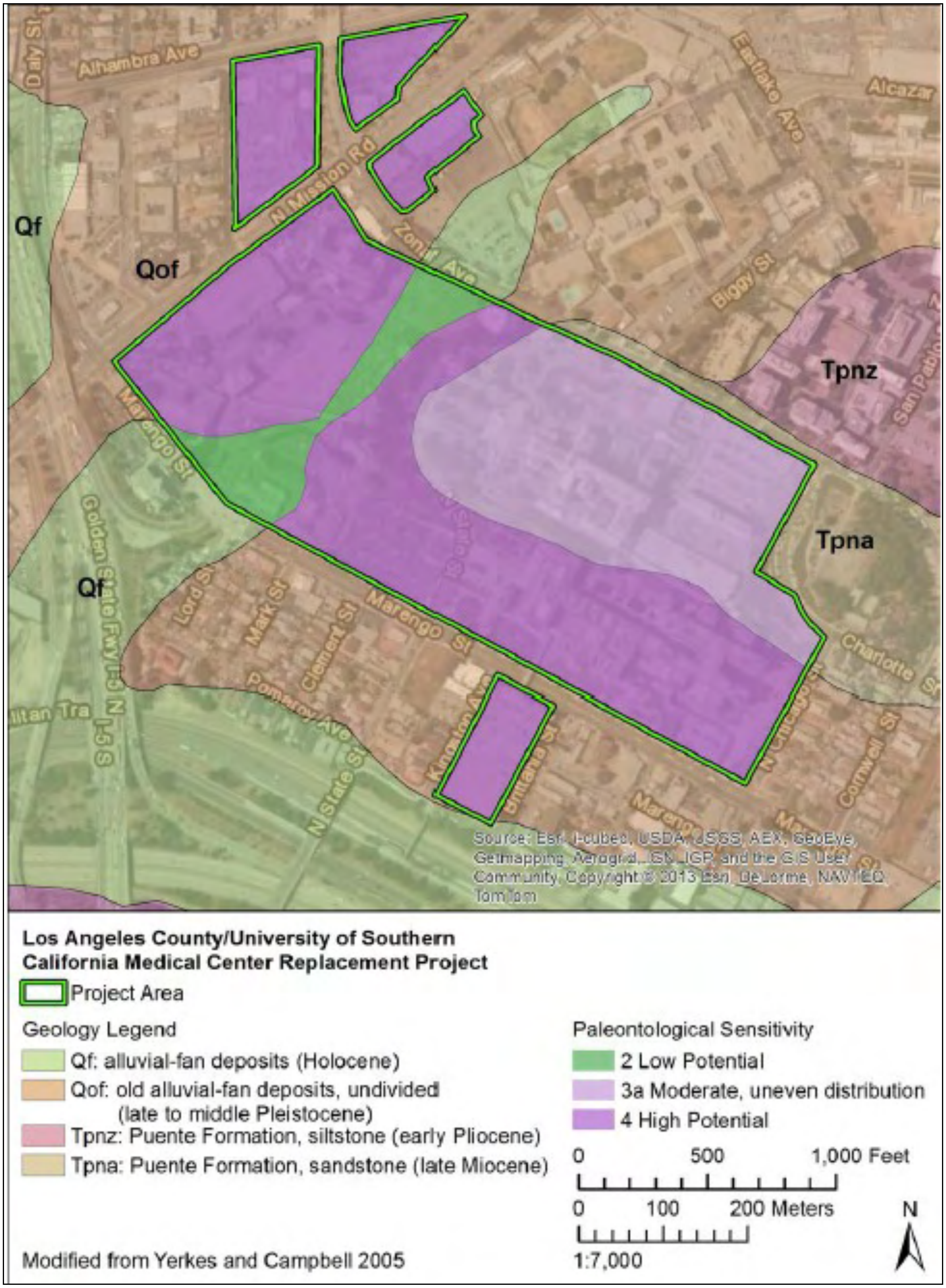
Table 3.4-7: Paleontological Sensitivity Rankings

	PFYC Ranking					
Rock Units	**5: Very High**	**4: High**	**3a: Moderate-Patchy**	**3b: Moderate-Undemonstrated**	**2: Low**	**1: Very Low**
Quaternary alluvium					X	
Quaternary older alluvium		X				
Puente Formation			X			
Source: Cogstone, 2014.						

Construction

No fossils are known within the project site. However, late Pleistocene (50,000 to 11,000 years old) localities that produced mammoth, mastodon, giant ground sloth, and saber-toothed cat are known from nearby locations. In addition, Miocene (22 to 5 million years old) localities that produced extinct herring and other fishes are also known nearby. Consequently, structural demolition and grading and excavation for new foundations and access routes, as well as excavation for parking structures, have the potential to destroy paleontological resources, a potentially significant impact.

Figure 3.4-1: Paleontological Sensitivity of the Project Site



Source: Cogstone, 2014.

Although the extent of construction impacts would vary, depending on final plans, and would need to be analyzed in detail to determine what level of monitoring, if any, would be required, it is likely that paleontological resources could be encountered during construction activities should excavation extend more than 6 feet below the original ground surface in Quaternary sediments or occur in the Puente Formation. Therefore, a Paleontological Mitigation Plan is recommended. The plan would provide procedures that would ensure that any adverse effects on paleontological resources would be mitigated. Mitigation measure MM-CR-9, below, explains how potential impacts on paleontological resources would be mitigated.

Operation

Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect paleontological resources.

Mitigation Measures

The following measure is proposed to mitigate Impact CR-3, above:

MM-CR-9: Prior to any excavation related to the construction of facilities or improvements proposed under the master plan, a qualified vertebrate paleontologist with a graduate degree and more than 10 years of experience shall be retained by the County or construction contractor to determine areas that shall require paleontological monitoring during initial ground disturbance. The locations for construction activities, especially excavation for the proposed parking garages, which is likely to encounter subsurface sediments with high paleontological sensitivity, shall be determined by the qualified paleontologist upon review of project excavation and grading plans. Very shallow surficial excavations (i.e., less than 5 feet in depth) within areas of previous disturbance or areas of Quaternary younger alluvial deposits shall be monitored on a part-time basis to ensure that underlying sensitive units (i.e., Quaternary older alluvium) are not adversely affected. Areas consisting of artificial fill materials shall not require monitoring.

If excavations for the project take place in Quaternary older alluvial deposits or within Fernando or Puente Formation bedrock, such excavations shall be monitored on a full-time basis by a qualified paleontological monitor and under the supervision of the qualified paleontologist. The paleontological resource monitoring shall include inspection of exposed rock units during active excavations within the geologically sensitive sediments. Monitoring may be reduced if some of the potentially fossiliferous units described herein are, upon exposure and examination by qualified paleontologic personnel, determined to have a low potential for containing fossil resources.

The paleontologic monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have authority to temporarily divert grading away from exposed fossils to recover the fossil specimens professionally and efficiently and collect associated data. All efforts to avoid delays in project schedules shall be made. To prevent construction delays, paleontological monitors shall be equipped with the necessary tools for the rapid removal of fossils and retrieval of associated data. This equipment shall include handheld global positioning system receivers, digital cameras, and cell phones as well as a tool kit with specimen containers, matrix sampling bags, field labels, field tools (e.g., awls, hammers, chisels, shovels, etc.), and plaster kits. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis.

Fossils collected, if any, shall be transported to a paleontological laboratory for processing where they shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility (such as LACM).

Following analysis, a Report of Findings with an appended itemized inventory of specimens shall be prepared. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, shall signify completion of the program to mitigate impacts on paleontological resources.

Level of Significance after Mitigation

Impacts on paleontological resources, if any are found, are expected to be reduced to a level of less than significant with implementation of mitigation measure MM-CR-9, as identified above.

Impact CR-4: Would the Proposed Project Disturb Any Human Remains, Including Those Interred Outside of Formal Cemeteries?

Construction

Ground-disturbing activities have the potential to unearth human remains. Should human remains be uncovered during construction, mitigation plans would require construction to halt in the area of discovery, the area to be protected, and no further disturbance to occur, as specified by State Health and Safety Code Section 7050.5. Mitigation measure MM-CR-10, below, explains how potential impacts on human remains would be mitigated.

Operation

Operation of the LAC+USC Medical Center campus under the proposed master plan would not affect human remains.

Mitigation Measures

The following measure is proposed to mitigate impact CR-4, as described above:

MM-CR-10: In the event that human remains are uncovered, construction plans shall specify that construction shall halt in the area of discovery, the area shall be protected, and no further disturbance shall occur, as specified by State Health and Safety Code Section 7050.5. The County coroner shall determine the origin and disposition of the human remains pursuant to PRC Section 5097.98. If the coroner recognizes the remains to be Native American, he or she shall contact the NAHC within 24 hours. For remains of Native American origin, no further excavation or disturbance shall take place until the most likely descendant of the deceased Native American(s) has made a recommendation to the landowner or the person responsible for the excavation work regarding the means for treating or disposing of the human remains and any associated grave goods, with appropriate dignity, as provided by PRC Section 5097.9. In consultation with the most likely descendant, the project archaeologist and the project proponent shall determine a course of action regarding preservation or excavation of Native American human remains, and this recommendation shall be implemented expeditiously. If the NAHC is unable to identify a most likely descendant or the descendant fails to make a recommendation within 48 hours after being notified by the commission, the project archaeologist and the project proponent shall determine a course of action regarding preservation or excavation of Native American human remains, which shall be submitted to the NAHC for review prior to implementation.

Level of Significance after Mitigation

Impacts on human remains, if any, are expected to be reduced to a level of less than significant with implementation of mitigation measure MM-CR-10.

3.4.5 Cumulative Impacts

3.4.5.1 Historical Resources

The study area for the cumulative impacts analysis for historical resources consists of the existing LAC+USC Medical Center campus and the immediate surrounding neighborhood. This includes the commercial and residential area bounded by I-10 along the south, I-5 to the southwest and west, the railroad tracks to the northwest, and Eastlake Avenue along the north to the intersection with San Pablo Street. The western border of the study area for cumulative impacts is San Pablo Street south of Eastlake Avenue to Zonal Avenue, following Zonal Avenue east to Cornwell Street and Cornwell Street to the intersection with Soto Street, and then south to I-10.

This specific study area was chosen to take into account the potential for cumulative impacts to historical resources and how those impacts would affect those members of the community who may experience those resources on a daily basis. This includes the Keck School of Medicine, the Los Angeles County Detention Juvenile Hall and the Hazard Reservoir, as well as small pocket neighborhoods south of Marengo Street and straddling Cornwell Street east of the campus. There are two related projects within the study area: the USC Health Science Campus Master Plan and the Marengo Center Community Building. According to the Environmental Impact Report for the USC Health Science Campus Master Plan, that project would not cause a substantial adverse change in the significance of a historical resource; the project would take place on property with no extant buildings or structures. The latter is a three-story, 27,175-square-foot mixed-use commercial building that is currently under construction. Because this building is under construction, it is not known whether or not historical resources were located at this parcel; however, it was not historically part of the LAC+USC Medical Center campus, per historic Sanborn Maps and hospital building indexes. Therefore, there would be no additional impacts to historical resources within the cumulative impacts analysis study area from related projects.

The proposed master plan project has the potential to result in significant impacts on historical resources. Within the plan area are 14 buildings, structures, and/or groupings of buildings and structures that qualify as historical resources under CEQA. The primary cause of impacts would be associated with construction activities, especially demolition of the Women's and Children's Hospital and alteration of character-defining features associated with the General Hospital/Acute Unit setting. The proposed mitigation measures would reduce the impact of the proposed master plan project on the setting of General Hospital/Acute unit, but it would not reduce the impact of demolition of the Women's and Children's Hospital. Specifically, the loss of the Women's and Children's Hospital would compound the previous loss of four other buildings that the team of Paul R. Williams and Adrian Wilson designed for the LAC+USC Medical Center campus in the late 1950s and early 1960s. These buildings were demolished in the early 2000s, leaving the Women's and Children's Hospital as the sole remaining example of their work at this location. Furthermore, the proposed demolition of other mid-century (but ineligible) buildings, such as the Outpatient Department Building, would leave few, if any, examples of architecture from the era/building period in the project area. Therefore, the project would result in a cumulatively considerable impact on historical resources if demolition of the Women's and Children's Hospital is not avoided.

3.4.5.2 Archaeological Resources

The study area for cumulative impacts on archaeological resources is defined for this project as the Boyle Heights/Lincoln Heights areas of Los Angeles, areas of the city that surround the medical campus, which is on a gentle rise of hills east of the Los Angeles River. In this area, construction activities associated with the project could disturb or destroy archaeological resources and thereby contribute to the progressive loss of archaeological resources.

Cumulative growth and development in the Boyle Heights/Lincoln Heights areas of Los Angeles could have impacts if significant prehistoric or historical archaeological resources are found during construction activities. However, it is unknown if significant resources exist in these areas. It should be noted that a great deal of historical period debris can be found during construction—items such as bricks, bottles, broken cups, and plates—but this material is seldom considered a significant resource and eligible for the CRHR. The potential for an individual project to affect significant cultural resources is unknown, but given the number of projects in the Boyle Heights/Lincoln Heights area of Los Angeles, it is probable that cumulative growth and development could have impacts on significant prehistoric or historical archaeological resources. Nonetheless, the proposed project's construction would not contribute to a cumulative impact related to archaelogical resources. Mitigation measure MM-CR-9 would reduce potential project-related impacts. This mitigation measure includes monitoring, treatment of any discovered cultural resources to mitigate impacts, preparation of a final report, and curation of discovered materials in an approved facility. The incremental effects of the proposed project, after mitigation, would not contribute to a significant adverse cumulative impact on archaeological resources. With mitigation, all project-related impacts would be reduced to a less-than-significant level; therefore, the proposed project's contribution to significant cumulative impacts would be rendered less than cumulatively considerable.

3.4.5.3 Paleontological Resources

The study area for cumulative impacts on paleontological resources is defined for this project as the Boyle Heights/Lincoln Heights areas of Los Angeles, areas of the city that surround the medical campus, which is on a gentle rise of hills east of the Los Angeles River. In this area, construction activities associated with the project could disturb or destroy paleontological resources and thereby contribute to the progressive loss of fossil resources.

Cumulative growth and development in the Boyle Heights/Lincoln Heights areas of Los Angeles could have impacts if paleontological resources are found during construction activities. However, it is unknown if significant resources exist in this area. The potential for an individual project to affect significant paleontological resources is unknown, but given the number of projects in this area of the City of Los Angeles, it is probable that cumulative growth and development could have impacts on significant paleontological resources. Nonetheless, the proposed project's construction would not contribute to a cumulative impact related to paleontological resources. Mitigation measure MM-CR-10 would reduce potential project-related impacts. This mitigation measure includes monitoring, recovery, treatment, and deposit of fossil remains in a recognized repository. The incremental effects of the proposed project, after mitigation, would not contribute to a significant adverse cumulative impact on paleontological resources. With mitigation, all project-related impacts would be reduced to a less-than-significant level, and the proposed project would not contribute to significant cumulative impacts.

3.5 Geology/Soils

3.5.1 Introduction

This section describes the regulatory setting and affected environment related to geologic, soil, and seismic conditions in the proposed project's study area. It also identifies the potential project impacts related to geology, soils, and seismicity pursuant to CEQA.

In June 2014, Ninyo & Moore prepared its *Preliminary Geotechnical Evaluation for the LAC+USC Medical Center Campus Master Plan Project*, which is included in Appendix D to this EIR. This section summarizes the analysis and findings included in that report.

3.5.2 Regulatory Setting

3.5.2.1 Federal

No federal regulations are applicable to the proposed project.

3.5.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed into law in California to address hazards associated with surface faulting. The law was a direct result of the 1971 San Fernando earthquake, which was caused by extensive surface fault rupture, the most easily avoided seismic hazard. The earthquake damaged numerous homes, commercial buildings, and other structures.

Alquist-Priolo provides a mechanism for reducing surface fault rupture losses statewide. The intent of the act is to ensure public safety by prohibiting the siting of most structures meant for human occupancy across traces of active faults that constitute a potential hazard from surface faulting or fault creep.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act addresses issues related to earthquake hazards from nonsurface fault rupture, including hazards related to liquefaction and seismically induced landslides. The purpose of the Seismic Hazards Mapping Act, which was passed in 1990 and went into effect in 1991, is to identify and map seismic hazard zones. Such information can be used by cities and counties when preparing the safety elements of their general plans, thereby encouraging land use management policies and regulations that will reduce seismic hazards. The act has resulted in the preparation of maps that delineate Liquefaction Zones and Earthquake-Induced Landslide Zones of Required Investigation (California Department of Conservation, California Geological Survey 2007).

California Building Standards Code

The California Building Standards Commission (Commission) is responsible for coordinating, managing, adopting, and approving building codes in California. In January 2011, the 2010 California Building Standards Code (CBSC) became effective. The 2010 CBSC updated all prior codes under

California Code of Regulations (CCR) Title 24. The 2013 version of the CBSC, which was reviewed and approved by the Commission at meetings in December 2012 and January 2013, went into effect on January 1, 2014.

The State of California provides minimum standards for building design through the 2010 California Building Code (CBC), a component of the 2010 CBSC (codified under CCR Title 24). Chapters 16 through 18 of the 2010 CBC regulate structural design, structural tests and inspections, and soils and foundations. The CBC applies to building design and construction in the state and is based on the federal Uniform Building Code (UBC), which is used widely throughout the country (generally adopted on a state-by-state or district-by-district basis).

The CBC, which has been modified for California conditions, contains numerous provisions that are more stringent than those in the UBC because of California's seismic and environmental conditions. According to Section 1613 of the CBC, "[e]very structure, and portion thereof, including nonstructural components that are permanently attached to structures and their supports and attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance with ASCE 7."[1]

3.5.2.3 Local

No local regulations are applicable to the proposed project.

3.5.3 Environmental Setting

3.5.3.1 Regional Geology

The project site is located within the Peninsular Ranges Geomorphic Province of Southern California. This geomorphic province encompasses an area that extends from the Transverse Ranges and the Los Angeles Basin southward to the Mexican border, a distance of approximately 125 miles. From there, it continues another 775 miles to the tip of Baja California. The Peninsular Ranges province, which varies in width from approximately 30 to 100 miles, is characterized by northwest-trending mountain range blocks separated by similarly trending faults.

The project site is situated in the Los Angeles Basin, a region that has been divided into four structural blocks, including uplifted zones. The structural blocks are generally bounded by fault systems. The project site is within the Central block, which is largely a synclinal[2] depression. The Central block is bounded on the southwest by the Newport-Inglewood fault zone, on the northwest by the Santa Monica-Hollywood-Raymond Hill fault system, and on the northeast by the Whittier and Elysian Park fault system (Norris and Webb 1990). Active northwest-trending fault zones in the Peninsular Ranges province include the San Jacinto fault zone, Elsinore fault zone (Whittier fault), and Newport-Inglewood fault zone. The predominant tectonic activity associated with these and other faults within this regional tectonic framework is right-lateral strike-slip movement.

[1] ASCE 7 is a document published by the American Society of Civil Engineers (ASCE) that specifies minimum design loads for buildings and other structures.

[2] In structural geology, a syncline is a fold, with the youngest layers closest to the center of the structure.

The predominant rock type that underlies the Peninsular Ranges province is a Cretaceous-age[3] igneous rock (granitic rock), often referred to as Southern California batholith. Older Jurassic-age metavolcanic and metasedimentary rocks and older Paleozoic[4] limestone, altered schist,[5] and gneiss[6] are also present within the province. Cretaceous-age marine sedimentary rocks and younger Tertiary-age[7] rocks composed of volcanic, marine, and non-marine sediments overlie the older rocks. More recent Quaternary[8] sediments, primarily of alluvial origin, compose the low-lying valley and drainage areas within the region, including the area where the LAC+USC Medical Center project site is located.

3.5.3.2 Site Geology

The project site is located on the northern edge of the Los Angeles coastal plain, approximately 1 mile east of the Los Angeles River, on a gently sloping alluvial fan at the base of the nearby hills, which ascend to the north. Regional geologic maps indicate that the elevated northeastern portion of the site is underlain by the Tertiary-age Puente Formation (Yerkes and Campbell 2005), which is generally composed of sandstone. The lower western and southern portions of the site are mapped as being underlain by young (Holocene[9]) and older (late- to middle-Pleistocene[10]) alluvial deposits, which are generally composed of silt, sand, and gravel.

Previous geotechnical evaluations performed at the site by Ninyo & Moore in 1995 encountered artificial fill soils in portions of the campus. The artificial fill was related to the original development of the medical center. The soils were generally composed of silty clay and silty to clayey sand. Subsequent to the 1995 evaluation, during Ninyo & Moore's 2014 geologic reconnaissance, the Puente Formation was observed in open space areas in the northeast corner of the site.

The project site is not located in a City of Los Angeles Methane Zone or Methane Buffer Zone.

Groundwater

The site is located within the Central basin of the Los Angeles Coastal Groundwater Basin. Historic groundwater monitoring data from wells located on adjacent properties to the west, south, and east were reviewed on the California Water Resources Control Board's GeoTracker website (State of California 2014). Measurements taken at these wells indicate that groundwater levels ranged from approximately 13 to 44 feet below the ground surface between 2005 and 2013. The previous subsurface evaluation at the project site conducted by Ninyo & Moore, in 1995, encountered groundwater approximately 21 to 58 feet below the ground surface. The historic high groundwater level in the vicinity was approximately 20 feet deep.

---

[3] Noting or pertaining to a period of the Mesozoic era, from 140 to 65 million years ago.

[4] Noting or pertaining to an era occurring between 570 and 230 million years ago.

[5] Any of a class of crystalline metamorphic rocks whose constituent mineral grains have a more or less parallel or foliated arrangement.

[6] A metamorphic rock, generally made up of bands that differ in color and composition, with some bands being richer in feldspar and quartz, others richer in hornblende or mica.

[7] Noting or pertaining to the early part of the Cenozoic era, occurring from 65 to 2 million years ago.

[8] Noting or pertaining to the present period of earth history, forming the latter part of the Cenozoic era. Originated 2 million years ago and included the Recent and Pleistocene epochs.

[9] Denoting or formed in the second and most recent epoch of the Quaternary period, which began 10,000 years ago at the end of the Pleistocene.

[10] Noting or pertaining to the epoch that formed the early part of the Quaternary period, beginning about 2 million years ago and ending 10,000 years ago.

Groundwater levels, which are subject to fluctuations, may be influenced by seasonal variations, precipitation, irrigation, soil/rock types, groundwater pumping, and other factors. In addition, shallow perched conditions may be present.

Faulting and Seismicity

The project site is located in a seismically active area, as is the majority of Southern California, and the potential for strong ground motion at the site is considered significant. Figure 3.5-1 shows the approximate site location relative to the principal faults in the region.

Surface fault rupture is the offset or rupturing of the ground surface by relative displacement across a fault during an earthquake. According to the preliminary geotechnical evaluation prepared for the proposed project, the project site is not transected by known active or potentially active faults. However, earthquake events on one of the active or potentially active faults near the project site could result in strong ground shaking, which could affect the LAC+USC Medical Center campus.

The site is not located within a State of California Earthquake Fault Zone. Table 3.5-1 lists the principal known active faults within approximately 50 miles of the project site and the predicted maximum moment magnitude (M_{max}). The fault distances in this table are measured from the approximate center of the project site.

Table 3.5.1: Principal Regional Active Faults

Fault	Approximate Fault-to-Site Distance[1] (miles [kilometers])	Maximum Moment Magnitude[2] (M_{max})
Upper Elysian Park Blind Thrust	0.4 [0.7]	6.4
Raymond	4.2 [6.8]	6.5
Hollywood	4.3 [6.9]	6.4
Puente Hills Blind Thrust	5.6 [8.9]	7.1
Verdugo	5.9 [9.5]	6.9
Newport-Inglewood (Los Angeles Basin)	9.6 [15.4]	7.1
Whittier	10.3 [16.5]	6.8
Sierra Madre	10.4 [16.7]	7.2
Santa Monica	11.6 [18.7]	6.6
Clamshell-Sawpit Canyon	14.6 [23.4]	6.5
Malibu Coast	18.2 [29.4]	6.7
San Gabriel	18.3 [29.4]	7.2
Palos Verdes	18.9 [30.1]	7.3
San Jose	19.0 [30.6]	6.4
Northridge (East Oak Ridge)	19.8 [31.8]	7.0
Anacapa-Dume	19.9 [31.9]	7.5
Santa Susana	24.5 [39.5]	6.7
Chino-Central Avenue (Elsinore)	26.7 [42.9]	6.7
Cucamonga	27.9 [44.9]	6.9
San Joaquin Hills	29.7 [47.8]	6.6

Sources:
[1] USGS, 2008.
[2] Cao, et al., 2003.
Ninyo & Moore, 2014.

Figure 3.5-1. Regional Faults

[this page left blank intentionally]

Liquefaction

Liquefaction is the phenomenon in which loosely deposited granular soils located below the water table undergo rapid loss of shear strength from excess pore pressure when subjected to strong earthquake-induced ground shaking. Ground shaking of sufficient duration results in the loss of grain-to-grain contact because of the rapid rise in pore water pressure, causing the soil to behave as a fluid for a short period of time. Liquefaction is known to occur generally in saturated or nearly saturated cohesionless soils at depths shallower than 50 feet below the ground surface. Factors known to influence liquefaction potential include the composition and thickness of the soil layers, grain size, relative density, the groundwater level, the degree of saturation, and both the intensity and duration of the ground shaking. The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of slabs due to sand boiling, and the buckling of deep foundations due to liquefaction-induced ground settlement.

According to the preliminary geotechnical evaluation, a portion of the western part of the project site is considered to be susceptible to liquefaction. Other areas of the site that are not included on the State of California Seismic Hazards Zone map could also be subject to liquefaction.

Landslides

Landslides, slope failures, and mudflows generally occur where slopes are steep and/or the earth materials are too weak to support themselves. Earthquake-induced landslides may also result from seismic ground shaking.

The geologic maps did not reveal past landslides at the site. The project site has been extensively developed and is covered primarily with pavement, hardscape, and structures. The site includes some graded slopes, which are associated with landscaping and pedestrian areas, and the northeast corner of the site contains a slope that ascends approximately 60 feet toward the edge of the property. This slope is landscaped and lined with a series of concrete drainage swales that route water runoff away from the slope's face.

According to the preliminary geotechnical evaluation prepared for the proposed project, the potential for future landslides or mudflows that could affect development within the project site is relatively low.

Site Soils

According to the preliminary geotechnical evaluation, the exposed materials at the surface of the project site include silty clay and silty to clayey sand soils as well as interbedded sandstone and a shale rock formation. Sandy soils typically have low cohesion and a relatively higher potential for erosion from surface runoff when exposed in cut slopes or utilized near the face of fill embankments. Surface soils with higher amounts of clay tend to be less erodible because the clay acts as a binder that holds the soil particles together.

Soil erosion refers to the process by which soil or earth material is loosened or dissolved and removed from its original location. Erosion occurs by various processes and may occur in the project area where bare soil is exposed to wind or moving water (both rainfall and surface runoff). The processes of erosion are generally a function of material type, terrain steepness, rainfall or irrigation levels, surface drainage conditions, and general land uses.

Compressible/Collapsible Soils

Compressible soils undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon in which the soils undergo a significant decrease in volume when exposed to an increase in moisture content, with or without an increase in external loads. Buildings, structures, and other improvements may be subject to excessive settlement-related distress when compressible soils or collapsible soils are present.

According to the preliminary geotechnical evaluation, the project area is underlain by fill soils, alluvial sediments, and sedimentary rock formations. Given their young nature, the alluvial deposits under the site are generally unconsolidated, reflecting a depositional history without substantial loading, and may be subject to collapse. Older undocumented fill soils are considered potentially compressible/collapsible.

Expansive Soils

Expansive soils include clay minerals, which are characterized by their ability to undergo significant volume change (shrink or swell) in response to variations in moisture content. Sandy soils are generally not expansive. Changes in soil moisture content can result from rainfall, irrigation, pipeline leakage, surface drainage, perched groundwater, drought, or other factors.

A volumetric change in expansive soils may cause excessive cracking and heaving of structures with shallow foundations, concrete slabs on grade, or pavement that was supported on such material. According to the preliminary geotechnical evaluation prepared for the proposed project, the near-surface soils at the project site are composed predominantly of sandy, coarse-grained materials. These soils typically have a low expansion potential. However, clayey soils may be present in areas that were not observed.

Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas. It generally occurs where deep soil deposits are present. Subsidence in such areas is typically associated with regional withdrawals of groundwater or other withdrawals, such as oil and natural gas. Subsidence can result in the development of ground cracks and damage to subsurface vaults, pipelines, and other improvements.

Mapped areas of subsidence were not found in the City or County of Los Angeles reference materials. The *County of Los Angeles General Plan Safety Element* (1990) includes goals and policies addressing geologic hazards and the introduction or expansion of developments in areas known to have geologic hazards. The *Safety Element of the Los Angeles City General Plan* (1996) includes information regarding the city's program to preclude potential subsidence within the city. Subsurface extraction activities within the city are regulated by Oil Drilling District procedures, which contain provisions for monitoring and imposing measures to preclude subsidence related to oil and gas extraction. Therefore, the potential for subsidence at the project site is relatively low.

Corrosive Soils

The geologic environment of the project site could include soil conditions that would be corrosive to concrete and metals. Corrosive soil may exacerbate corrosion hazards for buried conduits, foundations, and other buried concrete or metal improvements. Corrosive soil could cause premature deterioration of these underground structures or foundations.

3.5.4 Environmental Impact Analysis

3.5.4.1 Methods

Potential significant impacts were identified from a review of the *Preliminary Geotechnical Evaluation for the LAC+USC Medical Center Campus Master Plan Project,* prepared by Ninyo & Moore in June 2014 (Appendix D). The following discussion identifies impacts and the measures required to mitigate impacts that are found to be significant.

3.5.4.2 Thresholds of Significance

For the purposes of this EIR and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

GEO-1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving:

1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to *Division of Mines and Geology Special Publication 42*);
2) Strong seismic ground shaking;
3) Seismically related ground failure, including liquefaction; or
4) Landslides.

GEO-2: Result in substantial soil erosion or the loss of topsoil.

GEO-3: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

GEO-4: Be located on expansive soils, as defined in Table 18-1-B of the UBC (1994), or corrosive soils, creating substantial risk to life or property.

The lead agency determined in the NOP/IS (see Appendix A) that the proposed project would result in no impacts in the following area and was therefore screened from further review in this EIR.

GEO-5: Have soils that would be incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater.

3.5.4.3 Impacts and Mitigation Measures

Impact GEO-1: Would the Proposed Project Expose People or Structures to Potential Substantial Adverse Effects, including the Risk of Loss, Injury, or Death, Involving Earthquake Fault Rupture, Seismic Shaking, Ground Failure, or Landslides?

Construction and Operation

Fault Rupture

As previously stated, the project site is not transected by known active or potentially active faults. The active Upper Elysian Park blind thrust fault is located approximately 0.4 mile north of the approximate center of the site, the active Raymond fault is located approximately 4.2 miles north of the approximate center of the site, and the active Hollywood fault is located approximately 4.3 miles northwest of the approximate center of the site. Therefore, the potential for surface rupture is relatively low. However, lurching or cracking of the ground surface as a result of nearby seismic events is possible, a potentially significant impact. Implementation of mitigation measure MM-GEO-1, below, would reduce potential fault rupture hazards to a less-than-significant level.

Seismic Ground Shaking

Because the proposed project would be located within a seismically active region, the potential exists for seismic ground shaking. However, the level of ground shaking at a given location depends on many factors, including the size and type of earthquake, the distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures and improvements perform during ground shaking. The potential levels of ground shaking at the project site could result in significant impacts on future improvements. However, the proposed project would adhere to all applicable seismic design requirements and guidelines. Additionally, implementation of structural design mitigation measures (see MM-GEO-1, below) would reduce potential seismic ground shaking impacts to a less-than-significant level.

Liquefaction

According to the preliminary geotechnical evaluation prepared for the proposed project, the western portion of the project site is located within an area that is considered susceptible to liquefaction. Other areas of the site that are not indicated on the state map as susceptible could also be subject to liquefaction. Liquefaction and its associated manifestations could cause damage to future project improvements if not mitigated during detailed project design, a potentially significant impact. The potential damaging and significant effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of pavement due to sand boiling, and the buckling of deep foundations due to liquefaction-induced ground settlement. Mitigation measures identified in MM-GEO-1 would reduce the potentially significant liquefaction hazards impacts to campus development to a less-than-significant level.

Landslides

According to the preliminary geotechnical evaluation prepared for the proposed project, the potential for future landslides or mudflows to affect developments within the project area is relatively low. Significant impacts related to landslides or mudflows within the project area are not anticipated. Slopes created for future developments within the project area would be designed to reduce the potential for landslides or mudflows. This would be considered a less than significant impact.

Mitigation Measures

The following measure is proposed to mitigate Impact GEO-1, above:

MM-GEO-1: All recommendations included in the preliminary geotechnical evaluation prepared for the proposed project (see Appendix D) shall be followed. A detailed subsurface geotechnical evaluation shall be performed to address site-specific conditions at the locations of the planned improvements and provide detailed recommendations for design and construction.

The geotechnical evaluation shall include the following measures to mitigate potential fault rupture, seismic ground shaking, and liquefaction hazards identified under Impacts GEO-1 and GEO-2.

- *Seismicity*: Structural elements of future improvements shall be designed to resist or accommodate appropriate site-specific ground motions and conform to the current seismic design standards.
- *Liquefaction:* An assessment of the liquefaction potential shall be made prior to detailed design and construction of project improvements. Structural design and mitigation techniques, such as in situ ground modification or supporting foundations with piles at depths designed specifically for liquefaction, shall be included.

  To evaluate the potential for liquefaction, subsurface evaluation may be performed. Site-specific geotechnical evaluations that assess the liquefaction and dynamic settlement characteristics of the on-site soils shall include the drilling of exploratory borings, evaluation of groundwater depths, and laboratory testing of soils.

  Methods for construction in areas with a potential liquefaction hazard may include in situ ground modification, removal of liquefiable layers and replacement with compacted fill, or support of project improvements on piles at depths designed specifically for liquefaction. Pile foundations can be designed for a liquefaction hazard by supporting the piles on dense soil or bedrock located below the liquefiable zone or employing other appropriate methods, as evaluated during the site-specific evaluation. Additional recommendations for mitigation pertaining to liquefaction may include densification by installation of stone columns, vibration, deep dynamic compaction, and/or compaction grouting.

The geotechnical evaluation shall include the following measures to mitigate unstable soil impacts identified under Impact GEO-3.

- *Groundwater:* Excavations for foundations in areas with shallow perched groundwater may need to be cased/shored and/or dewatered to maintain stability of the excavations and provide access for construction. All recommendations included in the preliminary geotechnical evaluation pertaining to groundwater shall be followed.

  Excavations for underground structures will need to be performed with care to reduce the potential for lateral deflection of excavation sidewalls and/or shoring, which may also cause differential movement of structures located near the excavation.

Further study, including subsurface exploration, shall be performed during the detailed design phase of future improvements to evaluate the presence of groundwater, seepage, and/or perched groundwater at the site and the potential impacts on design and construction of project improvements. An assessment of the potential for shallow groundwater shall be made during the design phase of the project, and mitigation techniques shall be developed as necessary.

- *Collapsible Soils/Settlement:* An assessment of the potential for soils that are prone to settlement shall be made prior to detailed design and construction of project improvements, and mitigation techniques shall be developed, as appropriate, to reduce impacts related to settlement to low levels.

  During the detailed design phase of the project, surface reconnaissance and site-specific geotechnical evaluations shall be performed to assess the settlement potential of the on-site natural soils and undocumented fill. This may include detailed surface reconnaissance to evaluate site conditions, drilling of exploratory borings or test pits, and laboratory testing of soils, where appropriate, to evaluate site conditions.

  Prescribed mitigation measures for soils with the potential for settlement shall include either removal of the compressible/collapsible soil layers and replacement with compacted fill, surcharging to induce settlement prior to construction of improvements, allowing for a settlement period after or during construction with new fills, or a specialized foundation design, including the use of deep foundation systems to support structures. Varieties of in situ soil improvement techniques are also available, such as dynamic compaction (heavy tamping) or compaction grouting.

The geotechnical evaluation shall include the following measures to mitigate the expansive and corrosive soils hazards identified under Impact GEO-4.

- *Expansive Soils*: Mitigation techniques to reduce expansive soil potential shall be included as necessary. Techniques shall include overexcavation and replacement with non-expansive soil, soil treatment, moisture management, and/or a specific structural design for expansive soil conditions developed during the design phase.

  Corrosive Soils: An assessment of the potential for corrosive soils shall be made during the detailed design phase of the project through soil testing procedures. Mitigation techniques shall be developed, as appropriate, to reduce impacts related to corrosive soils to low levels.

  Subsurface evaluation, including laboratory testing, shall be performed. Evaluation of the corrosive soil potential shall be accomplished through testing and analysis of soils at foundation design depths. The laboratory tests conducted on the soils prior to construction and improvement plan preparation shall include corrosivity tests. Review of these data by a corrosion engineer will result in corrosion protection measures that will be suitable to the project elements. Evaluation of the potential corrosive soils hazard shall be performed prior to detailed design and construction so that, in the event the hazard exists, mitigation techniques may be implemented. To avoid site-specific subsurface evaluation, corrosion protection measures may be included in the initial design for the proposed project improvements.

  Mitigation for corrosive soil conditions may involve the use of concrete that is resistant to sulfate exposure. Corrosion protection for metals may be needed for underground foundations or structures in areas where corrosive groundwater or soil could cause deterioration. Typical mitigation techniques include epoxy and metallic protective coatings, the use of alternative (corrosion-resistant) materials, and selection of the appropriate type of cement and water/cement ratio.

Level of Significance after Mitigation

Less than significant.

Impact GEO-2: Would the Proposed Project Result in Substantial Soil Erosion or the Loss of Topsoil?

Construction

According to the preliminary geotechnical evaluation, the materials exposed at the surface of the project site include silty clay and silty to clayey sand soils as well as interbedded sandstone and a shale rock formation. Sandy soils typically have low cohesion and a relatively higher potential for erosion from surface runoff when exposed in cut slopes or utilized near the face of fill embankments. Surface soils with higher amounts of clay tend to be less erodible because the clay acts as a binder that holds the soil particles together.

Future construction at the project site would result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. However, as described in Section 3.8, Hydrology and Water Quality, any project involving grading of an area greater than 1 acre is required to apply for a National Pollutant Discharge Elimination System permit from the Los Angeles Regional Water Quality Control Board. This permit requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that incorporates best management practices (BMPs) for erosion control. Specifically, construction activity resulting in a land disturbance of one acre or more, or less than one acre but part of a larger common plan of development or sale must obtain the Construction Activities Stormwater General Permit. Construction activity includes clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement. Construction activity does not include routine maintenance such as, maintenance of original line and grade, hydraulic capacity, or original purpose of the facility. Implementation of BMPs would ensure that sediment would be confined to the construction area and not transported off-site. As a result, project impacts would be less than significant.

Operation

During long-term operation of proposed developments and improvements at the project site, provisions for surface drainage and incorporation of appropriate BMPs (filtration, runoff-minimizing landscaping for common areas, energy dissipators, inlet trash racks, and water quality inlets) would reduce the potential for soil erosion at the site. Additionally, proposed stormwater and low impact development (LID) features (i.e., bioretention and wetland/detention areas) would also minimize runoff and the potential for soil erosion. Therefore, operational impacts would be less than significant.

Mitigation Measures

The following measure would ensure that soil erosion impacts (Impact GEO-2) would be minimized:

MM-GEO-2: All earthwork and grading shall be performed in accordance with the recommendations in the SWPPP and the Construction Activities Stormwater General Permit. Additionally, BMPs related to ongoing drainage design and maintenance practices shall be included in the SWPPP and implemented to reduce soil erosion during operation of the proposed project. The BMPs shall include design procedures such as a surface drainage design for roadways and facilities to provide for positive surface runoff and reduce concentrated runoff conditions. Other examples of BMPs include the use of erosion prevention mats or geofabrics, silt fencing, sandbags and plastic sheeting, and temporary drainage devices.

Level of Significance after Mitigation

Less than significant.

Impact GEO-3: Would the Proposed Project Be Located on a Geologic Unit or Soil that Is Unstable or that Would Become Unstable, Potentially Resulting in an On-site or Off-site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse?

Construction and Operation

As previously stated, mapped areas of subsidence were not found in the City or County of Los Angeles reference materials.. The County of Los Angeles General Plan Safety Element includes goals and policies addressing the introduction or expansion of developments in areas known to have geologic hazards. Therefore, the potential for subsidence on the project site is relatively low. This would be considered a less-than-significant impact. No mitigation measures are required.

Proposed construction activities would include excavation and site grading for new medical, office, and retail structures; pedestrian areas; landscaping; open space areas; and parking area improvements. Given the reported depth of groundwater in the project area and the anticipated depth of the aforementioned construction activities, groundwater could have a significant impact on excavations for future project improvements. Wet or saturated soil encountered in excavations for the project could cause instability and present a constraint to the construction of foundations.

Structural design and mitigation techniques would be developed to reduce impacts related to liquefaction. Therefore, liquefaction impacts would be considered less than significant with mitigation incorporated.

Because of the presence of potentially compressible/collapsible soils at the site, the potential exists for differential settlement to cause damage to project improvements. The potential impacts of settlement would be considered significant without appropriate mitigation implemented during detailed project design and construction. Mitigation measures, including removal of compressible/collapsible soils and replacement with compacted fill, would reduce potential impacts to less-than-significant levels. Therefore, this would be considered a less-than-significant impact. with mitigation incorporated.

For a discussion of liquefaction hazards, see Impact GEO-1, above.

Mitigation Measures

See MM-GEO-1, above.

Level of Significance after Mitigation

Less than significant

Impact GEO-4: Would the Proposed Project Be Located on Expansive Soil, as Defined in Table 18-1-B of the UBC (1994), or Corrosive Soils, Creating Substantial Risk to Life or Property?

Construction and Operation

According to the preliminary geotechnical evaluation prepared for the proposed project, the near-surface soils at the project site are composed predominantly of sandy, coarse-grained materials. These soils typically have a low expansion potential. However, clayey soils may be present in areas that were not observed. If construction activities occur on soils that are known to be potentially expansive, the impact on proposed future improvements could be significant. Implementation of the proposed mitigation measure (MM-GEO-1) would reduce potential impacts from expansive soils to less than significant.

As previously stated, the geologic environment of the project site could include soil conditions that would be corrosive to concrete and metals. Corrosive soil may exacerbate corrosion hazards for buried conduits, foundations, and other buried concrete or metal improvements. Corrosive soil could cause premature deterioration of these underground structures or foundations, a potentially significant impact. With implementation of appropriate mitigation (see MM-GEO-1), the impact from corrosive soils would be less than significant.

Mitigation Measures

Please see mitigation measure MM-GEO-1, above.

Level of Significance after Mitigation

Less than significant.

3.5.5 Cumulative Impacts

The study area for potential cumulative geology and soils impacts consists of the project site and the immediate surrounding area that encompasses the related projects, which consists of the neighborhoods of Boyle Heights, Lincoln Heights, and Chinatown. This study area was selected since it encompasses the surrounding neighborhoods with the most similar geologic conditions to the project site. Similar to the proposed project, related projects would be built in a seismically active region of Southern California and could experience ground shaking and other seismically related hazards. However, the projects would be subject to applicable seismic standards, safety requirements, and standard design specifications to keep the potential risk of damage from seismic and other geologic hazards to an acceptable level. Therefore, construction of the proposed project and adjacent projects would not result in cumulatively considerable impacts with respect to geology and seismicity.

During construction of the proposed and related projects, the potential exists for grading and excavation to expose soils in the area to wind or water erosion, resulting in a cumulative loss of soil. However, as noted in the discussion under Impact GEO-2, any project involving grading of an area greater than 1 acre is required to apply for a National Pollutant Discharge Elimination System permit, which necessitates implementation of BMPs for erosion control. Additionally, the City of Los Angeles Stormwater LID Ordinance. which applies to all development and redevelopment projects that create, add, or replace 500 square feet or more of impervious surface, requires the use of LID standards and practices for the purposes of reducing offsite runoff and erosion. Compliance with National Pollutant Discharge Elimination System permit requirements and the city's Stormwater LID Ordinance would minimize potential soil erosion impacts and therefore, it is not expected that the proposed and related projects would result in significant cumulative soil erosion impacts.

Following the completion of construction, the proposed and related projects would not change the geologic properties of the area. There would continue to be some level of seismic and other geologic risks during operation of the proposed and related projects as a result of their locations within a seismically active region; however, these risks would not increase or decrease as a result of the proposed and related projects. Therefore, operation of the proposed project and adjacent projects would not result in cumulatively considerable impacts with respect to geology, soils, and seismicity.

3.6 Greenhouse Gas Emissions

3.6.1 Introduction

This section describes the applicable laws and regulations, existing conditions, and impact analysis for GHG emissions.

3.6.2 Regulatory Setting

3.6.2.1 Federal

Although climate change and GHG reductions are concerns at the federal level, at this time, no federal legislation or regulations have been enacted related to GHG emissions reductions and climate change specifically. However, recent activity suggests that regulation may be forthcoming. Foremost among recent developments have been the U.S. Supreme Court's decision in *Massachusetts et al. v. U.S. Environmental Protection Agency*, the "Endangerment Finding," and the "Cause or Contribute Finding," which are described below. Despite these findings, the future of GHG regulation at the federal level is still uncertain and continues to evolve. Recent activity includes proposed standards for carbon dioxide (CO_2) emissions from new fossil fuel–fired electricity power plants by EPA, as outlined in *The President's Climate Action Plan* issued in 2013. If approved, these standards would be the first to establish national GHG limits for the electric power industry.

Massachusetts et al. v. U.S. Environmental Protection Agency (2007)

Twelve U.S. states and cities, including California, in conjunction with several environmental organizations, sued EPA to regulate GHGs as a pollutant, pursuant to the federal CAA. The court ruled that the plaintiffs had standing to sue, finding that GHGs fit within the CAA's definition of a pollutant, and EPA's reasons for not regulating GHGs were insufficiently grounded.

Endangerment and Cause or Contribute Findings (2009)

On December 7, 2009, the EPA administrator found that current and projected concentrations of CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) threaten the public health and welfare of current and future generations (Endangerment Finding). Additionally, the administrator found that combined emissions of CO_2, CH_4, N_2O, and hydrofluorocarbons from motor vehicles contribute to atmospheric concentrations of GHG pollution that threaten public health and welfare through climate change (Cause or Contribute Finding). Although these findings do not themselves impose any requirements on industry or other entities, they were an important step in EPA's process to develop GHG regulation.

President's Council on Environmental Quality Draft Guidance (2010)

On February 18, 2010, Nancy Sutley, chair of the Council on Environmental Quality (CEQ), issued a memorandum that provided guidance regarding consideration of the effects of climate change and GHG emissions under the National Environmental Policy Act (NEPA). The draft guidance suggests that the effects of projects that directly emit GHGs in excess of 25,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) annually should be considered in a qualitative and quantitative manner.

The CEQ does not propose this reference as a threshold for determining significance but as "a minimum standard for reporting emissions under the CAA." The draft guidance also recommends that the cumulative effects of climate change on a proposed project should be evaluated. The draft guidance is still subject to public comment and will not be effective until issued in final form (Sutley 2010).

Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards, which went into effect in 2012 for vehicles, incorporate stricter fuel economy standards in one uniform federal standard. The standards are equivalent to those previously promulgated by the State of California (see the AB 1493 discussion below). The changes are expected to reduce GHG emissions from new vehicles by roughly 25%, relative to business-as-usual (BAU) conditions, by 2016.

In October 2012, EPA and the National Highway Traffic Safety Administration (NHTSA) established the final rule for fleet-wide passenger car and light-truck model years 2017 to 2025. The new CAFE standards are aimed at reaching an emissions rating of 163 grams of CO per mile, or the equivalent of 54.5 miles per gallon (mpg), by model year 2025. Fleet-wide fuel economy standards will become more stringent with each subsequent model year through 2025. Because of a statutory requirement that directs NHTSA to set average fuel economy standards five model years at a time, NHTSA has mandated a fleet-wide industry average of 40.3 to 41.0 mpg for model years 2017 to 2022 and estimates that the mileage figures for 2025 model year vehicles will be between 48.7 and 49.7 mpg (EPA 2012).

3.6.2.2 State

California has adopted statewide legislation to address issues related to various aspects of climate change and GHG emissions mitigation. Much of this establishes a broad framework for the state's long-term GHG emissions-reduction and climate change adaptation program. The governor of California has also issued several executive orders related to the state's evolving climate change policy. Of particular importance to local governments is the direction provided by the AB 32 Scoping Plan, which recommends that local governments should reduce their GHG emissions to a level consistent with state goals (i.e., 15% below current levels).

In the absence of federal regulations, GHG emissions are generally regulated at the state level and typically approached by setting emissions-reduction targets for existing sources of GHG emissions, establishing policies to promote renewable energy and increase energy efficiency, and developing statewide action plans. Summaries of key policies, legal cases, regulations, and legislation at the state level relevant to the County are provided below. Key statewide GHG regulations that are directly applicable to the proposed project are also included below.

AB 1493—Pavley Rules (2002, amendments 2009)/Advanced Clean Cars (2011)

AB 1493 required ARB to develop and implement regulations to reduce automobile and light-truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year. In June 2009, the EPA administrator granted a CAA waiver of preemption to California. This waiver allowed California to implement its own GHG emissions standards for motor vehicles beginning with model year 2009. ARB approved joint rulemaking efforts to reduce GHG emissions from passenger cars (model years 2017 to 2025) on December 31, 2012 (ARB 2014a).

Renewable Energy Standard/Renewable Portfolio Standard (2002/2006/2011)

Senate Bill (SB) 1078 (2002) and SB 107 (2006) created the Renewable Energy Standard (RES), which required electric utility companies to increase procurements from eligible renewable energy resources by at least 1% of their retail sales annually until reaching 20% by 2010. SB 2X 1 (2011) requires a Renewable Portfolio Standard (RPS), functionally the same thing as the RES, of 33% by 2020. In 2012, the statewide average for the three largest electrical suppliers (Pacific Gas and Electric [PG&E], Southern California Edison [SCE], and San Diego Gas & Electric [SDG&E]) was 19.89%.

AB 32, the Global Warming Solutions Act of 2006/2011 Update

AB 32 codified the state's GHG emissions target by requiring California's global warming emissions to be reduced to 1990 levels by 2020. Since being adopted, ARB, the California Energy Commission, the California Public Utilities Commission (CPUC), and the California Building Standards Commission have been developing regulations that will help the state meet the goals of AB 32 and Executive Order (EO) S-03-05. The scoping plan for AB 32 identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires ARB and other state agencies to develop and enforce regulations and other initiatives to reduce GHG emissions. Specifically, the scoping plan articulates a key role for local governments by recommending that they establish GHG emissions-reduction goals for both their municipal operations and the community that are consistent with those of the state (i.e., approximately 15% below current levels) (ARB 2008).

In March 2011, the San Francisco Superior Court enjoined implementation of ARB's scoping plan, finding that the alternatives analysis and public review process violated both CEQA and ARB's certified regulatory program (*Association of Irritated Residents et al. v. California Air Resources Board*, Case No. CPF-09-509562, March 18, 2011). In response to this litigation, ARB adopted a new CEQA document (*Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document*) on August 24, 2011. ARB re-evaluated the baseline in light of the economic downturn and updated the projected 2020 emissions to 545 million metric tons of CO_2e ($MMTCO_2e$). Two reduction measures (Pavley I and RPS [12% to 20%]) that were not previously included in the 2008 scoping plan baseline were incorporated into the updated baseline, further reducing the 2020 statewide emissions projection to 507 $MMTCO_2e$. The updated forecast of 507 $MMTCO_2e$ is referred to as the AB 32 2020 baseline. An estimated reduction of 80 $MMTCO_2e$ is necessary to lower statewide emissions to the AB 32 target of 427 $MMTCO_2e$ by 2020 (ARB 2011).

ARB approved the *First Update to the Scoping* Plan on May 22, 2014, and finalized the environmental analysis following public review on May 15, 2014. The first update includes both a 2020 element and a post-2020 element. The 2020 element focuses on the state, regional, and local initiatives that are being implemented now to help the state meet the 2020 goal. The post-2020 element provides a high-level view of the long-term strategy for meeting the 2050 GHG goals, consistent with the goals set forth in EO S-3-05 and EO B-16-2012.

Executive Order S-03-05 (2005) and Executive Order B-16-2012 (2012)

EO S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80% below 1990 levels by 2050. EO B-16-2012 establishes benchmarks for reducing transportation-related GHG emissions. It requires agencies to implement the Plug-in Electric Vehicle Collaborative and California Fuel Cell Partnership by 2015 and sets forth targets specific to the transportation section, including the goal of reducing transportation-related GHG emissions to 80% less than 1990 levels.

Executive Order S-01-07, Low-Carbon Fuel Standard (2007)

Governor Arnold Schwarzenegger set forth the low-carbon fuel standard (LCFS) for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10% by 2020. On July 15, 2013, the Fifth District Court of Appeals ruled to allow LCFS regulations to remain operative while ARB analyzes the smog-related impacts of LCFS implementation, including formulation of appropriate enforceable mitigation measures, and subsequently completes a full CEQA review, provided ARB attempts to meet its statutory requirements in good faith (see *Poet, LLC et al. v. California Air Resources Board* et al.). The CEQA process is currently under way. Additionally, on September 18, 2013, the Ninth Circuit Court of Appeals denied a petition for review *in Rocky Mountain Farmers Union v. Corey,* lending finality to the Ninth Circuit Court's decision that the LCFS does not facially violate the dormant Commerce Clause, which most likely removes the most substantial hurdle to the LCFS's constitutional validity under the dormant Commerce Clause (California Environmental Law Blog 2014).

SB 375 (Steinberg), Statutes of 2008

SB 375 requires metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans (RTPs) that will achieve the GHG emissions-reduction targets set by ARB. In February 2011, ARB finalized the regional targets. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. However, those provisions will not become effective until an SCS is adopted. The final targets require SCAG to identify strategies that will reduce per capita GHG emissions from passenger vehicles by approximately 8% by 2020 and 13% by 2035 over the base year (i.e., 2005). SCAG adopted the final 2012 RTP, which incorporates the SCS, on April 4, 2012 (SCAG 2012).

State CEQA Guidelines (2011)

The 2011 State CEQA Guidelines include a new section (Section 15064.4) that specifically discusses the significance of GHG emissions. Section 15064.4 calls for a good-faith effort when describing, calculating, or estimating GHG emissions. Section 15064.4 also states that a determination of the significance of GHG impacts should consider whether the project would increase or reduce GHG emissions, exceed a locally applicable threshold of significance, or comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The revisions also state that a project may be found to have a less-than-significant impact if it complies with an adopted plan that includes specific measures to reduce GHG emissions sufficiently (Section 15064(h)(3)). However, the revised guidelines do not require or recommend a specific analysis methodology or provide quantitative criteria for determining the significance of GHG emissions.

Cap and Trade (2012)

The development of a cap-and-trade program was included as a key reduction measure in ARB's AB 32 Scoping Plan (ARB 2012). The cap-and-trade emissions program developed by ARB took effect on January 1, 2012, with enforceable compliance obligations beginning January 1, 2013. The cap-and-trade program aims to regulate GHG emissions from the largest producers in the state by setting a statewide firm limit, or cap, on allowable annual GHG emissions. The cap contains three compliance phases. In compliance Phase 1, large emitters from the electric utility and industrial sectors come under the cap. In compliance Phase 2, which commences in 2015, fuels will be subject to the cap. Compliance Phase 3 will include electricity, industry, and fuels and run until 2020. ARB administered the first auction on November 14, 2012, with many of the qualified bidders representing corporations or organizations that produce large amounts of GHG emissions, including energy companies, agricultural and food companies, steel mills, cement companies, and universities (ARB 2014a). California is working closely with British Columbia, Ontario, Quebec, and Manitoba through the Western Climate Initiative (WCI) to develop harmonized cap-and-trade programs that will deliver cost-effective emissions reductions. Two lawsuits have been filed against cap-and-trade efforts, but the cap-and-trade program will be implemented as is until further notice.

3.6.2.3 Local

South Coast Air Quality Management District

As discussed in Section 3.2, Air Quality, SCAQMD has primary responsibility for development and implementation of rules and regulations to attain the NAAQS and CAAQS as well as permitting new or modified sources, developing air quality management plans, and adopting and enforcing air pollution regulations within the Basin. The AB 32 Scoping Plan does not provide an explicit role for local air districts with respect to implementing AB 32, but it does state that ARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting but also through their role as a CEQA lead or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents.

To provide guidance to local lead agencies regarding the determination of the significance of GHG emissions in their CEQA documents, SCAQMD will be convening an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group will include government agencies that implement CEQA and representatives from various stakeholder groups that provide input to SCAQMD regarding the development of GHG CEQA significance thresholds.

On December 5, 2008, the SCAQMD Governing Board adopted a staff proposal for an interim GHG significance threshold of 10,000 MT per year for industrial permitting projects where SCAQMD is lead agency. The board letter, resolution, interim GHG significance threshold, draft guidance document, and attachments can be found under Board Agenda Item 31 of the December 5, 2008, Governing Board Meeting Agenda. No other quantitative thresholds have been developed by SCAQMD that would apply to the proposed project.

Southern California Association of Governments

SCAG is the federally designated MPO for the majority of the Southern California region. SCAG develops regional plans for transportation, growth management, hazardous waste management, housing, and air quality. The intent of the 2008 Regional Comprehensive Plan (RCP) was to define and solve regional issues such as those related to housing, traffic, transportation, water, and air quality (SCAG 2008). The Compass Blueprint Growth Visioning effort and Two Percent Strategy encourage development that concentrates regional growth, consisting of mixed-use and walkable communities with ample open space, in existing and emerging areas along transportation corridors and in transit centers. Most recently, the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) outlined SCAG's plan for integrating transportation and land use planning in response to projected growth, housing needs, changing demographics, and transportation demands in compliance with the GHG emissions-reduction goals set forth by ARB per SB 375 (SCAG 2012).

Los Angeles County

Los Angeles County currently has a multitude of energy efficiency, land use, water conservation, solid waste, and land conservation strategies in place that act to reduce GHG emissions throughout the County. Los Angeles County has recently completed the Community Climate Action Plan (CCAP) to reduce GHG emissions from community activities within the unincorporated County, which will tie together the County's existing climate change initiatives and provide a blueprint for a more sustainable future (see Section 3.6.4.2 for a description of the CCAP).

3.6.3 Environmental Setting

3.6.3.1 Global Climate Change

According to EPA, a GHG is any gas that absorbs infrared radiation in the atmosphere. This absorption traps heat within the atmosphere, maintaining the earth's surface temperature at a level higher than would be the case in the absence of GHGs. GHGs include water vapor, CO_2, CH_4, N_2O, O_3, PFCs, HFCs, and halogenated chlorofluorocarbons (HCFCs). Naturally occurring GHGs include water vapor, CO_2, CH_4, N_2O, and O_3. Human activities add to the levels of most of these naturally occurring gases. The sources and sinks of each GHG are discussed under the GHG Emissions Sources heading, below.

Increasing levels of GHGs in the atmosphere result in an increase in the temperature of the earth's lower atmosphere, a phenomenon that is commonly referred to as *global warming*. Warming of the earth's lower atmosphere induces a suite of additional changes, including changes in global precipitation patterns; ocean circulation, temperature, and acidity; global mean sea level; species distribution and diversity; and the timing of biological processes. These large-scale changes are collectively referred to as *global climate change*.

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change and its potential impacts and provide options for adaptation and mitigation. As the leading authority on climate change science, IPCC's best estimates are that average global temperature rise between 2000 and 2100 could range from 0.5°F to 8.6°F (IPCC 2013). Large increases in global temperatures, as high as 8.6°F, could have massive deleterious impacts on natural and human environments.

Since the industrial revolution (approximately 1750), the concentration of CO_2 in the earth's atmosphere has increased from 270 ppm to roughly 391 ppm. Atmospheric concentrations of CH_4 and N_2O have similarly increased since the beginning of the industrial age. Since 1880, the global average surface temperature has increased by 1.5°F, global average sea level has increased by nearly 190 millimeters (since 1901), and northern hemisphere snow cover (data available since 1920) has decreased by nearly 3 million square kilometers. These recently recorded changes can be attributed with a high degree of certainty to increased concentrations of GHGs in the atmosphere (IPCC 2013). Sinks of CO_2 (which remove rather than emit CO_2) include uptake by vegetation and dissolution into the ocean. Global GHG emissions greatly exceed the removal capacity of natural sinks. As a result, concentrations of GHGs in the atmosphere are increasing (CEC 2006).

GHGs are global pollutants, unlike criteria air pollutants and TACs. Criteria air pollutants and TACs occur locally or regionally, and local concentrations respond to locally implemented control measures. The long atmospheric lifetimes of GHGs allow them to be transported great distances from sources and become well mixed, unlike criteria air pollutants, which typically exhibit strong concentration gradients away from point sources. GHGs and global climate change represent cumulative impacts. GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change.

3.6.3.2 Definition of Greenhouse Gases

The GHGs listed by the IPCC (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) (2013) are discussed in this section in order of abundance in the atmosphere. California law and the State CEQA Guidelines contain a similar definition of GHGs (Health and Safety Code Section 38505(g); 14 CCR Section 15364.5). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources.[1] The sources and sinks[2] of each of these gases are discussed in detail below. Generally, GHG emissions are quantified and presented in terms of metric tons of CO_2e emitted per year. The primary GHGs associated with the project are CO_2, CH_4, and N_2O. HFCs, PFCs, and SF_6 are associated primarily with industrial processes and, thus, are not discussed herein.

To simplify reporting and analysis, GHGs are commonly defined in terms of a global warming potential (GWP). The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e. The GWP of CO_2 is, by definition, 1. The GWP values used in this report are based on the IPCC Fifth Assessment Report (AR5) and United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines and defined in Table 3.6-1 (IPCC 2013). The AR5 GWP values are used in ARB's California inventory and AB 32 Scoping Plan estimate update (ARB 2014).

Table 3.6-1: Lifetime, Global Warming Potential, and Abundance of Several Significant GHGs

Gas	Global Warming Potential (100 years)	Lifetime (years)[1]	Atmospheric Abundance
CO_2 (ppm)	1	50–200	391
CH_4 (ppb)	28	9-15	1,871
N_2O (ppb)	265	120	323

[1] Defined as the half-life of the gas.
Definitions: ppm = parts per million; ppb = parts per billion.
Sources: Myhre et al. 2013.

Carbon Dioxide (CO_2) is the most important anthropogenic GHG and accounts for more than 75% of all GHG emissions emitted by humans. Its atmospheric lifetime of 50 to 200 years ensures that atmospheric concentrations of CO_2 will remain elevated for decades, even after mitigation efforts to reduce GHG concentrations are promulgated (IPCC 2007). The primary sources of anthropogenic CO_2 in the atmosphere include fossil fuel usage (including motor vehicle fuels), gas flaring, cement production, and land use changes (including deforestation).

[1] Although water vapor plays a substantive role in the natural greenhouse effect, the change in GHGs in the atmosphere due to anthropogenic actions is enough to upset the radiative balance of the atmosphere and result in global warming.
[2] A sink removes and stores GHGs in another form. For example, vegetation is a sink because it removes atmospheric CO_2 during respiration and stores the gas as a chemical compound in its tissues.

Methane (CH_4), the main component of natural gas, is the second most abundant GHG and has a GWP of 28 (IPCC 2013). Sources of anthropogenic emissions of CH_4 include rice growing, raising cattle, natural gas combustion, landfill outgassing, and coal mining (National Oceanic and Atmospheric Administration 2005).

Nitrous Oxide (N_2O) is a powerful GHG, with a GWP of 265 (IPCC 2013). Anthropogenic sources of N_2O include agricultural processes (e.g., fertilizer application), nylon production, fuel-fired power plants, nitric acid production, and vehicle emissions. N_2O is also used in rocket engines and racecars and as an aerosol spray propellant. In the United States, more than 70% of N_2O emissions are related to agricultural soil management practices, particularly fertilizer applications.

3.6.3.3 GHG Emissions Sources

More than 97% of U.S. GHG emissions are the result of burning fossil fuels. Of these GHGs, approximately 82.5% are in the form of CO_2, 8.7% are CH_4, 6.3.% are N_2O, and 2.5% are fluorinated gases. Fossil fuels are burned to power vehicles, create electricity, and generate heat, while fluorinated gases are human made and result from industrial processes (EPA 2014). In California, vehicle emissions are the largest source of CO_2 emissions, representing approximately 38% of statewide emissions in 2011. Electrical generation is the second-largest source of emissions in California, at 20% (ARB 2014a). On a national level, electrical generation is the largest emissions sector, while transportation is the second largest (EPA 2014). Other sources of GHG emissions in the U.S. include agriculture, land clearing, landfilling, the use of refrigerants, and certain industrial processes.

Although many nations, including the U.S., regularly monitor and report GHG emissions, federal legislation to reduce global emissions has not been adopted and is the subject of much debate. EPA is presently pursuing the regulation of GHGs through the federal CAA, following a U.S. Supreme Court ruling that clarified its authority under the CAA to do so. Many states, including California, as a prominent leader, have passed legislation to reduce GHG emissions. California's GHG regulatory framework is discussed in the Regulatory Setting.

Greenhouse Gas Inventories

A GHG inventory is a quantification of all GHG emissions and sinks within a selected physical and/or economic boundary. GHGs can be inventoried on a large scale (i.e., for global and national entities) or a small scale (i.e., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources.

U.S. Greenhouse Gas Emissions Inventory

EPA estimates that total U.S. GHG emissions for 2012 amounted to 6,526 $MMTCO_2e$, which represents a 4.7% increase over 1990 levels but a 3.4% decrease from 2011 levels. The decrease from 2011 to 2012 was a result of the decrease in the carbon intensity of the fuels that power producers use to generate electricity. Other factors were a decrease in the price of natural gas, a decrease in transportation sector emissions, which was attributed to a small increase in fuel efficiency across different transportation modes and limited new demand for passenger transportation; and much warmer winter conditions, resulting in decreased demand for heating fuel in the residential and commercial sectors. The largest contributors to U.S. GHG emissions in 2012 were electricity generation (32%), transportation (28%), and the industrial sector (20%). Emissions in the electricity generation, transportation, residential, commercial, and industrial sectors consist primarily of CO_2. GHG emissions from agriculture consist predominantly of CH_4 and N_2O. In general, industrial and, to a lesser extent, commercial emissions in the U.S. have declined over the last decade, while emissions in other sectors, such as transportation, have grown steadily. U.S. GHG emissions are responsible for approximately 17% of the global total (EPA 2014).

California Greenhouse Gas Emissions Inventory

In 2012, total California GHG emissions were estimated to be 458.7 $MMTCO_2e$. The transportation sector accounted for approximately 36% of total emissions, followed by electricity generation (21%), the industrial sector (19%), commercial and residential sources (9%), agriculture (8%), and other sources (6%) (ARB 2014a).

Annual statewide GHG emission inventories provide an important tool for establishing historical emission trends and tracking California's progress toward the 2020 goal. Over the period of 2000 to 2012, GHG emissions decreased by 1.6%. In addition, California's per capita GHG emissions have generally decreased over the last 12 years, going from 13.7 MT of CO2e per person in 2000 to 12.1 in 2012 (ARB 2014b).

County of Los Angeles Emissions Inventory

In 2010, total unincorporated County GHG emissions were estimated to be 7.9 $MMTCO_2e$ according to the CCAP. Building energy use was the largest source of emissions (49%), while transportation emissions from on- and off-road vehicles were the second-largest source of emissions (42%), followed by community waste generation (7%), water conveyance and wastewater generation (2%), agriculture (0.4%), and stationary sources (0.02%) (County of Los Angeles 2014)

3.6.4 Environmental Impact Analysis

3.6.4.1 Methods

GHG emissions from development of the proposed project can be divided into two categories: those produced during construction and those produced during operations. The methodology for identifying construction- and operations-related emissions is presented below.

Construction

Construction associated with the projected level of development that could occur under the master plan would result in the generation of GHG emissions. Construction of individual projects under the master plan would occur over a period of approximately 25 years (2015–2040). Although the master plan guides development, a specific construction schedule has not been determined and is unknown at this point. Mass total combustion exhaust emissions were estimated using SCAQMD's CalEEMod, version 2013.2.2.

Given that the specific construction timeline is unknown at this point, CalEEMod modeling defaults regarding construction phase types, phase lengths, equipment, and vehicle trips were used to provide a reasonable yet conservative analysis according to the square footage at buildout under the master plan. For purposes of analysis, it was assumed that construction would begin in January 2015 and all projects (medical uses, office uses, retail, etc.) and each construction phase for each project (demolition, building construction, etc.) would occur concurrently.

Emissions are summed by phase and compared with the thresholds discussed in Section 3.6.4.2, below. All emissions calculation worksheets and emissions modeling output files are provided in Appendix B.

Operations

Existing uses at the project site currently result in GHG emissions, including emissions associated with motor vehicle travel to and from the site, natural gas combustion for space heating, electricity and water consumption, waste generation, and landscaping. Buildout of the proposed master plan would result in a change in the land uses on the site and, thus, a change in emissions compared with existing levels.

GHG emissions associated with both existing and proposed uses were estimated using CalEEMod, with motor vehicle trip generation data from the traffic impact analysis (Fehr & Peers 2014) and CalEEMod defaults for utility consumption (natural gas, electricity, water, waste) and area sources associated with both existing and proposed land uses. It was assumed that the proposed master plan would be fully built out and operational by 2040. Note that the latest operational year in CalEEMod is 2035. Emissions are summed annually and the net contribution of the proposed project (i.e., master plan buildout compared with existing uses) is compared to the thresholds discussed in Section 3.6.4.2, below. All emissions calculation worksheets and modeling output files are provided in Appendix B.

3.6.4.2 Thresholds of Significance

State CEQA Guidelines Section 15064.4 provides guidance to lead agencies for determining the significance of impacts from GHG emissions. Section 15064.4(a) provides that a lead agency should make a good-faith effort based, to the extent possible, on scientific and factual data to describe, calculate, or estimate the amount of GHG emissions that would result from a project. State CEQA Guidelines Section 15064.4(b) also provides that, when assessing the significance of impacts from GHG emissions, a lead agency should consider (1) the extent to which the project may increase or reduce GHG emissions compared with existing conditions, (2) whether the project's GHG emissions would exceed a threshold of significance that the lead agency has determined to be applicable to the project, and (3) the extent to which the project would comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

There are currently no adopted quantitative thresholds relevant to the project. Los Angeles County currently has a multitude of energy efficiency, land use, water conservation, waste, and land conservation strategies in place that act to reduce emissions throughout the County. Los Angeles County recently completed a draft CCAP to reduce GHG emissions from community activities within unincorporated parts of the County. This will tie together the County's existing climate change initiatives and provide a blueprint for a more sustainable future CCAP. The CCAP includes a number of GHG reduction measures that target GHG emissions associated with transportation, building energy, waste, water, and other emissions sources within the County. According to the final draft CCAP, the County would avoid approximately 2.4 MMTof CO_2e emissions with implementation of the measures included in the CCAP. The CCAP and general plan EIR are currently out for public review. Once the CCAP and general plan EIR are certified and CCAP and general plan are adopted by the County, project-specific environmental documents can evaluate GHG impacts qualitatively by identifying all applicable CCAP actions and describing how the actions have been incorporated into the project design and/or identified as mitigation (Los Angeles County 2014). However, given the general plan EIR has not yet been certified, the project-specific analysis cannot rely on a qualitative "tiering" analysis; thus, a quantitative analysis is provided.

The State CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions. Although SCAQMD has adopted a 10,000 MT significance threshold level for industrial projects, this threshold would not be applicable to the proposed project because the project is a mixture of hospital and medical office uses that does not fit into the industrial project category. SCAQMD has not adopted a threshold level for hospital and medical office uses. However, SCAQMD has drafted a screening-level threshold of 3,000 MT per year for commercial projects (SCAQMD 2008). Although the proposed project is not technically a commercial project, the suggested screening-level thresholds for all other land use types are higher than 3,000 MT of CO_2e per year. As such, both direct and indirect GHG emissions from the project are discussed with respect to the 3,000 MT criterion.

Note that GHGs and climate change are exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective (CAPCOA 2008). Therefore, in accordance with the scientific consensus regarding the cumulative nature of GHGs, the analysis herein analyzes the cumulative contribution of project-related GHG emissions.

3.6.4.3 Impacts and Mitigation Measures

Impact GHG-1: Would the Proposed Project Generate GHG Emissions, Either Directly or Indirectly, that May Have a Significant Impact on the Environment?

GHG emissions from the proposed project can be divided into those produced during construction and those produced during operations.

Construction

Short-term construction activities would result in GHG emissions from fuel combustion associated with on- and off-road construction equipment and vehicles. Emissions associated with buildout are summarized in Table 3.6-2. Consistent with SCAQMD draft guidelines, construction emissions are summed and amortized over a 30-year project life and added to operational emissions, which are discussed below, to determine the significance of potential GHG emissions impacts. As mentioned above in Section 3.6.4.2 Thresholds of Significance, GHG emissions are measured exclusively as cumulative impacts; therefore, the construction emissions listed in Table 3.6-2 are considered as part of the GHG emissions for the project lifecycle, including GHG emissions during operation.

Operation

As discussed in Chapter 2, Project Description, the County has stated its desire to advance sustainable programs that help to improve the environment by promoting efficient energy and water use, providing for comprehensive on-site water management systems, and implementing LEED Silver and CAL Green Program goals, among others. These design features will help reduce GHG emissions associated with short-term construction and long-term operations by reducing energy and water consumption. Additionally, the project area is served by an extensive system of mass transit and major roadways, which reduce the number of motor vehicle trips to the site. However, because the specifics regarding the design features are unknown, the construction and operational analyses herein do not include potential reductions associated with implementation of these features, which would act to reduce emissions beyond the levels presented in Table 3.6-2 and Table 3.6-3.

Table 3.6-2. Estimate of Total Construction GHG Emissions (metric tons)

Phase	Total CO_2e
Demolition	251
Site Preparation	79
Grading	338
Building Construction	12,309
Paving	79
Architectural Coatings	82
Total Construction Emissions	13,138
30-year Amortized Total	438
Source: Emissions modeling by ICF (2014) (Appendix B).	

Table 3.6-3: Estimate of Existing and Master Plan Operational GHG Emissions (metric tons per year)

Emission Source	CO_2e
Existing Uses	
Mobile Sources	21,848
Natural Gas	611
Electricity	4,434
Water	2,247
Waste	132
Area Sources	< 1
Total Existing	29,272
Master Plan Buildout	
Amortized Construction (see table 3.6-2)	438
Mobile Sources	42,355
Natural Gas	2,128
Electricity	16,020
Water	3,650
Waste	1,9612
Area Sources	< 1
Total Master Plan Buildout	66,554
Project Increment Over Existing	37,281
Threshold	3,000
Exceed?	Yes
Source: Emissions modeling by ICF (2014) (Appendix B).	

In summary, long-term operation of the proposed project would result in GHG emissions from fuel combustion (i.e., from on-road motor vehicles associated with visitors); natural gas, electricity, and water consumption; and wastewater and solid waste generation. As shown in Table 3.6-3, total annual GHG emissions (the sum of amortized construction emissions from Table 3.6-2 and annual operational emissions) for the proposed project are expected to exceed the 3,000 MT CO_2e threshold, resulting in a significant impact prior to mitigation.

To put project emissions into perspective, statewide CO2e emissions for 2012 were estimated to be 458.7 million MT; the anticipated buildout total under the proposed master plan is 37,281 MT, or 0.037281 million MT. Mitigation measures are prescribed below.

Mitigation Measures

MM-GHG-1. To reduce GHG emissions during operations, the County shall incorporate the following mitigation measures into the design of each new element, as practicable:

- Maximize the use of solar energy, including solar panels; install the maximum number of solar energy arrays possible on building roofs and/or on the project site to generate solar energy for the facility. The project applicant shall commit to applying to the local utility to install the maximum number of solar panels possible.
- Require all lighting fixtures, including signage, to be state of the art and energy efficient; new traffic signals to have light-emitting diode (LED) bulbs; and light fixtures to use energy-efficient compact fluorescent and/or LED bulbs. Where feasible, use solar-powered lighting.
- Maximize the planting of trees in landscaping and parking lots.
- Use passive heating, natural cooling, and solar hot water systems; reduce the amount of pavement.
- Use only Energy Star appliances as well as heating, cooling, and lighting devices.
- Install lightly colored “cool” roofs and “cool” pavements.
- Limit the use of outdoor lighting to only that needed for safety and security purposes.
- Require the use of electric lawn mowers and leaf blowers.
- Require the use of electric or alternatively fueled sweepers with HEPA filters.
- Use water-based or low-VOC cleaning products.
- Install electric vehicle (EV) charging stations on at least 5% of all vehicle parking spaces, consistent with City of Los Angeles requirements for all new projects.

Level of Significance after Mitigation

Implementation of mitigation measures identified above would result in the following GHG emissions reductions.

- On-site solar energy produces zero emissions, so reductions are equivalent to the emissions that would have been produced had electricity been purchased from the grid (CAPCOA 2010).
- Use of energy efficient lighting can reduce outdoor lighting 16-40% and can reduce traffic lighting up to 90% (CAPCOA 2010).

- Trees for landscaping can sequester carbon for up to 20-years and can help to reduce heat island effects by providing shade.
- Passive heating and cooling can reduce heating requirements 5% to 25% with little cost and 25% to 75% with aggressive design (WBDG 2012).
- Energy Star appliances use 15-50% less electricity than standard appliances (CAPCOA 2010),
- Cool pavements and roofs increase albedo and can reduce ambient temperatures by up to 1°F, which would reduce cooling energy demand (EPA 2005).
- Limiting outdoor lighting to include programming lights or motion sensors in public areas can reduce GHG emissions equivalent to the reduction in energy demand (CAPCOA 2010).
- The use of electric landscaping equipment can produce GHG reductions up to 45.9% in the LADWP region (CAPCOA 2010).
- Use of low-VOC cleaning products can be used as a Best Management Practice to reduce ozone precursors and GHG emissions.
- Installing electric vehicle (EV) charging stations can reduce region-wide GHG emissions up to 12.7%, depending on the penetration of other facilities in the region (CAPCOA 2010).

In addition to the project-specific design features and mitigation measures discussed above, actions undertaken by the state will further reduce project-related GHGs in the future. For example, the Pavley standard aims to improve the efficiency of automobiles and light-duty trucks by 17%, the Advanced Clean Car Standards aim to improve the fuel efficiency of light-duty vehicles by an additional 2.5% over Pavley, LCFS aims to reduce the carbon intensity of diesel and gasoline transportation fuels by at least 10% by 2020, and the renewable portfolio and renewable electricity standards aim to reduce electricity-related GHG emissions by 19.1% (ARB 2014a). Additionally, mitigation measures MM-AQ-2 through MM-AQ-3 are proposed to reduce criteria pollutants, but would provide a GHG co-benefit by requiring a clean and properly maintained construction fleet and limiting idling. which would likely reduce fuel consumption. Nonetheless, net project GHG would continue to exceed the 3,000 MT significance threshold after incorporation of mitigation measures. As such, this impact is considered significant and unavoidable.

Impact GHG-2: Would the Proposed Project Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing Emissions of GHGs.

The County has not yet adopted a qualified plan, policy, or regulation to reduce GHG emissions. Therefore, the most applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions is AB 32, which codified the state's GHG emissions-reduction targets for the future.

AB 32 identified 427 $MMTCO_2e$ as the acceptable level of GHG emissions for California in 2020, which is the same as the 1990 GHG emissions level and approximately 28.5% less than 2020 BAU conditions (596 $MMTCO_2e$).[3] To reach the target level, there will have to be widespread reductions in GHG emissions across California. Some reductions will need to come in the form of changes pertaining to vehicle emissions and mileage standards. Some will come from changes pertaining to

---

[3] ARB recently updated the AB 32 Scoping Plan and revised the 2020 BAU downward slightly to 509 $MMTCO_2e$, which reflects the reduced GHG emissions estimates resulting from the recent economic downturn and increased efficiencies.

sources of electricity and increased energy efficiency at existing facilities. The remainder will need to come from plans, policies, or regulations that will require new facilities to have lower carbon intensities than they have under BAU conditions.

The AB 32 Scoping Plan details specific GHG emissions-reduction measures that target specific GHG emissions sources. The scoping plan considers a range of actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms (e.g., a cap-and-trade system). Also included are mobile-source emissions reduction measures (Pavley, LCFS, vehicle efficiency measures), energy production–related emissions-reduction measures (natural gas transmission and distribution efficiency measures, natural gas extraction efficiency measures), and the RPS (electricity). As a result, project-related GHG emissions would be reduced through several of the AB 32 Scoping Plan measures.

By adopting all feasible project design and mitigation measures (described above) to reduce GHG emissions, the proposed project would be consistent with and not frustrate any AB 32 Scoping Plan measures, nor be inconsistent in any way with the AB 32 goal of reducing state-wide GHG emissions to 1990 levels by year 2020. As such, the proposed project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Mitigation Measures

See mitigation measure MM-GHG-1.

Level of Significance after Mitigation

This impact is considered less than significant with mitigation incorporated.

3.6.5 Cumulative Impacts

GHG emissions and climate change are exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective. Climate change is the result of cumulative global emissions. No single project, when considered in isolation, can cause climate change because a single project's emissions are not enough to change the radiative balance of the atmosphere. Because climate change is the result of GHG emissions and GHGs are emitted by innumerable sources worldwide, global climate change will have a significant cumulative impact on the natural environment as well as human development and activity. As such, GHGs and climate change are cumulatively considerable, even though the contribution may be individually limited (SCAQMD 2008). SCAQMD methodology and thresholds are thus cumulative in nature.

As discussed above, the project would exceed the threshold of significance and would not be consistent with adopted plans and regulations that aim to reduce GHG emissions. Therefore, the project would contribute to a cumulatively significant impact related to air quality and GHGs.

3.7 Hazards and Hazardous Materials

3.7.1 Introduction

This section addresses the proposed project's potential to expose people and the environment to hazards and hazardous materials. Hazardous materials information in this section is based primarily on the draft hazardous materials assessment (HMA) prepared for the proposed project by Ninyo & Moore in June 2014. The HMA is included in Appendix E to this EIR and incorporated by reference herein.

3.7.2 Regulatory Setting

3.7.2.1 Federal

Federal Toxic Substances Control Act (1976) and Resource Conservation and Recovery Act of 1976

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program, administered by the U.S. Environmental Protection Agency (EPA), for regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. Hazardous waste in California is regulated primarily under the authority of the RCRA (United States Code [USC] Title 42, Section 6901 et seq.). The RCRA was established in 1976 to protect human health and the environment, reduce waste, conserve energy and natural resources, and eliminate the generation of hazardous waste. Under the authority of the RCRA, the regulatory framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, or dispose of hazardous waste, is found in Code of Federal Regulations (CFR) Title 40, Sections 260–299. Other applicable federal laws and regulations include the following:

- 49 CFR Sections 172 and 173: These regulations establish standards for the transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping hazardous materials and hazardous wastes as well as training requirements for personnel who complete shipping papers and manifests.
- 40 CFR Subchapter I—Solid Wastes: These regulations implement the provisions of the Solid Waste Act and the RCRA. They also establish criteria for the classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, and hazardous waste generator requirements as well as requirements for the management of used oil and universal wastes.

Comprehensive Environmental Response, Compensation, and Liability Act/ Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law (42 USC 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund for cleanup when no responsible party can be identified. CERCLA also enabled revision of the National Contingency Plan (NCP). The NCP (40 CFR 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

National Emission Standards for Hazardous Air Pollutants

EPA established the National Emissions Standards for Hazardous Air Pollutants to govern the use, removal, and disposal of asbestos-containing materials. Responsibility for implementing these requirements has been delegated to the states. California has delegated the responsibility to the South Coast Air Quality Management District (SCAQMD), which implements the National Emissions Standards for Hazardous Air Pollutants through Rule 1403 (see Section 3.4.1.3, Regional and Local).

Occupational Safety and Health Administration

The Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of American workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA's staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910.

3.7.2.2 State

California Environmental Protection Agency

The California Environmental Protection Agency (Cal/EPA) was created in 1991. It unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board (ARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB), CalRecycle, Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed under the Cal/EPA "umbrella" to protect human health and the environment and ensure the coordinated deployment of state resources. The mission is to restore, protect, and enhance the environment and ensure public health, environmental quality, and economic vitality.

California Hazardous Waste Control Law

The California Hazardous Waste Control Law (HWCL) is administered by CAL/EPA to regulate hazardous wastes. Although the HWCL is generally more stringent than the RCRA, until EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous. The HWCL also:

- Establishes criteria for identifying, packaging, and labeling hazardous wastes;
- Prescribes management controls;
- Establishes permit requirements for treatment, storage, disposal, and transportation; and
- Identifies some wastes that cannot be disposed of in landfills.

Hazardous substances are defined by state and federal regulations to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. According to CCR Title 22, Chapter 11, Article 3, substances that have toxic, ignitable, corrosive, or reactive characteristics are considered to be hazardous. Examples of hazardous wastes include material that has been abandoned, discarded, spilled, or contaminated or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substance. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples of corrosive substances include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal, which reacts violently with water, are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed waste." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

Hazardous Waste Control Act (Section 25100 et seq.)

DTSC is responsible for enforcement of the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and the development of standards that are equal to or, in some cases, more stringent than federal requirements.

California Labor Code (Division 5, Parts 1, 6, 7, and 7.5)

The California Labor Code is a collection of regulations that include workplace regulations to ensure appropriate training regarding the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5, ensures that employees who handle hazardous materials are appropriately trained and informed about the materials. Division 5, Part 6, governs operation and care of hazardous material storage tanks and boilers. Division 5, Part 7, ensures that employees who work with volatile flammable liquids are outfitted with appropriate safety gear and clothing. Division 5, Part 7.5, otherwise referred to as the California Refinery and Chemical Plant Worker Safety Act of 1990, was enacted to prevent or minimize the consequences of catastrophic releases of toxic, flammable, or explosive chemicals. The establishment of process safety management standards is intended to eliminate, to a substantial degree, the risks to which workers are exposed in petroleum refineries, chemical plants, and other related manufacturing facilities.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9)

This program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of environmental and emergency response programs and provides authority to the Certified Unified Program Agency (CUPA). The CUPA for the City of Los Angeles and unincorporated areas of the County is the City of Los Angeles Fire Department's Bureau of Fire Prevention and Public Safety, which has the responsibility and authority to implement and enforce CUPA program requirements, including the following:

- **California Accidental Release Prevention (Cal ARP) Program.** This program requires any business that handles more than threshold quantities of an extremely hazardous substance to develop a Risk Management Plan (RMP). The RMP is implemented by the business to prevent or mitigate releases of regulated substances that could have off-site consequences through hazard identification, planning, source reduction, maintenance, training, and engineering controls.
- **Hazardous Materials Management Plan (HMMP)/Hazardous Materials Inventory Statements.** HMMPs contain basic information regarding the location, type, quantity, and health risks of hazardous materials and/or waste. Each business must prepare an HMMP if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to the following:
    - 55 gallons for a liquid,
    - 500 pounds for a solid,
    - 200 cubic feet for any compressed gas, and
    - Threshold planning quantities of an extremely hazardous substance.
- **Hazardous Waste Generator Program**. This program regulates businesses that generate any amount of a hazardous waste. Proper handling, recycling, treating, storing, and disposal of hazardous waste are key elements of this program.
- **Tiered Permitting Program**. This program regulates the on-site treatment of hazardous waste.
- **Underground Storage Tank Program.** This program regulates the construction, operation, repair, and removal of underground storage tanks (USTs) that store hazardous materials and/or waste.

3.7.2.3 Regional and Local

South Coast Air Quality Management District Rule 1403

Rule 1403, as amended, specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and cleanup procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and use appropriate warning labels, signs, and markings.

Los Angeles County

The Los Angeles County Department of Public Works (DPW), Environmental Programs Division (EPD), prepares and administers the Los Angeles County Integrated Waste Management Plan and Hazardous Waste Management Plan, which provide direction for proper management of all waste generated within the County. EPD advises the Los Angeles County Board of Supervisors on all waste management issues. EPD also implements numerous programs, including recycling, composting, source reduction, household hazardous waste management, and public education programs, to meet state-mandated solid waste reduction goals. These programs regulate USTs in the County's unincorporated areas and more than 76 cities to protect groundwater resources. The programs are the largest in the state, encompassing some 10,000 USTs at more than 2,500 sites. EPD reviews and approves site remediation plans for the cleanup of contamination caused by leaking USTs. It also regulates industrial waste management systems at 5,000 generator sites as well as permit and inspect industrial waste discharges along more than 3,000 miles of local sewers within the County's unincorporated areas and 38 contract cities. EPD responds as a support unit to reported incidents involving existing and/or potential discharges of contaminants or toxic materials/waste into DPW drainage facilities.

City of Los Angeles

Although hazardous material transportation and disposal are largely regulated through state and federal programs, the City of Los Angeles Bureau of Sanitation runs several programs related to the collection and disposal of hazardous waste generated by residential, commercial, and industrial users in the city and surrounding communities. These programs include household hazardous waste disposal events, permanent collection centers, and services for businesses generating small quantiites of hazardous wastes.

City of Los Angeles Fire Code

The Los Angeles City Fire Code prescribes laws for hazardous material storage and handling, thereby safeguarding life and property from fire, explosion, panic, or other hazardous conditions that may arise in the use of buildings, structures, or other premises (City of Los Angeles Municipal Code Chapter 5, Article 7). Although the master plan would be developed on a site owned and operated by the County, the City of Los Angeles Fire Code is relevant due to the proximity of properties under city jurisdiction and its location within the City of Los Angeles Fire Department service area.

City of Los Angeles Fire Department Hazardous Materials Section

The City of Los Angeles Fire Department's Hazardous Materials Section is the administrative agent for the California Health and Safety Code, CCRs related to emergency planning and community right-to-know laws, and the federal SARA Title III. There are three units within this department that process information related to hazardous materials. The Disclosure Unit is responsible for enforcing the disclosure law, which requires all establishments that store, produce, or use hazardous substances to inventory the materials on-site; this law includes new and existing businesses. The Business Plan Unit ensures that businesses take the right measures to mitigate any dangers. The

Risk Management and Prevention Program (RMPP) Unit is responsible for evaluating the RMPP's that businesses have to submit. An RMPP, which is intended to reduce risks associated with the handling of acutely hazardous materials, is required of businesses that handle 55 gallons, 500 pounds, or 200 cubic feet or more of such materials. Although the master plan would be developed on a site owned and operated by the County, the City of Los Angeles Fire Department Hazardous Materials Section is relevant due to the proximity of properties under city jurisdiction.

City of Los Angeles Fire Department's Bureau of Fire Prevention and Public Safety

The Bureau of Fire Prevention and Public Safety maintains an Underground Storage Tank Unit, which implements and enforces the UST program. All USTs used for fuel, solvents, and other liquids must be monitored for leakage. The law requires UST installations, removals, or alterations to be regulated under permit from the City of Los Angeles Fire Department. All USTs installed after January 1, 1984, are required to have secondary containment in addition to a leak detection system. Those installed prior to January 1, 1984, are classified as existing tanks and are required to have a soil analysis report and a continuous monitoring device. Although the master plan would be developed on a site owned and operated by the County, the City of Los Angeles Fire Department Bureau of Fire Prevention and Public Safety is relevant due to the proximity of properties under city jurisdiction.

Los Angeles City Building Code

Division 71 of the Los Angeles Building Code sets forth regulations for the control of methane intrusion emanating from geologic formations. The methane seepage regulations specify site testing requirements and methane mitigation standards for all new buildings and paved areas (i.e., 5,000 square feet of paved area within 15 feet of an exterior wall of a commercial, industrial, institutional, or residential building) within designated methane zones or within methane buffer zones. Although the master plan would be developed on a site owned and operated by the County, the City of Los Angeles Building Code is relevant due to the proximity of properties under city jurisdiction.

3.7.3 Environmental Setting

3.7.3.1 Hazardous Materials

The approximate 86-acre project site is developed with the LAC+USC Medical Center, which consists of multiple buildings and parking lots/structures. The heating and cooling systems on the project site are powered by electricity and natural gas. On April 15, 2014, Jonathon Johnson of Ninyo & Moore conducted site reconnaissance, which consisted of a site visit and visual observations of adjoining properties, as summarized below.

Site Reconnaissance Observations at Project Site

Use and Storage of Hazardous Substances and Petroleum Products

The project site contains four emergency power generators with petroleum fuel tanks, one near the telephone exchange, one near the interns/residents building, one between the pharmacy building and the old coroner's administration building, and one adjacent to and south of the Lot 9 parking structure. Significant evidence of releases or spills was not observed in these areas and therefore were not considered potential environmental concerns (PECs).

Storage and Disposal of Hazardous Wastes

The project site contains areas where hazardous waste materials are containerized and stored (see Table 3.7-1).

Table 3.7-1: Hazardous Storage Areas Observed during Site Reconnaissance

Building	Location	Description	Comments
General Hospital	Room 364	Storage room contained 55-gallon drums and polyurethane drums with hazardous waste materials.	Access to room was not granted. Staining not noted, based on limited visibility.
Telephone Exchange	Room 2260 E	Storage room on south end of telephone building. Room contained a flammable storage locker and cardboard boxes with medical supplies.	No staining observed; secondary containment noted
	Western portion, behind building	Storage area within a fenced section that contained drums and trash bins with biohazardous waste.	No staining observed; no secondary containment.
Inpatient Tower	C1F103	Storage area contained flammable waste lockers, polyurethane containers, 55-gallon steel drums with mixed solvents and contaminated rags, 5-gallon buckets, and cardboard boxes.	No staining observed; secondary containment noted.
Central Plant (East)	West end of the plant	Storage area contained 55-gallon steel drums with waste oil, polyurethane drums, flammable waste lockers, and 5-gallon buckets.	No staining observed; secondary containment noted. Waste stored near storm drain.
Central Plant (West)	Northeast portion of the area	Storage contained universal waste, such as batteries.	No staining observed.
	Northwest corner of building	Storage contained 55-gallon non-hazardous waste steel drums and a polyurethane drum.	No staining observed.
	Northwest portion of the area	Storage area contained 55-gallon steel drums, 5-gallon containers, polyurethane containers, and cardboard boxes.	No staining observed; secondary containment noted.
Women's and Children's Hospital	Northeast portion of the area	Storage area contained gas cylinders/tanks and plastic storage containers.	No staining observed.
Source: Ninyo & Moore, 2014.			

Aboveground and Underground Storage Tanks

Aboveground storage tanks (ASTs) were observed at the project site near the following buildings: General Hospital, Central Plant (East), Women's and Children's Hospital, and Central Plant (West). The observed ASTs at General Hospital, Central Plant (East), and the Women's and Children's Hospital contained liquid oxygen. Salt and sulfuric acid were observed at the Central Plant (West). No staining was observed around the tanks, and no cracks were observed in the containment areas. According to the HMA, these ASTs do not represent PECs for the site.

Evidence of USTs was observed near the following: north of the General Hospital, east of the Central Plant (East), north of the Central Plant (West), and north of the Women's and Children's Hospital. According to site representative, Mario Garcia, assistant chief stationary engineer, the UST listed for the Women's and Children's Hospital has been removed. The locations of the historic USTs and currently active USTs are included in the HMA (see Appendix E).

Asbestos-Containing Materials and Lead-Based Paint

Given the construction date for the buildings on the site (i.e., prior to 1980), the HMA concluded that ACM and lead-based paint (LBP) may be present on building materials. Suspect ACM were observed to be in good condition. Painted surfaces were observed to be in good condition, with the exception of the tunnel located between General Hospital and the pharmacy. The condition of the paint within the tunnel presents a PEC.

Stormwater Systems and Wells

Stormwater catch basins and drains were observed at the site during site reconnaissance. Groundwater monitoring wells were observed on the site north of General Hospital. It is suspected that the wells are part of the remediation process occurring at the site.

Surface/Subsurface Structures

Surface structures and evidence of subsurface structures (e.g., sumps, vaults, oil/water separators, and other surface impoundments) were observed at the site. A clarifier was observed adjacent to and south of the telephone exchange near a hazardous materials storage room. According to the HMA, LAC+USC personnel indicated that the clarifier has not been in use since approximately 2006. Three clarifiers were also observed adjacent to and north of the Central Plant (West), and one clarifier was observed adjacent to and east of the medical examiner's building. The presence of on-site clarifiers represents a PEC.

Other On-Site PECs

Ninyo & Moore staff members were provided a list of building and parking structures at the project site that contain elevators. The elevator types include hydro, traction, and gearless. Hydro elevators typically use hydraulic oil, which could leak and stain the ground floor. Operation of the elevators in the coroner's building, general labs, General Hospital, and the Inpatient Tower represent PECs for the site. The list of elevators is included in the HMA (see Appendix E).

The following were not observed at the site during reconnaissance:

- Significant evidence of releases or spills.
- Unidentified substance containers.

- Evidence of chemical releases on-site (i.e., odors, stressed vegetation, stains, leaks, pools of liquids, spills).
- Electrical transformers.
- Wastewater systems, other than clarifiers.
- Water production wells.

Site Reconnaissance Observations of Adjacent Properties

Two gas stations adjacent to the project site were observed during site reconnaissance. The presence of these gas stations does not represent a PEC; however, the addresses for the gas stations appear on regulatory agency lists that report leaking underground storage tank (LUST) incidents. These facilities are discussed further in Section 3.7.3.2, below.

3.7.3.2 Hazardous Materials Historical and Database Reviews

Historical aerial photographs, fire insurance rate maps, city directories, historic topographic maps, and oil and gas maps were reviewed as part of Ninyo & Moore's HMA for the site. Historical documents are provided in the HMA (see Appendix E).

Historical Aerial Photographs

A 1928 aerial photograph shows the project site developed with structures for the hospital. One large structure (General Hospital) was visible in the central portion of the site near North State Street, which did not appear to bisect the site completely. In the 1938 through 1948 aerial photographs, the site has been developed with the hospital, and North State Street bisected the site from Marengo Street on the south to Zonal Avenue on the north. The site was developed with structures associated with the hospital from approximately Mission Road to Britannia Avenue. The area east of Britannia Avenue was developed with residential structures. From at least 1952 through 1964, the site appeared generally the same but expanded from Brittania Avenue to approximately Cummings Street in 1964. From at least 1964 through 1994, the site appeared generally the same, with structures developing gradually in the southeast portion of the site. From at least 1972 through 1981, two gas stations were observed in the southeast portion of the site, west of the intersection of North Chicago Street and Marengo Street. From at least 1989 through 1994, the two gas stations were no longer present, having been replaced with commercial properties. In the 2005 aerial photograph, the site had expanded eastward to Cummings Street and Chicago Street; the development of a large structure was observed in the southeast portion of the site. From 2005 through 2012, the site appeared generally the same; the hospital and medical center structures were developed up through the time of the site reconnaissance. The gas stations observed on the southeast portion of the site in the 1972 aerial photographs are indicative of a PEC for the site.

The site vicinity appeared generally developed with commercial and residential properties from 1928 through the time of the site reconnaissance. Several gas stations were observed in the vicinity adjacent to and south and west of the site.

Fire Insurance Rate Maps

Sanborn fire insurance rate maps for the subject site and surrounding area were requested from Environmental Data Resources (EDR) as part of the HMA. Table 3.7-2 presents a summary of the fire insurance map review.

Table 3.7-2: Sanborn Fire Insurance Map Review

Year	Site	Adjacent Areas
1890	Los Angeles County Hospital	**North of Mission Road**: storage.
1894	Los Angeles County Hospital, with laundry facility near northeast corner of Mission Road.	**North of Mission Road**: commercial properties.
1906	Building labeled "Contagious Pavilion" south of Griffin Avenue (now Zonal Avenue).	**To the north**: commercial properties. **Beyond Mission Road**: Mission Feed Yard. **South of Marengo Street**: Los Angeles Brick Company. **Marengo Street/Mission Road intersection**: Pacific College of Osteopathy.
1920	Preservation ward, contagious pavilion, leper ward, surgical ward, medical ward, psychopathic wards, chapel, nurses quarters, administration building, library, kitchen and dining, laundry, service building, auto house parking, power house, commercial and residential properties.	**North of South Griffin Avenue** (now Zonal Avenue): commercial properties and vacant properties. **Beyond Mission Road**: commercial properties and the tubercular ward. **Beyond Marengo Street**: Los Angeles Brick Company and vacant and commercial properties.
1951	County General Hospital Acute Unit, auditorium stage and film vaults, classrooms, residential properties, auto parking, contagious pavilion, leper ward, nurses quarters, library, surgical ward, administration building, medical ward, kitchen and dining, laundry, service building, auto house parking, power house, commercial and residential properties, psychopathic wards, osteopathic ward, dormitory, patients building.	**Beyond Zonal Avenue**: commercial and residential properties. **Beyond Cummings Street/Charlotte Street intersection**: residential properties and Hazard Reservoir. **Beyond Marengo Street**: residential properties, fruit syrup manufacturing, church, wire works, mortuary college, commercial properties, and the Los Angeles Brick Company. **Beyond Zonal Avenue**: Tile Show Case Manufacturing and Wood Working, Los Angeles County garage, residential properties, commercial properties, and a gas station (northwest corner of Griffin Avenue and Mission Road). **Beyond Mission Road**: auditorium, three gas stations, auto repair shop, and commercial properties.
1970	Los Angeles County General Hospital, nurses quarters, gas stations, psychopathic unit, new osteopathic unit, research building.	**Beyond Zonal Avenue**: USC, Los Angeles County Juvenile Department, General Hospital, chapel, church. **Beyond Cummings Street**: residential properties, Hazard Reservoir. **Beyond Marengo Street**: County of Los Angeles Crippled Children's Service, residential properties, City Health Center, gas and oil, mortuary college, parking structure. **Beyond Zonal Avenue**: Los Angeles County "Assoc. Risk," maintenance shop, general storage (iron), church. **Beyond Mission Road**: gas and oil, parking, commercial properties, rehabilitation clinic.
Source: Ninyo & Moore, 2014.		

City Directories

City directories from 1920 through 2013 were searched for information regarding the project site. There were no listings for the site prior to 1937. According to information from the city directories regarding uses on the site, the address, 1200 North State Street, has been a hospital and residential property since at least 1937.

Historical Topographic Maps

Historical topographic maps from 1896 through 1901 show most of the site as vacant land, with several structures present around the vicinity of the site. The historical topographic map from 1928 shows the site as developed, with the hospital on the west side of the site, west of State Street, and residential properties on the east side of the site, east of State Street. A reservoir is seen adjacent and northeast of the site boundary. The historical topographic map from 1953 shows that the hospital has expanded to include the area east of State Street and north of Zonal Avenue; the General Hospital building is present as well. Structures south of General Hospital are also present, and the adjacent reservoir northeast of the site boundary is depicted as a covered. The maps from 1966 through 1994 show the site as generally the same (i.e., developed with the hospital).

Oil and Gas Maps

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), Online Mapping System (DOGGR 2012), the site does not lie within the administrative boundaries of an oil field. One oil well, Santa Fe Springs Mutual Oil Syndicate 1 (API 03705846), is located on the south end of the site boundary along Marengo Street. According to the DOGGR website, the oil well is active. Given the location and status of the oil well, it is likely that the oil well has affected the environmental integrity of the site.

Previous Report and Documents

The HMA included a review of several reports, which discussed previous investigations and assessments conducted at the project site. The reports, listed below, addressed “recognized environmental conditions” (RECs) and included the results of asbestos surveys. The HMA (see Appendix E) contains summaries of the findings of these reports.

- Phase I Environmental Site Assessment (ESA), dated January 5, 1999.
- LAC+USC Medical Center Replacement Project Environmental Assessment/Environmental Impact Report, dated June 2000.
- LAC+USC Tunnel, dated January 30, 2013.
- LAC+USC Medical Center, 1744 Zonal Avenue, Phase I ESA, dated October 21, 2013.

Environmental Database Search

An environmental information database search was performed by EDR on March 28, 2014. A copy of the EDR report is included in Appendix E. Detailed information regarding the search distances for each of the searches is included in this appendix. Neither the site nor properties located within the searched distance were listed in the following databases:

- National Priorities List
- Proposed and Delisted National Priorities List

- Corrective Action Report
- Resource Conservation and Recovery Act Treatment, Storage, and Disposal Facilities List
- United States Engineering Controls
- United States Institutional Controls
- State Sites
- Solid Waste Landfill Sites
- Permitted Aboveground Storage Tank List
- State Engineering Controls
- State Institutional
- Brownfields
- State Other (DTSC)
- Indian Reservation Land
- Indian Leaking Underground Storage Tank
- Indian Underground Storage Tank
- Emergency Response Notification System List

The databases below listed the site or adjacent properties as being within the searched distances.

Comprehensive Environmental Response, Compensation, and Liability Information System List

One facility, Nu Way Plating Company, at 1805 Sichel Street, approximately 0.14 mile north-northwest of and crossgradient from the site, is listed in this database, with a "completed" date of August 30, 1995. It is not listed as a federal facility. The facility is reported as a "removal only" site, with no assessment work needed. This listing is not indicative of a PEC to the site.

Comprehensive Environmental Response, Compensation, and Liability Information System/No Further Remedial Action Planned List

One facility, Builders Hardware Finishers, at 1846 Sichel Street, approximately 0.19 mile north-northwest of and crossgradient from the site, is listed in this database. It is not listed on the NPL. The facility is reported as a "removal only" site, with no assessment needed. This listing is not indicative of a PEC to the site.

RCRA Generators List

This list identifies sites that generate hazardous waste, as defined by the RCRA. Inclusion on this list is for permitting purposes and is not indicative of a release.

The project site is listed in this database as a large-quantity generator (LQG) with universal waste, including batteries, lamps, and thermostats. The site is also listed as a small-quantity generator (SQG).In addition, the site was also listed as a historical generator from 1981 through 2008. No violations were reported at the project site.

Five additional facilities that were listed as LQGs were within the searched distance. Four of the listed facilities had no violations reported. One facility, Chromal Plating Company, at 1748 Workman Street, approximately 0.09 mile northwest of and crossgradient from the site, is listed in this database. It has received several notices of violation, including a preparedness and prevention, container use and management, and a generators violation. Thirteen additional facilities were listed in this database as SQGs. One facility, the former TMT Pathway operation at 1021 North Mission Road, approximately 0.12 mile west of and crossgradient from the site, is listed in this database as having reported violations. As of July 7, 1994, all violations for the facility achieved compliance. These listings are not indicative of a release and would not be considered a PEC for the site.

State-Equivalent Comprehensive Environmental Response, Compensation, and Liability Information System

The DTSC Site Mitigation and Brownfields Reuse Program's EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The site was not listed in the database, but three facilities are located within the 0.25-mile search distance:

- Bravo Medical Magnet High School (formerly known as Lincoln Magnet High School) at 1200 Cornwell Street,
- Soto Street Elementary School at 1010 Soto Street, and
- Central Region High School (also known as the East Los Angeles Occupational Center) at the corner of Marengo Street and Chicago Street.

Bravo Medical Magnet High School and the East LA Occupational Center were listed as "inactive – need evaluation," and Soto Street Elementary was listed as "inactive – action required." The potential medium affected is listed as soil for all three sites. Given the distance, potential media affected, and groundwater gradient, it is unlikely that these listings are indicative of a PEC for the site.

State LUST Lists

Databases of the LUST information system are maintained by the state RWQCBs. The site is listed in the LUST database, which is a PEC for the project site.

Nineteen additional listings, representing 15 off-site facilities, are listed in the LUST database and summarized below.

Table 3.7-3: State LUST Database Review

Listing and Address	Distance and Direction	Gradient Direction	Regulatory Status	Closure Date	Environ-mental Concern (Y/N)
Al-Sal Oil #17 1848 Marengo Street	Adjacent, south	Downgradient	Pollution characterization	NA	N
Al-Sal Oil #17 1848 Marengo Street	Adjacent, south	Downgradient	Open – assessment and interim remedial action	NA	N
Lincoln Magnet High School – LAU 1200 Cornwell Street	0.07 mile east-southeast	Crossgradient	Case closed	7/27/1995	N
Estelle Doheny Eye Hospital 1537 Norfolk Street	0.21 mile east-northeast	Crossgradient	Case closed	NA	N

Listing and Address	Distance and Direction	Gradient Direction	Regulatory Status	Closure Date	Environ-mental Concern (Y/N)
Estelle Doheny Eye Hospital 1537 Norfolk Street	0.21 mile east-northeast	Crossgradient	Case closed	7/19/1996	N
Shell 1203 North Soto Street	0.21 mile east-southeast	Crossgradient	Open – site assessment	NA	N
Shell/Soto-Charlotte 1203 North Soto Street	0.21 mile east-southeast	Crossgradient	Case closed	8/1/1996	N
Mobil #11-KXI 1010 North Soto Street	0.24 mile southeast	Crossgradient	Case closed	10/11/1996	N
Moza Automotive Repair 1201 North Mission Road	0.004 mile northwest	Crossgradient	Open – remediation	NA	N
Chevron #9 – 3960 1101 North Mission Road	0.01 mile west-northwest	Crossgradient	Open – remediation	NA	N
Shell (former) 2000–2012 Marengo Street	adjacent, south	Crossgradient	Case closed	1/2/2013	N
Stoddard Automotive 1721 Workman Street	0.04 mile northwest	Crossgradient	Case closed	7/17/1998	N
Stoddard Automotive 1721 Workman Street	0.04 mile northwest	Crossgradient	Case closed	7/17/1998	N
Gannett Outdoor Systems, Inc. 1731 Workman Street	0.06 mile northwest	Crossgradient	Remedial action (cleanup) under way	NA	N
Morton Int'l., Whittaker Corp. 1021 North Mission Road	0.12 mile west	Crossgradient	Remedial action (cleanup) under way	NA	N
Norris Cancer Hospital 1441 Eastlake Avenue	0.15 mile east-northeast	Crossgradient	Case closed	10/11/2001	N
San Antonio Winery 1016 North Mission Road	0.17 mile west	Crossgradient	Case closed	1/22/1998	N
Union Railroad – LA Trans 2100 Alhambra	0.19 mile northwest	Crossgradient	Case closed	1/22/1998	N
Union Railroad – LA Trans 2100 Alhambra	0.19 mile northwest	Crossgradient	Case closed	1/22/1998	N
A-1 Eastern Homemade Pickle Company 1832 Johnston Street	0.20 mile north	Downgradient	Open – site assessment	8/15/2008	N
Mobil – Cardenas, Richard 2829 North Main Street	0.24 mile north-northwest	Crossgradient	Case closed	10/17/2011	N

Notes:
N = no
N/A = not applicable
Y = yes
Source: Ninyo & Moore 2014.

UST Registration List

According to EDR, UST records are provided by the Department of Building and Fire Safety. A facility's inclusion in the UST registration list does not necessarily indicate a release.

The project site is listed in the UST database under several addresses that have registered USTs. The list of addresses associated with the project site that appear in the UST database is provided below.

Table 3.7-4: Site UST Database Review

Listing and Address	Listed in LUST Database
LAC+USC Medical Center 1175 North Cummings Street	No
LAC+USC Medical Center 1635 Marengo Street	No
LAC+USC Medical Center 1129 North State Street	No
LAC+USC Medical Center 1950 Marengo Street	No
L.A. County USC Medical Center – R 1900 Zonal Avenue	No
L.A. County Medical Center Telephone Exchange 1200 North State Street	Yes
Medical Examiner – Coroner 1104 North Mission Road	No
Source: Ninyo & Moore, 2014.	

Adjacent properties were also listed in the UST database (see Table 3.7-5).

Table 3.7-5: Adjacent Properties in UST Database

Listing and Address	Listed in LUST Database
Al Sal Oil #17 1848 Marengo Street	Yes
LAC/USC Medical Center 1950 Marengo Street	No
Chevron Station #9-3960 1101 North Mission Road	Yes
East Los Angeles Occup/Center 2100 Marengo Street	No
Source: Ninyo & Moore, 2014.	

Additional information was not provided for the listed properties. These listings alone are not indicative of a release.

Additional Databases

The following databases listed addresses associated with the project site: CA FID UST, HIST UST, SWEEPS UST, CHMIRS, HIST CORTESE, HAZNET, and RGA LUST.

Environmental Records Review

The HMA included a review of records for the site from DTSC's EnviroStor website, SWRCB's GeoTracker website, and the SCAQMD. Addresses found to be historically associated with the site were also reviewed. Additionally, available records from the Los Angeles Department of Public Health (LADPH) and the Los Angeles City Fire Department (LAFD) were reviewed for the project site as well as historic addresses associated with the project site. Regulatory agency documentation is provided in the HMA (see Appendix E).

No records pertaining to the project site's address were found in the following database:

- DTSC's EnviroStor website

State Water Resources Control Board GeoTracker Website

As described in the HMA, groundwater monitoring related to a LUST case is occurring at the project site's address, 1200 North State Street. A request for a closure work plan, dated September 3, 2013, was reviewed on the GeoTracker website. In December 2005, a closure work plan was submitted to the Los Angeles RWQCB for termination of sampling activities. Pursuant to the 60-day rule and the priority status (Priority D) assigned to the site by the Los Angeles RWQCB, groundwater monitoring activities at the site were suspended. The presence of residual petroleum hydrocarbons in soil and groundwater represents a PEC for the project site.

South Coast Air Quality Management District

The SCAQMD's Facility Information Detail Search website was searched for permits regarding the project site's address. Several addresses associated with the project site had records at the SCAQMD. All sites associated with notices of violation had been closed. The review identified two gas pumps at the project site, associated with 2039 Marengo Street and 1200 North State Street, and an active permit for a petroleum storage tank, associated with 1104 North Mission Road.

Los Angeles Department of Public Health

According to the LADPH, records were available for the following addresses: 1200 North State Street, 1175 North Cummings Street, 1104 and 1240 North Mission Road, and 1129 North State Street. All records and references to letters are included in the HMA (see Appendix E). Generally, the records identified a series of soil and subsurface investigations. A review of available records for the addresses included the following:

1200 North State Street

Five borings were advanced in November 1993 (two borings to 40 feet bgs and three borings to 25 feet bgs) by hollow-stem auger, with soil samples collected and analyzed for VOCs, SVOCs, and total petroleum hydrocarbons (TPH). Results of the analyses indicated that TPH was present in soil beneath the site in 1993. Possible sources of contamination were a utility shed east of and adjacent to the site or other nearby medical center areas. According to the LAC+USC Medical Center Replacement Project letter dated December 2, 1994, the site did not appear to present significant hazards to public health or the environment, although there was evidence of pockets of crude oil beneath the site in sharply folded geologic formations and the possibility of methane gas and some solvent-like contamination that threatened groundwater.

LAC+USC Medical Center Replacement Project, letter dated February 28, 1995: The *Draft Report for the Subsurface Contamination Investigation, Medical Center Replacement Project*, dated January 27, 1995, was submitted by Dames and Moore. According to the letter, the LAFD concluded that the objectives of the subsurface investigation had been met and the site did not present a significant threat to human health. Exceptions presented by the LAFD included the small amount of VOCs detected in the soils, which were not considered to be significant, that were coming from an uncertain source. The LAFD also mentioned the small amount of chloroform found in groundwater. In addition, methylene chloride and tetrachloroethene found in soil 35 feet bgs could be significant. The LAFD indicated that chlorinated water leaking from Hazard Reservoir could be a potential source of chloroform in groundwater.

Main Hospital Replacement Site, letter dated May 11, 1995: According to the letter, plans were submitted to relocate the main hospital to a location southeast of the original site. This would require demolition of the outpatient clinic, the interns/residents building, several parking structures, a DWP reservoir, hospital support buildings, and residential houses from Cummings Street to Zonal Avenue on the east. Construction of the new hospital would require further assessment of the area. An assessment conducted in the southeast portion of the site from June to August 1994 indicated the presence of TRPH, oil-stained soil, lead, diesel-range TRPH, severely degraded crude oil, benzene, chloroform, perchlorate, and methylene chloride in groundwater.

Closure Report, dated March 27, 1996: The report mentioned two sites, the first at Marengo Street and Cummings Street (main site) and the second, an AIDS clinic, at Zonal Avenue and Mission Road. According to the report, no remedial action has taken place. Extensive site assessment occurred, including deep HSA borings, sampling, and the installation of monitoring wells. Hydrocarbon contamination was found at the AIDS clinic site at 20 feet bgs, with first groundwater at 25 feet bgs; the matter was referred to the RWQCB. Of major interest at the main site was the occurrence of groundwater between 10 and 50 feet bgs and the appearance of halogenated volatile organic compounds, such as chloroform, in monitoring well samples. Crude oil exists in pockets near Marengo Street, although not in significant amounts; the presence of methane gas is a possibility at the site.

Critical Hazardous Material Incident, dated August 24, 2000: According to the file, the site had a reported spill of formaldehyde within a laboratory, which required evacuation and fire department involvement for cleanup.

Inspection Report, dated August 31, 2011: According to the report, the site was in violation because of hazardous waste storage; a notice to comply was issued.

Additionally, the LADPH provided several documents pertaining to the 1200 North State Street site. A 1992 draft environmental audit of the site by Environmental Science Associates included the following findings:

- In 1980, an oil spill occurred in the paved parking lot immediately northeast of the Central Plant (West); cleanup and soil remediation were implemented to remove oil residue and contamination in the area.

- Previous investigations (from 1989) in an area north of General Hospital indicated that volatile fuel hydrocarbons (VFH) and BTEX were present in soil and groundwater as a result of releases from USTs, which had been removed from the area.
- The *Site Assessment Proposal* by Calscience Engineering, dated April 1992, noted soil sampling near a UST located northwest of the medical examiner's building.
- The *Final Workplan Pre-construction Evaluation Report* by Dames & Moore, dated February 25, 1994, indicated the presence of TPH at approximately 30 to 60 feet bgs in the southern portion of the site for the new hospital; the TPH is possibly due to the presence of naturally occurring crude oil beneath the site.
- Oil-stained ground surfaces were observed between Chicago Street and Cummings Street.
- Low concentrations of methane were detected during a soil vapor survey within an alleyway between Cummings and Chicago Streets. Elevated concentrations of TRPH (resulting from severely degraded crude oil) and inorganic lead were recorded in subsurface soil. Gasoline and diesel were not present in soils. Also, significant VOCs and SVOCs were not present in soils.

Additionally, the *Interim Report of Findings for the Leak Detection Investigation and Tank Monitoring Plan at LAC+USC Medical Center*, prepared by Toxguard Systems in 1992, included the following findings:

- Site 1 – Tank Cluster on the North Side of the Steam Plant (Building 516)

  The site contained nine tanks in a cluster; the tanks were constructed of concrete and lined with steel. The cluster included three fuel tanks, a condensate tank, and five clarifier tanks. The leak test found that petroleum hydrocarbons are present in the soil between the filler inlets on the north side of the tank wall; free diesel is present on the surface of the water table.

- Site 2 – 1,000-gallon Diesel Fuel Tank on the South Side of the Steam Plant (Building 516)

  The site has a 1,000-gallon single-wall UST for diesel fuel on a concrete foundation slab, It has been backfilled with sand. The leak test found no petroleum hydrocarbon leakage. According to records, the tank was removed in December 1998.

- Site 3 – South Side of the Outpatient Clinic (Building 121)

  The site has a 500-gallon single-wall UST for diesel fuel on a reinforced concrete foundation slab. It has been backfilled with sand. The leak test found no petroleum hydrocarbon leakage.

- Site 4 – Two 10,000-gallon Diesel Fuel Tanks North of the General Hospital Emergency Room Entrance (Building 101)

  The site contained two single-wall 10,000-gallon tanks for diesel fuel. According to records, the tanks were removed in December 1998 and replaced with two USTs.

- Site 5 – General Storage Area, 4,000-gallon Gasoline Tank (Building 120)

  The site has a 4,000-gallon single-wall UST for unleaded gasoline, a dispenser, and related piping. The tank is capped with concrete, and the area is paved with asphaltic concrete and concrete. Results of the leak detection test indicated that soil and water were affected by gasoline and BTEX in excess of State Action Levels; the probable source was the tank or related piping. Hydrocarbon-contaminated soil and groundwater were not delineated by the investigation.

1129 North State Street

Ninyo & Moore reviewed a letter dated July 25, 1986, pertaining to pesticide evaluations at the residential properties east of Cummings Street. The letter indicated that the pesticide evaluations were conducted at the request of the LADPH.

1104 North Mission Road

Hazardous Material Incident Report, dated May 31, 2002: According to the incident report, an undetermined solid material was released at the site, which required "hazmat" attention. A second incident report, dated September 25, 2002, indicated that a liquid acid spill occurred at the site. The spill was subsequently cleaned up.

The review of files at the LADPH found that the presence of contaminants in groundwater and soil is a PEC for the project site. The review of documents at the LAFD found that the historic presence of USTs and the current remediation activities represent PECs for the project site. The complete review summary is included as Table 13 in the HMA (see Appendix E).

3.7.4 Environmental Impact Analysis

3.7.4.1 Methods

The following analysis evaluates potential impacts related to hazards and hazardous materials that could result from implementation of the proposed project. The assessment of impacts is based on existing conditions. The analysis, which is based on conclusions in the HMA prepared for the proposed project by Ninyo & Moore in June 2014, will determine if the impacts would exceed any of the thresholds listed below.

3.7.4.2 Thresholds of Significance

For the purposes of the analysis in this EIR, in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

- **HAZ-1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- **HAZ-2:** 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.
- **HAZ-3:** Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- **HAZ-4:** Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- **HAZ-5:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The County, as the CEQA lead agency, determined in the NOP/IS (see Appendix A) for this EIR that the proposed project would not result in impacts in the areas listed below. Therefore, no further analysis of these issues is required. Please refer to the NOP/IS for additional information regarding these issue areas.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- For a project located within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including in areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

3.7.4.3 Impacts and Mitigation Measures

Impact HAZ-1: Would the Proposed Project Create a Significant Hazard to the Public or the Environment through the Routine Transport, Use, or Disposal of Hazardous Materials?

Construction

Project construction would involve the routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, grease, and caulking. Given that the proposed project would be required to comply with applicable regulations, such as the RCRA, Department of Transportation Hazardous Materials Regulations, and local CUPA regulations, and given the small amounts of hazardous materials that would be used during the construction phase, the proposed project would not be expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Given the implementation of the master plan over a 25-year period, site buildings designated for future demolition or renovation may contain ACM and LBP. The presence of ACM and LBP is a PEC. The presence of thermal system insulation (TSI), which is in fair condition within the tunnel, is also a PEC. Additionally, indications of USTs were observed during site reconnaissance near General Hospital, Central Plant (East), Central Plant (West), and the Women's and Children's Hospital. The presence of USTs at the site is a PEC. Monitoring wells, indicating groundwater contaminated with petroleum hydrocarbons, were observed north of General Hospital in an area with a known open remediation process. This is indicative of a PEC.

Clarifiers were observed at the site south of the telephone exchange, within Central Plant (East), north of Central Plant (West), and east of the medical examiner's building. Clarifiers at the site are indicative of a PEC. A list of elevators, including their type of mechanical operation (i.e., hydro, traction, gearless), was provided. Hydraulic oil used in hydro elevators is indicative of a PEC for the project site.

Two gas stations were found formerly occupying the southeast portion of the project site during historical document review. The presence of gas stations indicates the potential for releases from USTs at the sites, which represents a PEC for the project site.

Construction activities could result in a potentially significant impact on construction personnel due to exposure to hazardous wastes that may be encountered or disturbed during construction. Implementation of mitigation measures MM-HAZ-1 through MM-HAZ-3 would be required to reduce the potential impacts to a less-than-significant level.

Operation

The proposed project consists of a master plan that would guide development of the campus over a period of approximately 25 years (2015–2040).

The land uses envisioned under the master plan are not generally associated with the routine use, storage, transport, or disposal of substantial quantities of hazardous materials, including biomedical waste. The use of non-acutely hazardous chemicals is anticipated, as is the use of chemicals in relatively small quantities and concentrations by medical personnel and the office staff. The chemicals would include those typically found at hospitals and in offices or used for grounds maintenance. The chemicals could include fuels to power equipment and vehicles, fertilizers, paints, detergents, solvents, and other cleaners. The uses for such materials are considered common. Furthermore, it would not be likely for such materials to be stored or used in quantities that would be considered potentially harmful.

All hazardous waste, including biomedical waste, would be transported, used, and disposed of according to applicable local and regional regulations. Such activities already take place at the LAC+USC Medical Center, and facilities for the proper handling of these materials are already present on the site. Consequently, no significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous waste during operation of the proposed project is anticipated. Impacts would be less than significant.

Mitigation Measures

The following measures are proposed to mitigate Impact HAZ-1 (construction), above:

MM-HAZ-1: In order to minimize exposure, prior to demolition activities, asbestos-containing materials and lead-based paint surveys and evaluations shall be conducted in buildings that are to be demolished or renovated. Abatement measures shall be implemented in accordance with the recommendations of these evaluations. Asbestos surveys shall be conducted in accordance with SCAQMD Rule 1403, which specifies that all surveys are to be carried out by a Cal/OSHA-certified asbestos consultant and will follow established survey protocols, notification, and work practice requirements. Lead-based paint surveys shall be carried out by California Department of Public Health(CDPH)-certified inspector/assessor. If necessary, a lead abatement plan would be prepared by the CDPH-certified project monitor or supervisor, and demolition activities would be performed by CDPH-certified workers.

MM-HAZ-2: Prior to start of construction, an additional investigation of the leaking underground storage tank site at 1200 North State Street (according to SWRCB's GeoTracker website, groundwater is currently being monitored at the address) shall be conducted to determine its potential impact on project site development. In the event that environmental concerns are discovered, a certified geologist or industrial hygienist will specify an appropriate course of action, which may involve removal and disposal of contaminated materials, and remediation of the area of concern.

MM-HAZ-3: As part of a Phase II Environmental Site Assessment, prior to construction, additional investigations at the former and suspected locations of underground storage tanks (both abandoned in place and those where no records of removal have been found) and the former locations of boilers and powerhouse shall be conducted to evaluate their potential impact on project site development. In the event that environmental concerns are discovered, a certified geologist or industrial hygienist will specify an appropriate course of action, which may involve removal, disposal, and remediation of the area of concern.

Level of Significance after Mitigation

Less than significant.

Impact HAZ-2: Would the Proposed Project 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?

Construction

As described under Impact HAZ-1, typical construction-related hazardous materials would be used during construction of the proposed project, including gasoline, oil, other vehicle-related fluids, paints, solvents, and metals. As noted in Impact HAZ-1, ACM and LBP in buildings at the site could be released during construction if the buildings are demolished or renovated under the master plan. However, compliance with federal, state, and local regulations, in combination with construction BMPs implemented as part of a Stormwater Pollution Prevention Plan (described in Section 3.8, Hydrology and Water Quality), would ensure that impacts would be less than significant. Implementation of MM-HAZ-1 through MM-HAZ-3 would also ensure that all hazardous materials would be used, stored, and disposed of properly, which would minimize potential impacts related to hazardous materials releases. Furthermore, any accidental spills of materials considered hazardous would be confined immediately, with the materials removed and disposed of in accordance with all applicable safety regulations and disposal methods.

Operation

The proposed project consists of a master plan that would guide future development on the campus over a period of approximately 25 years (2015–2040). Operation of future facilities and buildings on the campus could result in the use of solvents, cleaning agents, paints, pesticides, diesel, petroleum fuels, and batteries. These products would be used in small amounts, and any spills that may occur would be limited in scope and cleaned up soon after the occurrence. Additionally, all hazardous materials would be handled in accordance with all applicable rules and regulations. Biomedical wastes would be handled and transported for disposal during operation of future facilities. Current safety protocols for such materials at the Medical Center Campus would be carried forward into the operation of future facilities, and the risk due to the release of biomedical wastes into the environment would be minimal. Therefore, operation of the proposed project would result in a less-than-significant impact related to hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials.

Mitigation Measures

Please see MM-HAZ-1 through MM-HAZ-3, above.

Level of Significance after Mitigation

Less than significant.

Impact HAZ-3: Would the Proposed Project Emit Hazardous Emissions or Involve Handling Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School?

Construction

The northeastern boundary of the Medical Center Campus is within 0.15 mile of the Bravo Medical Magnet High School, at 1200 North Cornwell Street. The LAC+USC Children's Center, which has an enrollment of 12 infants and 60 preschoolers, is located on the western edge of the Medical Center campus on the site bounded by Griffin Avenue, Mission Road, and rail lines. In addition, the East Los Angeles Occupational Center, an adult and career education facility, is located adjacent to the southeastern corner of the Medical Center campus.

As previously discussed under Impacts HAZ-1 and HAZ-2, site buildings designated for future demolition or renovation may contain ACM and LBP. Additionally, excavation activities in the vicinity of the PECs identified in the Environmental Setting section may disturb or result in the release of other hazardous materials. However, impacts due to exposure to or disturbance of hazardous materials or wastes would generally be limited to the project site. Furthermore, any hazardous waste being hauled to and from the project site would have to be secured and contained to prevent its release, in accordance with existing federal and state regulations for the hauling of such waste. Given this fact, and because the proposed project would comply with all applicable regulations, impacts on nearby schools would be less than significant. Additionally, implementation of mitigation measures MM-HAZ-1 through MM-HAZ 3 would ensure that no adverse impacts on nearby schools would occur.

Operation

Operation of the proposed project could result in the use of solvents, cleaning agents, paints, pesticides, diesel, petroleum fuels, and batteries. Although the project boundary is within 0.25 mile of the Bravo Medical Magnet High School, hazardous materials would generally be used in small amounts, and any spills that may occur would be limited in scope and cleaned up soon after the occurrence. Additionally, it is expected that all hazardous materials would be handled in accordance with all applicable rules and regulations. Therefore, operation of the proposed project would result in a less-than-significant impact.

Mitigation Measures

Please see MM-HAZ-1 through MM-HAZ-3, above.

Level of Significance after Mitigation

Less than significant.

Impact HAZ-4: Would the Proposed Project Be Located on a Site that Is Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5 and, as a Result, Create a Significant Hazard to the Public or the Environment?

Construction

As previously stated, the project site is listed in several databases, including the RCRA Generators, State LUST, UST Registration, CA FID UST, HIST UST, SWEEPS UST, CHMIRS, HIST CORTESE, HAZNET, and RGA LUST. The site that is listed as an open remediation case on the LUST database is a PEC for the project site. The site and associated addresses listed in the UST database do not represent a PEC for the site; however, the lack of information regarding removal, abandonment, closure, and location of some four USTs represents a PEC for the site. Additionally, fifteen facilities in the site vicinity and within the searched radius were listed in the LUST database, including one facility adjacent to and south of the site, which is listed as an open remediation case. Hazard Reservoir, located northeast of the site, is suspected of being a source of chloroform in groundwater beneath the site due to chlorinated water leakage from the facility. The location of Hazard Reservoir, at a higher elevation than the site, is indicative of a PEC for the site.

Review of the DOGGR online system found an active oil well along the south margin of the site, north of Marengo Street and west of North State Street. The presence of an active oil well on the south end of the site is indicative of a PEC.

Twelve addresses that were historically associated with the project site were listed in the SCAQMD database. The listings included registration for gasoline pumps and an active permit for a petroleum tank. Active permits for petroleum tanks and pumps are indicative of a PEC for the project site.

Previous reports prepared for the site include Phase II assessments, environmental assessments and impact reports, tunnel assessments, and Phase I ESAs. Observed RECs noted in the reports that have not been further evaluated or remedied are indicative of PECs for the site.

As noted under Impact HAZ-1, construction activities could result in a potentially significant impact on construction personnel due to exposure to hazardous wastes that may be encountered or disturbed during construction. Implementation of mitigation measures MM-HAZ-1 through MM-HAZ-3 would be required to reduce the potential impacts to a less-than-significant level.

Operation

The PECs identified in the Environmental Setting section generally do not pose a significant hazard to the campus or occupants of existing buildings on the campus unless the sites are disturbed during construction and hazardous materials are released into the environment. Therefore, operation of future facilities is not expected to result in significant increased hazards to the public or the environment due to the proximity of those facilities to existing hazardous materials sites.

Mitigation Measures

Please see MM-HAZ-1 through MM-HAZ-3, above.

Level of Significance after Mitigation

Less than significant

Impact HAZ-5: Would the Proposed Project Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan?

Construction

Construction activities could temporarily impair and/or interfere with emergency response access in the vicinity of the project site because of possible lane closures, detours, and construction-related traffic. This impact would be a temporary but nonetheless potentially significant impact. However, the County would coordinate with local emergency response providers during construction to minimize potential traffic and access impacts and ensure continued emergency access to the project site and nearby properties (see mitigation measures in Section 3.12, Public Services, and Section 3.14, Transportation/Traffic).

Operation

New buildings proposed under the master plan would be designed to conform to County of Los Angeles Fire Department standards for emergency ingress/egress and clearances, and the new buildings would be integrated into the existing emergency response plan and emergency evacuation plan for the site. The County of Los Angeles Fire Department reviews building plans to conform with these standards as part of the standard building plan approval process.

While it is acknowledged that build-out of the Master Plan would increase traffic congestion around the Medical Center campus, no significant impacts during project operation would be expected because the the proposed project would allow for adequate access through and to the project site. No mitigation measures would be required during project operation.

Mitigation Measures

For construction-related impacts identified, mitigation measures MM-PS-1 in Section 3.12, Public Services, and MM-TRAF-1 in Section 3.14, Transportation/Traffic apply.

Level of Significance after Mitigation

Less than significant.

3.7.5 Cumulative Impacts

The study area for cumulative hazardous materials impacts has been defined as the area within approximately 0.25 mile of the boundariesof the project site because it is unlikely that the hazardous materials impacts of the proposed project would extend beyond the immediate project vicinity. Construction associated with ongoing and future projects in the project area could result in cumulative impacts through the release of hazardous materials to soil and/or groundwater during site excavation and grading as well as building demolition and renovation. Based on the proposed Medical Center Campus' compliance with applicable hazardous waste laws and regulations, the limited potential for impacts to extend beyond the boundaries of the site, and implementation of the mitigation measures described above, development of the master plan would not contribute to a cumulatively considerable impact related to hazardous materials.

It is anticipated that operation of the related projects in the study area and the proposed project would comply with all applicable hazardous materials regulations governing the transport, use, and disposal of hazardous materials. Consequently, operation of the related and proposed projects would not pose a significant cumulative hazard to the public or the environment.

If construction of related projects occurs concurrently with construction of individual projects proposed under the master plan, there is the potential for multiple simultaneous lane or road closures, and increased construction traffic could have a cumulative impact on emergency response and access to the area. However, the significance of potential cumulative impacts cannot be predicted with any certainty at this time because the exact extent and timing of construction of the related projects and development under the master plan is not known. Additionally, implementation of mitigation measures MM-PS-1 and MM-TRAF-1 would minimize the proposed project's contribution to any significant cumulative emergency plan impacts.

3.8 Hydrology/Water Quality

3.8.1 Introduction

This section of the environmental impact report describes the affected environment and regulatory setting for hydrology and water quality. It also describes impacts on hydrology and water quality that would result from implementation of the proposed project as well as proposed mitigation measures to reduce such impacts. The information in this section is based on available literature, including *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR* (Appendix F), which was prepared for the proposed project by Watearth (2014a).

3.8.2 Regulatory Setting

3.8.2.1 Federal

Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It is based on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. Permit review is the CWA's primary regulatory tool. The CWA requires states to adopt water quality standards for receiving waters. Water quality standards designate beneficial uses for receiving waters and include the criteria required to support such uses. Water quality criteria are either narrative statements related to the quality of the water that support a particular use or maximum concentration levels for pollutants (i.e., bacteria, etc.). As part of the CWA, when monitoring data indicate that a concentration level for a pollutant has been exceeded, the receiving water is classified as *impaired* and placed on the CWA Section 303(d) List of Water Quality–Limited Segments Requiring TMDLs (303[d] list). A Total Maximum Daily Load (TMDL) is then developed for the pollutant(s) that caused the impairment. The purpose of the TMDL is to limit the volume of pollutants discharged into the receiving water from all sources (i.e., stormwater runoff, wastewater, agriculture).

National Pollutant Discharge Elimination System General Construction Permit

The National Pollutant Discharge Elimination System (NPDES) was established per 1972 amendments to the Federal Water Pollution Control Act to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a section devoted to stormwater permitting (Section 402[p]), with individual states designated for administration and enforcement of the provisions of the CWA and the NPDES permit program. The State Water Resources Control Board (SWRCB) issues both Construction General Permits and Individual Permits under this program.

Projects that will disturb more than 1 acre of land during construction are required to file a Notice of Intent (NOI) with the SWRCB to be covered under the NPDES Construction General Permit for discharges of stormwater associated with construction activity. The project proponent must develop measures that are consistent with the Construction General Permit. Furthermore, a Stormwater

Pollution Prevention Plan (SWPPP) must be developed and implemented for each site covered under the Construction General Permit. The SWPPP describes the best management practices (BMPs) the discharger will use to protect stormwater runoff and reduce potential impacts on surface water quality through the construction period.

The SWPPP must contain the following:

- A visual monitoring program,
- A chemical monitoring program for nonvisible pollutants (to be implemented if a BMP failure occurs), and
- A sediment monitoring plan if the site discharges directly to a water body on the 303(d) list for sediment.

The area that would be disturbed under the proposed project exceeds 1 acre; therefore, the project would be required to comply with the Construction General Permit.

3.8.2.2 State

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Water Quality Control Act (Porter-Cologne or the Act) established the SWRCB and divided the state into nine regional basins, each with a Regional Water Quality Control Board (RWQCB). The SWRCB is the primary state agency with responsibility for protecting the quality of the state's surface water and groundwater.

The Act authorizes the SWRCB to draft policies regarding water quality in accordance with CWA Section 303. In addition, the Act authorizes the SWRCB to issue waste discharge requirements (WDRs) for projects that would discharge to state waters. Porter-Cologne requires the SWRCB or the RWQCB to adopt water quality control plans, otherwise referred to as basin plans, for the protection of water quality.

A basin plan must:

- Identify beneficial uses for the water to be protected,
- Establish water quality objectives for the reasonable protection of the beneficial uses, and
- Establish an implementation program for achieving the water quality objectives.

Basin plans also provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every 3 years in accordance with Article 3 of Porter-Cologne and CWA Section 303(c).

3.8.2.3 Local

Water Quality Control Plan, Los Angeles Region

The Los Angeles RWQCB, which has jurisdiction over the project area, adopted the most recent amendments to the *Water Quality Control Plan, Los Angeles Region – Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) in 2010 (Los Angeles RWQCB 1994, amended 2007) and currently has multiple proposed amendments to the plan under consideration.

State policy for water quality control aims to achieve the highest quality and maximum benefit for the people of the state. To develop water quality standards that are consistent with uses associated with a particular water body, the Los Angeles RWQCB attempts to classify historic, present, and future beneficial uses as part of its Basin Plan.

3.8.3 Environmental Setting

3.8.3.1 Surface Water Quality

The project site is currently fully developed. Land cover on-site consists primarily of buildings and pavement, with the existing impervious cover amounting to 95%. Although limited, site vegetation includes trees, shrubs, and turf grass, with denser planting (i.e., trees and groundcover) in the northeastern portion of the site ("the hill"). Land uses at the site include a mix of commercial, transportation, institutional, and landscape uses.

Site reconnaissance was conducted on June 14, 2014, as part of Watearth's *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR*. The project site does not appear to include water quality or stormwater controls, such as stormwater BMPs, low-impact development (LID) features, or hydromodification management facilities. Additionally, stormwater detention or other flood control features were not observed on-site. Instead, rainfall and stormwater runoff are managed with vertical roof drains, catch basins, drain inlets, underground reinforced concrete pipes, curbs, gutters, overland sheet flows, driveways, or other means of conveyance to the on- and off-site storm drain system.

Stormwater Runoff (Typical Pollutants from Project Site)

Stormwater runoff from the site is typical of urbanized areas and includes pollutants from motor vehicles as well as transportation-related land uses (e.g., parking areas). These pollutants include hydrocarbons, oil, grease, sediment, and heavy metals. Nutrients from fertilizers as well as herbicides and pesticides associated with landscape maintenance are also likely to be present in stormwater runoff from the site.

Vegetative cover is established throughout the site. The northeastern portion of the site ("the hill") includes steep slopes and denser plantings. The concrete-lined conveyance swales along the upper perimeter of "the hill" concentrate and direct runoff perpendicular to the natural slope of the land. Because of pedestrians, adjacent bus stops, and the high volume of visitors to the existing LAC+USC Medical Center, trash is expected to be a potential pollutant. Many of the drainage inlets in the roadways adjacent to the site include screens or grates to prevent trash from entering the storm drain system and discharging to the receiving water (i.e., the Los Angeles River). Fecal coliform bacteria and other pollutants are typically found in stormwater runoff from land uses similar to those at the site.

Table 3. 8-1 summarizes typical pollutants of concern according to land use. The majority of the pollutants listed are from the February 2014 County of Los Angeles Department of Public Works *Low-Impact Development Standards Manual*. Also included in this table are other pollutants that EPA recognizes as typically associated with the land uses present on the project site.

Table 3.8-1: Pollutants of Concern by Land Use

Land Use	Pollutants of Concern													
	Suspended Solids[2]	**Total Phosphorus[2]**	**Total Nitrogen[2]**	**Total Kjedahl Nitrogen[2]**	**Cadmium, Total[2]**	**Chromium, Total[2]**	**Copper Total[2]**	**Lead Total[2]**	**Zinc, Total[2]**	**Biological Oxygen Demand (BOD)[5]**	**Chemical Oxygen Demand (COD)[5]**	**Fecal Coliform[5]**	**Hydrocarbons[5]**	**Trash[5]**
Commercial	X	X	X	X	[4]	[4]	X	X	X					
Industrial	X	X	X	X	[4]	[4]	X	X	X					
Streets, Roads	X	X	X	X	[4]	[4]	X	X	X					
Educational Facilities	X				[4]	[4]	X		X					
Project Site	X	X	X	X	X	X	X	X	X	X	X	X	X	X

[1] Adapted from Table A-3 of the *Technical Manual for Stormwater Best Management Practices in the County of Los Angeles* (February 2004) and the Southern California Coastal Water Research Project Land Use–Specific Stormwater Monitoring Data. X= exceedance of "standard" by observed median/average concentration; blank = no exceedance of "standard" by observed median/average concentration.

[2] Derived from Table 11 of the 2012 Los Angeles County MS4 Permit (page 104).

[3] Critical facilities include automobile dismantling (SIC 50xx), automobile repair (SIC 75xx), metal fabrication (SIC 34xx), motor freight (SIC 42xx), automobile dealerships (SIC 55xx), chemical manufacturing (SIC 28xx), and machinery manufacturing (SIC 35xx).

[4] No available data to determine if these pollutants of concern originate from this land use. Pollutant is assumed to be produced by this land use unless otherwise proven by the project applicant.

[5] Based on 2006 EPA *Guide to Stormwater Pollutant Concentrations*.

Source: Watearth 2014.

Pollutants of Concern Based on Receiving Water Impairment

There are several pollutants of concern related to the receiving body of water. The pollutants include those with a developed TMDL requirements, those on the 303(d) list, and those of concern for the Los Angeles River watershed management area. The project site is located within Reach 2 of the Los Angeles River. Data from the SWRCB for Reach 2 of the Los Angeles River (see Table 3.8-2) are based on the combined California 2010 303(d) list and include pollutants that have a completed TMDL, pollutants that require development of a TMDL, and pollutants that are being addressed by actions other than a TMDL.

Table 3.8-2: Los Angeles River Reach 2 303(d) List

Pollutant	Pollutant Category	Potential Source	Source Category
Ammonia	Nutrients	Point Source	Unspecified Point Source
Ammonia	Nutrients	Non-point Source	Unspecified Non-point Source
Coliform Bacteria	Pathogens	Point Source	Unspecified Point Source
Coliform Bacteria	Pathogens	Non-point Source	Unspecified Non-point Source
Copper	Metals/Metalloids	Source Unknown	Source Unknown
Lead	Metals/Metalloids	Point Source	Unspecified Point Source
Lead	Metals/Metalloids	Non-point Source	Unspecified Non-point Source
Nutrients (Algae)	Nutrients	Point Source	Unspecified Non-point Source
Nutrients (Algae)	Nutrients	Non-point Source	Unspecified Non-point Source
Source: Watearth, 2014.			

Multiple TMDLs are in effect for the Los Angeles River for the following pollutants:

- Bacteria
- Metals
- Trash
- Nutrients

Table 3.8-3 lists the pollutants of concern for the Los Angeles River watershed management area, which includes the project site.

Table 3.8-3: Tier 3 Pollutants of Concern for the Los Angeles River Watershed Management Area

Parameter
pH
E. coli Bacteria
Total Coliform Bacteria[1]
Fecal Coliform Bacteria[1]
Enterococcus Bacteria[1]
Chloride
Nitrite Nitrogen, Total (as N)
Sulfate
Total Dissolved Solids
Turbidity
Aluminum, Total Recoverable
Cyanide, Total Recoverable
Copper, Total Recoverable
Mercury, Total Recoverable
Selenium, Total Recoverable
[1] Applies only to discharges to estuaries and the ocean.
Source: Watearth, 2014.

Table 3.8-4 summaries potential pollutants at the site based on land use along with pollutants of concern from the various sources described above.

Table 3.8-4: Summary of Pollutants and Pollutions of Concern

Nutrients	Metals	Organics	Other	Pathogens	Sediment/Solids
Algae Ammonia Kjedahl Nitrogen Total Nitrogen Total Phosphorous	Aluminum Cadmium Chromium Copper Cyanide Lead Mercury Selenium Zinc	BOD COD	Chloride Hydrocarbons pH Sulfate Trash	Coliform Bacteria	Suspended Solids Total Dissolved Solids Turbidity
Source: Watearth, 2014a.					

Water Supply

Based on the information included in the master plan, water service for the *LAC+USC Medical Center* is provided by the Los Angeles Department of Water and Power (LADWP). Reclaimed water does not appear to be used at the site, and irrigation demand is not separated from overall demand at the campus. According to the data included in the *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR* prepared by Watearth (2014a), approximately 15% of the water comes from groundwater within the San Fernando Basin and approximately 60% comes from the eastern Sierra Nevada through the Los Angeles Aqueduct and the Metropolitan Water District's Colorado and Feather River supplies.

Hydrology

Elevations within the LAC+USC Medical Center range from a low of approximately 320 feet in the southwestern portion of the site to a high of approximately 450 feet in the northeastern portion of the site. Overland flow within the site is generally from the northeast to the southwest. The northeast corner of the site includes "the hill," which is vegetated with a mix of trees and understory vegetation; it drains from north to south. Off-site flows into or through the site are minimal.

Slopes within the three "off-site" tracts at the intersection of North Mission Road and Zonal Avenue are relatively flat, with elevations of approximately 330 feet; overland flow is generally directed toward the adjacent roadways.

The Los Angeles River is approximately 1 mile west of the project site; overland flows in the vicinity are generally to the west (toward the river). Surface water drainage in the vicinity is generally toward the Los Angeles River. Stormwater runoff from extreme storm events that exceed the capacity of the on-site and public storm drain systems flows to the west/southwest and toward the Los Angeles River. The confluence of Rio Hondo with the Los Angeles River is approximately 1 mile west of the project site.

As discussed, the site does not appear to include water quality or stormwater controls, such as stormwater BMPs, LID features, or hydromodification[1] management facilities. Additionally, stormwater detention and other flood control features were not observed on-site. Instead, rainfall and stormwater runoff are managed with vertical roof drains, catch basins, drain inlets, underground reinforced concrete pipes, curbs, gutters, overland sheet flows, driveways, or other means of conveyance to the on- and off-site storm drain system.

For an undeveloped site, the water budget would include much higher amounts of infiltration and evapotranspiration[2] from naturally vegetated pervious areas with depressions and other low spots for temporary rainfall ponding. The amount of impervious cover and the improved conveyance systems on-site have resulted in stormwater runoff that contributes to hydromodification within natural receiving systems.

Because the Los Angeles River is concrete lined in the vicinity of the project site, hydromodification is limited. However, changes in the water budget associated with the project site may have affected areas farther downstream with sediment deposits and natural features that can be disturbed by increases in flows or changes in the flow regime.

Stormwater runoff from the project site under assumed undeveloped conditions is estimated to be 46.6 inches (1.3 inches per year) based on continuous simulation analysis of the period of record (1970–2006). Under existing conditions, stormwater runoff is 494.9 inches (13.4 inches per year) for the same time frame because of the high level of impervious cover. Appendix F includes a hydrology memorandum prepared by Watearth (2014b) for the project as well as additional details regarding runoff rates and modeling assumptions.

Storm Drainage

Visual observations made during site reconnaissance found that the LAC+USC Medical Center relies on vertical roof drains, underground reinforced concrete pipes, overland sheet flows, curbs, gutters, catch basins, and driveways to convey stormwater runoff to the public storm drain system, which is owned and operated by Los Angeles County Flood Control District.

The eastern and southern portions of the campus are served by a private system of isolated storm drain laterals. These range in size from 6-inch lines to an 11- by 18-inch corrugated metal pipe. The small-diameter storm drain system discharges into a 36-inch reinforced concrete pipe, which is part of the public storm drain system, along Marengo Street.

The private storm drain laterals in the north-central portion of the campus range in size from 10 to 18 inches. These reinforced concrete pipes, with diameters ranging from 18 to 36 inches, discharge into the public system along Zonal Avenue. The Zonal Avenue system flows to the west and discharges into an on-site public storm drain system. A 4.5- by 4-foot reinforced concrete box (RCB), which runs from north to south through the western portion of the campus, is located between State Street and North Mission Road.

---

[1] Hydromodification: Any activity that increases the velocity and volume (flow rate), and often the timing, of runoff. Such activities can include construction and maintenance associated with channels, levees, dams, and other impoundments; dredging; filling; the removal of vegetation; or the development of impervious surfaces.

[2] Evapotranspiration: Loss of water from the soil both by evaporation and transpiration from plants growing in the soil.

The western portion of the campus drains through private storm drain laterals, ranging in size from 4 to 6 inches, to an on-site public 8- by 2-foot, 9-inch RCB that flows from north to south through the western portion of the campus between State Street and North Mission Road. This RCB is parallel to and east of the 4.5- by 4-foot RCB. Both on-site public RCBs eventually join together off-site, south of Interstate 10, and convey stormwater runoff to the Los Angeles River.

The Los Angeles River in the vicinity of the project site is a concrete-lined trapezoidal channel with a low-flow section. The configuration of the river in the vicinity of the site outfall provides an efficient conveyance system with minimal floodplain storage, habitat/ecology, recreational, or aesthetic benefits.

In the event that sheet flow leaves the project site, regularly spaced inlets are provided along the public roadways that border the campus. Some of these inlets include grates to keep trash from entering the storm drain system or the Los Angeles River watershed.

Groundwater

The project site is located on the northern edge of the Los Angeles Forebay of the Central Basin, which is a sub-basin of the Los Angeles Coastal Plain. The site is not located nearexisting stormwater spreading grounds, as shown in Figure 3.8-1. As such, stormwater runoff from the site would not recharge the existing stormwater spreading grounds or introduce pollutants into the spreading grounds.

Information from the LAC+USC Medical Center Replacement Project Environmental Assessment/EIR Seismic Hazard Mitigation Program for Hospitals (LAC+USC Medical Center Seismic EIR June 2000) indicates that “Within the forebay, the site is situated along the southern edge of the Elysian Park-Repetto Hills, which are bisected by Los Angeles Narrows, a north/south-trending valley underlain by Quaternary-age alluvium deposited by the Los Angeles River. Quaternary-age water-bearing deposits of the forebay area pinch out northward against Tertiary-age sedimentary, including the Puente Formation.” The groundwater flow in the vicinity of the site is generally to the southwest.

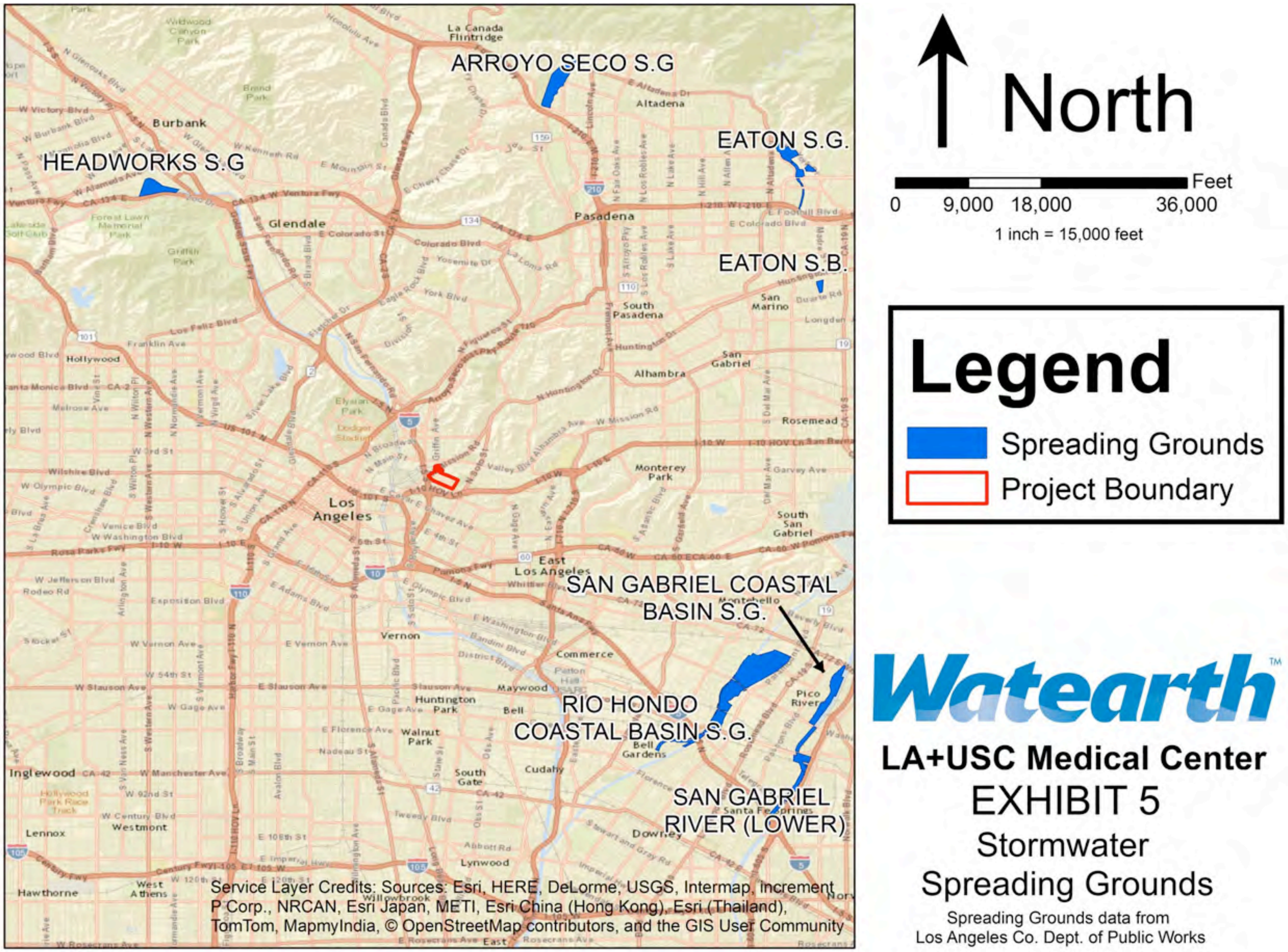
According to Watearth’s *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR*, the historic underground Arroyo de La Pasa River flowed southwesterly from an area near the existing clinical research building to an area near the existing Central Plant and central laboratory buildings.

Depth to Groundwater

As part of the October 2013 Phase I environmental site assessment prepared by Kimley Horn & Associates for 1744 Zonal Avenue, which is within the project site, it was noted that water table depths greater than 6 feet are common. The report also states that “Liquefaction played a significant role in the damage sustained by the medical center during the Northridge earthquake. Wherever water table levels are less than 10 feet, the potential for liquefaction is high. Conversely, where the water table is greater than 30 feet below land surface, the risk for liquefaction is low.” This statement seems to imply that the depth to groundwater may be less than 30 feet below the land surface in parts of the project site.

The *LAC+USC Medical Center Seismic EIR* references subsurface borings where groundwater was encountered on the site at depths ranging from approximately 20 to 45 feet at most borings. It was also noted that groundwater was found in the underlying bedrock and alluvial units. Groundwater was typically encountered in steeply dipping sandstone beds under the semi-confined conditions

Figure 3.8-1: Stormwater Spreading Grounds



of the bedrock. According to the geotechnical study for that project, groundwater seepage was found at depths ranging from 12 to 14 feet below the natural ground in a portion of the site. In a prior geotechnical study in 2002, groundwater seepage was found between 5 and 14.5 feet below the natural ground. The EIR also references the California Geotechnical Survey's Seismic Hazard Zone Report, which indicates that the highest groundwater level recorded at the site was approximately 25 feet below the natural ground.

Groundwater Contamination

According to the October 2013 Phase I environmental site assessment prepared by Kimley Horn & Associates for 1744 Zonal Avenue, two locations with groundwater contamination from petroleum were found within the greater LAC+USC Medical Center site. No other sources or locations of groundwater contamination were found as part of the data review for this project.

Recharge

Soils within the project site are generally classified as loam or clay loam, according to the *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR* prepared by Watearth. According to this report, soil textures are in the Type C soil group. This classification typically has low saturated hydraulic conductivity rates, normally in the range of 0.04 to 0.13 inch per hour. With the site's impervious cover amounting to approximately 95%, minimal recharge to the Central Basin or the San Fernando Basin occurs.

Dam Failure/Tsunamis/Seiches

According to the *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR* prepared for the proposed project, the project site is not located within a potential inundation area resulting from a dam failure, a tsunami inundation area, or a seiche or landslide/mudslide hazard zone. A tsunami is a series of ocean waves caused by a sudden displacement of the ocean floor, most often due to earthquakes. The project site is located approximately 19 miles inland from the Pacific Ocean. A seiche is a wave that oscillates in enclosed water bodies such as reservoirs, lakes, or ponds. Hazard Reservoir, a historic reservoir that is no longer in use, is located just east of the project site.

3.8.4 Environmental Impact Analysis

3.8.4.1 Methods

The following analysis evaluates potential hydrology and water quality impacts that could result from implementation of the proposed project. It assesses impacts under existing conditions and determines whether they would exceed any of the thresholds listed below. The analysis is based on the conclusions found in the *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR* prepared for the project by Watearth (2014a).

3.8.4.2 Thresholds of Significance

For the purposes of the analysis in this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

HYD-1 Violate any water quality standards or waste discharge requirements.

HYD-2 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

HYD-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.

HYD-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

HYD-5 Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

HYD-6 Otherwise substantially degrade water quality.

HYD-7 Contribute to inundation by seiche, tsunami, or mudflow.

Los Angeles County, as the CEQA lead agency, determined in the NOP/IS (see Appendix A) that the proposed project would not result in impacts in the following areas.

HYD-8 Place housing within a 100-year flood hazard area, as mapped on a Federal Flood Hazard Boundary Map or Flood Insurance Rate Map or other flood hazard delineation map.

HYD-9 Place within a 100-year flood hazard area structures that would impede or redirect flood flows.

HYD-10 Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Therefore, no further analysis of these issues is required. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding these issue areas.

3.8.4.3 Impacts and Mitigation Measures

Impact HYD-1: Would the Proposed Project Violate Any Water Quality Standards or Waste Discharge Requirements?

Construction

During construction, site grading activities and exposed soil could temporarily increase the amount of suspended solids (sediment) in sheet flow or runoff, which would enter the existing storm drain system. Thus, surface water quality could be temporarily affected by construction activities. However, the proposed project would be required to obtain and comply with the Construction General Permit from the SWRCB. This permit and associated NPDES requirements include development and implementation of a SWPPP, with associated monitoring and reporting. Stormwater BMPs are required to limit erosion, minimize sedimentation, and control stormwater runoff water quality during construction activities. Additional source-control BMPs would also be required to prevent runoff contamination by potentially hazardous materials and eliminate non-stormwater discharges.

Compliance with the Construction General Permit, SWPPP, NPDES requirements, and local regulations that require construction-phase BMPs would ensure that construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters.

Construction-related activities could include the use of materials such as fuels, lubricating fluids, solvents, and other materials that could result in polluted runoff. However, the potential consequences of any spill or release of these types of materials would generally be small because of the localized, short-term nature of the releases. Furthermore, the NPDES Construction General Permit and SWPPP require measures regarding the handling of these types of materials and protocols for actions taken if a spill or release does occur (see mitigation measure MM-HYD-1). Therefore, impacts associated with these types of pollutants would be less than significant with mitigation incorporated.

Operation

Plans call for the use of low-maintenance vegetation, which would be maintained by staff members who are trained to work with native California landscapes. The proposed project would avoid the use of pollutants, chemicals, or soil amendments that could harm human or ecological health. Organic maintenance methods or Integrated Pest Management may be used.

Vegetation and other materials would be composted on-site for use as a soil amendment in degraded soils. This practice would enhance infiltration and the storage capacity of soils, thereby reducing runoff. Provided that animal manure and animal products are not included in the mulch or compost used on-site, these materials would have a beneficial impact on runoff from the site.

Standard Urban Stormwater Mitigation Plan (SUSMP) requirements would be implemented, including source-control BMPs, treatment-control BMPs, and requirements regarding erosion control. Non-structural BMPs may include storm drain stenciling and signage, properly designed outdoor material storage areas, properly designed trash storage areas, proof of ongoing BMP maintenance, and other items relevant to operations on the site.

Similar to existing conditions, stormwater runoff from the site after project implementation would be typical of urbanized areas and would include pollutants such as sediment, hydrocarbons, oil, grease, heavy metals, nutrients, herbicides, pesticides, fecal coliform bacteria, and trash.

LID features included under the proposed project would meet the requirements found in the County's *Low-Impact Development Standards Manual*. The LID features would provide treatment control through physical, biological, and chemical processes to remove pollutants from stormwater runoff. An important consideration in the design of bioretention is the leaching of nutrients from the growing media to stormwater runoff. Because nutrients are pollutants of concern with respect to discharges from the site, the design of bioretention features on-site must include modifications to address the potential leaching of nutrients.

Provided that LID features (especially the design of bioretention features) include modifications to address the potential leaching of nutrients, compliance with the County LID criteria and other state and local regulations that require post-construction BMPs would ensure that operations on the site would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. Operations on the site would not result in a violation of any water quality standards or waste discharge requirements, would not create substantial additional sources of polluted runoff, and would not substantially degrade water quality. Operational impacts on surface water quality would be less than significant.

Once the project is operational, materials such as fuels or solvents may be stored on-site, similar to existing conditions. This is not anticipated to be a source of polluted stormwater runoff or dry-weather runoff. As under existing conditions, the medical center would continue to adhere to all applicable regulations. Consequently, impacts would be less than significant.

Mitigation Measures

The following measures are proposed to mitigate Impact HYD-1, above.

MM-HYD-1: Construction activity (clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement) resulting in a land disturbance of one or more acre, or less than one acre but part of the larger master plan for the campus must obtain the Construction Activities Storm Water General Permit.

Prior to beginning any construction activity, the County shall require the contractor(s) to develop the SWPPP, Construction Activities Storm Water General Permit, erosion/sediment control plan, and submit these plans for approval by the governing regulatory agency. The contractor(s) shall then perform all construction activity in accordance with the recommendations in the SWPPP, the Construction Activities Storm Water General Permit, and erosion/sediment control plan. The contractor's erosion control plan must comply with the *California Stormwater Best Management Practices Handbook* and meet the requirements of the statewide Construction General Permit.

MM-HYD-2: LID features shall be designed to improve water quality and minimize the leaching of nutrients from growing media. Best design practices based on the latest monitoring and research recommendations shall be incorporated. In addition to avoiding the use of growing media, mulch, and compost containing animal products, which may leach nutrients, design modifications may include incorporation of an internal storage zone. With an internal storage zone, the underdrain is elevated and anaerobic conditions are created, causing denitrification to occur, provided that a carbon food source is provided for the denitrifying bacteria. Additionally, due to the large area of proposed landscaping, phosphorous is a likely pollutant in stormwater runoff from the site. Phosphorous can be minimized through organic maintenance methods, Integrated Pest Management, and avoiding products containing animal manure or other animal products.

Although these practices apply specifically to bioretention, they should also be considered for other landscape-based LID features that could be included in the final design. If phosphorous is added to the 303(d) list for the Los Angeles River Reach 2 or the Tier 3 Pollutants of Concern for the Los Angeles River Watershed Management Area, then it becomes a pollutant of concern for the receiving water body and the specialized design measures shall be incorporated at the landscape-based LID features proposed for the site.

Level of Significance after Mitigation

Less than significant.

Impact HYD-2: Would the Proposed Project Substantially Deplete Groundwater Supplies or Interfere Substantially with Groundwater Recharge?

Construction

Construction activities could require excavation below normal or seasonally high groundwater levels. Therefore, seepage may be encountered because of the depth to groundwater at the site, and dewatering may be necessary. However, any seepage encountered during construction would be mitigated, as needed, by constructing small drainage swales from the base of the excavations to temporary sump pits or stormwater/LID features on-site.

Any discharges of groundwater during construction would be in compliance with applicable NPDES permit requirements. The project would also comply with all applicable federal, state, and local requirements concerning the handling, storage, and disposal of hazardous materials to reduce the potential for a release of contaminants into the groundwater as a result of project construction. Thus, construction activities would not degrade groundwater quality or interfere with recharge. Water use may temporarily increase to a limited extent during the construction phase. Therefore, construction-phase impacts would be less than significant.

Operation

Under the proposed project, water demand at the site is projected to increase. This increase would most likely result from increased utilization of facilities at the LAC+USC Medical Center as well as an increase in irrigation demand with the additional landscaped areas.

Regional water demand is primarily a function of population growth. Although the project would most likely lead to increases in indoor water demand at the site, it would not significantly increase the overall population within the region. Additionally, indoor fixtures would comply with Los Angeles Municipal Code requirements related to reducing indoor water consumption. The City of Los Angeles Plumbing Code (Chapter IX, Article 4, of the Los Angeles Municipal Code) references the California Plumbing Code, which establishes maximum flow rates for indoor water fixtures. City Ordinance No. 180,822 further establishes water efficiency requirements for renovation, redevelopment, and new development and mandates the installation of high-efficiency plumbing fixtures in residential and commercial buildings (Los Angeles Municipal Code, April 2012). These requirements would limit potential increases in indoor water usage at the project site.

As part of the project, impervious surfaces are proposed to be reduced from approximately 95% to 75% or less (see the hydrology memorandum in Appendix F). Although multiple design and maintenance principles to reduce the use of potable water for irrigation are planned, as discussed below, the increase in landscaped areas at the site is likely to result in increased use of groundwater for irrigation. Although infiltration and groundwater recharge at the site are expected to increase by approximately 657% (see the hydrology memorandum in Appendix F) because of the increase in the amount of pervious area and the incorporation of LID features, recharge is to the Central Basin, and groundwater supplies are obtained from the San Fernando Basin.

According to the master plan, drought-tolerant and California native plants would be used at the site. The use of plant species with high to moderate water needs would be limited. Although lawn areas would be limited in area, agricultural crops would be encouraged. Furthermore, low-maintenance vegetation would be used, with maintenance performed by a well-trained staff that is familiar with California native landscapes. The use of compost, soil amendments, and mulch is planned to enhance infiltration and store stormwater runoff within the landscape, thus reducing the project's reliance on irrigation.

According to the General Landscape Guidelines contained in the master plan, reclaimed water will be used for irrigation, if available. If not available, use of an on-site reclaimed water treatment system will be investigated. Although the master plan states that, where appropriate, the use of captured rainwater (stormwater) or gray water shall be considered, the percentage or amount of irrigation to be met by these sustainable alternatives to potable water is not specified. Wasted irrigation water is to be reduced through proactive maintenance of the irrigation system and best irrigation practices, such as seasonally reprogramming the system and irrigating at appropriate times of the day.

Water use would increase during project operation because of the increase in the number of persons who would use the LAC+USC Medical Center facilities and the increase in landscape maintenance. Although the project would increase indoor water demand at the site, it would not lead to a significant increase in the demand for potable water for indoor use in the region. The project would increase use of potable water and groundwater for irrigation. By incorporating reclaimed water, gray water, and harvested rainwater for irrigation, the increased demand for groundwater for irrigation could be reduced. For these reasons, water demand associated with the proposed project would not deplete groundwater supplies substantially. The project would increase groundwater recharge by approximately 657% (see the hydrology memorandum in Appendix F)and would not interfere substantially with recharge. Therefore, the impacts on groundwater supplies or recharge during operation would be less than significant. Additionally, to further reduce potential impacts, irrigation water demand above existing irrigation demands would be met by alternative supply sources to the maximum extent possible as included in MM HYD-3.

Mitigation Measures

The following measures are proposed to minimize potential groundwater impacts identified in Impact HYD-2, above.

MM-HYD-3: Where groundwater seepage is expected, permanent monitoring wells shall be installed during construction within and around the perimeter of each building to monitor the groundwater level and evaluate the performance of the dewatering system. Before starting dewatering operations, a baseline conditions survey shall be made of all adjacent foundations and structures to assess the impact of deep excavation dewatering on adjacent structures. All signs of existing distress shall be recorded.

MM-HYD-4: Irrigation water demands above existing irrigation demands shall be met by alternative supply sources to the maximum extent technically feasible. The use of alternative water supply sources for irrigation shall be maximized to reduce the use of potable water for irrigation and approximate existing irrigation demands. Alternative water supply sources include, but are not limited to, reclaimed water, gray water, harvested rainwater (stormwater), and air-conditioning condensate (although not specifically mentioned in the master plan, this could represent a significant source of clean irrigation water).

Level of Significance after Mitigation

Less than significant.

HYD-3: Would the Proposed Project Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alteration of the Course of a Stream or River, in a Manner that Would Result in Substantial Erosion or Siltation On- or Off-Site?

Construction

Grading and excavation would be required for building foundations, which could affect drainage on the project site. However, careful design would prevent substantial alterations to drainage patterns and/or erosion within the project site.

The project would not substantially alter the existing drainage pattern of the site or result in substantial erosion or siltation on- or off-site. Standard construction-phase BMPs would decrease the potential for any significant erosion or sedimentation from soil disturbance associated with construction of the project. In addition, standard construction practices related to erosion and sediment control would be required as part of the permitting process.

Potential impacts on water quality arising from erosion and sedimentation are expected to be localized and temporary (i.e., during construction). The project applicant would implement measures to minimize and contain erosion and sedimentation and be required to submit a grading plan to the County for approval prior to the commencement of any construction activities. In addition, because the project would disturb more than 1 acre, the project proponent would be required to obtain and comply with the NPDES Construction General Permit. As required by this permit, the project proponent would develop a SWPPP and comply with regional requirements to meet state water quality objectives. Pending revisions, the NPDES permitting process may require development of a rain-event action plan prior to permit approval. Construction-related erosion and sedimentation impacts resulting from soil disturbance would be less than significant after implementation of the SWPPP (see mitigation measure MM-HYD-1) and the BMPs required to control erosion and sedimentation.

Operation

The proposed project would use drought-tolerant and California native plants within pervious areas of the project site. Additionally, proposed stormwater and LID features (i.e., bioretention and wetland/detention areas) would include vegetation. Although the proposed lawn areas would be limited in area, agricultural crops would be encouraged, and a green roof is proposed for use as an urban farm. The use of plant species with high to moderate water needs, according to *Water Use Classifications of Landscape Species III*, would be limited and restricted to similar water-use areas.

Routine structural BMPs that could be used as part of the master plan include filtration, runoff-minimizing landscaping for common areas, energy dissipaters, inlet trash racks, and water quality inlets. Therefore, long-term impacts on drainage patterns across the project site that could result in substantial erosion and siltation on- or off-site would be less than significant after implementation of mitigation measure MM-HYD-1 and BMPs to control erosion and sedimentation.

Mitigation Measures

Mitigation measure MM-HYD-1, above, is proposed to mitigate Impact HYD-3.

Level of Significance after Mitigation

Less than significant.

HYD-4: Would the Proposed Project Substantially Alter the Existing Drainage Pattern of the Site or Area, Including through the Alteration of the Course of a Stream or River, or Substantially Increase the Rate or Amount of Surface Runoff in a Manner that Would Result in Flooding On- or Off-Site?

The rate and amount of surface runoff is determined by multiple factors, including topography, the amount and intensity of precipitation, the amount of evaporation that occurs in the watershed, and the amount of precipitation and water that infiltrates to the groundwater. The project would not alter the amount or intensity of precipitation, nor would it require significant amounts of additional water to be imported to the project site.

As previously described, surface runoff from the site under existing conditions is 494.9 inches but would be reduced to 323.4 inches under proposed conditions. Existing infiltration and evaporation rates are 25.4 and 51.5 inches, respectively. Proposed conditions with the planned LID features would result in infiltration and evaporation rates of 192.3 and 56.7 inches, respectively, over the 37-year period of analysis. Modeling details and results are reported in the hydrologic analysis memorandum prepared by Watearth (2014b) and included in Appendix F.

Construction

Although grading would occur throughout the site, the resultant ground disturbance would be spread over the site and would not alter the overall topography. Vegetation may be removed on the project site; however, as previously described, the project site is completely developed with the existing LAC USC Medical Center. Water would be used during the temporary construction phase of the project (e.g., for dust suppression). However, this water would be mechanically and precisely applied and would, in general, infiltrate or evaporate. Therefore, the rate or amount of surface runoff resulting from project construction activities would be similar to the amount under existing conditions. During construction, the pervious nature of the project site would not be significantly altered. As such, the project would not result in a substantial increase in the rate or amount of surface runoff or flooding on- or off-site. Impacts would be less than significant.

Operation

The project would not substantially alter the existing drainage pattern of the site, area, or receiving waters, or result in substantial erosion or siltation on- or off-site. This is because with the increased pervious (landscape) areas (increase from 5% pervious to 25% pervious on the campus) and use of LID features, the amount of stormwater runoff via surface sheet flow and the storm drain system is anticipated to decrease as a result of the project. As such, the project would not result in a substantial increase in the rate or amount of surface runoff or result in flooding on- or off-site. Impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

HYD-5: Would the Proposed Project Create or Contribute Runoff Water that Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff?

Construction and Operation

In addition to the proposed LID features, drainage from proposed site improvements would be handled through a new storm drain system that would be sized for stormwater runoff from the site. The on-site storm drain system would drain into detention/retention areas located at the approximate center of new development on the west campus. These basins would discharge into the public storm drain systems. Peak flow rates and runoff volumes from the campus would be the same or lower than existing rates/volumes and would not affect the capacity or hydraulic integrity of the existing public storm drain system.

Peak flow rates and runoff volumes during construction would generally be less than they are under existing conditions. This is because the existing site is 95% impervious cover. Stormwater drains into the storm drain system and receiving waters (i.e., Los Angeles River) directly from improved conveyance systems. The amount of impervious cover would not increase during construction, and at various stages of construction, it would even be less than the existing amount. This would be considered a less-than-significant impact.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

HYD-6: Would the Proposed Project Otherwise Substantially Degrade Water Quality?

Construction

Impacts HYD-1 to HYD-5 discuss potential impacts associated with the degradation of water quality during construction. During construction, the project would be required to adhere to the NPDES Construction General Permit to control erosion and protect water quality. In addition, the project would be required to adhere to County requirements and guidelines pertaining to on-site drainage flow requirements. Therefore, the project would not create or contribute runoff that would exceed the capacity of drainage systems or provide substantial additional sources of polluted runoff.

There are no other methods by which water quality could be degraded as a result of construction on the project site. This would be considered a less-than-significant impact with mitigation incorporated.

Operation

Impacts HYD-1 to HYD-5 discuss potential impacts associated with the degradation of water quality during operation. Prior to the commencement of construction activities, the project proponent would be required to prepare and submit drainage plans to the city or County, which would include post-construction structural and nonstructural BMPs. Routine structural BMPs are intended to address water quality impacts related to drainage, which are inherent in development.

There are no other methods by which water quality could be degraded as a result of operations on the project site. Therefore, with implementation of mitigation measures MM-HYD-1 through MM-HYD-6, impacts associated with degrading water quality during operation would be less than significant.

Mitigation Measures

The following measures are proposed to mitigate Impact HYD-6, above.

MM-HYD-5: During and after construction, positive drainage shall be provided to direct water away from buildings and foundations. Where positive drainage is not provided, area drains shall be used to drain depressions or low spots that are not part of the designed LID features. Area drains shall not be placed next to buildings or in contact with buildings. All area drains and LID features shall be located, at a minimum, 8 feet away from building foundations or as directed in the International Building Code or other regulatory requirements. Roof drainage shall be controlled and directed to proper drainage devices in an acceptable manner or to LID features.

MM-HYD-6: An Operations and Maintenance Plan shall be developed for LID features at the site during the design of the initial development projects and expanded as development progresses and different LID features are added. The plan shall consider impacts on water quality and address issues related to Integrated Pest Management or organic maintenance practices, including those for hand weeding. The use of fertilizers, pesticides, herbicides, and products containing animal manure or animal products shall be avoided within any LID features at the project site. Outside of the LID features, Integrated Pest Management and organic maintenance practices shall be used.

Level of Significance after Mitigation

Less than significant.

HYD-7: Would the Proposed Project Contribute to Inundation by Seiche, Tsunami, or Mudflow?

Construction and Operation

As previously noted, the project site is not located within a potential inundation area resulting from a dam failure. Additionally, the project site is approximately 19 miles inland from the Pacific Ocean. It is not within a potential tsunami inundation area or seiche or landslide/mudslide hazard zone. No impact would occur during construction or operation.

Mitigation Measures

No mitigation measures are required.

Level of Significance after Mitigation

Less than significant.

3.8.5 Cumulative Impacts

The geographic scope for cumulative impacts related to water quality and hydrology encompasses the project site and the land uses within a 1-mile radius of the project site. Other projects in the general vicinity include a variety of mixed-use, retail, and institutional developments, including the

USC Health Sciences Campus (USC HSC) projects. All of these projects have the potential to result in construction-period water quality impacts, which could result in cumulatively significant impacts. However, compliance with the Construction General Permit, SWPPP, NPDES requirements, and local regulations that require construction-phase BMPs would ensure that construction activities would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. Construction would not result in a violation of any water quality standards or waste discharge requirements, would not provide substantial additional sources of polluted runoff, and would not substantially degrade water quality.

The proposed amount of impervious cover would be less than the existing amount of impervious cover at the LAC+USC Medical Center and the adjacent USC HSC projects. Additional landscaping (i.e., pervious areas) is planned for both projects, and the LAC+USC Medical Center would incorporate LID features to reduce stormwater runoff (peak flows and volumes) from the site. LID features would shift the water budget at the site closer to the historical, undeveloped water budget. With the LID features and additional landscaping, higher infiltration levels and lower runoff volumes would occur compared with existing conditions.

Compliance with County LID criteria as well as state and local regulations that require post-construction BMPs would ensure that the operation of related projects would not degrade the surface water quality of receiving waters to levels below standards considered acceptable by the Los Angeles RWQCB or other regulatory agencies or impair the beneficial uses of the receiving waters. Projects would also be required to comply with all applicable federal, state, and local requirements concerning the handling, storage, and disposal of hazardous materials to reduce the potential for the release contaminants into groundwater as a result of project construction. Thus, construction activities would not degrade groundwater quality or interfere with recharge. Water use may temporarily increase for a limited extent during the construction phase. Therefore, construction-phase impacts would be less than significant at both sites.

Related projects would increase groundwater recharge; they would not interfere substantially with groundwater recharge. Compliance with construction-phase permits and standard construction-phase BMPs would decrease the potential for any significant erosion or sedimentation from soil disturbance associated with construction of the project. During construction, the amount of stormwater runoff is also anticipated to be less than or equal to the amount under existing conditions. Therefore, the cumulative effects would be less than significant.

3.9 Land Use/Planning

3.9.1 Introduction

This section describes the land use impacts of the proposed project, including any conflicts with applicable land use plans, policies, or regulations. To assess potential land use impacts, an overview of existing land uses, land use designations, and applicable land use plans and policies is provided. All land use decisions pertaining to the proposed project fall under the jurisdiction of Los Angeles County because the land upon which the LAC+USC Medical Center site is situated on is owned and maintained by the County.

3.9.2 Regulatory Setting

3.9.2.1 Federal and State

No federal or state land use regulations are applicable to the proposed project and the land use impact analysis.

3.9.2.2 Regional

Southern California Association of Governments Regional Comprehensive Plan

The Southern California Association of Governments (SCAG) is designated by the federal government as the Metropolitan Planning Organization and Regional Transportation Planning Agency for the Southern California region. SCAG's jurisdiction includes Los Angeles, Orange, Riverside, San Bernardino, Imperial, and Ventura Counties. SCAG has sought to address regional planning concerns through various plans and programs, including the 2008 *Regional Comprehensive Plan* (RCP). The RCP addresses regional issues related to housing, traffic/transportation, water, and air quality. It serves as an advisory document that local agencies in the Southern California region can use when preparing local plans and handling local issues of regional significance.

The RCP contains the following land use and air quality goals, which are relevant to the project:

- Land Use and Housing

  Successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing the Compass Blueprint 2% Strategy, which includes the following:[1]

  - Focusing growth in existing and emerging centers and along major transportation corridors;
  - Creating significant areas of mixed-use development and walkable, "people-scaled" communities;

[1] The Compass Blueprint 2% Strategy is a guideline for how and where the Growth Vision for Southern California's future can be implemented. It calls for changes to current land use and transportation trends on only 2% of the land area of the region.

- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations;
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings, and building new businesses and housing on vacant lots;
- Preserving existing stable, single-family neighborhoods; and
- Protecting important open space, environmentally sensitive areas, and agricultural lands from development.

- Air Quality
  - Minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM10, PM2.5, ultrafine), and carbon monoxide; and
  - Expand green building practices to reduce energy-related emissions from developments to increase economic benefits to business and residents.

SCAG 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy

SCAG's RTP/SCS presents the transportation vision for Los Angeles, Orange, San Bernardino, Imperial, Riverside, and Ventura Counties. The RTP/SCS identifies priorities for transportation planning within the Southern California region, sets goals and policies, and identifies performance measures for transportation improvements to ensure that future projects are consistent with other planning goals for the area (Southern California Association of Governments 2012a). All projects constructed within the SCAG region must be listed in the RTP/SCS.

The 2012 RTP/SCS goals are as follows:

- Align plan investments and policies with improving regional economic development and competitiveness;
- Maximize mobility and accessibility for all people and goods in the region;
- Ensure travel safety and reliability for all people and goods in the region;
- Preserve and ensure a sustainable regional transportation system;
- Maximize the productivity of our transportation system;
- Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking);
- Actively encourage and create incentives for energy efficiency, where possible;
- Encourage land use and growth patterns that facilitate transit and non-motorized transportation; and
- Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

3.9.2.3 Local

County of Los Angeles General Plan

The County of Los Angeles General Plan, adopted in 1980, serves as an advisory document to provide decision-makers with a policy framework towards achievement of the Plan's stated goals and policies. The Los Angeles County 2035 General Plan, currently in draft form (2014 draft plan) provides the policy framework for how and where the unincorporated County will grow through the year 2035, while recognizing and celebrating the County's wide diversity of cultures, abundant natural resources, and status as an international economic center. The Los Angeles County 2035 General Plan accommodates new housing and jobs within the unincorporated areas in anticipation of population growth in the County and the region. The general plan update effort includes goals, policies, implementation programs, and ordinances. The Los Angeles County 2035 General Plan will replace the adopted general plan, including all of the elements (excluding the Housing Element), land use distribution maps, and circulation maps.

City of Los Angeles General Plan

The City of Los Angeles General Plan is a comprehensive, long-term declaration of purposes, policies, and programs for the development of the City of Los Angeles (City of Los Angeles n.d.). It sets forth goals, objectives, and programs to provide a guideline for day-to-day land use policies and meet the existing and future needs and desires of the community while integrating a range of state-mandated elements, including transportation, noise, safety, housing, and conservation. In place of a Land Use Element, the City of Los Angeles includes community plans that establish policy and standards for each of the 35 geographic areas in the city. As such, the community plans are oriented toward specific geographic areas of the city, locally defining the general plan's more general citywide policies and programs.

The project site is located within the Lincoln Heights neighborhood of the Northeast Los Angeles Community Plan area. The Boyle Heights Community Plan area borders the medical center campus on the south. The Northeast Los Angeles Community Plan, adopted in 1999, recognizes the LAC+USC site's potential for revitalization. The area around the LAC+USC Medical Center is further defined by the City of Los Angeles as being part of a "Community Center" land use area. This land use designation recommends the following sizes and densities for buildings:

- Building Height: two to six stories
- Floor Area Ratio: 1.5:1 to 3:1

The following goals and objectives are applicable to the proposed project:

Objective 1-1 To preserve and enhance existing residential neighborhoods.

Objective 1-4 To preserve and enhance neighborhoods with a distinctive and significant historical or architectural character.

Objective 4-2 To preserve existing open space resources and, where possible, encourage acquisition.

Objective 5-1 To conserve, expand, maintain, and better utilize existing recreation and park facilities to address the recreational needs of the community.

Objective 8-1 To provide adequate police facilities and personnel to correspond with population and service demands.

Objective 9-1 Ensure that fire facilities and protective services are sufficient for the existing and future population and land uses.

Objective 10-1 To comply with citywide performance standards for acceptable levels of service and ensure that necessary road access and street improvements are provided to accommodate traffic generated by all new development.

Objective 14-1 To ensure that the plan area's significant cultural and historical resources are protected, preserved, and/or enhanced.

Objective 14-3 To enhance and capitalize on the contribution of existing cultural and historical resources in the community.

The land on the LAC+USC Medical Center campus is owned by the County and is therefore not subject to regulation by the City of Los Angeles General Plan. However, since the city's general plan is applicable to offsite impacts or offsite improvements that might be required to mitigate project impacts, they are included in this section.

City of Los Angeles General Plan Framework

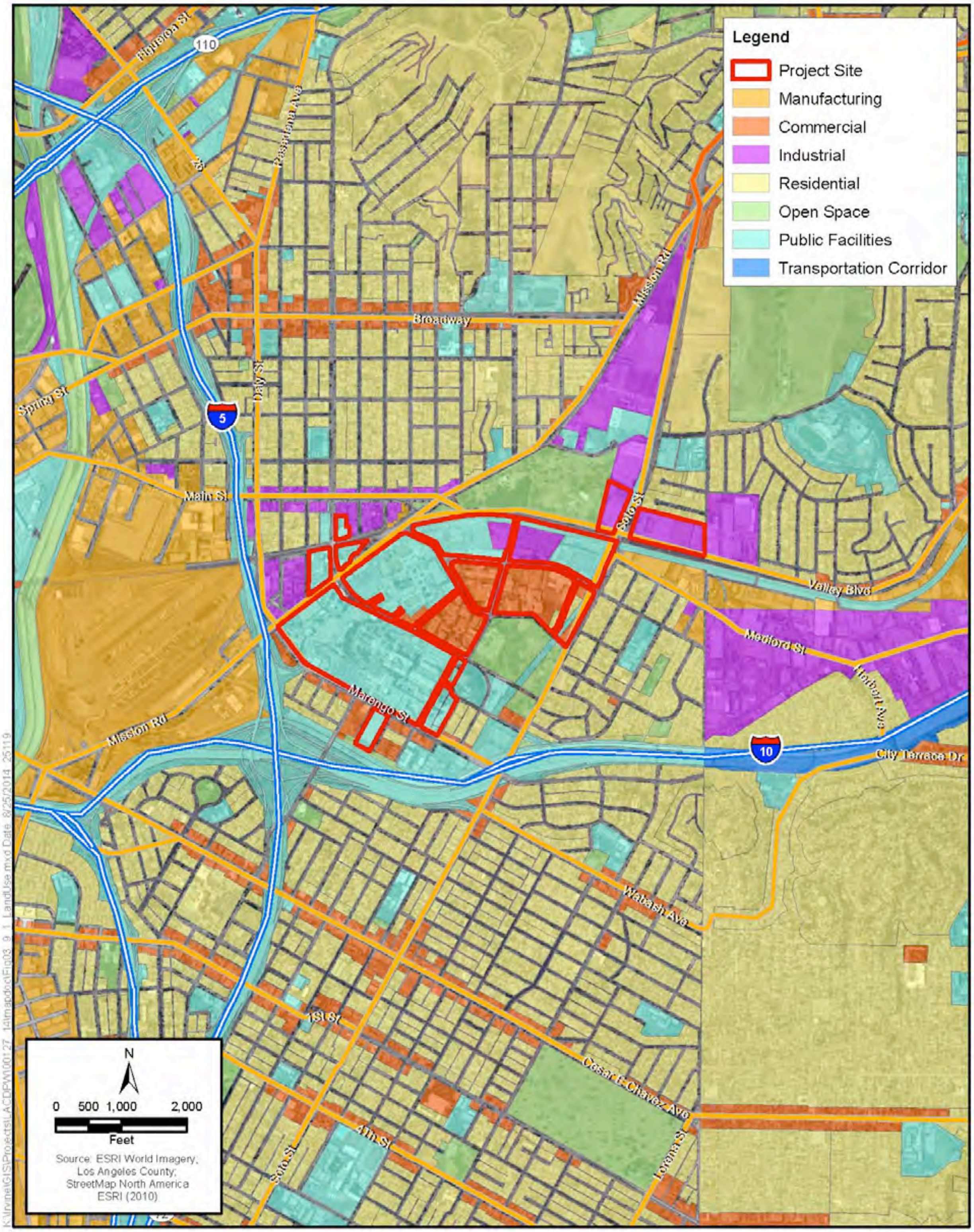
The city's general plan's Framework Element is a strategy for long-term growth. It sets a citywide context to guide updates to the community plan and citywide elements. The element responds to state and federal mandates to plan for the future. In planning for the future, the City of Los Angeles uses population forecasts provided by SCAG. The Framework Element does not mandate or encourage growth. The element is based on the population forecasts provided by SCAG. The project site is located within the Metro Los Angeles Geographical Area of the general plan's Framework Element and designated a Community Center (City of Los Angeles 2003). This designation is considered a focal point for surrounding residential neighborhoods that contain a diversity of uses, such as small offices and overnight accommodations, cultural and entertainment facilities, and schools and libraries, in addition to neighborhood-oriented services.

City of Los Angeles Zoning Code

The City of Los Angeles Planning and Zoning Code includes standards for different land uses and identifies which land uses are allowed in various zoning districts. Specifically, the zoning code consolidates and coordinates all existing zoning regulations and provisions to designate, regulate, and restrict locations and land uses. The project site has a City of Los Angeles zoning designation of Public Facilities – PF (City of Los Angeles n.d.). The PF zoning district allows public health facilities, including clinics and hospitals. PF-1 zoning does not have restrictions regarding the heights of buildings or any specific front-, side-, or rear-yard setbacks.

The County's development of County-owned land on the LAC+USC Medical Center campus is not subject to regulation by the City of Los Angeles Zoning Code. However, as noted above, any offsite improvements required to mitigate project impacts would be subject to city regulations. Figure 3.9-1 shows the city's zoning for the project site and the surrounding area.

Figure 3.9-1: Zoning Designations of the Project Site and Surrounding Area



3.9.3 Environmental Setting

The project site is located within the Lincoln Heights neighborhood of the City of Los Angeles, approximately 3 miles northeast of the Los Angeles civic center and 19 miles east of the Pacific Ocean. The site is located in the easternmost portion of the city in the Northeast Los Angeles Community Plan area. It is bordered by the City of Los Angeles Silver Lake-Echo Park-Elysian Valley Community Plan area to the west, the City of Los Angeles Boyle Height Community Plan area to the south, and the cities of Alhambra and Monterey Park to the northeast and east. The site is generally bordered by Marengo Street, Chicago Street, Zonal Avenue, and North Mission Road.

The 86-acre project site, which is owned by Los Angeles County, is located in a completely developed area that supports a variety of land uses, as described below.

Project Site

The LAC+USC Medical Center campus occupies the project site, which is developed with medical and office uses, parking facilities, open spaces, and maintenance facilities. Currently, the main campus area east of State Street is heavily utilized for outpatient and hospital functions. This area contains the original General Hospital, the LAC+USC Replacement Hospital and Central Plant, the older OPD building, and the Clinic Tower, built in 2008. Also located east of State Street is the former Interns and Residents building, currently used for hospital administrative offices, and Parking Structure #12.

Most of the site west of State Street is under-utilized and contains a large amount of open space. Many buildings in this area are not fully functional, and several campus programs are currently being housed in temporary buildings or trailers.

There are 28 permanent buildings and 29 modular structures on the LAC+USC campus. These are located between Marengo Street, Mission Road, Zonal Avenue, and Chicago Street. Additionally, there are seven buildings and 14 modular structures on the site northwest of Zonal Avenue and Mission Road. Major building clusters include the historic General Hospital, which sits on top of the hill just east of State Street. General Hospital was built in 1933, along with two administrative buildings, a gatehouse, and a utility tunnel and bridge. Several modular structures have been added at the historic entry plaza as well as north, east, and south of General Hospital.

The decommissioned Women's and Children's Hospital, which was built in 1958 and is currently vacant, and red-tagged due to safety concerns, is located at the southeast corner of Mission Road and Zonal Avenue. Across the street, to the northwest, a cluster of Spanish Colonial buildings house administrative, counseling, social work, facilities support, and clinical support functions. The Replacement Hospital project, which was completed in 2008, consists of four contemporary buildings that provide inpatient, outpatient, diagnostic and treatment, and facilities support functions.

Surrounding Land Uses

A variety of land uses are located in the surrounding area, including County/public, residential, commercial, industrial, medical, and institutional uses. Residential neighborhoods are located to the east, along Chicago Street and north of Alhambra Avenue, and to the southwest on the south side of Marengo Street west of State Street. The USC Health Sciences campus, which includes the Keck

School of Medicine, USC School of Pharmacy, Keck Hospital, and the USC Norris Comprehensive Cancer Center, is located just north of the project site across Zonal Avenue. Various commercial uses as well as the St. Camillus Catholic Center and the Los Angeles County Juvenile Court are also located north of the project site across Zonal Avenue. Hazard Park and Reservoir are located 0.6 mile to the northeast. Francisco Bravo Medical Magnet High School is located at the southwest corner of Zonal Avenue and Cornwell Street. Several County-operated services are located in the immediate area. Commercial uses line Marengo Street to the south, and commercial and industrial uses are located west of the main campus.

Figure 3.9-2 shows the land uses of the project site and the surrounding area.

3.9.4 Environmental Impact Analysis

3.9.4.1 Methods

Local plans and policies (including general plans, specific plans, zoning ordinances, land use and zoning maps, etc.) were reviewed to analyze the consistency of the proposed project with such plans. Existing and proposed land uses were analyzed to determine land use compatibility.

3.9.4.2 Thresholds of Significance

For the purposes of this EIR and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if it would:

LU-1 Physically divide an established community; or

LU-2 Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The lead agency determined in the NOP/IS (see Appendix A) that the proposed project would not result in an impact in the following area, which was therefore screened from further review in this EIR. Please refer to Appendix A of this EIR for a copy of the NOP/IS and additional information regarding this issue area.

LU-3 Conflict with any applicable habitat conservation plan or natural community conservation plan.

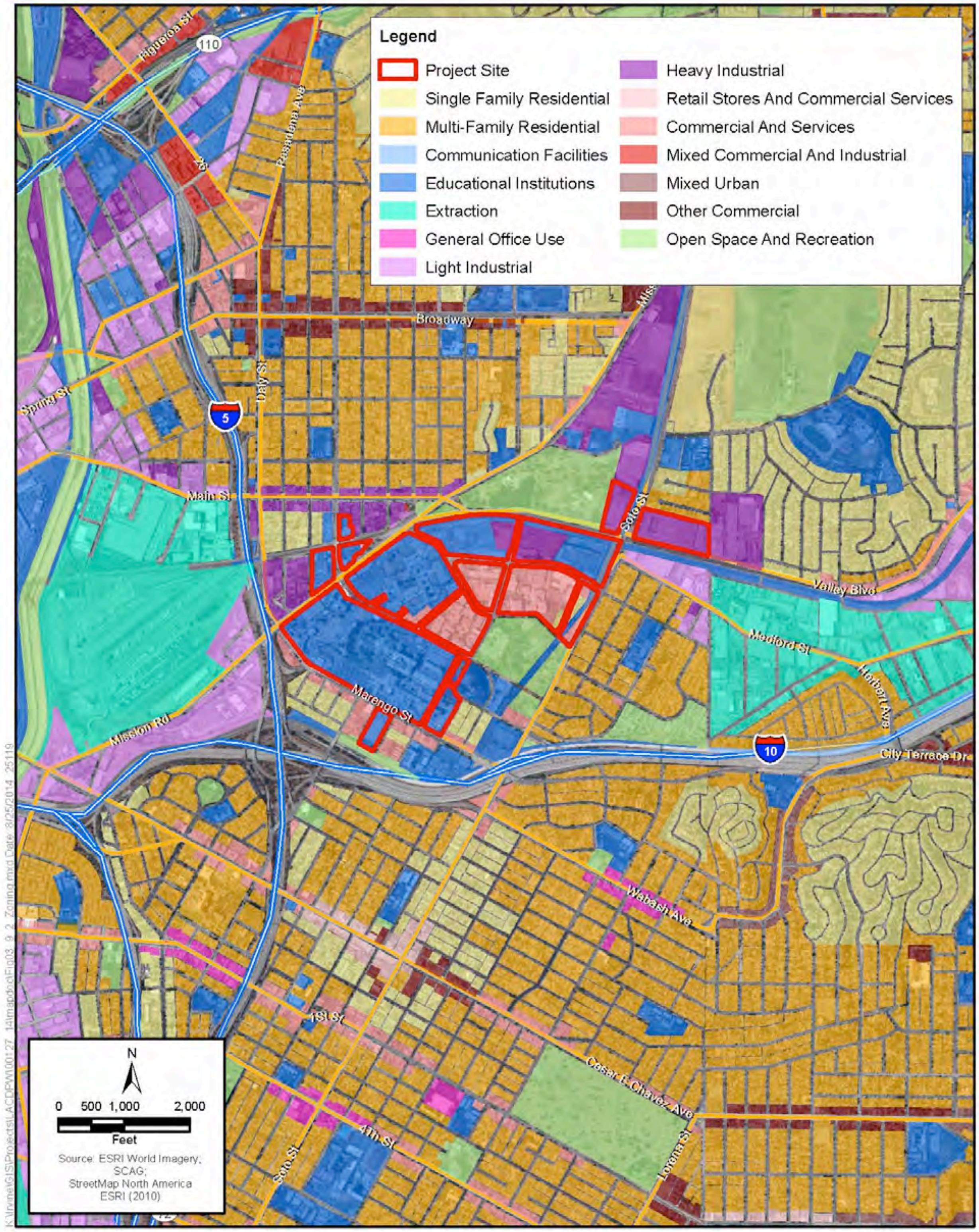
3.9.4.3 Impacts and Mitigation Measures

Impact LU-1: Would the Proposed Project Physically Divide an Established Community?

Construction

Projects under the master plan could include development of new or renovation of existing office space for medical uses, retail space, open space, parking facilities, and possibly some workforce housing on the medical center campus. Construction activities could include demolition of some on-site buildings and structures, site preparation and grading, and construction of new and renovated facilities. These types of construction activities, while temporary, localized, and site specific, could result in adverse impacts on surrounding land uses in the area, including diminished access due to

Figure 3.9-2 Land Uses of the Project Site and Surrounding Area



lane closures and increased congestion from truck traffic, increased levels of noise and vibration, and increased air pollutant emissions. Medical and other sensitive uses, such as residential uses, would be most affected by the temporary construction impacts. Best management practices and mitigation measures are proposed to reduce impacts on sensitive receptors (see Sections 3.2, Air Quality, and 3.10, Noise, for specific mitigation measures to reduce temporary construction impacts). Although construction activities on the medical center campus could result in off-site impacts, all proposed development and facilities that could occur under the master plan would be constructed within the existing boundaries of the medical center campus. No new structures are proposed that would result in the demolition of residential uses in the surrounding neighborhood or divide an established neighborhood. Therefore, the temporary land use construction impacts would be less than significant.

Operation

The proposed facilities are medically related in nature and would be generally compatible with existing uses on the campus as well as land uses in the surrounding area. Additionally, proposed retail services and medically related services and open spaces would benefit the surrounding community, especially nearby residential neighborhoods. As noted above, proposed new development and facilities would be limited to the existing boundaries of the medical center campus. No surrounding residential neighborhoods would be divided, and no off-site residential buildings would be displaced as a result of implementation of the proposed master plan. Therefore, no significant impacts would occur during operation.

Mitigation Measures

No mitigation measures are required (also see Sections 3.2, Air Quality, and 3.10, Noise, of this EIR for a discussion of construction impacts on land uses in the vicinity of the project site and proposed mitigation measures).

Impact LU-2: Would the Proposed Project Conflict with any Applicable Land Use Plan, Policy, or Regulation of an Agency with Jurisdiction over the Project Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect?

Construction and Operation

The discussion below describes the proposed project's potential conflicts with any applicable land use plans, policies, or regulations. The reader is also referred to other sections in this chapter for descriptions of potential adverse impacts (including air quality, greenhouse gas emissions, aesthetics, biological resources, noise, cultural resources, geology and soils, hazards and hazardous materials, public services, utilities and transportation/traffic) on land uses in the vicinity of the project site and any conflicts with the applicable regulations governing those impacts.

Consistency with SCAG RTP/SCS and the RCP

The proposed project would be consistent with the goals of the RTP/SCS and the RCP, as show in Table 3.9-1. Goals of the proposed project include enhancing the value of the campus; strengthening LAC+USC's image, place, and presence in the community; and promoting sustainable development. Additionally, construction and implementation of the proposed project would be consistent with the 2012 RTP/SCS goals of encouraging land use and growth patterns that facilitate non-motorized transportation.

Consistency with Local Plans and Policies

As described above, the project site is owned by Los Angeles County, and the facilities at LAC+USC Medical Center are exempt from local land use regulations. Specifically, the proposed project would not be required to be consistent with the city's general plan land use designation and zoning. Nonetheless, proposed construction, renovation, and additions included under the proposed master plan would be consistent with the current land use designation of Public Facilities and zoning designation of Public Facilities – PF. The Public Facilities land use designation allows for public facilities such as fire stations, libraries, and schools. The PF zone allows public health facilities, including clinics and hospitals. As shown in Table 3.9-1, below, the proposed project would be generally supportive of, or consistent with, the relevant policies and objectives included in the adopted County of Los Angeles General Plan Land Use Element and the Northeast Los Angeles Community Plan. Specifically, the proposed project would be consistent with most applicable Northeast Community Plan objectives. However, buildout of the proposed master plan would result in significant impacts to historical resources (see section 3.4 of this EIR) and traffic (see section 3.14) and consequently would conflict with the relevant goals of the Northeast Community Plan (see Table 3.9-1 below). Nonetheless, given the master plan would be consistent with most local land use plan policies and because the medical center campus is not subject to the city's land use regulations, the proposed master plan would not result in a significant land use impact due to conflicts with applicable land use plans, policies, or regulations.

Table 3.9-1: Proposed Project's Consistency with Applicable Land Use Plans

Policy/Objective Number	Discussion	Consistency
SCAG RTP		
Align the plan investments and policies with improving regional economic development and competitiveness.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus and influence the delivery of health care services and health-related community programs to the region. Proposed development would improve the delivery of health care services to the region.	Consistent
Maximize mobility and accessibility for all people and goods in the region.	One of the goals of the proposed project is to maximize access to the medical center by the community. Additionally, the proposed master plan would guide future development of the campus and improve the delivery of health care services to the region.	Consistent
Ensure travel safety and reliability for all people and goods in the region.	Development under the master plan would include construction of new and renovated medically related office, retail, open space, and parking uses as well as demolition of existing buildings and structures to accommodate new development. No improvements to transportation infrastructure or operations in the region are proposed as part of the project.	Not applicable
Preserve and ensure a sustainable regional transportation system.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus and influence the delivery of health care services and health-related community	Not applicable

Policy/Objective Number	Discussion	Consistency
	programs. No improvements to transportation infrastructure or operations in the region are proposed as part of the project.	
Maximize the productivity of our transportation system.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus and influence the delivery of health care services and health-related community programs. No improvements to transportation infrastructure or operations in the region are proposed as part of the project.	Not applicable
Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	The proposed project would include a series of open space components, including a newly created north/south pedestrian circulation spine and a new pedestrian mall. Additionally, the proposed pocket park would improve access to the site and encourage alternative modes of transportation. The proposed pocket park would be equipped with items such as bicycle storage options, a bike maintenance area, transportation information (e.g., maps, schedules), and a rest area.	Consistent
Actively encourage and create incentives for energy efficiency, where possible.	The proposed project would include sustainable design practices. Specifically, it would promote efficient energy and water use and provide for comprehensive on-site water management systems. Other energy efficiency measures would include the implementation of LEED and CALGreen program goals.	Consistent
Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	Construction and operation of the proposed project would encourage land use and growth patterns that would facilitate bicycle and pedestrian use. As previously stated, a pedestrian mall and pocket park with bicycle-supporting amenitieswould be included under the proposed project.	Consistent
Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus and influence the delivery of health care services and health-related community programs. No improvements to transportation infrastructure, operations, or security in the region are proposed as part of the project.	Not applicable
County of Los Angeles General Plan		
Land Use Objectives		
To provide for land use arrangements that take full advantage of existing public services and facility capacities.	As described in Section 3.12, Public Services, the proposed project would require the implementation of mitigation measure PS-1 to ensure that impacts on police services would be less than significant. Please see Section 3.12 for further discussion of impacts on police and fire services.	Consistent

Policy/Objective Number	Discussion	Consistency
To maintain and enhance the quality of existing residential neighborhoods.	The proposed project would not substantially disrupt or physical divide existing residential neighborhoods located in the surrounding area. Rather, implementation of the proposed project would include community facilities and new open spaces that would benefit the surrounding community.	Consistent
To coordinate land use with existing and proposed transportation networks.	Construction and operation of the proposed project would encourage land use and growth patterns that would facilitate bicycle and pedestrian use. As previously stated, a pedestrian mall and pocket park with bicycle-supporting amenities would be included under the proposed project	Consistent
To encourage high quality design in all development projects, compatible with and sensitive to the natural and manmade environment.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus and influence the delivery of health care services and health-related community programs. Specifically, it would promote efficient energy and water use and provide for comprehensive on-site water management systems. Other energy efficiency measures would include the implementation of LEED and CALGreen program goals.	Consistent
To foster compatible land use arrangements that contribute to reduced energy consumption and improved air quality.	The proposed project would include sustainable design practices. Specifically, it would promote efficient energy and water use and provide for comprehensive on-site water management systems. Other energy efficiency measures would include the implementation of LEED and CALGreen program goals.	Consistent
To provide a land use decision-making process supported by adequate information and citizen participation.	The proposed project involved citizen participation throughout the master plan selection process and throughout the EIR process, in the form of scoping and public meetings.	Consistent
To encourage more efficient use of land, compatible with and sensitive to natural ecological, scenic, cultural and open space resources.	The proposed project consists of a master plan that would be implemented over a period of approximately 25 years (2015–2040), which would guide future development of the campus. The proposed project would include a series of open space components, including a newly created north/south pedestrian circulation spine and a new pedestrian mall. Additionally, the proposed pocket park would improve access to the site and encourage alternative modes of transportation. See Sections 3.1 Aesthetics, 3.3 Biology and 3.4 Cultural Resources for impacts and mitigation measures.	Consistent

Policy/Objective Number	Discussion	Consistency
City of Los Angeles Northeast Community Plan		
Objective 1-1: To preserve and enhance existing residential neighborhoods.	The proposed project would not substantially disrupt or physical divide existing residential neighborhoods located in the surrounding area. Rather, implementation of the proposed project would include community facilities and new open spaces that would benefit the surrounding community.	Consistent
Objective 1-4: To preserve and enhance neighborhoods with a distinctive and significant historical or architectural character.	See response to Objective 1-1. No residential uses would be removed or altered. See Section 3.4, Cultural Resources, for a discussion of impacts on individual historical resources on the campus.	Consistent
Objective 4-2: To preserve existing open space resources and, where possible, encourage acquisition of new open space.	The proposed landscape and open space areas are intended to encourage outdoor recreation (primarily passive in nature), increase mobility and facilitate access to and through the site, and promote a sense of community with use of outdoor spaces that would be accessible to residents of the adjacent community.	Consistent
Objective 5-1: To conserve, expand, maintain, and better utilize existing recreation and park facilities to address the recreational needs of the community.	See the response to Objective 4-2, above.	Consistent
Objective 8-1: To provide adequate police facilities and personnel to correspond with population and service demands.	As described in Section 3.12, Public Services, the proposed project would require the implementation of mitigation measure PS-1 to ensure that impacts on police services would be less than significant. Please see Section 3.12 for further discussion of impacts on police and fire services.	Consistent
Objective 9-1: Ensure that fire facilities and protective services are sufficient for the existing and future population and land uses.	Direct increases to the permanent resident population in the neighboring communities are not anticipated as a result of the proposed project. Additionally, the proposed project is not expected to result in net increases in the employee or residential populations, beyond SCAG's long-term population growth projectionsSee Section 3.12, Public Services, for a discussion of impacts on police and fire services.	Consistent
Objective 10-1: To comply with citywide performance standards for acceptable levels of service and ensure that necessary road access and street improvements are provided to accommodate traffic generated by all new development.	As described in Section 3.14, during operation of the proposed project, upgrades to the campus would improve design features for campus visitors and employees. These upgrades would include improved sidewalks and safe, pleasant pedestrian walking paths throughout the campus. Project improvements to access, wayfinding, and the general orientation of campus facilities would also improve safety for motorists, pedestrians, and bicyclists as they travel to and around the campus. Traffic, mitigation measures are proposed to mitigate	Inconsistent

Policy/Objective Number	Discussion	Consistency
	the traffic impacts of potential development under the master plan on the surrounding street system. Mitigation measures MM-TRAF-2 and MM-TRAF-3 are subject to LADOT's acceptance and approval. If LADOT determines that one or more of these proposed improvements are not feasible, the impacts at the affected intersections would remain significant and unavoidable. See Section 3.14 for further discussion of traffic impacts anticipated to occur under the proposed project.	
Objective 14-1: To ensure that the plan area's significant cultural and historical resources are protected, preserved, and/or enhanced.	As described in Section 3.4, Cultural Resources, impacts on General Hospital/Acute Unit (including the retaining walls, State Street elements, and viaduct/tunnel), the old Administration Building, and the Pharmacy/Service Building are expected to be reduced to a level of less than significant with implementation of the proposed mitigation measures. However, demolition of a historical resource is a substantial adverse change. If demolition of the Women's and Children's Hospital and the associated gatehouse is not avoided, implementation of the mitigation measures above would not reduce the impact to a less-than-significant level. Therefore, demolition of this resource would result in a significant unavoidable impact.	Inconsistent
Objective 14-3: To enhance and capitalize on the contribution of existing cultural and historical resources in the community.	See the response to Objective 14-1 above.	Inconsistent
Source: City of Los Angeles Northeast Los Angeles Community Plan; ICF International 2014.		

Mitigation Measures

No mitigation measures are required.

3.9.5 Cumulative Impacts

As described above, the proposed project would not divide an established neighborhood. It would not conflict with most applicable land use plans, policies, or regulations; therefore, it would not contribute to any cumulative land use impacts. For a discussion of the cumulative impact of the proposed and related projects on historical resources and other sensitive resources, please see the relevant sections in this chapter.

The reader is also referred to the cumulative discussions in Section 3.2, Air Quality, and Section 3.10, Noise, as well as other sections in this chapter, for a discussion of the cumulative adverse impacts on land uses in the vicinity of the project site due to the combined effects of the proposed project and related growth and cumulative development.

3.10 Noise

3.10.1 Introduction

This section describes the potential noise and vibration impacts of the proposed project. It includes a discussion of existing regulatory requirements, the existing noise setting within the project area, and noise and vibration impacts that would result from implementation of the proposed project.

3.10.1.1 Noise Fundamentals

Noise is commonly defined as unwanted sound. Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is often defined as sound that is objectionable because it is disturbing or annoying.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receptor, and the propagation path between the two. The loudness of the noise source and the obstructions or atmospheric factors, which affect the propagation path to the receptor, determine the sound level and the characteristics of the noise perceived by the receptor.

Technical acoustical terms used in this section are defined in Table 3.10-1.

Table 3.10-1: Definitions of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound equal to 20 times the logarithm to base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micropascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals in air). Sound pressure level is the quantity that is measured directly by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz, and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low- and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA L_{eq}[h].

Term	Definition
Community Noise Equivalent Level (CNEL)	The average A-weighted noise level during a 24-hour day, which is obtained by adding 5 dB to sound levels in the evening from 7 p.m. to 10 p.m. and 10 dB to sound levels between 10 p.m. and 7 a.m.
Day/Night Noise Level (L_{dn})	The average A-weighted noise level during a 24-hour day, which is obtained by adding 10 dB to sound levels measured at night between 10 p.m. and 7 a.m.
L_2, L_8, L_{25}. L_{50}, L_{90}	A-weighted noise levels that are exceeded 2%, 8%, 25%, 50% and 90% of the time during the measurement period.
Maximum Sound Level (Lmax)	The maximum sound level measured during the measurement period.
Minimum Sound Level (Lmin)	The minimum sound level measured during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Source: ICF, 2014.	

Sound Descriptors

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micropascals (μPa). One μPa is approximately one hundred-billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 μPa. Because of this large range of values, sound is rarely expressed in terms of μPa. Instead, a logarithmic scale is used to describe the sound pressure level (also referred to simply as the sound level) in terms of decibels. The threshold of hearing for young people is about 0 dB, which corresponds to 20 μPa.

The dB scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on human sensitivity to those frequencies. The A-weighted sound level (expressed in units of dBA) can be computed on the basis of this information.

The A-weighting scale approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments regarding the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Table 3.10-2 describes typical A-weighted sound levels for various noise sources.

Table 3.10-2: Typical A-Weighted Sound Levels

Common Outdoor Noise Source	Sound Level (dBA)	Common Indoor Noise Source
	— 110 —	Rock band
Jet flying at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher in next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing
Source: California Department of Transportation 2009.		

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one excavator produces a sound pressure level of 80 dBA, two excavators would not produce 160 dBA. Rather, they would combine to produce 83 dBA. The cumulative sound level of any number of sources, such as excavators, can be determined using decibel addition.

Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time varying events. This energy-equivalent sound/noise descriptor is called Leq. A common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus 1 dBA. Two metrics describe the 24-hour average, Ldn and CNEL (defined in Table 3.12-1). Both include penalties for noise during nighttime hours; CNEL also penalizes noise during the evening. CNEL and Ldn are normally within one dBA of each other and used interchangeably in this section.

Human Response to Noise

Studies have shown that under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of one dBA. In the normal environment, the healthy human ear can detect changes of about two dBA; however, it is widely accepted that changes of three dBA in the normal environment are considered just noticeable to most people. A change of five dBA is readily perceptible, and a change of ten dBA is perceived as being twice as loud. Accordingly, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) resulting in a three-dB increase in sound would generally be barely detectable.

Sound Propagation

When sound propagates over a distance, it changes in both level and frequency content. The manner in which noise is reduced with distance depends on the following important factors:

Geometric Spreading

Sound from a single source (i.e., a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates (or drops off) at a rate of six dBA for each doubling of distance. Highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line (i.e., a "line" source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading resulting from a point source. The change in sound level (i.e., attenuation) from a line source is three dBA per doubling of distance.

Ground Absorption

Usually the noise path between the source and the observer is very close to the ground. The excess noise attenuation from ground absorption occurs due to acoustic energy losses on sound wave reflection. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is done for simplification only; for distances of less than 200 feet, prediction results based on this scheme are sufficiently accurate. For acoustically "hard" sites (i.e., sites with a reflective surface, such as a parking lot or a smooth body of water, between the source and the receptor), no excess ground attenuation is assumed because the sound wave is reflected without energy losses. For acoustically absorptive or "soft" sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed. When added to the geometric spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dBA per doubling of distance for a line source and 7.5 dBA per doubling of distance for a point source.

Atmospheric Effects

Research by Caltrans and others has shown that atmospheric conditions can have a major effect on noise levels. Wind has been shown to be the single most important meteorological factor within approximately 500 feet, whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have major effects. Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lower noise levels. Increased sound levels can also occur because of temperature inversion conditions (i.e., increasing temperature with elevation, with cooler air near the surface, where the sound source tends to be and the warmer air above which acts as a cap, causing a reflection of ground level–generated sound).

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by this shielding depends on the size of the object, proximity to the noise source and receptor, surface weight, solidity, and the frequency content of the noise source. Natural terrain features (such as hills and dense woods) and human-made features (such as buildings and walls) can substantially reduce noise levels. Walls are often constructed between a source and a receptor with the specific purpose of reducing noise. A barrier that breaks the line of sight between a source and a receptor will typically result in at least 5 dB of noise reduction. A higher barrier may provide as much as 20 dB of noise reduction.

3.10.1.2 Groundborne Vibration Fundamentals

Groundborne vibration is an oscillatory motion of the soil with respect to the equilibrium position and can be quantified in terms of velocity or acceleration. Groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Most perceptible indoor vibration is caused by sources within buildings, such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are heavy construction equipment (such as blasting and pile driving), steel-wheeled trains, and heavy trucks on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible.

Groundborne vibration can be described in terms of peak particle velocity (PPV). PPV is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The unit of measurement for PPV is inches per second (in/s). For transient vibration sources (single isolated vibration events such as blasting), the human response to vibration varies from barely perceptible at a PPV of 0.04 in/s, to distinctly perceptible at a PPV of 0.25 in/s, and severe at a PPV of 2.0 in/s. For continuous or frequent intermittent vibration sources (such as impact pile driving or vibratory compaction equipment), the human response to vibration varies from barely perceptible at a PPV of 0.01 in/s, to distinctly perceptible at a PPV of 0.04 in/s, and severe at a PPV of 0.4 in/s (Caltrans, 2013). If a person is engaged in any type of physical activity, vibration tolerance increases considerably.

3.10.2 Regulatory Setting

3.10.2.1 State

California Green Building Standards Code (CALGreen)

Section 5.507 of the California Green Building Standards Code (CALGreen) identifies mandatory exterior-to-interior noise control standards for non-residential construction, which apply to buildings that are located within the 65 dB CNEL noise contour of an airport, freeway, expressway, railroad, industrial source, or fixed-guideway source as determined by the Noise Element of the general plan.

Two alternative methods for demonstrating compliance with the standards are provided in the CALGreen Code. These are: (1) the prescriptive method, and (2) the performance method. Under the prescriptive method, the project applicant must show that the wall and roof-ceiling assemblies making up the building envelope that is exposed to the noise source meet a composite sound transmission class (STC) rating of at least 50, or a composite outdoor-indoor transmission class (OITC) rating of no less than 40, with exterior windows that provide a minimum STC of 40 or OITC of 30. The performance method of compliance requires that an acoustical analysis be prepared demonstrating that the walls and roof-ceiling assemblies making up the building envelope that are exposed to the noise source shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (1-hour Leq) of 50 dBA in occupied areas during any hour of operation. It should be noted that the noise standards do not apply to "buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings."

3.10.2.2 Local

Los Angeles County Code

Construction noise is addressed in Section 12.08.440 of the Los Angeles County Code, as follows:

12.08.440 Construction Noise

A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.

B. Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:

   1. At Residential Structures.

      a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:

	Single-Family Residential	Multi-Family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7 a.m. to 8 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8 p.m. to 7 a.m. and all day Sunday and legal holidays	60 dBA	64 dBA	70 dBA

b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	Single-Family Residential	Multi-Family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7 a.m. to 8 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8 p.m. to 7 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

2. At Business Structures.

   a. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:

Daily, including Sunday and legal holidays, all hours: maximum of 85dBA.

C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.

D. In case of a conflict between this chapter and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control.

The County code includes the following standard, in Section 12.08.560, related to groundborne vibration:

12.08.560 Vibration

Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz.

Section 1207 of Title 26 (Building Code), includes standards for interior noise levels within new hotels, motels, dormitories, long-term care facilities, apartment houses, dwellings, private schools, and places of worship. The noise limits are specified in Section 1207.11.2, as follows:

1207.11.2 Allowable Interior Noise Levels

Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable rooms, classrooms, and all rooms used in patient care and worship. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

County of Los Angeles General Plan

The Noise Element of the County's general plan provides a number of policies related to community noise, but does not provide any quantitative standards for regulating acceptable noise levels.

City of Los Angeles CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) defines noise-sensitive land uses as residences, transient lodgings, schools, day-care facilities, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks, and provides noise/land use compatibility guidelines, as summarized in Table 3.10-3.

Table 3.10-3: Land Use Noise Compatibility Guidelines

	Community Noise Exposure CNEL, dB			
Land Use	**Normally Acceptable**	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Single-Family, Duplex, Mobile Homes	50–60	55–70	70–75	above 70
Multifamily Homes	50–65	60–70	70–75	above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging – Motels, Hotels	50–65	60–70	70–80	above 80
Auditoriums, Concert Halls, Amphitheaters	—	50–70	—	above 65
Sports Arena, Outdoor Spectator Sports	—	50–75	—	above 70
Playgrounds, Neighborhoods Parks	50–70	—	67–75	above 72
Golf Courses, Riding Stables, Water, Recreation, Cemeteries	50–75	—	70–80	above 80

Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction and without any special noise insulation requirements.
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air-conditioning, will normally suffice.
Normally Unacceptable: New construction or development generally should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable: New construction or development generally should not be undertaken.
Source: City of Los Angeles, 2006.

The *L.A. CEQA Thresholds Guide* also establishes significance criteria for four different types of noise sources (construction, operational, railroad, and airport), as summarized below:

Construction Noise

A project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;
- Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA at a noise-sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at anytime on Sunday.

Operational Noise (including project-generated traffic)

A project would normally have a significant impact on noise levels from project operations if the project causes the ambient noise level measured at the property line of affected uses to increase by 3 dBA in CNEL to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5-dBA or greater noise increase.

Railroad Noise

A project would normally have a significant impact with regard to exterior noise levels resulting from railroad operations if the project causes noise measured at the property line of a noise-sensitive receptor to increase by 3 dBA in CNEL, to or within the "normally unacceptable" or “clearly unacceptable” category, or any 5-dBA or greater noise increase.

Airport Noise

A significant impact on ambient noise levels would normally occur if noise levels at a noise-sensitive use attributable to airport operations exceed 65 dB CNEL and the project increases ambient noise levels by 1.5 dB CNEL or greater.

City of Los Angeles Municipal Code

Construction Noise

Section 41.40 (a) of the City of Los Angeles Municipal Code prohibits the use, operation, repair, or servicing of construction equipment, as well as job-site delivery of construction materials between the hours of 9:00 p.m. and 7:00 a.m. where such activities would disturb “persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence.” Construction noise emanating from property zoned for manufacturing or industrial uses is exempted from the Section 41.40 (a) standards. In addition, Section 41.40 (c) prohibits construction, grading, and related job site deliveries on or within 500 feet of land developed with residential structures before 8:00 a.m. or after 6:00 p.m. on any Saturday or national holiday or at any time on Sunday.

Section 112.05 of the municipal code places limits on the maximum noise levels (75 dBA at a distance of 50 feet for typical construction equipment) that may be produced by powered equipment or tools in, or within 500 feet of, any residential zone between the hours of 7 a.m. and

10 p.m. The proscribed limits shall not apply where compliance is technically infeasible but the burden of proving that compliance is technically infeasible is on the person or persons charged with a violation of the standard. Technical infeasibility shall mean that the noise limit cannot be complied with despite the use of mufflers, shields, sound barriers, and/or other noise reduction devices or techniques during the operation of the equipment.

Operational Noise

Chapter XI, "Noise Regulation," of the City of Los Angeles Municipal Code regulates noise from non-transportation noise sources such as commercial or industrial operations, mechanical equipment, or residential activities. It is noted that while these regulations do not apply to vehicles operating on public rights-of-way, they do apply to noise generated by vehicles on private property – such as truck operations at commercial or industrial facilities. The exact noise standards vary depending on the type of noise source, but the allowable noise levels are generally determined relative to the existing ambient noise levels at the affected location. Section 111.01 (a) defines the ambient noise as "the composite of noise from all sources near and far in a given environment, exclusive of occasional and transient intrusive noise sources and of the particular noise source or sources to be measured. Ambient noise shall be averaged over a period of at least 15 minutes…" Section 111.03 provides minimum ambient noise levels for various land uses, as described in Table 3.10-4, below. In the event that the actual measured ambient level at the subject location is lower than that provided in the table, the level in the table shall be assumed.

Table 3.10-4. City of Los Angeles Assumed Minimum Ambient Noise Levels

Zone	Assumed Minimum Ambient Noise (L_{eq}), dBA	
	Daytime (7 a.m.–10 p.m.)	Nighttime (10 p.m.–7 a.m.)
A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5	50	40
P, PB, CR, C1, C1.5, C2, C4, C5, and CM	60	55
M1, MR1, and MR2	60	55
M2 and M3	65	65
Source: City of Los Angeles, 2013.		

At the boundary line between two zones, the allowable noise level of the quieter zone shall be used. The allowable noise levels are then adjusted if certain conditions apply to the alleged offensive noise, as follows:

- For steady tone noise with an audible fundamental frequency or overtones (except for noise emanating from any electrical transformer or gas metering and pressure control equipment existing and installed prior to September 8, 1986) – reduce allowable noise level by 5 dB(A).
- For repeated impulsive noise – reduce allowable noise level by 5 dB(A).
- For noise occurring less than 15 minutes in any period of 60 consecutive minutes between the hours of 7:00 a.m. and 10:00 p.m. – increase allowable noise level by 5 dB(A).

The city's noise ordinance is not explicit in defining the length of time over which an average noise level should be assessed. However, based on the noted reference to "60 consecutive minutes," above, it is concluded that the 1-hour Leq metric should be used.

Section 112.02 of Chapter XI addresses noise from air conditioning, refrigeration, heating, pumping, and filtering equipment. It states that such equipment may not generate noise that would exceed the ambient noise level at any adjacent property by more than 5 dBA.

Section 114.02 of Chapter XI addresses noise from motor driven vehicles (it is noted that the code only addresses vehicles on private property and does not address vehicles while operated on public highways). It states that such vehicles may not generate noise that would exceed the ambient noise level at any occupied residential property by more than 5 dBA.

City of Los Angeles Noise Element

The Noise Element of the city's general plan defines the following land uses to be noise-sensitive: single- and multi-family dwellings, long-term care facilities (including convalescent and retirement facilities), dormitories, motels, hotels, transient lodgings and other residential uses; houses of worship; hospitals; libraries; schools; auditoriums; concert halls; outdoor theaters; nature and wildlife preserves; and parks.

The Noise Element contains the following polices that are relevant to the proposed project:

Policy 5 – Continue to enforce, as applicable, city, state and federal regulations intended to abate or eliminate disturbances of the peace and other intrusive noise.

Policy 6 – When processing building permits, continue to require appropriate project design and/or insulation measures, in accordance with the California Noise Insulation Standards (Building Code Title 24, Section 3501 et seq.), or any amendments thereto or subsequent related regulations, so as to assure that interior noise levels will not exceed the minimum ambient noise levels, as set forth in the city's noise ordinance (LAMC Section 111 et seq., and any other insulation related code standards or requirements) for a particular zone or noise-sensitive use, as defined by the California Noise Insulation Standards.

Policy 11 – For a proposed development project that is deemed to have a potentially significant noise impact on noise-sensitive uses, as defined by this chapter, require mitigation measures, as appropriate, in accordance with California Environmental Quality Act and city procedures.

Policy 12 – When issuing discretionary permits for a proposed noise-sensitive use (as defined by this chapter) or a subdivision of four or more detached single-family units and which use is determined to be potentially significantly impacted by existing or proposed noise sources, require mitigation measures, as appropriate, in accordance with procedures set forth in the California Environmental Quality Act.

3.10.3 Environmental Setting

3.10.3.1 Existing Noise Environment

The primary source of noise that currently affects the project vicinity is traffic on surrounding streets and the Interstate 5 (I-5) and I-10 freeways. Existing noise levels due to these roadways are estimated as part of the analyses provided in Section 3.10.4, below. Secondary sources of noise include operations at nearby commercial and industrial properties, aircraft overflights, operations at the existing LAC+USC Medical Center (including mechanical and utility plant equipment, parking lots and structures, ambulance sirens, and occasional heliport operations for air ambulances), freight trains on the Union Pacific (UP) railroad north of the project site, and day-to-day neighborhood noise such as landscaping activities and barking dogs.

The closest noise-sensitive receptors to the project site include homes (multi- and single-family) located approximately 30 feet east, 125 feet south, and 70 feet northwest of the boundaries of the medical center campus; Saint Camillus Center for Spiritual Care on Zonal Avenue, which is located 65 feet north of the campus; Hazard Park, which is located 200 feet to the east; and a Budget Inn motel on Marengo Street, approximately 65 south of the project site.

Noise Monitoring

In order to document the existing noise environment short-term (ST) measurements were obtained at six locations throughout the study area on Thursday July 31, 2014, between 10 a.m. and 3 p.m. The locations are identified in Figure 3.10-1; additional details and a summary of the measurement results are provided in Table 3.10-5. Each measurement was conducted over a period of approximately 15 minutes.

Table 3.10-5. Summary of Noise Measurements

	Measured Noise Levels, dBA							
Location #, Description (Date, Time)	L_{eq}	L_{max}	L_{min}	L_2	L_8	L_{25}	L_{50}	L_{90}
ST-1, On sidewalk east of single-family residence at 3033 N Main Street (7/31/2014, 11:32 a.m. – 11:47 a.m.)	67.0	77.4	46.7	73.4	71.3	68.3	64.8	56.0
ST-2, On sidewalk east of single-family residence at 1035 Clement Street (7/31/2014, 1:22 p.m. – 1:37 p.m.)	61.7	82.7	54.3	67.2	63.0	60.5	58.7	56.0
ST-3, On sidewalk north of Budget Inn Motel, 2050 Marengo Street (7/31/2014, 2:37 p.m. – 2:52 p.m.)	70.1	83.3	58.6	76.7	73.5	70.5	67.3	61.0
ST-4, Adjacent to multi-family residence at 1110 N Chicago Street (7/31/2014, 1:54 p.m. – 2:09 p.m.)	65.6	73.4	64.1	68.4	66.4	65.6	65.2	64.7
ST-5, South side of apartments at 2101 Charlotte Street (7/31/2014, 2:11 p.m. – 2:26 p.m.)	59.9	70.8	55.9	64.2	61.6	60.0	59.1	58.1
ST-6, On sidewalk north of single-family residence at 2400 Lancaster Avenue (7/31/2014, 10:51 a.m. – 11:06 a.m.)	69.1	83.5	50.3	77.2	73.6	69.0	65.9	55.5
Source: ICF, 2014.								

3.10.4 Environmental Impact Analysis

This noise impact analysis evaluates the temporary noise and groundborne vibration associated with proposed project construction activities, the changes in noise levels in the study area that would occur as a result of the proposed project (including on-site operations and project-generated traffic), and the effects of noise on the proposed project.

3.10.4.1 Methods

Potential noise and vibration impacts associated with project construction activities were evaluated using an assumed construction equipment schedule, and noise and vibration source levels and modeling methodologies provided by the Federal Transit Administration (FTA, 2006) and the Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA, 2008). Traffic noise was analyzed using a proprietary traffic noise model with calculations based on data from the FHWA Traffic Noise Model (TMN) Version 2.5 Look-Up Tables (FHWA, 2004). The inputs used in the traffic noise modeling included average daily traffic (ADT) volumes derived from data provided in the traffic study for the project and by Caltrans (Caltrans, 2012); traffic speeds based on the posted speed limits; and traffic mix (the percentage of automobiles versus medium trucks and heavy trucks) based on published data for typical roadways (County of Riverside, 2012) and freeways (Caltrans, 2012).

Additional noise sources related to the project were analyzed qualitatively or based on noise measurements of existing or similar facilities, or applicable published noise data.

3.10.4.2 Thresholds of Significance

Because the project site is a County of Los Angeles facility, the County's noise and vibration standards will take precedence in establishing thresholds of significance for potential on-site impacts. The surrounding community is within the City of Los Angeles, so the city's noise and vibration standards will take precedence in establishing thresholds of significance for potential off-site impacts. With this in mind, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact on the environment if it:

NOI-1 Exposes persons to or generates noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. This impact will occur if:

1. Any project construction activity takes place outside the hours of 7 a.m. to 7 p.m. on Monday through Friday or 8 a.m. to 6 p.m. on Saturdays (based on the permitted construction hours specified by the city and County government codes); or,
2. Any project construction activity generates maximum noise levels that exceed 75 dBA at any off-site residential receptor (based on the City of Los Angeles Municipal Code); or,
3. Any project construction activity generates maximum noise levels that exceed 85 dBA at on-site medical center buildings that house patients (based on County code); or,

4. New non-residential buildings constructed as part of the proposed project fail to comply with the exterior-to-interior noise control standards of the California Green Building Standards Code (see Section 5.507); or,
5. New residential buildings constructed as part of the proposed project fail to comply with the allowable interior noise level standards of the County of Los Angeles Building Code (45 dB L_{dn} or CNEL); or,
6. Project operations generate noise levels at any off-site noise-sensitive receptors in excess of those permitted by the City of Los Angeles Noise Ordinance (see Section 111.02).

NOI-2 Exposes persons to or generates excessive groundborne vibration or groundborne noise levels. This impact will occur if vibration from construction activities exceeds a PPV of 0.01 at any sensitive building, including on-site medical center buildings that house patients (based on County code).

NOI-3 Results in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Based on the *L.A. CEQA Thresholds Guide*, this impact will occur if:

1. Project traffic or on-site operations increase the CNEL at any off-site noise-sensitive receptor by 3 dB or more to or within the "normally unacceptable" or "clearly unacceptable" noise level range for the receptor's land use, as summarized in Table 3.10-3); or,
2. Project traffic or on-site operations increase the CNEL at any off-site receptor by 5 dB or more.

NOI-4 Results in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Based on the *L.A. CEQA Thresholds Guide*, this impact will occur if the 1-hour L_{eq} from project construction activities would exceed existing ambient exterior noise levels by 5 dB(A) or more at a noise-sensitive use.

NOI-5 Is located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

The County of Los Angeles Department of Public Works determined in the NOP/IS prepared for this EIR (see Appendix A) that the proposed project would result in no impacts in the area listed below; therefore, this issue was not carried forward for further analysis in this EIR.

NOI-6 Is located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and exposes people residing or working in the project area to excessive noise levels.

The project site is more than 9 miles from the nearest public airport, San Gabriel Valley (El Monte) Airport. Therefore, no impacts are anticipated under this threshold and it is not considered further in this section.

Figure 3.10-1: Noise Monitoring Locations

[this page intentionally left blank]

3.10.4.3 Impacts and Mitigation Measures

Impact NOI-1: Would the Proposed Project Expose Persons to or Generate Noise Levels in Excess of Standards Established in a Local General Plan or Noise Ordinance or Applicable Standards of other Agencies?

Construction

In accordance with the County and City of Los Angeles government codes, construction would take place between the hours of 7 a.m. to 7 p.m. on Monday through Friday or 8 a.m. to 6 p.m. on Saturdays. There are no known plans to construct outside of these hours or at any time on Sundays or legal holidays. If, during development of the final construction schedule, it is deemed necessary to work outside of the permitted hours, the County will follow the necessary procedures to obtain an appropriate variance. All internal-combustion-engine powered equipment or machinery would be equipped with suitable exhaust and air-intake silencers in proper working order. Project construction would be broken down into phases. The phases of construction and anticipated construction equipment are summarized in Table 3.10-6, along with the associated maximum noise levels at a reference distance of 50 feet. As noted previously, the thresholds of significance, which

Table 3.10-6. Construction Phasing and Equipment Noise Levels

Construction Phase	Equipment Item	Maximum Noise Level (L_{max}) at 50 feet, dBA*	Distance Required to Reduce L_{max} to 85 dBA, feet	Distance Required to Reduce L_{max} to 75 dBA, feet
Demolition	Concrete/Industrial Saws	90	85	270
	Excavator	85	50	150
	Rubber Tired Dozer	85	50	150
Site Preparation	Rubber Tired Dozer	85	50	150
	Tractor/loader/backhoe	85	50	150
Grading	Excavator	85	50	150
	Grader	85	50	150
	Rubber Tired Dozer	85	50	150
	Scraper	89	85	240
	Tractor/loader/backhoe	85	50	150
Building Construction	Crane	88	70	215
	Forklift	80	30	85
	Generator Set	81	30	95
	Tractor/loader/backhoe	85	50	150
	Welder	74	15	45
Paving	Paver	89	85	240
	Paving equipment	80	30	85
	Roller	74	15	45
Architectural Coating	Air compressor	81	30	95

*Obtained or estimated from FTA 2006 and/or FHWA 2008 (RCNM).
Source: ICF, 2014.

were established based on the County and city noise standards, are 85 dBA at on-site medical center buildings that house patients and 75 dBA at off-site residential receptors. Therefore, the maximum distance from each piece of equipment at which these noise levels would occur are also provided in the table. The analysis of construction noise impacts assumed that construction of individual projects under the master plan could overlap and was based on the same construction assumptions used in the air quality impact analysis (see Section 3.2). .

In addition to the equipment shown in Table 3.10-6, it is possible that pile driving would be necessary at some point in the construction process. Typical maximum pile driving noise levels are 101 dBA at 50 feet, and would be reduced to 85 dBA or 75 dBA at distances of 300 feet and 945 feet, respectively.

For construction of facilities that do not involve pile driving and are located toward the interior of the project site, the noise levels at off-site residential properties would be below the applicable Lmax threshold of 75 dBA. However, for construction that involves pile driving and/or occurs close to the project boundaries that are in the vicinity of residences (such as homes across Marengo Street or on Sichel Street), maximum noise levels would exceed 75 dBA. In addition, construction of new onsite facilities would occur in close proximity to existing medical center buildings that house patients and would exceed 85 dBA at these locations. These would be significant impacts.

Operation

Project operational noise sources would include additional traffic on the surrounding streets and on-site noise sources such as mechanical equipment, parking lot activities, and activities at proposed outdoor spaces such as the Adventure Courtyard and Central Plaza.

Traffic Noise

As required by the *L.A. CEQA Thresholds Guide*, potential impacts at off-site sensitive receptors due to project-related traffic are to be assessed with respect to noise increases (rather than solely based on absolute noise levels). Therefore, the off-site traffic noise analysis is conducted under Impact NOI-3, below, which specifically addresses permanent increases in ambient noise levels in the project vicinity. However, in order to analyze potential traffic noise impacts on the project site itself, future noise levels from the adjacent streets and nearby freeways were analyzed. The results of this analysis is summarized in Table 3.10-7.

Referring to the table, any new buildings on the project site (excluding “buildings with few or no occupants or where occupants are not likely to be affected by exterior noise”) constructed within 129 feet of Marengo Street, 172 feet of Mission Road, 46 feet of Zonal Avenue, 590 feet of I-5, or 482 feet of I-10 would be exposed to a noise level of 65 dB CNEL or greater, and would be required to comply with the CALGreen exterior-to-interior noise control standards for non-residential construction. Failure of any non-residential on-site buildings to comply with these standards would be a significant impact.

The project also proposes to locate new residential buildings (workforce housing) on parcels adjacent to Mission Road; these buildings would be subject to the interior noise standard of 45 dB Ldn or CNEL established by the County’s Building Code. Compliance with these standards would ensure the noise impact on these residences would be less than significant.

Table 3.10-7. Distance to Traffic Noise Contours from Roadways Affecting the Project Site

Roadway	Segment Location	Distance to CNEL Noise Contour from Roadway Centerline (feet)*			
		75 dB	70 dB	65 dB	60 dB
Charlotte Street/N Cummings St	West of Soto St	-	-	-	82
Chicago St	Marengo St - Charlotte St	-	-	-	-
Marengo St	Mission Rd - State St	-	39	123	350
Marengo St	State St - Brittania St	-	40	125	356
Marengo St	Brittania St - Chicago St	-	41	129	366
Mission Rd	Marengo St - Workman St	-	55	173	465
Mission Rd	Workman St - Sichel St	-	55	172	465
Mission Rd	Sichel St - Zonal Ave	-	55	171	461
Zonal Ave	East of Mission Rd	-	-	46	145
I-5 future	West of project site	198	342	590	>980
I-10 future	South of project site	171	283	482	822

Notes:
* Where no value is shown, the noise contour does not extend beyond the roadway's right-of-way.
Source: ICF, 2014.

Parking Lot Activity

Based on trip generation data provided in the project traffic study, there could be up to 711 vehicle trips (total including both inbound and outbound trips) during the daily peak hour at the project site at project build out. Noise generated by these vehicles while on site would not be sufficient to exceed city noise standards for the following reasons:

- These vehicles would be spread out between various parking facilities throughout the project site, including aboveground and underground parking structures, and a relatively limited number of surface park spots.
- Typical noise sources within parking lots are of very short duration (engines starting, doors slamming, etc.) and do not contribute significantly to overall noise levels when averaged over a 1-hour period.
- The parking structures and other intervening buildings would provide acoustical shielding.
- Based on the conceptual master plan layout, the average distance between each proposed parking facility and the nearest noise-sensitive receptor would be at least 100 feet and in many cases the distance would be much greater. (It is considered appropriate to use the average source-to-receiver distance, rather than the closest distance to each parking facility because such facilities represent a distributed noise source that is spread across the entire parking area.)

Therefore, noise impacts from the parking lots associated with the project would be less than significant.

Mechanical Equipment

The project would introduce a variety of new mechanical equipment throughout the project site. This would include rooftop heating, ventilation and air conditioning (HVAC) equipment, ventilation fans for subterranean parking, and new central plant equipment. Due to the size of the project site, much of this equipment would be located at large distances from off-site sensitive receptors and/or would be shielded by intervening structures, and would not be expected to exceed the applicable noise standards of the City of Los Angeles Municipal Code. However, because the master plan is conceptual and programmatic in nature, the final type, location, and configuration of mechanical equipment is unknown and the possibility exists that some on-site mechanical equipment would increase ambient noise levels and exceed the applicable daytime and/or nighttime noise standards at off-site sensitive receptors, which would be a significant impact.

Emergency Vehicles

Sirens from emergency vehicles (i.e., ambulances) are an existing source of daytime and nighttime noise associated with the LAC+USC Medical Center. Emergency vehicles currently access the site from Marengo Street using a dedicated driveway, just west of Brittania Street, to take patients directly to the emergency room doors. While sirens generate very high short-term noise levels (measurements conducted adjacent to the project site indicated maximum noise levels of 103 dBA at a distance of approximately 40 feet), they are generally excluded from local noise standards and would not be considered a violation of the city's municipal code. Furthermore, implementation of the project would not expand on-site emergency room facilities and is not anticipated to increase the number of ambulances accessing the hospital (relative to numbers existing without the project) or alter their routes to the hospital (they would continue to use the same access driveway). Therefore, the project would not cause an increase in emergency vehicle noise levels, or the frequency of their occurrence, in the surrounding community and the impacts would be less than significant.

Outdoor Events

The project includes a number of outdoor spaces that would provide for a variety of uses ranging from walking, biking, and informal gatherings to organized events such as outdoor markets with street vendors, organized weekly farmers markets, and summer concerts and health marches. Noise generated by passive day-to-day use of the outdoor spaces would be limited primarily to the intermittent sounds of people talking, laughing, yelling etc. and would not be expected to exceed the applicable noise standards of the City of Los Angeles Municipal Code at off-site noise sensitive receptors. However, noise generated by large organized events would have the potential to increase ambient noise levels and exceed the applicable standards, especially during concerts or when other forms of amplified sound are used (public address systems, bullhorns, etc.), which would be a significant impact.

Mitigation Measures

The following measures are proposed to mitigate the construction and operations impacts identified under Impact NOI-1, above.

MM-NOI-1: Reduce Construction Noise to the Extent Possible. The County shall implement the following noise reduction measures during construction:

- Construction activities should be limited to between the hours of 7:00 a.m. to 7:00 p.m. on Monday through Friday or 8 a.m. to 6 p.m. on Saturdays, and should not occur at any time on Sundays or legal holidays. Construction personnel should not be permitted on the job site, and material or equipment deliveries and collections should not be permitted outside of these hours.
- To the fullest extent practicable, the quietest available type of construction equipment should be used. Newer equipment is generally quieter than older equipment. The use of electric powered equipment is typically quieter than diesel or gasoline powered equipment, and hydraulic powered equipment is typically quieter than pneumatic power.
- Where possible, impact pile driving should be replaced with other piling techniques, such as vibratory pile driving or drilled and poured-in-place piles.
- All mobile and fixed noise-producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulation while in the course of project activity.
- All construction equipment should be properly maintained. Poor maintenance of equipment typically causes excessive noise levels.
- All construction equipment, stationary and mobile, should be equipped with properly operating and maintained mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.
- All noisy equipment should be operated only when necessary, and should be switched off when not in use.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. To the extent practicable, temporary barriers should be employed around the project site and/or around noisy construction equipment. For barriers to be effective they should break the line-of site between the equipment and any noise-sensitive receiver. These barriers may be constructed as follows:
    - From commercially-available acoustical panels lined with sound absorbing material (the sound absorptive faces of the panels should face the construction equipment).
    - From common construction materials such as plywood and lined with sound absorptive material (the sound absorptive material should face the construction equipment).
    - From acoustical blankets hung over or from a supporting frame. The blankets should provide a minimum sound transmission class (STC) rating of 28 and a minimum noise reduction coefficient (NRC) of 0.80 and should be firmly secured to the framework with the sound absorptive side of the blankets oriented towards the construction equipment. The blankets should be overlapped by at least 6" at seams and taped so that no gaps exist. The largest blankets available should be used in order to minimize the number of seams. The blankets shall be draped to the ground to eliminate any gaps at the base of the barrier.

- Construction employees shall be trained in the proper operation and use of the equipment.
- Storage, staging, parking, and maintenance areas shall be located away from sensitive receptors. Where this is not possible, the storage of waste materials, earth, and other supplies should be positioned in a manner that will function as a noise barrier to the closest sensitive receivers.
- Stationary noise sources such as generators and compressors shall be positioned as far away as possible from noise sensitive areas.
- Construction equipment shall be stored on the project site while in use. This will eliminate noise associated with repeated transportation of the equipment to and from the site.
- To the extent possible haul roads should not be designated through noise-sensitive areas.

MM-NOI-2: Design Non-Residential Project Buildings to Comply with CALGreen Exterior-to-Interior Noise Control Standards. During the architectural and engineering design phase of each new non-residential building that would be located within the 65 dB CNEL contour of any of the surrounding roadways (i.e., within 129 feet of Marengo Street, 172 feet of Mission Road, 46 feet of Zonal Avenue, 590 feet of I-5, or 482 feet of I-10), and prior to the issuance of any building permits for the building, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to comply with the State of California Green Building Standards Code. Such mitigation measures may include, but are not limited to: installation of sound-rated windows or upgrades to façade wall elements. It is noted that this mitigation measure does not apply to "buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings."

MM-NOI-3: Design Residential Project Buildings to Comply with the County of Los Angeles Building Code's Interior Noise Standards. During the architectural and engineering design phase of each new residential building to be developed as part of the project, and prior to the issuance of any building permits for the building, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to comply with the County of Los Angeles Building Code's interior noise standard of 45 dB Ldn or CNEL. Such mitigation measures may include, but are not limited to: installation of sound-rated windows or upgrades to façade wall elements.

MM-NOI-4: Design Project Facilities to Ensure All Mechanical Equipment Complies with Chapter XI of the City of Los Angeles Municipal Code. During the architectural and engineering design phase of each new facility (building, central plant, parking structure, etc.) that would introduce new mechanical equipment to the project site, and prior to the issuance of any building permits for the facility, the County shall retain an acoustical consultant to evaluate the design and provide recommendations, as necessary, to ensure that the mechanical equipment complies with Chapter XI of the City of Los Angeles Municipal Code. Such recommendations may include, but are not limited to: changes in equipment locations, upgrades to central plant buildings, rooftop parapet walls, acoustical louvers or screens, or intake and exhaust silencers.

MM-NOI-5: Design and Manage Outdoor Use Areas to Ensure Organized Outdoor Events Comply with Chapter XI of the City of Los Angeles Municipal Code. Prior to the issuance of any building permits for outdoor use areas that are anticipated to host organized events such as outdoor markets, farmers markets, summer concerts and health marches, etc. the County shall retain an acoustical consultant to evaluate the design (event layout, sound system design, etc.) and operational event details (crowd sizes, times of operation, etc.) to ensure that such events will comply with Chapter XI of the City of Los Angeles Municipal Code. Such recommendations may include, but are not limited to: controls on crowd sizes and event times, and limits on sound system power levels.

Level of Significance after Mitigation

While MM-NOI-1 will reduce construction noise levels, it will not eliminate the predicted noise impacts entirely; therefore, construction noise impacts are considered significant and unavoidable.

All operational noise impacts are considered to be less than significant after mitigation.

Impact NOI-2: Would the Proposed Project Expose Persons to or Generate Excessive Groundborne Vibration or Groundborne Noise Levels?

Heavy construction equipment has the potential to produce groundborne vibration levels that are perceptible to people in the surrounding area.

Referring to the equipment schedule provided above, in Table 3.10-6_, various pieces of heavy equipment such as graders and excavators would be used at the project site. Based on data published by the FTA (FTA, 2006), this type of equipment typically produces PPV vibration levels of 0.089 in/s at a distance of 25 feet. If pile driving is conducted at the project site, source vibration levels would be increased to 0.644 in/s at 25 feet.

Vibration levels from construction equipment attenuate as they radiate from the source. The equation to determine vibration levels at a specific distance states that

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where PPV_{ref} is the PPV at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (FTA, 2006).

Using this equation, it was calculated that heavy construction equipment (graders, excavators, etc.) would generate groundborne vibration levels of 0.01 in/s or greater at distances of up to 111 feet. If pile driving is used, this impact distance would increase to 403 feet. Due to the proximity of proposed construction areas to both off-site and on-site sensitive receptors, it does not appear practical to avoid the operation of heavy construction equipment within 111 feet of these receptors, therefore the impact would be significant.

Mitigation Measures

The following measure is proposed to mitigate Impact NOI-2, above.

MM-NOI-6: Reduce Construction-Generated Groundborne Vibration to the Extent Possible. The County shall implement the following vibration reduction measures during construction:

- Where possible, impact pile driving should be replaced with other piling techniques, such as vibratory pile driving or drilled and poured-in-place piles.
- To the extent possible, heavy construction equipment should not be operated within 111 feet of on-site or off-site sensitive receptors.

Level of Significance after Mitigation

While MM-NOI-6 would reduce construction vibration levels, it would not eliminate the predicted impacts entirely; therefore, construction vibration impacts are considered significant and unavoidable.

Impact NOI-3: Would the Proposed Project Result in a Substantial Permanent Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project?

Construction

Construction noise would be temporary and limited to the period of construction activities. Therefore, substantial permanent increases in ambient noise levels would only occur once individual projects under the master plan are implemented and operational.

Operation

Traffic Noise

In order to analyze noise increases associated with project-generated traffic, four different traffic scenarios were analyzed: (1) existing, (2) existing-with-project, (3) future-without-project, and (4) future-with-project. Using the results of these analyses, it was possible to determine the effects of the project by comparing the existing noise levels to the existing-with-project noise levels, and the future-without-project noise levels to the future-with-project noise levels. The traffic noise modeling results are summarized in Table 3.10-8. Referring to the table, project-generated traffic would increase traffic noise levels in the project vicinity by less than 3 dB CNEL adjacent to all roadways. Therefore, the impact would be less than significant.

Table 3.10-8. Estimated Traffic Noise Levels

	Estimated Traffic Noise Levels at 50 feet from Roadway Centerline, dB CNEL					
Roadway/Segment	**Existing**	**Existing-with-Project**	**Increase Over Existing**	**Future-Without-Project**	**Future-with-Project**	**Increase Over Future-Without-Project**
Cesar E. Chavez Avenue						
State St - I-5 NB Off-Ramp	67.6	67.7	0.1	68.0	68.1	0.1
Charlotte/N Cummings Street						
W of Soto St	61.9	61.9	-0.1	62.3	62.2	-0.1
Chicago Street						
Marengo St - Charlotte St	58.3	57.3	-0.9	58.6	57.7	-0.9
Daly Street						
Main St - Mission Rd	66.9	67.1	0.2	67.3	67.4	0.2
Main Street						
Daly St - Mission Rd	68.5	68.5	0.0	68.9	69.0	0.0
Marengo Street						
Mission Rd - State St	68.5	68.6	0.1	68.9	69.0	0.1
State St - Brittania St	68.3	68.7	0.3	68.8	69.1	0.3
Brittania St - Chicago St	68.5	68.8	0.3	68.9	69.2	0.3
Chicago St - Soto St	68.6	69.1	0.4	69.0	69.4	0.4

	Estimated Traffic Noise Levels at 50 feet from Roadway Centerline, dB CNEL					
Roadway/Segment	**Existing**	**Existing-with-Project**	**Increase Over Existing**	**Future-Without-Project**	**Future-with-Project**	**Increase Over Future-Without-Project**
Mission Road						
I-5/I-10 Ramps - Marengo St	70.8	70.8	0.1	71.2	71.2	0.1
Marengo St - Workman St	70.2	70.0	-0.1	70.6	70.5	-0.1
Workman St - Sichel St	70.2	70.0	-0.1	70.6	70.5	-0.1
Sichel St - Zonal Ave	70.1	70.0	-0.1	70.5	70.4	-0.1
Zonal Ave - Valley Blvd	68.9	68.9	0.1	69.3	69.4	0.1
Valley Blvd - Main St	68.9	69.0	0.1	69.3	69.4	0.1
Soto Street						
Wabash Ave - Marengo St	69.8	69.9	0.2	70.3	70.5	0.2
Marengo St - Charlotte St	70.1	70.2	0.1	70.7	70.7	0.1
Charlotte St - Alcazar St	69.7	69.7	0.0	70.3	70.3	0.0
Cesar E. Chavez Ave – I-10 EB Ramps	66.5	66.8	0.3	67.0	67.3	0.3
I-10 EB Ramps - I-10 WB Ramps	66.7	67.1	0.4	67.2	67.5	0.3
I-10 WB Ramps - Pomeroy Ave	66.4	66.9	0.5	66.9	67.3	0.5
Pomeroy Ave - Marengo St	64.5	65.3	0.8	65.0	65.7	0.7
N of Marengo St	62.3	64.3	2.0	62.7	64.6	1.8
Valley Boulevard						
Mission Rd - San Pablo St	71.1	71.1	0.0	71.6	71.5	0.0
Zonal Avenue						
W of Mission Rd	63.4	63.6	0.2	63.7	63.8	0.2
E of Mission Rd	63.6	64.4	0.8	63.9	64.6	0.8
Source: ICF, 2014.						

Mechanical Equipment

As discussed previously under Impact NOI-1, new on-site mechanical equipment has the potential to produce a substantial permanent increase in ambient noise levels at nearby off-site noise-sensitive receptors, which would be a significant impact.

Other Operational Noise Sources

Other operation noise sources consist of parking lot activity, emergency vehicles, and outdoor events. As discussed previously under Impact NOI-1, neither parking lot activity nor emergency vehicles are expected to generate substantial permanent increases in ambient noise levels. Therefore, impacts from these sources would be less-than-significant. Noise from outdoor events would be periodic in nature and, as such, is discussed under Impact NOI-4, below.

Mitigation Measures

See mitigation measure MM-NOI-4 above.

Level of Significance after Mitigation

Less than significant.

Impact NOI-4: Would the Proposed Project Result in a Substantial Temporary or Periodic Increase in Ambient Noise Levels in the Project Vicinity above Levels Existing without the Project?

Construction

In accordance with County code and the City of Los Angeles Municipal Code, construction would take place between the hours of 7 a.m. to 7 p.m. on Monday through Friday or 8 a.m. to 6 p.m. on Saturdays, and would not occur at any time on Sundays or legal holidays. Furthermore, all internal-combustion-engine powered equipment or machinery would be equipped with suitable exhaust and air-intake silencers in proper working order. Project construction would be broken down into phases. The phases of construction and anticipated construction equipment are summarized in Table 3.10-9. The table also summarizes the calculation of the Leq for each construction phase at a reference distance of 50 feet.

Referring to the ambient noise measurement data provided in Table 3.10-5, the average (Leq) ambient noise levels at noise-sensitive receptors in the immediate vicinity of the project site (ST-2, ST-3, ST-4, and ST-5) range from approximately 60 to 70 dBA.

Throughout the development of the project site, construction activity would be concentrated at various locations as individual buildings and facilities are constructed. Based on the conceptual plans for the project, it is estimated that some of the nearby noise-sensitive receptors, such as homes on Sichel Street, would be located within 300 feet of the center of the closest construction zone. Table 3.10-10 provides the estimated Leq for each construction phase at a distance of 300 feet. The table also compares the resulting Leq with the upper and lower range of measured ambient Leq's and calculates the resulting noise increase due to construction. The analysis indicates that construction activity would generate noise increases of up to 14 dBA at nearby sensitive receptors. This exceeds the threshold of 5 dBA and, therefore, is a significant impact. It is noted that, if pile driving is used during construction, the noise increases could be up to 5 dBA greater than those estimated in the table.

Operation

As discussed previously under Impact NOI-1, proposed outdoor events at the project site have the potential to produce a substantial periodic increase in ambient noise levels at nearby off-site noise-sensitive receptors, which would be a significant impact.

Mitigation Measures

Mitigation measures MM-NOI-1 and MM-NOI-5 above are proposed to mitigate Impact NOI-4.

Level of Significance after Mitigation

While MM-NOI-1 would reduce construction noise levels, it would not eliminate the predicted noise impacts entirely; therefore, construction noise impacts are considered significant and unavoidable.

All operational noise impacts are considered to be less than significant after mitigation.

Table 3.10-9. Construction Phasing and Equipment Noise Levels

Construction Phase/Equipment Item	Maximum Noise Level (L_{max}) at 50 feet, dBA[1]	Usage Factor[1,2]	Number of Each Equipment Item	L_{eq} at 50 feet
Demolition				
Concrete/Industrial Saws	90	0.2	1	83
Excavator	85	0.4	3	86
Rubber Tired Dozer	85	0.4	2	84
Combined				*89*
Site Preparation				
Rubber Tired Dozer	85	0.4	3	81
Tractor/loader/backhoe	85	0.4	4	81
Combined				*84*
Grading				
Excavator	85	0.4	2	81
Grader	85	0.4	1	81
Rubber Tired Dozer	85	0.4	1	81
Scraper	89	0.4	2	85
Tractor/loader/backhoe	85	0.4	2	81
Combined				*88*
Building Construction				
Crane	88	0.16	1	80
Forklift	80	0.4	3	76
Generator Set	81	0.5	1	78
Tractor/loader/backhoe	85	0.4	3	*81*
Welder	74	0.4	1	70
Combined				*83*
Paving				
Paver	89	0.5	2	86
Paving equipment	80	0.4	2	76
Roller	74	0.2	2	67
Combined				*86*
Architectural Coating				
Air compressor	81	0.4	1	77
Combined				*77*

Notes:
1. Obtained or estimated from FTA 2006 and/or FHWA 2008 (RCNM).
2. Usage Factor = percentage of time equipment is operating in noisiest mode while in use.
Source: ICF, 2014.

Table 3.10-10. Estimated Noise Increases Due to Project Construction

Construction Phase	Leq at 50 feet, dBA	Leq at 300 feet, dBA	Existing Ambient (lower range upper range)	Combined Leq, dBA	Increase Due to Construction, dBA
Demolition	89	74	60	74	14
			70	75	5
Site Preparation	84	68	60	69	9
			70	72	2
Grading	88	72	60	72	12
			70	74	4
Building Construction	83	67	60	68	8
			70	72	2
Paving	86	71	60	71	11
			70	73	3
Architectural Coating	77	61	60	64	4
			70	71	1
Source: ICF, 2014.					

Impact NOI-5: Would the Proposed Project be Located in the Vicinity of a Private Airstrip and Expose People Residing or Working in the Project Area to Excessive Noise Levels?

Construction and Operation

The existing LAC+USC Medical Center includes two helipads for the transportation of patients to the emergency room by air ambulance. One helipad is on the roof top of the medical center building and one is on grade on the west portion of the campus. Typical flight operations are summarized as follows: a helicopter lands on the roof-top helipad and the flight staff takes the patient down the trauma elevators to the emergency room; after the patient and flight staff are in the hospital, the helicopter moves to the on-grade helistop to wait for the flight staff; flight staff departs the Emergency Department and walks to the on-grade helistop. On occasion, when there is already a helicopter on the roof, a patient is landed at the on-grade helipad and an ambulance takes them to the Emergency Room. Based on data from 2010, there are an average of approximately 27 landings per month.

As part of the proposed project, the at-grade helipad would be located to an as-yet unidentified new location within the campus. However, it is not anticipated that this change would lead to any increases in the overall number of landings at the site, or to the typical flight paths utilized by incoming helicopters. In addition, individual landings and on-site helicopter movements would be relatively short in duration. For these reasons, the long-term average noise levels generated by helicopters are expected to be relatively low compared to other existing noise sources and are not expected to change significantly as a result of the project. Therefore, the noise impacts associated with the helipads would be less-than-significant.

Mitigation Measures

No mitigation measures are required.

3.10.5 Cumulative Impacts

The study area for cumulative noise and vibration impacts consists of the area in the general vicinity of the medical center campus that could be affected by the combined effects of the proposed project and other nearby related projects. For the purposes of this analysis, a radius of 1,000 feet from the project site boundaries was considered.

3.10.5.1 Construction

The only related project within 1,000 feet of the project site is the Marengo Center mixed use development at 1902 E. Marengo Street, directly southwest of the project site. Construction of related projects further than 1,000 feet from the project site has not been analyzed because the noise levels would be significantly attenuated by both the distance and the shielding effects of intervening buildings. In the event that construction of Marengo Center coincides with construction at the LAC+USC Medical Center site, it is possible that it could increase overall construction noise levels at nearby sensitive receptors. Assuming the construction methods and equipment used at the Marengo Center site are similar to those identified for the Medical Center project, then noise levels could be increased by approximately 3 dB (for a doubling of the number of sources). However, construction noise impacts for the project have already been identified as significant and unavoidable under Impact NOI-1 and NOI-4, therefore, the proposed project could result in significant cumulative construction noise impacts.

3.10.5.2 Operational Noise

Traffic

The traffic data used in the analysis of future-with- and without-project conditions includes growth attributable to cumulative projects in the area that would increase traffic over time. Therefore, the cumulative operational project impacts have already addressed under Impact NOI-1, which was found to have a less-than-significant impact.

On-site Operations

No new impacts associated with onsite operations are expected as a result of the cumulative effects of related projects, for the following reasons:

- The only related project within 1,000 feet of the project site is the Marengo Center mixed-use development. Operations at related projects further than 1,000 feet from the project site would typically be inaudible due to both the distance and the shielding effects of intervening buildings.
- As a new development, the Marengo Center would be expected/required to comply with all the same noise standards that are applicable to the Medical Center project.
- The uses at the Marengo Center are generally consistent with the existing mix of residential and commercial properties in the area and would, therefore, not be expected to produce significant changes in the noise environment of the broader surrounding area that might be affected by noise from the medical center project.

3.11 Population/Housing

3.11.1 Introduction

This section provides information regarding general neighborhood population and housing characteristics, as well as projected population growth, within the study area, which includes areas of the City and County of Los Angeles. Potential population and housing impacts due to development that could occur under the proposed master plan are described, and mitigation measures, if required, are identified.

3.11.2 Regulatory Setting

3.11.2.1 Federal

There are no federal regulations that apply to the project.

3.11.2.2 State

CEQA Guidelines Section 15126.2(d)—Growth-Inducing Effects

Pursuant to Section 15126.2(d) of the State CEQA Guidelines, an EIR must discuss whether a project will directly or indirectly foster growth (Association of Environmental Professionals 2014). Section 15126.2(d) reads as follows:

> An EIR shall discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth. Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, the EIR shall discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

3.11.2.3 Local

Southern California Association of Governments

The RCP, a major advisory plan prepared by SCAG, addresses important regional issues and responds to the SCAG Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's inter-related housing, traffic, water, air quality, and other challenges. The RCP serves as an advisory document to local agencies in the Southern California region for their information and voluntary use when preparing local plans and handling local issues of regional significance. It also includes goals and outcomes to measure progress toward a more sustainable region.

The most recent RCP from 2008 includes a chapter on land use and housing. The Compass Blueprint growth vision, the 2% Strategy, and the goals, outcomes, and action plan outlined in that chapter promote sustainable planning for land use and housing in Southern California, which maximizes the efficiency of the existing and planned transportation network, provides the necessary amount and mix of housing for our growing population, enables a diverse and growing economy, and protects important natural resources (Southern California Association of Governments 2009).

SCAG is also responsible for developing regional and subarea growth forecasts. Therefore, SCAG makes projections related to three major growth indicators in the region: population, the number of households, and employment. The regional growth forecast represents the most likely future growth scenario for the Southern California region, taking into account a combination of recent and past trends, reasonable key technical assumptions, and regional growth policies. The regional growth forecast is the basis for the Regional Transportation Plan, Sustainable Communities Strategy, Program Environmental Impact Report, and the Regional Housing Needs Assessment (Southern California Association of Governments 2012).

For subareas, SCAG develops socioeconomic estimates and growth projections pertaining to population, the number of households, and employment for cities and transportation analysis zones in the SCAG region. These estimates and projections provide the analytical foundations for SCAG's transportation planning and other programs (Southern California Association of Governments 2012).

Los Angeles County General Plan

The County of Los Angeles General Plan, adopted in 1980, serves as an advisory document to provide decision-makers with a policy framework towards achievement of the Plan's stated goals and policies. The Los Angeles County General Plan 2035, currently in draft form (2014 draft plan) provides the policy framework for how and where the unincorporated County will grow through the year 2035, while recognizing and celebrating the County's wide diversity of cultures, abundant natural resources, and status as an international economic center. The Los Angeles County General Plan 2035 accommodates new housing and jobs within the unincorporated areas in anticipation of population growth in the County and the region. The general plan update effort includes goals, policies, implementation programs, and ordinances. The Los Angeles County General Plan 2035 will replace the adopted general plan, including all of the elements (excluding the Housing Element), land use distribution maps, and circulation maps.

As discussed in the Housing Element of the draft 2035 general plan, denser and more compact housing types are necessary in unincorporated areas to accommodate the housing needs of the growing senior citizen population, younger individuals who live alone, low-income households, and others who need and/or desire apartments, condominiums, and smaller, more affordable housing units (County of Los Angeles 2014a).

City of Los Angeles General Plan

The City of Los Angeles General Plan is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City of Los Angeles. The Housing Element of the city's general plan is a strategy for short-term housing development, establishing a citywide context that guides all housing activities in the city. The primary goal of the Housing Element is to provide a range of housing opportunities for all income groups (City of Los Angeles 2002b).

Northeast Los Angeles Community Plan

The Northeast Los Angeles Community Plan area encompasses the hills and valleys east of the Los Angeles River and north of the Boyle Heights Community Plan area within the City of Los Angeles. The 15,000-acre area, with roughly 250,000 inhabitants in a diverse collection of communities and neighborhoods, serves as a transition area between the downtown center of Los Angeles and the neighboring cities of Glendale, Pasadena, South Pasadena, and Alhambra to the north and east. The general purpose of the plan is to preserve and enhance the character of northeast Los Angeles by strengthening the viability and identity of its neighborhoods and communities and improving the quality of life for all its residents. More specifically, the plan serves to preserve and enhance the positive characteristics of residential neighborhoods while providing a variety of compatible new housing opportunities (City of Los Angeles 1999).

3.11.3 Environmental Setting

The LAC+USC Medical Center campus is located entirely within the City of Los Angeles, on County-owned land. According to the 2010 census, the population of the City of Los Angeles that year was 3,792,621. Of that population, no one racial group held a majority. The census found that 49.8% of the population identified themselves as White, 9.6% as African-American, and 11.3% as Asian. American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Other, and Two or More Races were also represented, accounting for 0.7%, 0.1%, 23.8%, and 4.6% of the gross population, respectively. Hispanic or Latino, however, is considered the largest ethnic group in the City of Los Angeles, with 1,838,822 individuals, or 48.5% of the total population, identifying themselves as such. These statistics are relatively consistent with County data from 2010.

The majority of the population in the City of Los Angeles is female, with males representing just under 50% of residents.

The majority of the population within the city is over the age of 18 (77%). The city maintains a normal distribution of ages within its population, with 29.7% between the ages of 35 and 49, 22.8% between the ages of 25 and 34, and 22% between the ages of 50 and 64. Of the remaining population over the age of 18, 11.2% of the population is between the ages of 20 and 24, and 14.2% is over the age of 65.

The project site is located entirely within Census Tract 2033. Population information regarding race and ethnicity for the City of Los Angeles, the County of Los Angeles, Census Tract 2033, and the adjacent census tracts was used to create Table 3.11-1, which summarizes the characteristics of the regional and local population in 2010. Data regarding Census Tract 2033 are fairly consistent with city- and County-wide demography, although, in this area, 68.8% of respondents identified themselves as belonging to the Hispanic or Latino group compared with 47.7% and 48.5% within the County and city, respectively.

The project site and surrounding census tracts, as identified in Table 3.11-1, are depicted in Figure 3.11-1.

Figure 3.11-1: Census Tracts

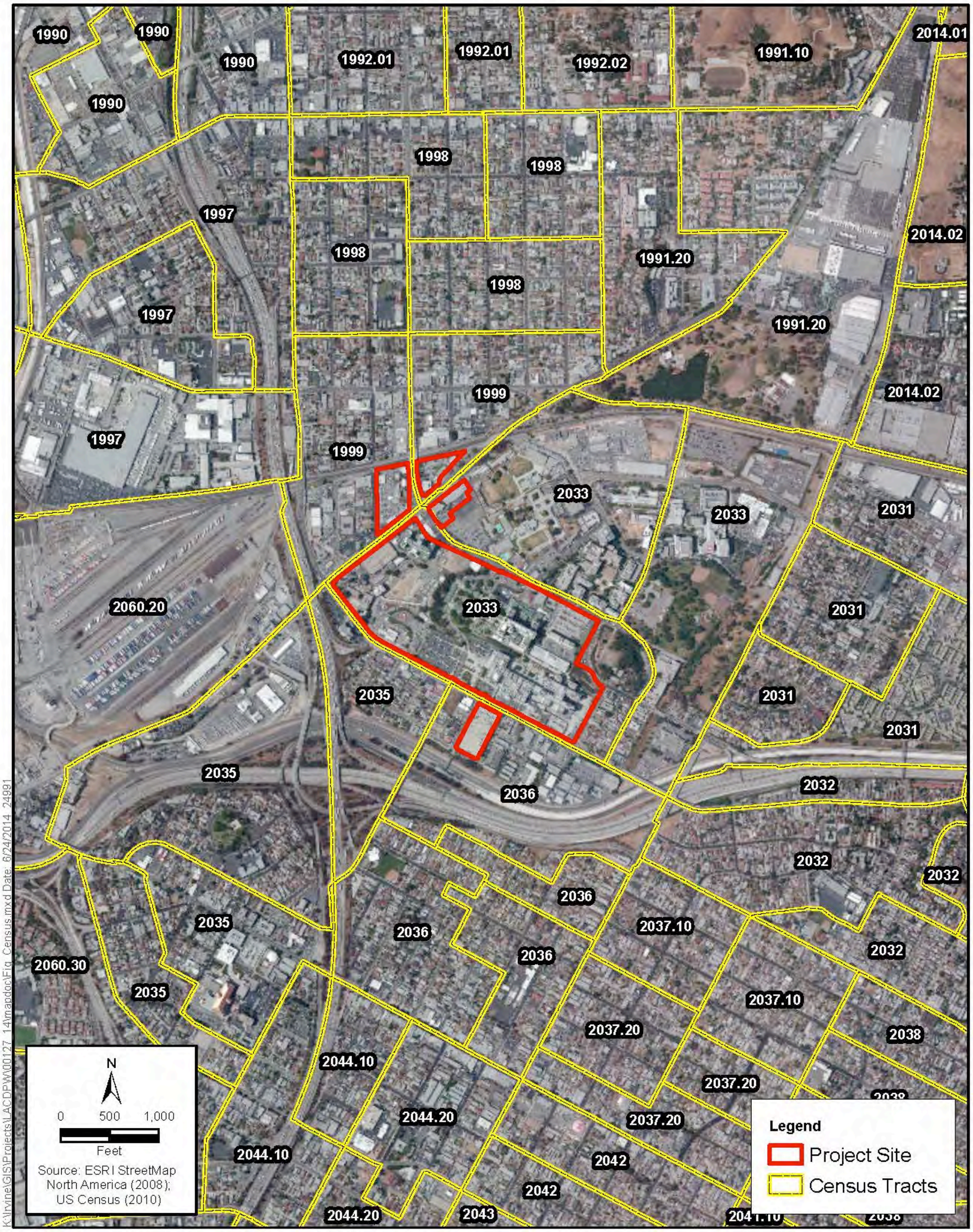


Table 3.11-1: Existing (2010) Regional and Local Population Characteristics—Race and Ethnicity

Area	Total	White	%	African-American	%	Asian	%	American Indian and Alaska Native	%	Native Hawaiian and Other Pacific Islander	%	Some Other Race	%	Two or More Races	%	Hispanic or Latino	%
County of Los Angeles	9,818,605	4,936,599	50.3%	856,874	8.7%	1,346,865	13.7%	72,828	0.7%	26,094	0.3%	2,140,632	21.8%	438,713	4.5%	4,687,889	47.7%
City of Los Angeles	3,792,621	1,888,158	49.8%	365,118	9.6%	426,959	11.3%	28,215	0.7%	5,577	0.1%	902,959	23.8%	175,635	4.6%	1,838,822	48.5%
Tract 2033	2,607	1,011	38.8%	298	11.4%	282	10.8%	16	0.6%	0	0.0%	914	35.1%	86	3.3%	1,794	68.8%
Tract 2031	4,839	2,142	44.3%	78	1.6%	79	1.6%	70	1.4%	3	0.1%	2,245	46.4%	222	4.6%	4,636	95.8%
Tract 2032	4,844	2,118	43.7%	35	0.7%	57	1.2%	58	1.2%	1	0.0%	2,422	50.0%	153	3.2%	4,699	97.0%
Tract 2035	3,064	1,297	42.3%	30	1.0%	329	10.7%	39	1.3%	0	0.0%	1,281	41.8%	88	2.9%	2,608	85.1%
Tract 2036	5,394	2,624	48.6%	20	0.4%	41	0.8%	57	1.1%	5	0.1%	2,439	45.2%	208	3.9%	5,255	97.4%
Tract 1999	2,683	948	35.3%	39	1.5%	476	17.7%	55	2.0%	6	0.2%	1,082	40.3%	77	2.9%	2,128	79.3%
Tract 1991.20	4,086	1,371	33.6%	70	1.7%	941	23.0%	43	1.1%	1	0.0%	1,478	36.2%	182	4.5%	2,964	72.5%
Tract 2014.02	4,311	1,961	45.5%	32	0.7%	811	18.8%	58	1.3%	2	0.0%	1,307	30.3%	140	3.2%	3,303	76.6%

Source: U.S. Census Bureau. 2011. *2010 Census Summary File 1.*

Housing information regarding occupancy rates and types for the City of Los Angeles, the County of Los Angeles, Census Tract 2033, and the adjacent census tracts was also used to create the two tables below. Table 3.11-2 summarizes the occupancy rates for the study areas in 2010; Table 3.11-3 summarizes the occupancy type (i.e., owner- versus renter-occupied) for the study areas in 2010. For the City of Los Angeles, there were approximately 1,413,995 housing units within the city limits, of which 93.2% were occupied. Of the occupied units, 38.2% were owner occupied, and the remaining 814,305 units (61.8%) were occupied by renters. The renter-occupied percentage at the County level is somewhat lower (52.3%) but substantially higher within Census Tract 2033 (82.8%). Most of the percentages in the adjacent census tracts were similar. Persons per household was also tabulated, with the County average at 2.98 persons, the city average at 2.81 persons, and the Census Tract 2033 average at 3.21 persons.

Table 3.11-2: Existing (2010) Regional and Local Housing Characteristics—Occupancy Rate

Area	Total Units	Occupied Units	%	Vacant Units	%	Persons Per Household
County of Los Angeles	3,445,076	3,241,204	94.1%	203,872	5.9%	2.98
City of Los Angeles	1,413,995	1,318,168	93.2%	95,827	6.8%	2.81
Tract 2033	479	438	91.4%	41	8.6%	3.21
Adjacent Tract 2031	1,212	1,165	96.1%	47	3.9%	4.15
Adjacent Tract 2032	1,279	1,216	95.1%	63	4.9%	3.98
Adjacent Tract 2035	1,013	922	91%	91	9%	3.30
Adjacent Tract 2036	1,439	1,374	95.5%	65	4.5%	3.92
Adjacent Tract 1999	813	771	94.8%	42	5.2%	3.47
Adjacent Tract 1991.20	1,094	1,010	92.3%	84	7.7%	3.73
Adjacent Tract 2014.02	1,385	1,335	96.4%	50	3.6%	3.23
Source: U.S. Census Bureau. 2011. *2010 Census Summary File 1.*						

Table 3.11-3: Existing (2010) Regional and Local Housing Characteristics—Occupancy Type

Area	Occupied Units	Owner-Occupied Units	%	Renter-Occupied Units	%
County of Los Angeles	3,241,204	1,544,749	47.7%	1,696,455	52.3%
City of Los Angeles	1,318,168	503,863	38.2%	814,305	61.8%
Tract 2033	438	78	17.8%	360	82.8%
Adjacent Tract 2031	1,165	182	15.6%	983	84.4%
Adjacent Tract 2032	1,216	386	31.7%	830	68.3%
Adjacent Tract 2035	922	179	19.4%	743	80.6%
Adjacent Tract 2036	1,374	319	23.2%	1,055	76.8%
Adjacent Tract 1999	771	120	15.6%	651	84.4%
Adjacent Tract 1991.20	1,010	233	23.1%	777	76.9%
Adjacent Tract 2014.02	1,335	868	65%	467	35%
Source: U.S. Census Bureau. 2011. *2010 Census Summary File 1.*					

In accordance with the policies of the RCP, SCAG has adopted forecasts regarding the estimated and projected future population, housing, and employment numbers for Southern California cities. The estimates are for the years 2008, 2020, and 2035. For the City of Los Angeles, the population is expected to grow by 5.9% between 2008 and 2020 and by 14.6% from the 2008 baseline estimate to 2035.

Information regarding the County of Los Angeles and its projected growth was used for comparative purposes (see the summarized forecasts in Table 3.11-4). The percentages for housing growth are larger than the population percentages. Both population and housing are expected to outpace employment growth, which is forecast to be 5.0% and 11.2% under the 12- and 27-year projections, respectively.

Table 3.11-4: Projected Regional Population, Housing and Employment

Area	Data Type	2008	2020	% Growth (Decline)	2035	% Growth (Decline)
County of Los Angeles	Population	9,778,000	10,404,000	6.4%	11,353,000	16.1%
	Housing	3,228,000	3,513,000	8.8%	3,852,000	19.3%
	Employment	4,340,000	4,558,000	5.0%	4,827,000	11.2%
City of Los Angeles	Population	3,770,500	3,991,700	5.9%	4,320,600	14.6%
	Housing	1,309,900	1,455,700	11.1%	1,626,600	24.2%
	Employment	1,735,200	1,817,700	4.8%	1,906,800	9.9%
Source: Southern California Association of Governments. 2012. *2012 Growth Forecast.*						

As proposed, the project site encompasses 86 acres of County-owned land in a completely developed area that supports a variety of land uses.

Currently, the LAC+USC Medical Center staff includes more than 700 full-time physicians from the Keck School of Medicine, with approximately 900 medical interns and residents and about 2,600 nurses at all levels, including 900 registered nurses (County of Los Angeles. 2014b).

3.11.4 Environmental Impact Analysis

3.11.4.1 Methods

Potential population and employment increases due to development that could occur under the master plan were calculated and compared with existing and projected population data to determine potential project impacts.

The analysis presented below discusses whether the proposed project would displace existing housing and residents.

3.11.4.2 Thresholds of Significance

For the purposes of this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would result in a significant environmental impact if it would:

POP-1 Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure).

POP-2 Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere.

POP-3 Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

3.11.4.3 Impacts and Mitigation Measures

Impact POP-1: Would the Proposed Project Induce Substantial Population Growth in an Area, either Directly (e.g., by Proposing New Homes and Businesses) or Indirectly (e.g., through the Extension of Roads or Other Infrastructure)?

Construction

The proposed project would include development of new or renovated office space for medical uses, retail space, open space, parking facilities, and possibly some workforce housing on the medical center campus. Construction activities would include demolition of some on-site buildings and structures, site preparation and grading, and construction of new and renovated facilities. The number of construction workers employed and working on-site would vary over the course of the construction period and over the lifetime of the master plan. The County has a large pool of construction labor from which to draw within commuting distance of the project site. Additionally, because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process. For those reasons, it is reasonable to assume that most construction workers would not relocate their households to work on proposed master plan development and improvement projects. Therefore, construction activities would not induce substantial population growth. Impacts would be less than significant.

Operation

The proposed master plan would include new and renovated facilities and could result in a net increase in the square footage of medical office, retail, and other building space. Given the net increase in square footage (see Table 3.15-6), it is estimated that the proposed master plan could generate a net increase of 2,416 employees through 2040 (see Table 3.11-5 below).

The proposed project may include the development of on-campus housing units to accommodate the biomedical research staff and temporary employees, thereby increasing the on-campus residential population.

One of the guiding principles of the master plan is to maximize access to LAC+USC Medical Center facilities. Accordingly, the project is likely to attract additional visitors and consequently may indirectly increase growth in the surrounding area.

Table 3.11-5. Employee Projections

Type Description	Employee Generation Factor	Building Size	Number of Employees
Existing Uses to Be Demolished			
Offices	3.29 employees/1,000 sq. ft.	197,288 sq. ft.	(649)
Medical Offices	4.83 employees/1,000 sq. ft.	457,727 sq. ft.	(2,211)
Maintenance Facilities	2.16 employees/1,000 sq. ft.	31,000 sq. ft.	(67)
Utility Plant and Cooling Tower	2.16 employees/1,000 sq. ft.	20,938 sq. ft.	(45)
Warehouse and Storage	1.28 employees/1,000 sq. ft.	15,756 sq. ft.	(20)
Total			(2,992)
Proposed Uses			
Hospital	3.65 employees/bed	450 beds	1,642
Retail	2 employees/1,000 sq. ft.	55,000 sq. ft.	110
Utility Plant and Maintenance	2.16 employees/1,000 sq. ft.	40,000 sq. ft.	86
Medical Offices	4.83 employees/1,000 sq. ft.	200,000 sq. ft.	966
Administrative Offices	3.29 employees/1,000 sq. ft.	265,000 sq. ft.	872
Offices	3.29 employees/1,000 sq. ft.	50,000 sq. ft.	164
Research Space	2.47 employees/1,000 sq. ft.	635,000 sq. ft.	1,568
Total			5,408
Net Increase			2,416

Note: Employee Generation Factor for employees/bed uses Structural and Geographical Information for Large Hospitals provided by the U.S. Energy Information Administration.
Source(s): Institute of Transportation Engineers Trip Generation Handbook; U.S. EIA; ICF, 2014.

The SCAG projections anticipate citywide population growth of 14.6% by 2035. As estimated, the increases in the employee population that could occur with anticipated development under the master plan would represent a relatively small percentage of the employment growth SCAG has projected in its regional and city forecasts. Additionally, the proposed project does not include the extension of roads or other infrastructure improvements in undeveloped areas outside the boundaries of the campus that would indirectly induce substantial population growth in those areas. Therefore, growth impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact POP-2: Would the Proposed Project Displace Substantial Numbers of Existing Housing Units, Necessitating the Construction of Replacement Housing Elsewhere?

Construction and Operation

As mentioned above, all development and facilities proposed under the master plan would be constructed within the existing boundaries of the medical center campus. There are currently no permanent housing units on campus. Thus, no displacement of existing housing would occur as a result of anticipated development under the master plan.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact POP-3: Would the Proposed Project Displace Substantial Numbers of People, Necessitating the Construction of Replacement Housing Elsewhere?

Construction and Operation

As mentioned above, all development and facilities proposed under the master plan would be constructed within the existing boundaries of the medical center campus. No displacement of existing housing would occur; therefore, no persons would be displaced as a result of the proposed project.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

3.11.5 Cumulative Impacts

The study area for the cumulative growth-inducement impacts analysis encompasses the census tracts identified in Table 3.11-1. The LAC+USC Medical Center is located in Census Tract 2033; the surrounding area includes adjacent census tracts 2031, 2032, 2035, 2036, 1999, 1991.20, and 2014.02. A list of related projects in the area is provided in Table 2-2 of Chapter 2, Project Description.

There are nine related projects in the surrounding area at various stages of conceptual planning and development. Of these nine, three fall within the study area for this cumulative impacts analysis. The projects are the USC Health Sciences Campus Master Plan Project (585,000 to 765,000 square feet of floor area), the Marengo Center Community Building – Mixed-Use Project (27,235 square feet of commercial and retail development), and a medical office expansion project at 1828 East Cesar Chavez Avenue (49,543 square feet). These projects are located in census tracts 2033, 2036, and 2035, respectively.

Although the proposed and related projects would increase employee and residential populations within the study area and this growth could result in impacts on the environment (see the discussions in other sections of Chapter 3 of this EIR as well as the environmental documents for the related projects referenced above), the cumulative growth would occur within a highly developed urban area and would be within SCAG's city and regional population projections. Additionally, the cumulative growth due to the proposed and related projects would be consistent with local and regional general plans and subject to existing zoning regulations that regulate the density of development. Therefore, the proposed and related projects would not result in significant growth-inducement impacts.

3.12 Public Services

3.12.1 Introduction

This section discusses the public services (fire, police, schools, libraries, and parks) that serve the project site. Public service providers are identified and potential impacts on public services that could occur as a result of construction and operation of the proposed project are evaluated.

3.12.2 Regulatory Setting

The following subsections discuss the various codes, regulations, and policies applicable to public service agency operations at the federal, state, regional, and local levels.

3.12.2.1 Federal

There are no federal regulations that apply to the project.

3.12.2.2 State

California State Fire Code

By State law, the State Fire Marshal (SFM) is responsible for coordination of the state's fire and life safety codes. The SFM must review the proposed regulations of state agencies that promote fire and life safety before the regulations can be submitted for approval. The SFM Code Development and Analysis Program staff regularly reviews Title 19 of the California Code of Regulations, titled Public Safety (which discusses fire safety standards), for relevancy, necessity, conflict, duplication, and overlap. They also implement legislative mandates to develop regulations related to fire and life safety involving the various occupancy classifications under the authority of the California SFM. This encompasses the actual administrative processing of regulations from concept to promulgation in the California Code of Regulations (California Building Standards Commission 2014).

3.12.2.3 Local

City of Los Angeles Municipal Code

The City of Los Angeles Municipal Code, last amended in June 2014, contains 19 chapters, including a chapter on fire and police protection, titled Public Safety and Protection (Chapter 5) (City of Los Angeles 2013). Article 2, titled Police and Special Officers, contains regulations governing administrative issues, such as requirements for police badges and uniforms, and Article 7, titled Fire Protection and Prevention, contains the fire code for the city. The Los Angeles Fire Code prescribes laws that may be enforced by the Los Angeles Fire Department (LAFD) to help safeguard life and property from fire, explosion, panic, or other hazardous conditions that may arise in the city. The fire code includes information pertaining to administrative issues, such as the requirements for filling out and submitting Hazardous Materials Release Response Plans and Inventory Statements, and technical requirements associated with the storage, management, and disposal of hazardous materials, such as underground chemical storage tanks, asbestos-containing materials/asbestos-containing building material, and various other combustible and flammable materials. (City of Los Angeles 2014).

City of Los Angeles General Plan

The general plan, approved by the City of Los Angeles Planning Commission and the mayor and adopted by the City Council, is a comprehensive, long-range declaration of purposes, policies, and programs for development in the City of Los Angeles.

The Safety Element of the City of Los Angeles General Plan sets forth specific policies and objectives related to safety. These policies and objectives emphasize hazard mitigation, emergency response, and disaster recovery. Fire prevention, fire protection, and emergency medical services within the city operate under the Fire Protection and Prevention Plan, which is an element of the general plan. The Fire Protection and Prevention Plan serves as a guide for the construction, maintenance, and operation of fire protection facilities in the city. It sets forth policies and standards for fire station distribution and location, fire suppression water flow (or “fire flow”), fire hydrant standards and locations, firefighting equipment access, emergency ambulance services, and fire prevention activities. Population density, nature of on-site land uses, and traffic flow are also considered by LAFD in evaluating the adequacy of fire protection services for a specific area or land use.

The City of Los Angeles General Plan also includes a Public Recreation Plan. This element defines the various park types and sets forth guidelines to develop and locate public facilities to provide the greatest benefit to the greatest number of people with the least cost and environmental impact. An overall provision of 10 acres of land per 1,000 persons for total recreational facilities is recommended (City of Los Angeles 2002c).

Northeast Los Angeles Community Plan

As part of the City of Los Angeles General Plan, the Northeast Los Angeles Community Plan is one of 35 community plans that compose its Land Use Element. It was established to encompass the hills and valleys lying east of the Los Angeles River and north of the Boyle Heights Community Plan area within the City of Los Angeles. The 15,000-acre area, occupied by roughly 250,000 inhabitants living in a diverse collection of communities and neighborhoods, serves as a transition between the downtown center of Los Angeles and the neighboring cities of Glendale, Pasadena, South Pasadena, and Alhambra to the north and east. The general purpose of the plan is to preserve and enhance the character of northeast Los Angeles by strengthening the viability and identity of its neighborhoods and communities and improving the quality of life for all its residents. The plan contains specific goals, objectives and policies for park and recreation facilities, schools, libraries, and police protection and fire protection to ensure a livable community environment and the adequate provision of public services and facilities for its resident population (City of Los Angeles 1999).

Los Angeles County General Plan

The Los Angeles County General Plan provides the policy framework for how and where the unincorporated areas will grow through 2035 and establishes goals, policies, and programs to foster healthy, livable, and sustainable communities (County of Los Angeles 2014a). As a County-run facility operated on County-owned land, the LAC+USC Medical Center is subject to elements of the Los Angeles County General Plan.

Chapters 10, 12, and 13 of the Los Angeles County General Plan address Parks and Recreation, Safety, and Public Services and Facilities, respectively. The purpose of Chapter 10, the Parks and Recreation Element, is to assess existing park acreage and future recreation needs; identify goals, objectives, and policies for appropriate future actions; and provide recommendations based on needs, goals and public involvement to guide the future direction of parks and recreation (County of Los Angeles 2014b). For example, pursuant to the Parkland Development goal, Policy P/R 3.9 states that new parks should be sited near schools, libraries, senior centers and other community facilities where possible. Chapter 12, the Safety Element, identifies the goals and policies that serve reduce the potential risk of death, injuries, and economic damage resulting from natural and man-made hazards (County of Los Angeles 2014c). Also, the State Board of Forestry and the California Department of Forestry and Fire Protection have drafted a comprehensive document for wildland fire protection in California. The Forestry Division's Fire Plan Unit is in charge of implementing the California Fire Plan in Los Angeles County. Chapter 13, the Public Services and Facilities Element, provides a summary of some of the major public services and facilities that serve the unincorporated areas, and establishes policies that guide the provision of public services and facilities in conjunction with projected growth (County of Los Angeles 2014d).

3.12.3 Environmental Setting

Public services for the proposed project site and the surrounding communities are provided by LAFD, the Los Angeles Police Department (LAPD), Los Angeles County Sheriff's Department (LASD), Los Angeles Unified School District (LAUSD), Los Angeles Public Library (LAPL), and the Los Angeles Department of Recreation and Parks. Public services have been actively developing in concert with growth in the communities and the region. A discussion of the current provisions to deliver public services within the LAC+USC Medical Center and surrounding areas is provided below, along with any planning efforts to accommodate increases in demand due to future growth.

Figure 3.12-1 identifies the location of the fire stations, police stations, libraries, and parks in the vicinity of the proposed project. Figure 13.2-2 provides the locations of all public schools within the vicinity of the proposed project.

3.12.3.1 Fire Protection and Prevention and Emergency Services

LAFD provides fire protection and prevention and emergency services to and around the project site.

Los Angeles Fire Department

LAFD is a full-spectrum life-safety agency that serves people who live and work in the City of Los Angeles. Its 3,586 uniformed fire personnel and 353 professional support personnel are responsible for fire prevention, firefighting, emergency medical care, technical rescue, hazardous materials mitigation, disaster response, public education and community service (Los Angeles Fire Department 2014a). A total of 1,104 uniformed firefighters (including 242 serving as Firefighter/Paramedics) are always on duty at fire department facilities across the city (Los Angeles Fire Department 2014a). LAFD maintains 106 fire stations across the department's 471 square-mile jurisdiction, and has continued to see rise in emergency responses, both pertaining to fire and emergency medical services (EMS) (Los Angeles Fire Department 2014a).

Fire stations with proximity to the LAC+USC Medical Center are listed in Table 3.12-1. The primary responding fire station for the proposed project site would be LAFD Fire Station 2.

The National Fire Protection Association (NFPA) is a voluntary association of fire and emergency service organizations that seeks to establish and maintain standards for organizational, deployment and operational activities as well as recommended practices and benchmarks. NFPA maintains that the response time standard (turnout + travel) for the first fire resources is 5 minutes and 20 seconds (City of Los Angeles 2012).

Figure 3.12-1: Public Service Locations Map

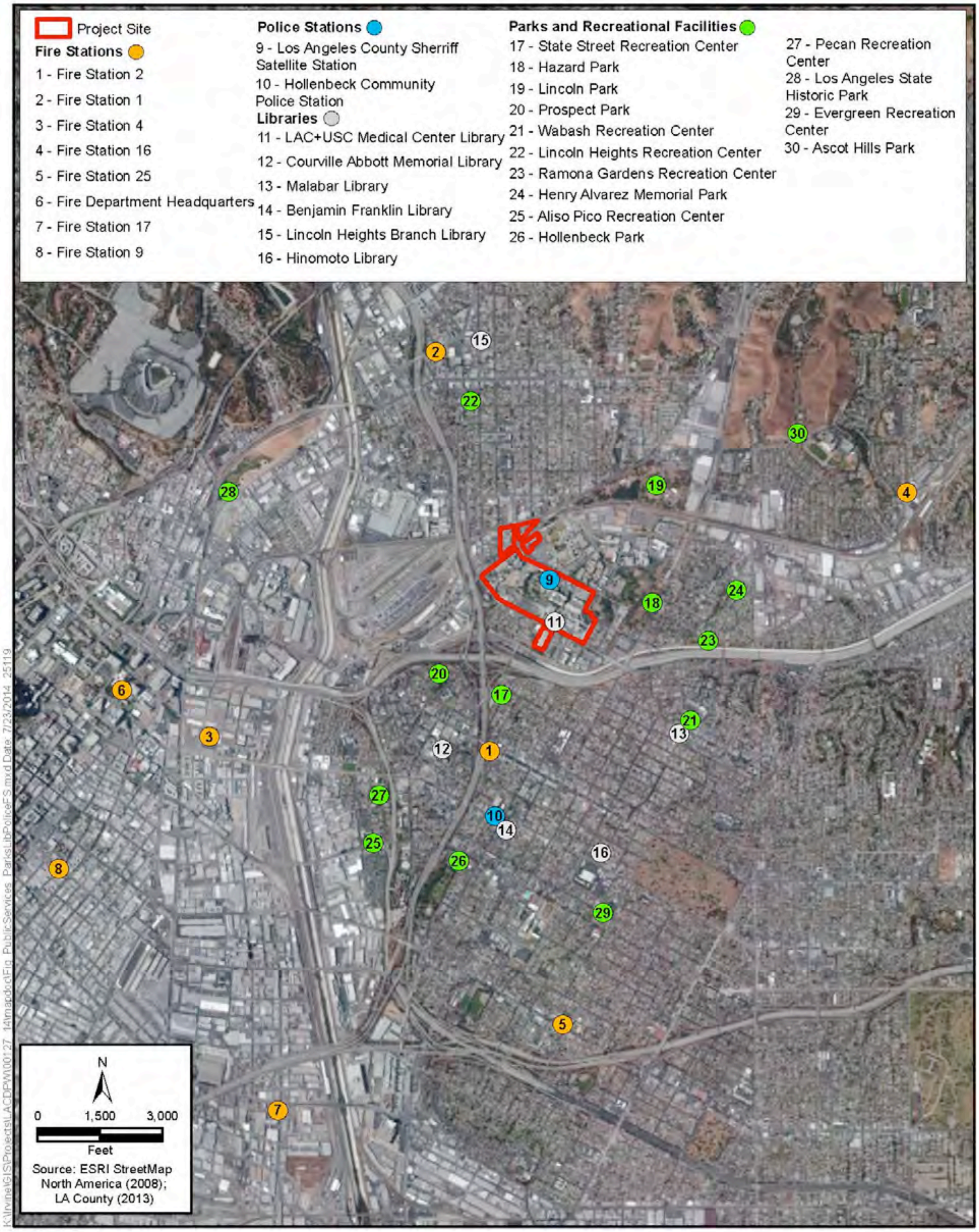


Figure 3.12-2: Public School Locations Map

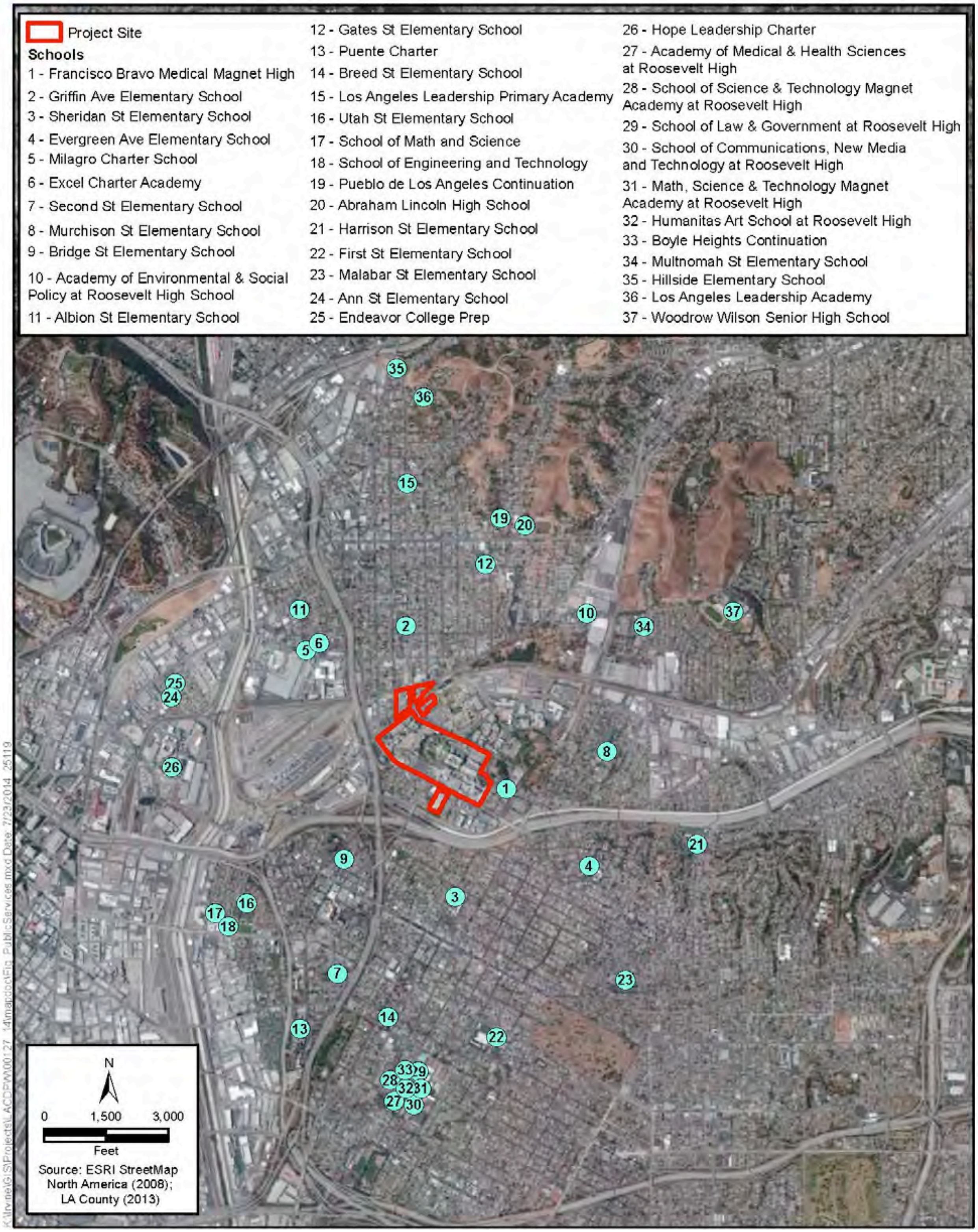


Table 3.12-1: Fire Stations in the Vicinity of the Proposed Project

Map ID	Facility Name	Address	Distance from Project Site
1	Fire Station 2	1962 East Cesar E Chavez Ave. Los Angeles, CA 90033-1751	0.8 mi
2	Fire Station 1	2230 Pasadena Ave. Los Angeles, CA 90031-2212	1.6 mi
3	Fire Station 4	450 E Temple St. Los Angeles, CA 90012	2.2 mi
4	Fire Station 16	2011 North Eastern Ave. Los Angeles, CA 90032-3813	2.4 mi
5	Fire Station 25	2927 Whittier Blvd Los Angeles, CA 90023-1528	2.5 mi
6	Fire Department Headquarters	200 North Main St. Los Angeles, CA 90012-4110	2.6 mi
7	Fire Station 17	1601 South Santa Fe Ave. Los Angeles, CA 90021-2932	3.0 mi
8	Fire Station 9	430 East 7th St. Los Angeles, CA 90014-2312	3.3 mi
Note: The Distance from Site metric in the table represents the driving distance between facilities rather than the actual distance. Source: LAFD Fire Station Locator, 2014b.			

Table 3.12-1 lists the fire stations that serve the project site and provides their locations and respective distance(s). For the purposes of this analysis, fire stations serving the project site and surrounding communities (El Sereno, Boyle Heights, Lincoln Heights, Chinatown, and Downtown) were identified. The locations of each station are shown in Figure 3.12-1.

As mentioned, Fire Station 2, located on 1962 East Cesar E Chavez Avenue is the primary response station for the project site. In terms of available resources, Station 2 currently maintains one engine, one pump, one ladder truck, and one Advanced Life Support (ALS) rescue ambulance. The station has two captains, two paramedics, one apparatus operator, two engineers, and five firefighters, for a total of 12 first responders (Fliegel pers. comm.). Of these 12, four are assigned to the engine, six are assigned to the ladder truck, and two are assigned to the ambulance. In 2013, Station 2 received 6,281 calls (Fliegel pers. comm.). Of these, the departmental staff responded to 739 fire-related incidents. Among them were 229 auto accidents and 67 structure fires (Fliegel pers. comm.). Of the 4,272 non fire-related EMS calls, the departmental staff responded to 479 traffic accidents, 551 reported illnesses, and 265 falls (Fliegel pers. comm.). A summary of the emergency and non-emergency calls and average response times for Fire Station 2 is provided in Table 3.12-2.

Fire Station 2's average emergency response time is consistent with both the NFPA's 5 minute and 20 second national benchmark as well as the 4- to 6-minute average response time suggested for all LAFD stations (Fliegel pers. comm.).

Table 3.12-2: LAFD Station 2 Response Times (2013)

Call Type	Total Number of Calls	Average Response Time (WRS to ONS)
Emergency	4,268	00:04:31
Non-emergency	743	00:08:51
Note: WRS = Time when dispatch is sent to fire station; ONS = Time when response team arrives on scene Source: Personal Communication with Battalion Chief 1, Phillip Fliegel, 2014.		

3.12.3.2 Police Protection

Both, LASD, with an on-site station and personnel, and LAPD provide police protection to the project site.

Table 3.12-3 lists police stations that serve the project site and provides their addresses and respective distances from the LAC+USC Medical Center campus. For the purposes of this analysis, police stations serving the project site and surrounding communities (El Sereno, Boyle Heights, Lincoln Heights, Chinatown, and Downtown) were identified. The locations of each station are shown in Figure 3.12-1.

Los Angeles County Sheriff's Department

Headquartered in Monterey Park, LASD maintains 23 stations across the Southern California region to patrol the unincorporated areas of Los Angeles County as well as the 42 cities that have contracted policing services (Los Angeles County Sheriff's Department 2014). Its 9,935 sworn members are responsible for providing protection and service to more than 9 million people within a 4,500-square-mile area (Los Angeles County Sheriff's Department 2014).

Table 3.12-3: Police Stations in the Vicinity of the Proposed Project

Map ID	Facility Name	Address	Distance from Project Site
9	LASD Satellite Station	2051 Marengo St. Los Angeles, CA 90033	On campus
10	Hollenbeck Community Police Station	2111 E. 1st St. Los Angeles, CA 90033	1.3 mile
Note: The "distance from site" metric in the table represents the driving distance between facilities rather than the actual distance. Source: LAPD Community Police Station Address Directory (2014b).			

The LASD station is located on campus at 2051 Marengo Street, and has two radio cars that patrol the campus with two deputies assigned foot patrol in the emergency room areas (Kennison pers. comm.). The station maintains five squad cars, 15 sworn officers, and oversees an additional 150 non-sworn private security staff, 10 of whom are Sheriff's Security Officers (SSO) that can detain but not arrest (Kennison pers. comm.). These personnel operate 24 hours per day in three separate shifts. Each shift includes three deputies and two SSO's that serve over 8,000 County employees, 4,000 contracted employees, and patients and visitors. In 2013, they responded to 8,371 calls with an average response time of 3 to 5 minutes (Kennison pers. comm.). The performance standard maintained for police services is a response time of three minutes for emergency calls and five minutes for priority calls (Kennison pers. comm.).

Los Angeles Police Department

LAPD's 21 community police stations and 10,000 sworn officers are the responsible local law enforcement agency for the City of Los Angeles's 3.8 million people (Los Angeles Police Department. 2014d). The community police station situated closest to the LAC+USC Medical Center is the Hollenbeck Community Police Station, located at 2111 E. 1st Street. It is 1.3 miles from the project site at 2051 Marengo Street.

The Hollenbeck Community Police Station serves an area that has a population of roughly 200,000 and is 15.2 square miles in size. It encompasses the communities of El Sereno, Lincoln Heights, and Boyle Heights and is under the jurisdiction of the LAPD's Central Bureau (Los Angeles Police Department 2014a). A summary of recent crime statistics for the Hollenbeck area is shown in Table 3.12-4.

Table 3.12-4: 2014 Hollenbeck Area Crime Statistics (through May 24, 2014)

Crime Type	YTD 2012	YTD 2013	YTD 2014	% Change (2012–2014)
Total Violent	326	281	250	-23.3%
Total Property	1,177	1,143	1,004	-14.7%
Source: COMPSTAT, Hollenbeck Area Profile (2014c).				

There are approximately 291 sworn officers and 15 civilian support staff deployed in the Hollenbeck area (Tsap pers. comm., 2014). For this area, LAPD calculated that there were 37 crimes per 1,000 persons during 2013 (Tsap pers. comm., 2014). The average response time to emergency calls for service was 6.5 minutes, above the citywide average of 5.9 minutes and below the 7-minute response time set as a departmental standard (Tsap pers. comm., 2014).

3.12.3.3 Schools

LAUSD and Los Angeles County Office of Education (LACOE) provide facilities and resources for K–12 education and supplemental programming to the community surrounding the LAC+USC Medical Center.

The Los Angeles County Office of Education

LACOE is a regional provider of services to students within the communities surrounding the proposed project site and throughout Los Angeles County. LACOE oversees educational programs and supports 80 local school districts and other agencies with academic, business, administrative, and consulting services related to special education, computer applications, and teaching strategies (Los Angeles County Office of Education 2011).

In addition to providing educational services to the County's two million preschool and school-age children, LACOE administers programs that benefit those who are unable to attend conventional school facilities, such as the physically and mentally disabled, wards of the juvenile court, preschool children, and students in job training programs (Los Angeles County Office of Education 2011).

Los Angeles Unified School District

The LAUSD area of service spreads over 720 square miles and includes the City of Los Angeles as well as some parts of smaller municipalities and unincorporated areas within Los Angeles County. More than 640,000 students in kindergarten through 12th grade are enrolled in the district, which is comprised of more than 900 schools and 197 public charter schools (Los Angeles Unified School District 2014). There are 36 LAUSD campuses and one LACOE campus located within the vicinity of the project site. The total combined enrollment for the LAUSD schools in the area is 20,730, or 13.2% of the district's total enrollment.

Table 3.12-5 lists schools near the project site and provides the addresses, school type, and most recent enrollment information for each individual facility. For the purposes of this analysis, educational facilities serving the project site and surrounding communities (El Sereno, Boyle Heights, Lincoln Heights, Chinatown, and Downtown) were identified. Their locations are shown in Figure 3.12-2.

Table 3.12-5: Educational Facilities

School Name	Address	School Type	2011–2012 Enrollment	Distance
Francisco Bravo Medical Magnet High	1200 North Cornwell St. Los Angeles, CA 90033	9–12	1,861	0.7 mi
Griffin Avenue Elementary	2025 Griffin Ave. Los Angeles, CA 90031	K–5	602	0.8 mi
Sheridan Street Elementary	416 North Cornwell St. Los Angeles, CA 90033	K–6	1,085	0.8 mi
Evergreen Avenue Elementary	2730 Ganahl St. Los Angeles, CA 90033	K–6	899	1.0 mi
Milagro Charter	1855 North Main St. Los Angeles, CA 90031	K–5	285	1.0 mi
Excel Charter Academy	1855 North Main St. Los Angeles, CA 90031	6–8	335	1.0 mi
Second Street Elementary	1942 East Second St. Los Angeles CA 90033	KG-6	429	1.1 mi
Murchison Street Elementary	1501 Murchison St. Los Angeles, CA 90033	KG-6	554	1.3 mi
Bridge Street Elementary	605 North Boyle Ave. Los Angeles, CA 90033	KG-5	316	1.3 mi
Academy of Environmental and Social Policy	3921 Selig Place Los Angeles, CA 90031	9-12	337	1.3 mi
Albion Street Elementary	322 South Avenue 18 Los Angeles, CA 90031	KG-6	350	1.3 mi
Gates Street Elementary	3333 Manitou Ave. Los Angeles, CA 90031	KG-5	712	1.3 mi
Puente Charter	501 South Boyle Ave. Los Angeles, CA 90033	KG	113	1.4 mi
Breed Street Elementary	2226 East Third St. Los Angeles, CA 90033	KG-6	483	1.4 mi
Los Angeles Leadership Primary Academy	2670 Griffin Ave. Los Angeles, CA 90031	KG-5	78	1.4 mi
Utah Street Elementary	255 Gabriel Garcia Marquez St. Los Angeles, CA 90033	KG-8	439	1.5 mi
School of Math and Science	1200 Plaza Del Sol Los Angeles, CA 90033	9-12	359	1.5 mi
School of Engineering and Technology	1200 Plaza Del Sol Los Angeles, CA 90033	9-12	440	1.5 mi
Pueblo de Los Angeles Continuation	2506 Alta St. Los Angeles, CA 90031	9-12	83	1.5 mi
Abraham Lincoln Senior High	3501 N. Broadway Los Angeles, CA 90033	9-12	2,045	1.6 mi
Harrison Street Elementary	3529 City Terrace Dr. Los Angeles, CA 90063	KG-6	576	1.6 mi

School Name	Address	School Type	2011–2012 Enrollment	Distance
First Street Elementary	2820 East First St. Los Angeles, CA 90033	KG-6	830	1.8 mi
Malabar Street Elementary	3200 E Malabar St. Los Angeles, CA 90063	KG-6	775	1.8 mi
Ann Street Elementary	126 East Bloom St. Los Angeles, CA 90012	KG-6	150	1.8 mi
Endeavor College Preparatory Charter	126 Bloom St. Los Angeles, CA 90012	4-8	260	1.8 mi
Hope Leadership Charter	450 Bauchet St., 8th Floor Los Angeles, CA 90012	9-12	n/a	1.8 mi
Academy of Medical and Health Sciences at Roosevelt High	456 South Mathews St. Los Angeles, CA 90033	9-12	482	1.9 mi
School of Science, Technology, Engineering and Math at Roosevelt High	456 South Matthews St. Los Angeles, CA 90033	9-12	484	1.9 mi
School of Law and Government at Roosevelt High	456 South Mathews St. Los Angeles, CA 90033	9-12	478	1.9 mi
School of Communications, New Media and Technology at Roosevelt High	456 South Mathews St. Los Angeles, CA 90033	9-12	480	1.9 mi
Math, Science and Technology Magnet Academy at Roosevelt High	456 South Mathews St. Los Angeles, CA 90033	9-12	376	1.9 mi
Humanitas Art School at Roosevelt High	456 South Mathews St. Los Angeles, CA 90033	9-12	489	1.9 mi
Boyle Heights Continuation	544 South Mathews St. Los Angeles, CA 90033	9-12	76	1.9 mi
Multnomah Street Elementary	2101 North Indiana Ave. Los Angeles, CA 90032	KG-5	514	1.9 mi
Hillside Elementary	120 East Avenue 35 Los Angeles, CA 90031	KG-5	392	2.0 mi
Los Angeles Leadership Academy	234 East Avenue 33 Los Angeles, CA 90031	6-12	523	2.0 mi
Woodrow Wilson Senior High	4500 Multnomah St. Los Angeles, CA 90032	9-12	2,040	2.2 mi

Note: The “distance from site” metric in the table represents the driving distance between facilities rather than the actual distance.
Source: National Center for Education Statistics (U.S. Department of Education 2012).

3.12.3.4 Parks

Within the vicinity of the project site, there is one state park, six neighborhood and community parks, and seven recreation centers (City of Los Angeles Department of Recreation and Parks 2014b). The California Department of Parks and Recreation and the City of Los Angeles Department of Recreation and Parks are in charge of facility maintenance. They also provide a wide variety of recreational and community services, including early childhood classes, special interest classes, workout classes, adult sports leagues and tournaments, recreation for people with special needs, senior recreation, and fine arts programs.

Table 3.12-6 lists the parks and recreational facilities near the proposed project site and provides their addresses, amenities, and respective distances to the LAC+USC Medical Center campus. For the purposes of this analysis, parks serving the project site and surrounding communities (El Sereno, Boyle Heights, Lincoln Heights, Chinatown, and Downtown) were identified. Their locations are shown in Figure 3.12-1.

Table 3.12-6: Parks

Park or Recreational Facility	Address	Amenities	Distance from Project Site
State Street Recreation Center	716 N. State St. Los Angeles, CA 90033	Auditorium, baseball diamond (lighted), basketball courts (lighted/outdoor), children's play area, community room	0.5 mi
Hazard Park	2230 Norfolk St. Los Angeles, CA 90033	Auditorium, barbecue pits, basketball courts (lighted/indoor), children's play area, community room, handball courts (unlighted), indoor gym (without weights), picnic tables, tennis courts (lighted)	0.7 mi
Lincoln Park	3501 Valley Blvd. Los Angeles, CA 90031	Auditorium, barbecue pits, baseball diamond (lighted), basketball courts (lighted/indoor), children's play area, indoor gym (with weights), picnic tables, soccer field (unlighted), tennis courts (unlighted)	0.9 mi
Prospect Park	Echandia and Judson St. Los Angeles, CA 90033	Children's play area	1.0 mi
Wabash Recreation Center	2765 Wabash Ave. Los Angeles, CA 90033	Auditorium, basketball courts (lighted/outdoor), children's play area, community room, indoor gym (without weights)	1.0 mi
Lincoln Heights Recreation Center	2303 Workman St. Los Angeles, CA 90031	Auditorium, basketball courts (lighted/indoor), basketball courts (lighted/outdoor), children's play area, indoor gym (without weights)	1.2 mi
Ramona Gardens Recreation Center	2830 Lancaster Ave. Los Angeles, CA 90033	Auditorium, baseball diamond (lighted), basketball courts (lighted/ indoor, unlighted/outdoor)	1.2 mi

Park or Recreational Facility	Address	Amenities	Distance from Project Site
Henry Alvarez Memorial Park	2830 Lancaster Ave. Los Angeles, CA 90033	Basketball courts (unlighted/ outdoor), children's play area, picnic tables, soccer field (unlighted)	1.2 mi
Aliso Pico Recreation Center	4th and Gless St. Los Angeles, CA 90033	Auditorium, basketball courts (lighted/indoor/outdoor), children's play area, indoor gym (without weights), volleyball courts (lighted), baseball diamond (lighted), tennis courts (lighted), computer labs, kitchens, music room	1.5 mi
Hollenbeck Park	415 S. St. Louis St. Los Angeles, CA 90033	Auditorium, barbecue pits, children's play area, community room, picnic tables, outdoor exercise equipment around lake	1.6 mi
Pecan Recreation Center	127 S. Pecan St. Los Angeles, CA 90033	Basketball courts (lighted/indoor/ outdoor), children's play area, community room, handball courts (lighted), indoor gym (without weights), picnic tables, restroom(s), seasonal pool (outdoor/unheated), volleyball courts (lighted)	1.7 mi
Los Angeles State Historic Park	1245 North Spring St. Los Angeles, CA 90012	32 acres of open space	1.9 mi
Evergreen Recreation Center	2844 E. 2nd St. Los Angeles, CA 90033	Auditorium, basketball courts (lighted/outdoor), children's play area, community room, indoor gym (without weights), picnic tables	2.0 mi
Ascot Hills Park	4371 Multnomah St. Los Angeles, CA 90032	N/A	2.0 mi

Note: The "distance from site" metric in the table represents the driving distance between facilities rather than the actual distance.

Source: City of Los Angeles Department of Recreation and Parks (2014a); California Department of Parks and Recreation (2014).

3.12.3.5 Library Facilities

LAPL, with support from the Library Foundation of Los Angeles, maintains the Central Library and its 72 branches. With 6.2 million books, audiobooks, periodicals, DVDs, and CDs, the LAPL system hosts more than 17 million visitors annually who check out more than 18 million items (Los Angeles Public Library 2009). There are five public libraries within the vicinity of the LAC+USC Medical Center. The LAPL branch closest to the proposed project site is the Malabar Library, which is located at 2801 Wabash Avenue (1.1 miles away).

Table 3.12-7 lists the libraries in the vicinity of the proposed project site and provides their addresses and respective distances from the LAC+USC Medical Center campus. For the purposes of this analysis, libraries serving the project site and surrounding communities (El Sereno, Boyle Heights, Lincoln Heights, Chinatown, and Downtown) were identified. Their locations are shown in Figure 3.12-1.

Table 3.12-7: Libraries in the Vicinity of the Proposed Project

Map ID	Facility Name	Address	Distance from Project Site
11	LAC+USC Medical Center Library	2051 Marengo St. Los Angeles, CA 90033	On campus
12	Courville Abbott Memorial Library	1720 East Cesar E Chavez Avenue Los Angeles, CA 90033	0.9 mi
13	Malabar Library	2801 Wabash Avenue Los Angeles, CA 90033	1.1 mi
14	Benjamin Franklin Library	2200 E 1st St. Los Angeles, CA 90033	1.3 mi
15	Lincoln Heights Branch Library	2530 Workman St. Los Angeles, CA 90031	1.5 mi
16	Hinomoto Library	129 North Saratoga St. Los Angeles, CA 90033	1.7 mi

Note: The "distance from site" metric in the table represents the driving distance between facilities rather than the actual distance.
Source: Los Angeles Public Library (2014b).

3.12.4 Environmental Impact Analysis

3.12.4.1 Methods

The proposed project was evaluated to determine if fire protection, police, schools, libraries, and parks and recreation facilities are staffed and located so that they could continue to serve the proposed project site and surrounding communities in an adequate manner without the need for additional facilities. Emergency services agencies (fire and police) were contacted to obtain information regarding their existing and projected service capacity, as well as the projected impacts that could result from implementation of the proposed project. Potential impacts were assessed through significance criteria established for this project based on the State CEQA Guidelines.

3.12.4.2 Thresholds of Significance

For the purposes of the analyses in this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact if:

PS-1: The project would require new or physically altered government facilities, the need for new or physical altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times, or other performance objectives for any of the public services:

- Fire Protection
- Police Protection
- Schools
- Parks
- Other Public Facilities

3.12.4.3 Impacts and Mitigation Measures

Impact PS-1: Would the Proposed Project Require New or Physically Altered Government Facilities, the Need for New or Physical Altered Government Facilities, the Construction of Which Could Cause Significant Environmental Impacts, in Order to Maintain Acceptable Services Ratios, Response Times, or Other Performance Objectives for Any of the Public Services?

Fire Protection

Construction

The proposed project would include development of new and renovation of existing office space for medical uses, retail space, open space, parking facilities, and possibly workforce housing on the medical center campus. Construction activities would include demolition of some on-site buildings and structures, site preparation and grading, and construction of new and renovated facilities. During construction, LAFD would respond to any incidents on-campus, as they do now. Thus, while construction could temporarily increase demand for fire protection services, it is unlikely that it would result in the need for new or altered fire protection facilities to provide fire protection services to the campus during construction. Therefore, the temporary increased demand for fire protection services during construction would be a less-than-significant impact.

However, emergency access to the project site could be affected by construction. Temporary lane closures and construction related-traffic could delay or obstruct the movement of emergency vehicles, therefore resulting in a potentially significant impact. In order to ensure emergency access, traffic flow, and the LAFD's ability to maintain an adequate response time between four and six minutes, the County would implement mitigation measure MM-PS-1.

Operation

LAFD provides fire protection for existing on-campus structures. Proposed development under the master plan would be generally consistent with current use(s) and is not planned to occur outside the existing campus boundaries. As a result, the proposed project would not require the construction of new or altered fire facilities at Station 2 or any of the stations in the area that serve the surrounding communities.

Increases in building square footage (see Table 3.15-6) and the number of campus employees (see Table 3.11-5) and visitors that could occur under the proposed master plan could result in increased demand for fire protection services. However, new development would be constructed in accordance with current building and fire/life/safety ordinance and codes including all applicable County code requirements related to construction, access, water mains, fire flows, and hydrants.

As part of the standard project approval process, the County of Los Angeles Fire Department would review and approve all project plans to ensure compliance with applicable fire codes and standards including ingress/access requirements, thereby minimizing the risk of increased operational fire hazards. Though LAFD is the primary emergency responder to the LAC_+USC Medical Center Campus, the plan check reviews will be done by the County of Los Angeles Fire Department's Engineering Section. Coordination with LAFD will be through the County of Los Angeles Fire Department's County Facilities Unit.

Additionally, under the proposed master plan, older vacant or underutilized buildings that pose an increased risk of fire hazard would be demolished. As a consequence, the proposed project is not expected to require construction of new or altered facilities to maintain acceptable service ratios, response times, or other public facility performance objectives. Therefore, operational impacts to fire services as a result of the proposed project would be less than significant.

Mitigation Measures

The following measure is proposed to mitigate the construction impacts described in Impact PS-1.

> **MM-PS-1:** The Los Angeles County project manager and construction contractor shall regularly notify and coordinate with the LAFD, LASD, and LAPD on project construction design, activities, and scheduling, including any on- and off-campus street or lane closures related to proposed development projects before construction begins.

Level of Significance after Mitigation

Less than significant.

Police Protection

Construction

The proposed project would include development of new or renovation of existing campus facilities. During construction, the construction site(s) will be protected by fencing, lighting, and security patrol. The LASD is responsible for patrolling existing on-campus structures. Thus, while construction activities could temporarily increase the demand for police protection services, it is unlikely that it would result in the need for new or altered LASD facilities to maintain acceptable performance objectives.

During construction, emergency access to the project site could be affected by temporary lane closures to accommodate construction activities and construction related-traffic could delay or obstruct the movement of emergency vehicles, a potentially significant impact. In order to ensure emergency access, traffic flow, and the LASD and LAPD’s ability to maintain adequate response times and other performance objectives, mitigation measure MM-PS-1 is proposed.

Operation

The projected level of development that could occur under the master plan would result in an estimated increase of 2,416 on-campus employees, in addition to increased visitors to the campus. Increases in the number of employees and visitors could result in an increase in the number of incidents requiring an LASD response. Although staffing is of concern to LASD authorities on the campus (Kennison pers. comm.), it is not expected that new or altered facilities, the construction of which would result in significant impacts, would be necessary to maintain adequate service levels. Additionally, the LAPD indicated that a project of this size would not have a significant impact on police services in the Hollenbeck Area (Tsap pers. comm., 2014). Therefore, operational impacts on police services would be less than significant.

Mitigation Measures

See MM-PS-1 above for measures to mitigate the construction impacts to police protection services.

Level of Significance after Mitigation

Less than significant.

Schools

Construction

Given the large pool of construction workers within commuting distance of the project site, it is unlikely that construction workers would choose to permanently relocate their households to the area, thereby increasing local school enrollment. Thus, construction activities are not expected to result in the need for new or altered schools or school facilities to maintain acceptable personnel ratios or other performance and learning objectives. Construction impacts to educational facilities would be less than significant.

For a discussion of construction-period air quality and noise impacts on local schools and school children, please see Section 3.2, Air Quality, and Section 3.10, Noise, in this EIR.

Operation

The projected development that could occur under the master plan could result in an increase of 2,416 employees on the campus. Given the campus' proximity to the freeway network and transit facilities, it's anticipated that these new employees would be dispersed over a wide geographic area within commuting distance of the campus. Thus, the new households formed by these new employees are not likely to result in significant increases in student enrollment at any one school in the region. Therefore, the indirect impact of these employees on student enrollment is not expected to result in new or altered schools or school facilities to maintain acceptable personnel ratios or other performance and learning objectives. Operational impacts to educational facilities would be less than significant.

Mitigation Measures

The impacts would be less than significant. No mitigation measures are required.

Parks

Construction

Given the large pool of construction workers within commuting distance of the project site, it is unlikely that construction workers would choose to permanently relocate to the area. Additionally, construction workers have limited opportunities to use local parks during the workday. Therefore, it's not anticipated that construction workers would result in a significant increase in demand for local park facilities. Construction impacts would be less than significant.

For additional information regarding potential construction-related impacts to parks and recreational facilities, please see the Section 3.13 -Recreation of this EIR.

Operation

The projected level of development under the master plan could increase the campus employee population by an estimated 2,416 employees and also attract new visitors to the campus. Given the proposed project includes enhanced native grassland landscapes, lightly programmed terrain, and other developments intended to create accommodating open space for campus employees, patients, and visitors it is unlikely the proposed master plan would result in a significant increase in the use of and demand for local, off-campus park facilities. Thus, development that could occur under the master plan is not expected to require new or altered off-campus parks and recreation facilities to maintain acceptable service ratios or other performance objectives. Operational impacts to parks would be less than significant.

For additional information regarding potential operation-related impacts to parks and recreational facilities, please see Section 3.13, Recreation, of this EIR.

Mitigation Measures

The impacts would be less than significant. No mitigation measures are required.

Other Public Facilities

Construction

Another potentially affected public service and facility considered for the purposes of this EIR is libraries. Given the large pool of construction workers within commuting distance of the project site, it is unlikely that construction workers would choose to permanently relocate to the area, and thereby increase the demand for local library services. Also, construction workers would have limited opportunities to use local libraries during the workday while working on campus. Thus, new or altered library facilities to maintain acceptable service ratios or other performance objectives are not anticipated and construction impacts to libraries would be less than significant.

Operation

The estimated increase in the campus employee population and increased visitors could result in an increased demand for local library services. However, this increase is not expected to be significant given the limited opportunity for employees to use local libraries during the work day and the fact that visitors to the campus are more likely to use campus facilities, than use the closest off-campus library, which is located approximately 1 mile from the medical center campus. Additionally, employees are likely to reside within a large geographic area within commuting distance of the campus, thus no one library in the surrounding region is expected to experience a significant increase in demand as a result of the proposed master plan. Therefore, operational impacts to libraries would be less than significant.

Mitigation Measures

The impacts would be less than significant. No mitigation measures are required.

3.12.5 Cumulative Impacts

The public facilities that currently serve the LAC+USC Medical Center campus are the ones most likely to experience adverse cumulative impacts due to the proposed and related projects. Therefore, the study area, for the purposes of this cumulative impacts analysis generally encompasses the service areas of those facilities, which roughly correspond to an area within a 2-mile radius of the campus. For police protection services, the study area would consist of the 15-square-mile service area of the LAPD Hollenbeck Community Police Station. The list of related projects provided in Table 2-2 of Chapter 2-Project Description of this EIR includes seven projects within that 2-mile study area radius and 9 projects in total. The seven projects within a 2-mile radius include 238,000 sf of student housing; 300 condominiums; a 250,000-sf hotel; 481,842 sf of research, medical, and non-clinical facilities; and 42,347 sf of commercial/retail uses. The remaining two projects propose up to 9,800 dwelling units and approximately 900,000 sf of office and retail space. These nine projects are at various stages of conceptual planning and development.

3.12.5.1 Fire Protection

The cumulative increases in study area employee and residential populations and area visitors would increase the demand for public services, which may or may not require the construction of new facilities to meet that cumulative demand. However, the County and fire service providers require payment of development fees for new development as part of the permitting and approval process, which is intended to offset some of these cumulative effects resulting from new development. For this reason, and because current fire protection services are adequate and it is not known what, if any new facilities would need to be constructed to maintain acceptable service ratios, the cumulative impacts due to the proposed and related projects are not considered to be significant.

3.12.5.2 Police Protection

Cumulative increases in study area employee, residential, and visitor populations would result in increased demand for police protection services. In order to maintain acceptable service ratios and response times, reallocation of staff resources or construction of new facilities to meet that cumulative demand may be required. However, the proposed project would not require the construction of new LASD facilities on the campus to maintain acceptable service ratios and would likely result in a minor increase in demand for offsite LAPD police protection services. Additionally, it's not known whether new LAPD police facilities would need to be constructed to accommodate increased demand for police services in the study area and whether construction of needed facilities would result in significant impacts to the environment. Therefore, the cumulative impacts of the proposed and related projects on police protection services are not considered to be significant.

3.12.5.3 Schools

The seven related projects within an approximately 2-mile radius of the medical center campus include a 300-condominium development project that could increase student enrollment at local schools. It's not known, however, whether the proposed and related projects, including the 300-condominium development project, would require expansion of existing or construction of new schools to accommodate increased student enrollment. However, it should be noted that LAUSD is currently engaged in a multi-year capital improvement program to construct 131 new schools to accommodate projected growth. Additionally, pursuant to Government Code Section 65995, the payment of the requisite school impact fees under the provisions of SB 50 would be deemed to be full mitigation of a project's impacts on school facilities. Therefore, for those reasons, the cumulative impacts on schools due to the proposed and related projects are considered to be less than significant.

3.12.5.4 Parks

The 300-condominium development project and 285,500 sf of graduate student housing would likely result in increased demand for and use of local parks. However, given the proposed master plan would include significant new open space areas for passive recreational use that would be accessible to the surrounding community as well as the on-campus employee and visitor populations, it's not expected that the proposed and related projects would require the expansion or construction of new park space. The cumulative impacts on parks would be less than significant.

3.12.5.5 Other Public Facilities

The proposed residential development projects in the cumulative impacts study area, which is defined as the area within an approximately 2-mile radius of the medical center campus, are limited to a 300-condominium development project at 1101 N. Main and 285,500 sf of graduate student housing on the USC Health Sciences campus. Although the increase in the residential population would likely result in an increased use of local libraries, the impact is not expected to be significant given the relatively modest increase in the residential populations and the fact that it is unlikely that new library facilities would be required to meet this demand. For that reason and because the proposed project is expected to have a less than significant impact on libraries, the cumulative impact of the proposed and related projects would be less than significant.

3.13 Recreation

3.13.1 Introduction

This section identifies existing park and recreational facilities in the project vicinity and evaluates potential recreational impacts that could occur as a result of construction and operation of the proposed LAC+USC Medical Center Campus Master Plan.

3.13.2 Regulatory Setting

3.13.2.1 State

Public Park Preservation Act of 1971

The California Public Park Preservation Act of 1971 provides that no city, city and county, public district, agency of the state government, or public utility may acquire any real property, which is in use as a public park at the time of acquisition, for the purpose of utilizing the property for any non-park purpose, unless the acquiring entity pays or transfers to the legislative body of the entity operating the park sufficient compensation or land, or both, to enable the operating entity to replace the park land and its facilities. This act authorizes changes in the general character and location of the park if certain requirements are met.

3.13.2.2 Local

County of Los Angeles General Plan

The County of Los Angeles General Plan was prepared in 1980; however, several elements were revised and updated in subsequent years. Under the existing general plan, policies related to recreation are contained in the Conservation and Open Space Element. As described in the Conservation and Open Space Element, the primary recreation goal of the general plan is the provision of additional outdoor recreation areas to serve increasing demands of the urban and tourism populations of the County. The 2014 draft general plan, which the County has made available, contains guidelines for the major planning areas, with the goal of linking countywide policies to the policies of cities and unincorporated communities. The Parks and Recreation Element of the 2014 draft general plan provides policy direction for the maintenance and expansion of the County's parks and recreation system. Applicable policies from the Parks and Recreation Element include the following:

- **Policy P/R 1.2:** Provide additional active and passive recreational opportunities based on a community's setting as well as its recreational needs and preferences.
- **Policy P/R 1.3:** Consider emerging trends in parks and recreation when planning new parks and recreational programs.
- **Policy P/R 1.5:** Ensure that County parks and recreational facilities are clean, safe, inviting, usable, and accessible.
- **Policy P/R 3.4:** Provide additional parks in communities with insufficient local parkland, as identified through the gap analysis.

- **Policy P/R 3.9:** Site new parks near schools, libraries, senior centers, and other community facilities, where possible.
- **Policy P/R 5.7:** Integrate a range of cultural programs into existing activities, and partner with multicultural vendors and organizations.

City of Los Angeles General Plan

The City of Los Angeles General Plan establishes standards for the city's parks and recreation system in the following three areas:

1. The city ensures that sufficient land is reserved for parks and recreation,
2. The city ensures an appropriate distribution of park and recreational facilities throughout the city, and
3. The city provides a full complement of park and recreational facility types (i.e., active and passive recreation for all age groups) to accommodate a wide variety of users.

Facilities are to be provided at the neighborhood, community, and regional levels and managed by the City of Los Angeles Department of Recreation and Parks (LADRP).

- **Neighborhood Parks** provide at least 2 acres of parkland per 1,000 persons within a 0.5-mile service radius. LADRP tries to locate parks so that users do not have to cross major roadways to access the parks and provide facilities and programs that are tailored to the clientele served.
- **Community Parks** are also under the 2-acres-per-1,000-residents standard. However, the ideal park should contain at least 20 acres, and the facilities or programs offered should reach a larger service radius, which is usually 2 miles. Community parks may offer swimming pools; community buildings; tennis, shuffleboard, and basketball courts; baseball diamonds; or senior citizen facilities.
- **Regional Parks** should have more than 50 acres and provide specialized facilities such as lakes, golf courses, campgrounds, wilderness areas, and museums; they should serve people from beyond the city boundaries.

Framework Element

The Framework Element of the City of Los Angeles General Plan contains goals, objectives, and policies for the provision, management, and conservation of the City of Los Angeles' open space resources. The goals, objectives, and polices address issues related to the outdoor recreational needs of the city's residents. They are also intended to guide amendments to the general plan's Open Space and Conservation Element.

The following objectives and policies related to open space and conservation are applicable to the proposed project:

- **Objective 6.2:** Maximize use of the city's existing open space network and recreational facilities by enhancing those facilities and providing connections, particularly from targeted growth areas, to the existing regional and community open space system.
- **Objective 6.4:** Ensure that the city's open spaces contribute positively to the stability and identity of the communities and neighborhoods in which they are located or through which they pass.
    - **Policy 6.4.1:** Encourage and seek to provide usable open space and recreational facilities throughout the city.

- **Policy 6.4.8:** Maximize use of existing public open space resources at the neighborhood scale and seek new opportunities for private development to enhance the open space resources of the neighborhood.

Boyle Heights Community Plan

The community of Boyle Heights is situated at the eastern boundary of the City of Los Angeles. It also borders the LAC+USC Medical Center campus, which is to the north. Boyle Heights is surrounded by the City of Vernon to the south, the unincorporated community of East Los Angeles to the east, the communities of Lincoln Heights and El Sereno to the north, and the Los Angeles River and downtown to the west.

The Boyle Heights Community Plan has adopted the following objectives and policies, which are applicable to park and recreational facilities within the plan area:

<u>Objectives</u>

1. Provide adequate park and recreational facilities to meet the needs of residents in the community.
2. Conserve, maintain, and better utilize existing park and recreational facilities to promote the recreational experience.

<u>Policies</u>

1. Preserve and improve the existing park and recreational facilities and park space.

Northeast Los Angeles Community Plan

The Northeast Los Angeles Community Plan area encompasses the hills and valleys east of the Los Angeles River and north of the Boyle Heights Community Plan area within the City of Los Angeles.

According to the Northeast Los Angeles Community Plan, to provide adequate park and recreational facilities that meet the needs of residents, the following objectives and policies, which are applicable to park and recreational facilities within the plan area, have been adopted:

- **Objective 4-2:** Preserve existing open space resources and, where possible, encourage the acquisition of new open space.
  - **Policy 4-2.1:** Accommodate and promote active use of parklands and open space and promote and preserve greenways.
- **Objective 5-1:** To conserve, expand, maintain, and better utilize existing park and recreational facilities to meet the recreational needs of the community.
  - **Policy 5-1.1:** Preserve the existing recreational facilities and park space.

3.13.3 Environmental Setting

The LAC+USC Medical Center campus is located between the Boyle Heights and Lincoln Heights neighborhoods of the City of Los Angeles. Therefore, park and recreational facilities in the communities immediately surrounding the campus are under the jurisdiction of the Los Angeles Department of Recreation and Parks (LADRP), which owns and operates public park and recreational facilities throughout the city and administers more than 15,700 acres of parkland with 39 neighborhood and regional parks, 11 lakes, 176 recreation centers, nine dog parks, seven skate parks, 13 golf courses, 61 swimming pools, and 31 senior centers. Included in these parklands are facilities such as horticulture centers, museums, and historic sites. (City of Los Angeles Department of Recreation and Parks 2014c). According to the California State Parks Community Fact Finder, the population within a 0.5-mile radius of the project site totals 8,413, and the 16.78 acres of park space equates to 1.99 acres per 1,000 residents (86.6 square feet per person) (California Department of Parks and Recreation 2013).

Although the campus is located in a dense urban area with multiple industrial, commercial, and residential zones, the study area has a total of nine park and recreational facilities within 1 mile of the project site. These locations are identified and described in Table 3.13-1 and shown in Figure 3.13-1. Beyond passive open space areas such as courtyards and landscaped building frontage, there are no existing recreational resources located on the project site.

Hazard Park and Lincoln Park, both of which can be accessed from existing streets, are the closest open space areas to the project site (300 feet and 0.3 mile from the LAC + USC Medical Center campus, respectively). These two parks are also the largest open space areas in the vicinity of the project site.

3.13.4 Environmental Impact Analysis

3.13.4.1 Methods

The impacts analysis presented below is based on a desktop inventory that was conducted to identify recreational uses that might be affected by construction and operation of the facilities that would be developed under the proposed LAC+USC Medical Center Campus Master Plan. Information was compiled from regional/local maps and planning documents, including the Los Angeles County General Plan, City of Los Angeles General Plan, Boyle Heights Community Plan, and the Northeast Los Angeles Community Plan, which were reviewed to provide insight into recreational goals and regulations for the surrounding community. The analysis evaluated the proposed master plan's consistency with applicable city and County plans and policies related to recreation as well as any potential impacts resulting from construction and operation of the project.

3.13.4.2 Thresholds of Significance

For the purposes of the analysis in this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed master plan would have a significant environmental impact if it would:

REC-1 Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

REC-2 Include recreational facilities or require the construction or expansion of recreational facilities that would have a substantial adverse physical effect on the environment.

Table 3.13-1. Park and Recreational Facilities in the Study Area

Map ID	Park Name	Address	Park Features	Distance from Project Site
1	State Street Recreation Center (2.5 acres)	716 N. State St.	Auditorium, baseball diamond (lighted), basketball courts (lighted/outdoor), children's play area, community room.	0.4 mile
2	Prospect Park (2.7 acres)	Echandia St. and Judson St.	Pocket park with a children's play area.	0.5 mile
3	Hazard Park and Recreation Center (26.5 acres)	2230 Norfolk St.	Auditorium, barbecue pits, basketball courts (lighted/indoor), children's play area, community room, handball courts (unlighted), indoor gym (without weights), picnic tables, tennis courts (lighted).	0.1 mile
4	Lincoln Park and Recreation Center (41 acres)	3501 Valley Blvd.	Auditorium, barbecue pits, baseball diamond (lighted), children's play area, indoor gym (with weights), picnic tables, soccer field (unlighted), tennis courts (unlighted), restroom(s), kitchen, lake with fishing, multipurpose sports field, pre-school room, skate park, stage, summer pool.	0.6 mile
5	Wabash Recreation Center (1.34 acre)	2765 Wabash Ave.	Auditorium, basketball courts (lighted/outdoor), children's play area, community room, indoor gym (without weights).	0.8 mile
6	Ramona Gardens Recreation Center	2830 Lancaster Ave.	Auditorium, baseball diamond (lighted), basketball courts (lighted/indoor, unlighted/outdoor)	0.9 mile
7	Henry Alvarez Memorial Park (1.8 acres)	2830 Lancaster Ave.	Basketball courts (unlighted/outdoor), children's play area, picnic tables, soccer field (unlighted).	0.9 mile
8	Ross Valencia Community Park (formerly LANI Vest Pocket Park) (0.08 acre)	E. 1st St. and Chicago St.	Pocket park.	0.9 mile
9	Lincoln Heights Recreation Center (1.5 acres)	2303 Workman St.	Auditorium, basketball courts (lighted/indoor and outdoor), children's play area, community room, indoor gym (without weights), kitchen, stage, TV area.	1.0 mile
Source: City of Los Angeles Department of Recreation and Parks, 2014c.				

Figure 3.13-1. Recreational Facilities and Parks with a 1-mile Radius of the Project Site

3.13.4.1 Impacts and Mitigation Measures

Impact REC-1: Would the Proposed Master Plan Increase the Use of Existing Neighborhood and Regional Parks or Other Recreational Facilities such that Substantial Physical Deterioration of the Facility Would Occur or Be Accelerated?

Construction

Construction of the proposed project facilities would require a number of construction workers on the medical center campus over a period of years. The exact number of workers on-site will not be known until the schedules for the individual development projects proposed under the master plan are determined. Given the general accessibility of the project site and availability of construction workers, it is unlikely that a substantial numbers of construction workers would relocate to the immediate vicinity of the project such that use of existing parks or recreational facilities would increase to the point that substantial deterioration would occur. Construction activities in and of themselves would not significantly affect parks or recreational facilities surrounding the project site. Users of Hazard Park, the nearest park to the project site, would likely notice construction activities on the project site. Noticeable impacts to park users would include noise, dust, and traffic disruptions; however, none of these disruptions would result in the physical deterioration at Hazard Park or any of the other parks or recreational facilities listed in Table 3.13-1. Therefore, construction-period impacts due to park use would be less than significant.

Mitigation Measures

No significant impacts on parks or recreational facilities would occur. Therefore, no mitigation measures are required.

Operation

As described in Section 3.11, the proposed master plan does not include a substantial residential development component that would directly result in substantial population increases (the area of the campus that would be the location for biotech research facilities may contain some workforce housing). Therefore, the proposed master plan would not result in a significant increase in the number of residents who would use local park and recreational facilities. Implementation of the master plan could result in increases in the number of campus patients, visitors, and employees, all of whom may use local recreational facilities. The increase in patients, visitors, and employees is not likely to result in a substantial increase in the use of local parks. The proposed master plan includes the development of five new landscaped and open space areas on the campus to provide a variety of accessible outdoor experiences for public use and residents of adjacent communities. The provision of these additional active and passive recreational opportunities in the Northeast Los Angeles and Boyle Heights Community Plan areas would meet the needs of the residents in the community and be consistent with the goals and objectives outlined in the County and city general plans. Therefore, it is not expected that growth in on-campus patient, visitor, or employee populations would result in a significant increase in the use of existing local parks or substantial physical deterioration of park facilities. Additionally, the increase in the number of households associated with increased on-campus employee populations would most likely be dispersed over a wide geographic area within commuting distance of the campus; therefore, a concentrated or substantially intensified use of local parks is unlikely. Impacts would be less than significant.

Mitigation Measures

No significant impacts on parks or recreational facilities would occur. Therefore, no mitigation measures are required.

Impact REC-2: Would the Proposed Master Plan Include Recreational Facilities or Require the Construction or Expansion of Recreational Facilities that Would Have a Substantial Adverse Physical Effect on the Environment?

Construction

The proposed master plan includes new landscaped and open space areas, which are intended to encourage outdoor recreation (primarily passive in nature), increase mobility, facilitate access to and through the site, and promote a sense of community, with outdoor spaces that would be accessible to residents of the adjacent community. Construction of these proposed landscaped and open areas would involve site preparation activities, including demolition, grading and excavation, and construction of permanent facilities. These activities would be limited to the project site and would not restrict parking for or access to nearby off-campus recreational facilities. Staging for construction equipment and activities would not occur within any off-campus parkland or recreational facility. However, construction activities could result in noise and air quality impacts on nearby sensitive receptors, including local residents, hospital patrons, or possibly users of local park and recreational facilities. These impacts could be potentially significant. Construction activities could also result in other impacts, such as traffic impacts. The reader is referred to Sections 3.2, Air Quality; 3.10, Noise; and 3.14, Traffic, for detailed descriptions of the proposed project's potential construction impacts as well as the BMPs and mitigation measures that are proposed to be implemented to minimize any adverse or potentially significant impacts.

Operation

As noted above, the proposed master plan includes new landscaped and open space areas, which are intended to encourage outdoor recreational activities. It is not expected that routine daily use of these open space areas would result in significant operational impacts on the environment. However, the use of outdoor passive recreational spaces at the campus for special events that would attract a substantial number of attendees beyond what is typical for the site may result in intermittent, short-term traffic, noise, or air quality impacts. Because these events would be infrequent and short term in nature they are unlikely to have a substantial adverse physical effect on the environment. However, noise generated by large organized events would have the potential to exceed applicable noise standards, a potentially significant impacts (see Section 3.10 of this EIR).

As discussed above, direct effects due to the possibility of some workforce housing on the campus and the indirect effects of the proposed project due to the potential increase in number of households associated with the increased on-campus employee population is unlikely to increase the demand for recreational facilities significantly in any one area and require construction of new recreational facilities because that demand would be dispersed over a wide geographic area. Additionally, implementation of the master plan would result in new landscaped and open space areas, which would offset potential increases in the use of existing recreational facilities associated with increases in population. Therefore, the master plan is not expected to require construction of new or expanded recreational facilities to meet increased demand. Recreation impacts would be less than significant.

Mitigation Measures

No significant impacts on existing parks or recreational facilities would occur. For measures to mitigate the noise impacts from outdoor events held in proposed open space areas on the campus, please see MM-NOI-5 in Section 3.10 of this EIR. Please see Section 3.2 for proposed construction air quality mitigation measures.

Level of Significance after Mitigation

Construction activities could result in unavoidable significant adverse impacts on nearby sensitive receptors.

3.13.5 Cumulative Impacts

The study area for cumulative recreation impacts consists of a 2-mile radius around the project site. The related projects identified in Chapter 2 that are within this study area consist of medical facility expansion, mixed use developments, and a condominium development. Several planned and proposed housing and commercial development projects identified in Chapter 2 are located beyond the cumulative recreation impacts study area. Developments within the study area would increase the residential and employee populations in the project area, which, as a result, could increase use of and demand for recreational areas and facilities. However, residential subdivisions proposed within the City of Los Angeles are required to provide local park space to serve their respective populations, pay a fee in lieu of the provision of such parkland, or do a combination of both in accordance with the local ordinance in the LAMC, which would mitigate the cumulative impacts on park and recreational facilities resulting from residential development in the City of Los Angeles. Given this fact and because the proposed master plan would create additional open space and recreational space on the campus that could be used by campus visitors, employees, and local community residents, the proposed master plan and related projects would not result in significant cumulative impacts on local city recreational and park resources. However, large outdoor events held in the proposed new open space areas on the campus could result in potentially significant noise impacts, and consequently the proposed project could contribute to significant intermittent cumulative noise impacts in the immediate vicinity of the campus. Additionally, construction of proposed open space improvements could result in potentially significant construction air quality impacts after mitigation that would affect local sensitive receptors. Therefore, construction of the open space areas could contribute to significant cumulative air quality impacts on these sensitive receptors.

3.14 Transportation/Traffic

3.14.1 Introduction

This section summarizes the potential transportation and traffic impacts due to construction and operation of the proposed project. The information is based on the traffic study prepared for the project by Fehr & Peers (2014), which is included as Appendix G. This section includes a review of existing conditions, a summary of applicable policies and regulations related to transportation and traffic, and an analysis of existing and cumulative environmental impacts of the project. Where feasible, mitigation measures are recommended to reduce the level of the expected impacts.

3.14.2 Regulatory Setting

There are no relevant federal or state regulations for transportation and traffic. This section summarizes local regulations that apply to the proposed project.

3.14.2.1 Regional Transportation Planning

Federal Transportation Improvement Program

The Federal Transportation Improvement Program (FTIP) is SCAG's compilation of state, federal, and local funded transportation projects. In addition to projects identified in the State Transportation Improvement Program (STIP), the FTIP includes projects that have been funded by federal Congestion Mitigation and Air Quality Improvement and Surface Transportation Program funds, projects that have been funded by other federal funds, and projects that have been entirely funded by local and private funds. The FTIP identifies all transportation projects proposed over a 6-year period in the SCAG region, including highway improvements; transit, rail, and bus facilities; high-occupancy vehicle lanes; signal synchronization; intersection improvements; and freeway ramps.

3.14.2.2 County of Los Angeles

Existing General Plan

Transportation Element

Adopted in November 1980, the Transportation Element of the general plan sets the direction for development of a comprehensive, coordinated, and continuing transportation system for Los Angeles County. The document identifies major locations and corridors of travel according to land use patterns. Informed by the circulation elements from the various cities in the County, the Transportation Element provides background information, objectives, needs and policies, and a sub-element, the Highway Plan. The Bicycle Master Plan (adopted in 2012) and the Scenic Highways Element (adopted in 1974) are both closely related to the adopted Transportation Element, which would be replaced by the Mobility Element upon adoption of the County of Los Angeles General Plan 2035.

Bicycle Master Plan

Adopted in March 2012, the Bicycle Master Plan is an update to the 1975 County Bikeways Plan, a sub-element of the Transportation Element. The Bicycle Master Plan provides direction for improving the mobility of bicyclists and encouraging more bicycle ridership within the County by expanding the existing bikeway network, connecting gaps, addressing issues related to constrained areas, providing for greater local and regional connectivity, and encouraging residents to use bicycles more often. Upon adoption of the County of Los Angeles General Plan 2035, the Bicycle Master Plan will become a component of the Mobility Element.

Draft General Plan 2035

Mobility Element

The Mobility Element provides an overview of the County's transportation infrastructure and strategies for developing an efficient and multimodal transportation network. The element assesses the challenges and constraints for the County's transportation system and offers policy guidance to reach the County's long-term mobility goals. Two sub-elements—the Highway Plan and Bicycle Master Plan—supplement the Mobility Element. These plans, which establish policies for the roadway and bikeway systems in unincorporated areas, coordinate with policies for the roadway and bikeway networks in the County's 88 incorporated cities. The general plan also establishes a program for preparing community pedestrian plans, with guidelines and standards that promote walkability and connectivity throughout the unincorporated areas. The County of Los Angeles General Plan 2035, including the Mobility Element, is scheduled to be completed in late 2014.

Traffic Impact Analysis Report Guidelines

Published in 1997, the County Department of Public Works Traffic Impact Analysis Report Guidelines provides guidelines for the preparation of traffic reports. The purpose of the Guidelines is to establish procedures to ensure consistency of analysis and the adequacy of information presented and timely review by County staff.

Los Angeles County Metropolitan Transportation Authority's Congestion Management Program

The Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for maintaining the performance and standards of the Congestion Management Program (CMP) for the roadway system in Los Angeles County. Metro strives to maintain a level of service (LOS) of E or better on all CMP-monitored facilities. Based on Metro's CMP guidelines (Metro 2010), a Transportation Impact Analysis (TIA) is conducted for the following:

- CMP arterial monitoring intersections, including freeway on-ramps or off-ramps, where a proposed project will add 50 or more vehicle trips during either the AM or PM weekday peak hours.
- CMP mainline freeway monitoring locations where a project will add 150 or more trips in either direction during either the AM or PM weekday peak hours.

3.14.2.3 City of Los Angeles

General Plan

The Transportation Element of the City of Los Angeles General Plan includes specific goals, policies, and actions that have been designed to maintain acceptable traffic operations and reduce congestion. The use of enhanced transit, bicycle, and pedestrian modes and aggressive Transportation Demand Management (TDM) measures to reduce single-occupant vehicle trips is expected to improve circulation. The general plan also includes plans for future bicycle facilities. A draft of the Mobility Plan, which will update and replace the city's existing Transportation Element, was publicly circulated in April 2014 and is scheduled for adoption at the end of 2014.

Traffic Study Policies and Procedures

The Los Angeles Department of Transportation (LADOT) published its Traffic Study Policies and Procedures to establish significant traffic impact thresholds and determine project impacts on operations at intersections and along roadway/freeway segments (City of Los Angeles 2012).

Bicycle Master Plan

The 2010 City of Los Angeles Bicycle Plan includes provisions for bicycle lanes and bike-friendly street treatments for Zonal Avenue. These treatments would provide for slower traffic and more human-scale transportation on specified roadways to improve safety for all modes of travel – motorists, pedestrians, and bicyclists. The City's Bicycle Plan also calls for on-street bicycle lanes on Mission Road, Griffin/Zonal Avenue, Main Street, Valley Boulevard, and Soto Street and bicycle-friendly streets (traffic-calming treatments) on Zonal Avenue, Cromwell Street, and Cummings Street.

3.14.3 Environmental Setting

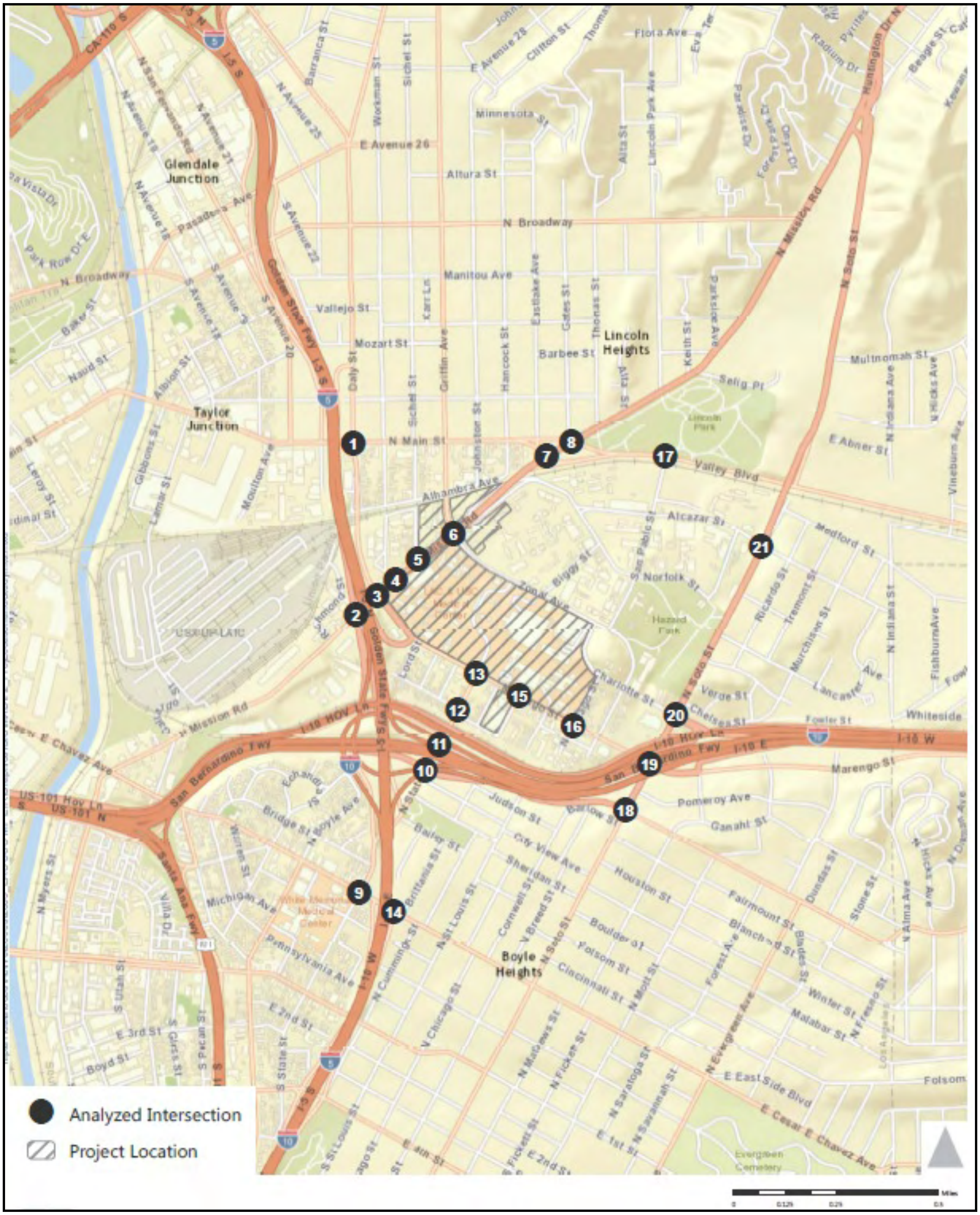
The area around the medical center is surrounded by a mature network of freeways and arterial, collector, and local streets that is readily accessible to drivers, both from a local and from a regional perspective. The project site lies approximately 3 miles northeast of the center of downtown Los Angeles.

Major freeways near the medical center include the Golden State Freeway (I-5) and the San Bernardino Freeway (I-10). I-5, with access ramps at State Street and Cesar E. Chavez Avenue, extends along a north/south path throughout the region and provides access to Orange County and the San Fernando Valley as well as areas beyond. I-10, with access ramps at State Street and Soto Street, extends along an east/west path throughout the region, providing access to Santa Monica to the west and the San Gabriel Valley to the east as well as areas beyond. High-occupancy/toll (HOT) lanes, which are available to vehicles with more than one occupant or drivers with pre-paid transponders, are provided on I-10 between Union Station and El Monte, with in-line stations adjacent to the LAC+USC Medical Center and California State University, Los Angeles.

The area around the medical center is served by a network of streets that generally run north/south and east/west, according to local topography and historic development patterns. Mission Road and Soto Street, which are located west and east of the campus, are north/south arterial facilities. Main Street/Valley Boulevard and Cesar E. Chavez Avenue are east/west arterial facilities.

Figure 3.14-1 shows the location of study area and the intersections that were analyzed for the traffic study.

Figure 3.14-1: Study Area and Analyzed Intersections



Source: Fehr & Peers, 2014.

3.14.3.1 Existing Peak-Hour Intersection Levels of Service

Table 3.14-1 summarizes the existing AM and PM peak-hour volume-to-capacity (V/C) ratios and the corresponding levels of service at each of the study intersections. As shown, all 21 study intersections currently operate with fair to good levels of service (LOS D or better) during both the AM and PM peak hours.

Table 3.14-1: Existing Intersection Level-of-Service Analysis[a]

ID	N/S Street Name	E/W Street Name	Peak Hour	Existing 2014	
				V/C[a]	LOS
1	Daly Street	Main Street	AM PM	0.755 0.655	C B
2	I-5 SB ramps/I-10 on-ramp	Mission Road	AM PM	0.750 0.537	C A
3	Daly Street/Marengo Street	Mission Road	AM PM	0.801 0.820	D D
4	Workman Street	Mission Road	AM PM	0.555 0.467	A A
5	Sichel Street	Mission Road	AM PM	0.535 0.402	A A
6	Griffin Avenue/Zonal Avenue	Mission Road	AM PM	0.629 0.515	B A
7	Mission Road	Valley Boulevard	AM PM	0.734 0.779	C C
8	Mission Road	Main Street	AM PM	0.605 0.473	B A
9	State Street	Cesar E. Chavez Avenue	AM PM	0.691 0.769	B C
10	State Street	I-10 EB ramps	AM PM	0.593 0.643	A B
11	State Street	I-10 WB off-ramp	AM PM	0.507 0.239	A A
12	State Street	Pomeroy Avenue	AM PM	0.506 0.378	A A
13	State Street	Marengo Street	AM PM	0.712 0.626	C B
14	I-5 NB off-ramp	Cesar E. Chavez Avenue	AM PM	0.684 0.319	B A
15	Brittania Street	Marengo Street	AM PM	0.407 0.383	A A
16	Chicago Street	Marengo Street	AM PM	0.487 0.335	A A
17	San Pablo Street	Valley Boulevard	AM PM	0.494 0.473	A A
18	Soto Street	I-10 EB off-ramp/Wabash Avenue	AM PM	0.642 0.637	B B

ID	N/S Street Name	E/W Street Name	Peak Hour	Existing 2014	
				V/C[a]	LOS
19	Soto Street	Marengo Street	AM PM	0.817 0.710	D C
20	Soto Street	Charlotte Street/I-10 WB ramps	AM PM	0.873 0.882	D D
21	Soto Street	Alcazar Street	AM PM	0.689 0.683	B B

Notes:
[a] The signalized intersections listed above are currently operating under the Automated Traffic Surveillance and Control (ATSAC) system. A credit amounting to a 0.07 V/C ratio reduction was included in this analysis for all signalized intersections.

Source: Fehr & Peers, 2014.

3.14.3.2 Existing Public Transit Service

More than 20 bus transit lines serve the study area, connecting to various areas of Los Angeles and nearby cities as well as local neighborhoods. In the study area, transit stops are located along Marengo Street, Mission Road, Zonal Avenue, and State Street. Just south of the project site is an in-line stop on the El Monte Busway, an express bus corridor that connects downtown Los Angeles to the City of El Monte. Fixed-route service in the study area is provided by Metro, LADOT, Foothill Transit, and Los Angeles County. Existing transit stops in the project area are shown in Figure 3.1 4-2. Figure 3.14-3 illustrates the bus routes that operate on the streets around the medical center.

3.14.3.3 Existing Bicycle and Pedestrian Facilities

Bicycle Facilities

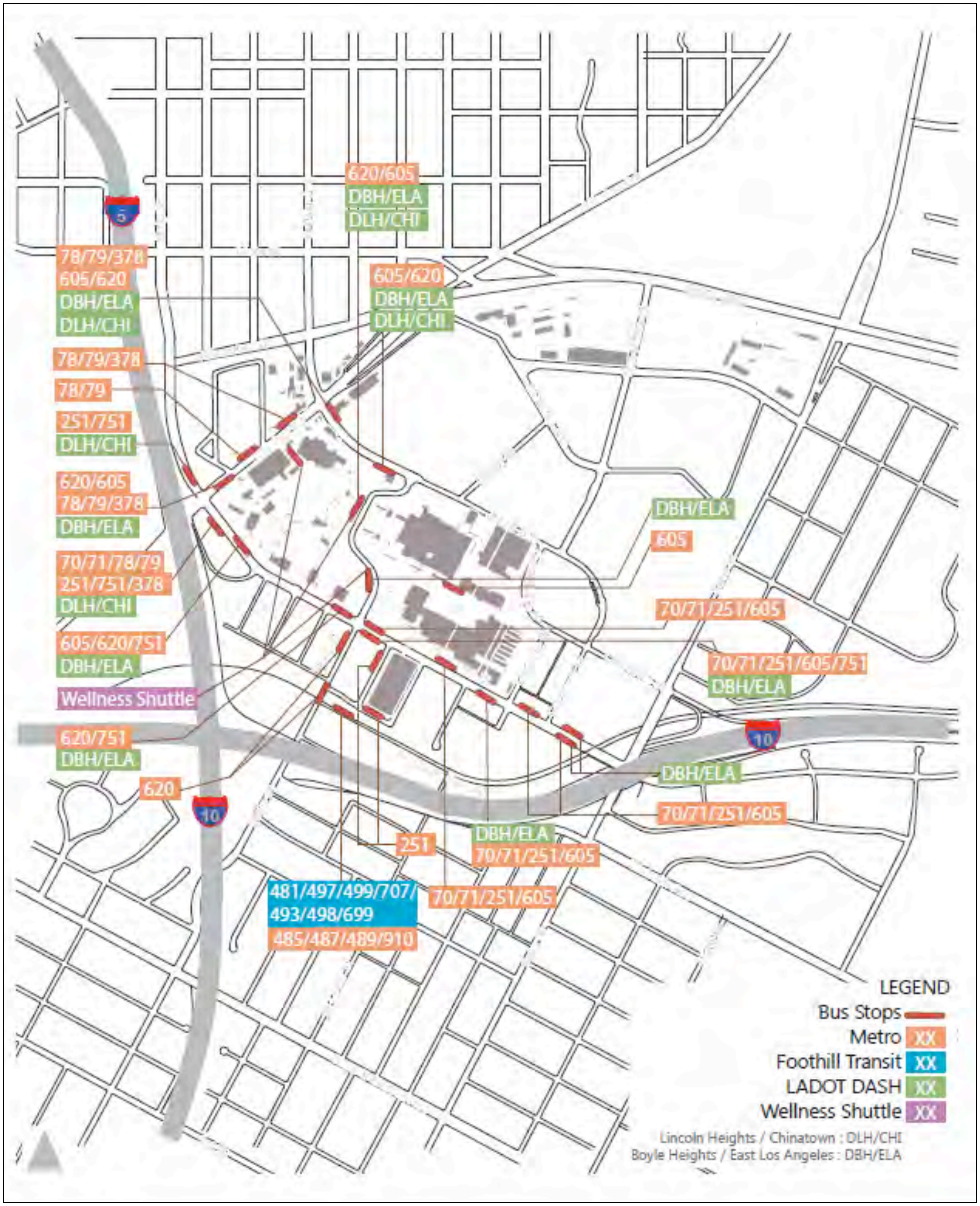
Currently, there is limited dedicated bicycle infrastructure in the study area. The nearest bicycle lanes (Class II facilities) are located on Griffin Avenue/Zonal Avenue west and east of Mission Road and on Mission Road itself. South of the medical center, there is a Class II facility along 1st Street east of Boyle Avenue. In addition, there is a sharrow[1] bicycle route on State Street south of Caesar E. Chavez Avenue. Existing bicycle facilities are illustrated in Figure 3.14-4; planned bicycle facilities are illustrated in Figure 3.14-5.

Pedestrian Facilities

Pedestrian traffic typically enters the campus from one of the parking structures or nearby transit stops. The medical center is located in an older neighborhood with a relatively high population density. All of the streets immediately bordering the medical center and nearly all of the other streets in the vicinity include sidewalks, thereby facilitating pedestrian movement. Marked crosswalks are present at most intersections in the study area. Walk phases at signalized intersections are either automatic or actuated by pedestrians with use of push buttons on the signals.

[1] Sharrow: A shared lane marking on a lane of a paved road's surface indicating that bicyclists may use any portion of the full width of the lane.

Figure 3.14-2: Existing Transit Stops in the Project Area



Source: Fehr & Peers, 2014.

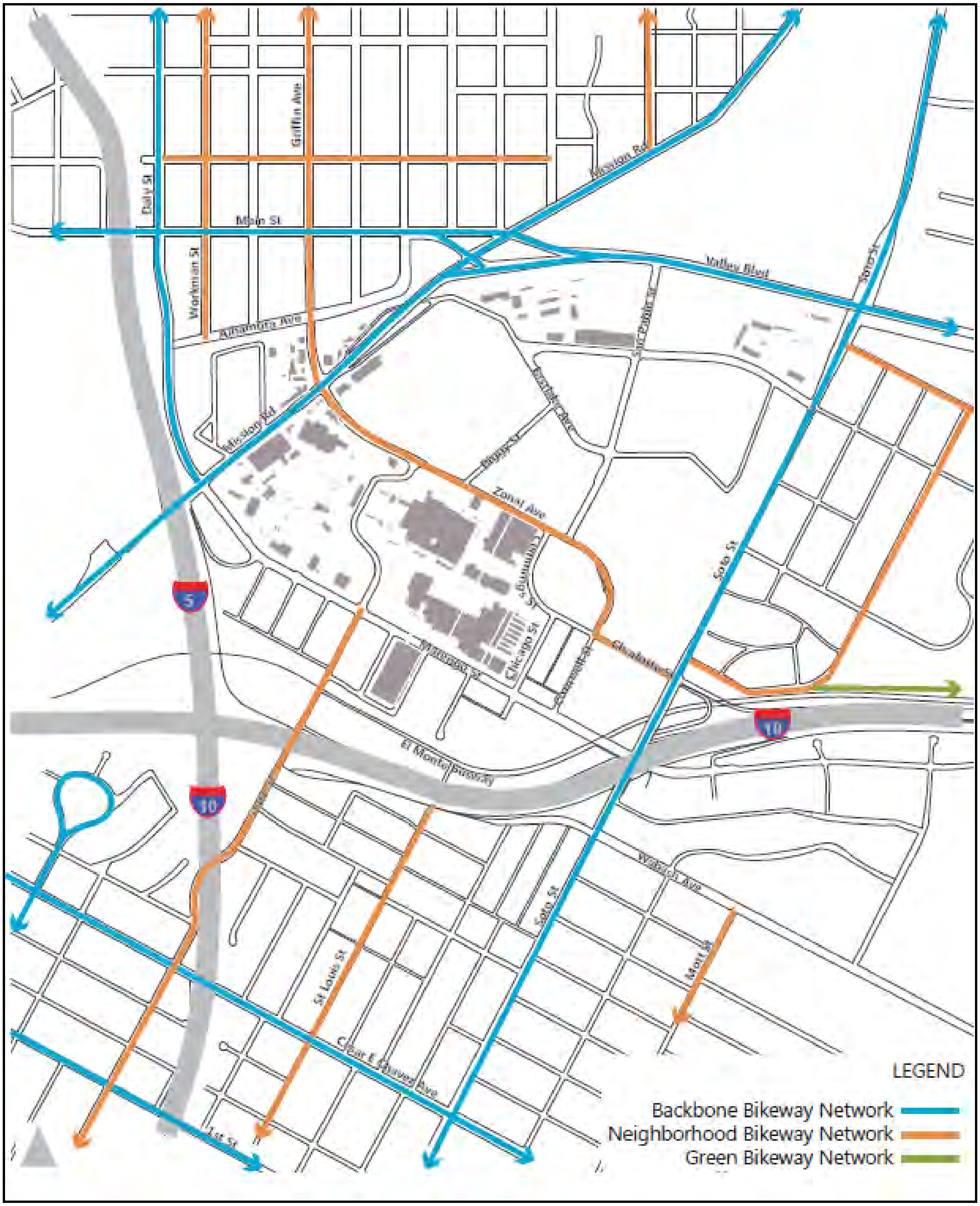
Figure 3.14-3: Existing Transit Lines Surrounding the Campus

Source: Fehr & Peers, 2014.

Figure 3.14-4: Existing Bicycle Facilities

Source: Fehr & Peers, 2014.

Figure 3.14-5: Planned Bikeway Network



Source: Fehr & Peers, 2014.

3.14.4 Environmental Impact Analysis

This section describes the traffic and transportation impacts that could occur with implementation and buildout of the proposed master plan. It discusses the methods that were used to determine the impacts of the project and lists the thresholds that were considered to determine whether the impacts would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the impact discussion. When individual development projects are proposed under the master plan, detailed project-level analysis will be conducted in subsequent environmental documents to determine project impacts and the applicability of any mitigation measures.

3.14.4.1 Methods

To evaluate the potential impacts of the proposed project on the street system, it was necessary to develop estimates regarding future traffic conditions in the study area, both with and without the project. Baseline and future traffic volumes were first estimated for the study area without the project. The future forecasts reflect traffic increases due to general regional growth and traffic expected to be generated by other developments in the vicinity of the project, representing cumulative base (no-project) conditions. Because the proposed project would include demolition of some existing parking facilities and the construction of others, travel patterns in the immediate vicinity would change. Trips generated by existing uses that would be removed were estimated and unassigned from the surrounding street system. Project traffic was estimated and separately assigned to the surrounding street system. The sum of existing baseline and project-generated traffic represents the existing plus project scenario. The sum of the cumulative base and project-generated traffic represents cumulative plus project conditions.

Project Traffic Projections

The development of trip generation estimates for the proposed project involves a three-step process that considers trip generation, trip distribution, and traffic assignment.

Project Trip Generation

The proposed master plan will guide future development on the medical center campus. The central and eastern areas of the project site include new and renovated buildings for in-patient and outpatient care, including 450 new hospital beds, medical offices, laboratories, and other supporting functions. Community-oriented and wellness-related community, education, retail opportunities, as well as enhanced outdoor space, are planned for the central and western areas of the site. Under the master plan, the western area would allow for the development of bio-tech research and development facilities. Demolition of some existing buildings and parking structures would be necessary to implement the master plan. Trip generation rates from *Trip Generation*, ninth edition (Institute of Transportation Engineers [ITE] 2012) were used to estimate the number of trips associated with the project (see Table 3.14-2).

The city's Traffic Study Policies and Procedures state that developments within walking distance (i.e., 0.25 mile) of a transit station, or a Rapid Bus stop, may qualify for up to a 15% transit credit. Given the medical center's adjacency to the in-line station on the El Monte Busway, the stops for Rapid Bus 751, and local and express bus service on more than 20 lines in the immediate vicinity, a 15% transit credit was applied to all existing and future land uses.

Marengo Street and Mission Road are both classified as Class II Major Highways, and both are major thoroughfares that carry high traffic volumes within the study area. A small adjustment to the wellness-oriented community retail space (10%) and the other wellness-oriented and community uses (20%) to reflect pass-by trips, which account for intermediate stops on the way from an origin to a primary trip destination without a route diversion, was assumed.

Internal trip credits can be defined as reductions that can be applied to trip generation estimates for individual land uses, thereby accounting for internal trips on the site. These internal trips are usually made by walking within the site.

Many of the activities on the LAC+USC Medical Center campus are related to one another, and this will continue as the master plan adds complementary uses. An internal trip credit of 15% of the daily and peak-hour trips was applied to all land uses on the site.

As shown in Table 3.14-2, the project would increase the number of daily trips by 3,944, including 711 trips during the AM peak hour (547 inbound/164 outbound) and 502 trips during the PM peak hour (131 inbound/371 outbound).

Project Traffic Distribution and Assignment

The geographic distribution of the trips generated by the proposed project reflects the characteristics of the street system that serves the project site, the level of accessibility of routes to and from the project site, and the locations of residential areas from which employees, patients, and other visitors would be drawn.

A trip distribution pattern was developed for the project using two sources. First, home zip code data supplied by the County for existing LAC+USC Medical Center patients and employees were mapped. Second, the data were supplemented with a select zone analysis that used the city's Transportation Demand Model (2010) to inform the general distribution pattern for this study. Taken together, the data showed a distribution of approximately 25% to/from the north, 30% to/from the east, 25% to/from the south, and 20% to/from the west. After considering the data, as well as the locations of local arterial streets and access routes to the regional freeway system, a trip distribution pattern was developed for project-related trips, as illustrated in Figure 3.14-6.

Existing Peak-Hour Traffic Volumes

Weekday AM and PM peak-period (7 to 10 a.m. and 3 to 6 p.m., respectively) intersection turning movement counts were conducted at the 21 study intersections in May 2014. Although local elementary and secondary schools were in normal session, counts were conducted near the end of the spring semester at the USC HSC, which lies immediately north of the LAC+USC Medical Center campus. The medical center functions at all times, but because there may have been less student activity than under normal conditions, trips were estimated for 1,500 university students and assigned to the local street network. Those estimates are shown in Table 3.14-3. The resulting baseline counts were applied in the AM and PM peak hours for the existing weekday analysis and subsequent analysis.

Table 3.14-2: Proposed Project Trip Generation

Land Use	Size		ITE Code	Trip Generation Rates[a]							Estimated Trip Generation						
				Daily Rate	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
					Rate	In	Out	Rate	In	Out		In	Out	Total	In	Out	Total
Hospital Addition	450	beds	610	12.94	1.32	72%	28%	1.42	33%	67%	5,823	428	166	594	211	428	639
Less: Internal Trips Credit	-15%	[b]	Hospital								(873)	(64)	(25)	(89)	(32)	(64)	(96)
Less: Transit Credit	-15%	[c]									(743)	(55)	(21)	(76)	(27)	(54)	(81)
Net External Vehicle Trips											4,207	309	120	429	152	310	462
Wellness-Oriented Community Meeting Space and Community-Serving Uses	85.000	sf	495	33.82	2.05	66%	34%	2.74	49%	51%	2,875	115	59	174	114	119	233
Less: Internal Trips Credit	-15%	[b]	Recreational Community Center								(431)	(17)	(9)	(26)	(17)	(18)	(35)
Less: Transit Credit	-15%	[c]									(367)	(14)	(8)	(22)	(15)	(15)	(30)
Driveway Trips	-20%	[d]									2,077	84	42	126	82	86	168
Less: Pass-By Credit											(415)	(17)	(8)	(25)	(17)	(17)	(34)
Net External Vehicle Trips											1,662	67	34	101	65	69	134
Wellness-Oriented Community Retail Space[e]	20.000	sf	826	44.32	0.70	62%	38%	2.71	44%	56%	886	9	5	14	24	30	54
Less: Internal Trips Credit	-15%	[b]	Specialty Retail								(133)	(1)	(1)	(2)	(4)	(4)	(8)
Less: Transit Credit	-15%	[c]									(113)	(1)	(1)	(2)	(3)	(4)	(7)
Driveway Trips	-10%	[d]									640	7	3	10	17	22	39
Less: Pass-By Credit											(64)	(1)	0	(1)	(2)	(2)	(4)
Net External Vehicle Trips											576	6	3	9	15	20	35
New Utility Plant and Facilities[f]	40.000	sf	170	[f]	0.80	90%	10%	0.76	45%	55%	124	29	3	32	14	16	30
Less: Internal Trips Credit	-15%	[b]	Utilities								(19)	(5)	0	(5)	(2)	(3)	(5)
Less: Transit Credit	-15%	[c]									(16)	(4)	0	(4)	(2)	(2)	(4)
Net External Vehicle Trips											89	20	3	23	10	11	21
Outpatient Clinics	200.000	sf	720	36.13	2.39	79%	21%	3.57	28%	72%	7,226	378	100	478	200	514	714
Less: Internal Trips Credit	-15%	[b]	Medical Office Building								(1,084)	(57)	(15)	(72)	(30)	(77)	(107)
Less: Transit Credit	-15%	[c]									(921)	(48)	(13)	(61)	(25)	(66)	(91)
Net External Vehicle Trips											5,221	273	72	345	145	371	516
Professional/Administrative Offices	265.000	sf	710	11.03	[g]	88%	12%	[g]	17%	83%	2,923	367	50	417	64	311	375
Less: Internal Trips Credit	-15%	[b]	General Office Building								(438)	(55)	(8)	(63)	(10)	(46)	(56)
Less: Transit Credit	-15%	[c]									(373)	(47)	(6)	(53)	(8)	(40)	(48)
Net External Vehicle Trips											2,112	265	36	301	46	225	271
Partial Buildout (50%) of Biotech Research and Development[h]	635.000	sf	760	8.11	1.22	83%	17%	1.07	15%	85%	5,150	643	132	775	102	577	679
Less: Internal Trips Credit	-15%	[b]	Research and Development								(773)	(96)	(20)	(116)	(15)	(87)	(102)
Less: Transit Credit	-15%	[c]									(657)	(82)	(17)	(99)	(13)	(74)	(87)
Net External Vehicle Trips											3,720	465	95	560	74	416	490
Driveway Trips											18,066	1,423	371	1,794	526	1,441	1,967
External Vehicle Trips											17,587	1,405	363	1,768	507	1,422	1,929

Land Use	Size		ITE Code	Daily Rate	Trip Generation Rates[a]						Estimated Trip Generation						
					AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
					Rate	In	Out	Rate	In	Out		In	Out	Total	In	Out	Total
Existing Trips to Be Removed[i]																	
General Office Space	197.288	sf	710	11.03	[g]	88%	12%	[g]	17%	83%	(2,176)	(290)	(40)	(330)	(51)	(248)	(299)
Laboratory and Clinic Buildings	457.727	sf	720	36.13	2.39	79%	21%	3.57	28%	72%	(16,538)	(864)	(230)	(1,094)	(458)	(1,176)	(1,634)
Carpenter's Mill[j]	31.000	sf	120	1.50	0.51	88%	12%	0.68	12%	88%	(47)	(14)	(2)	(16)	(3)	(18)	(21)
Central Power Plant and Cooling Towers	20.938	sf	170	[f]	0.80	90%	10%	0.76	45%	55%	(66)	(15)	(2)	(17)	(7)	(9)	(16)
Warehouse and Storage Trailers	15.756	sf	150	3.56	0.30	79%	21%	0.32	25%	75%	(56)	(4)	(1)	(5)	(1)	(4)	(5)
Existing Trips to Be Removed	-15%	[b]									(18,883)	(1,187)	(275)	(1,462)	(520)	(1,455)	(1,975)
Less: Internal Trips Credit											2,832	178	41	219	78	218	296
Less: Transit Credit	-15%	[c]									2,408	151	35	186	66	186	252
Total Existing Vehicle Trips to Be Removed											(13,643)	(858)	(199)	(1,057)	(376)	(1,051)	(1,427)
Total Net External Vehicle Trips											3,944	547	164	711	131	371	502

Notes:

[a] Source: *Trip Generation*, ninth edition, Institute of Transportation Engineers (ITE), 2012.

[b] Internal capture represents the percentage of trips between the land uses that occur within the LAC+USC Medical Center. Because of the synergy between the land uses of the proposed project, an internal trips credit has been applied to some of the proposed uses to provide conservative AM and PM peak-hour project traffic volume forecasts as well as a daily project traffic volume forecast. A 15% internal capture trip reduction has been applied to all of the project land use components.

[c] The transit credit is based on LADOT's Traffic Study Policies and Procedures, June 2013. The guidelines state that a 15% transit credit may be taken for projects within 0.25 mile of a transit station.

[d] The pass-by credit is based on Attachment I of LADOT's Traffic Study Policies and Procedures, June 2013.

[e] The ITE rates for the Specialty Retail Land Use 826 were used to estimate trip generation for the wellness-oriented community retail space. No information was provided for AM peak-hour trip generation, so the AM peak-hour trip rate was derived by applying the ratio between the Shopping Center Land Use 820 PM peak-hour trip rate and the Specialty Retail Land Use 826 PM peak-hour trip rate to the Shopping Center Land Use 820 AM peak-hour trip rate. The AM directional distribution assumed is from the Shopping Center Land Use AM peak hour.

[f] The ITE rates for the Utilities Land Use 170 were used to estimate trip generation for the new utility plant, central power plant, and cooling towers. No information was provided for daily trip generation, so daily trips were estimated by doubling the summation of the AM and PM peak trips. The directional distribution for the trip generation per 1 ksf is unavailable for the AM peak hour; therefore, the directional distribution for trip generation per employee was assumed.

[g] ITE General Office trip generation equations used rather than the linear trip generation rate: AM Peak Hour: Ln(T) = 0.80 * Ln(A) + 1.57, where T = trips, A = area in ksf.
PM Peak Hour: T = 1.12 * A + 78.45, where T = trips, A = area in ksf.

[h] The ITE rates for the Research and Development Center Land Use 760 were used to estimate trip generation for the medical offices, professional/administrative offices, and biotech research land uses proposed under Phase 2 and Phase 3. Additionally, the trip generation assumes that only 50% of the proposed medical offices, professional/administrative offices, and biotech research land uses would be built.

[i] Trip generated by existing LAC+USC Medical Center uses to be removed.

[j] The ITE rates for the General Heavy Industrial Land Use 120 were used to estimate trip generation for the carpenter's mill. Both the AM and PM peak hour directional distribution were unavailable, so the General Light Industrial Land Use 110 directional distribution for the AM and PM peak hour were used respectively.

ksf = thousand square feet.

Table Source: Fehr & Peers, 2014.

Figure 3.14-6: Generalized Project Trip Distribution

Source: Fehr & Peers, 2014.

Table 3.14-3: Existing Trip Generation – USC Health Sciences Campus[a]

Land Use	Size	Trip Generation Rates								Estimated Trip Generation						
		ITE Code	Daily Rate	AM Peak Hour			PM Peak Hour			Daily	AM Peak Hour			PM Peak Hour		
				Rate	In	Out	Rate	In	Out		In	Out	Total	In	Out	Total
USC HSC[b]	1,500 students	550	1.71	0.17	78%	22%	0.17	32%	68%	2,565	199	56	255	82	173	255
Less: Transit Credit[c]	-15%									*(385)*	*(30)*	*(8)*	*(38)*	*(12)*	*(26)*	*(38)*
TOTAL VEHICLE TRIPS										**2,180**	**169**	**48**	**217**	**70**	**147**	**217**

Notes:

Source: *Trip Generation*, ninth edition, Institute of Transportation Engineers (ITE), 2012.

[a] Existing traffic counts were collected in mid-May 2014 toward the end of the spring semester. The above USC HSC trip estimates were assigned to the existing roadway network to reflect school-year conditions.

[b] According to the Keck School of Medicine website (http://keck.usc.edu/About/About_Keck/Facts_and_Figures.aspx), there were approximately 1,200 students in the 2013–2014 academic year. The number of students at the USC HSC is estimated at 1,500 students to account for the students enrolled in the School of Pharmacy and Independent Health Professions programs.

[c] The transit credit is based on LADOT's Traffic Study Policies and Procedures, June 2013. The guidelines state that a 15% transit credit may be taken for uses within 0.25 mile of a transit station. In addition to public bus services in proximity to the site, USC also offers an inter-campus shuttle service that runs between the USC HSC and the University Park Campus Monday through Friday from 7:30 a.m. to 6:45 p.m.

Table Source: Fehr & Peers, 2014.

Intersection Level-of-Service Standards and Methodology

As required by LADOT's Traffic Study Policies and Procedures and permitted by the County's Traffic Impact Analysis Report Guidelines (County of Los Angeles Department of Public Works 1997), the Critical Movement Analysis (CMA) method was used to determine the LOS grade for signalized intersections (Transportation Research Board 1980). The CMA methodology determines the intersection V/C ratio, which is then used to determine the corresponding LOS grade. LOS is a qualitative measure that is used to describe the condition of traffic flow, ranging from excellent conditions (LOS A) to overloaded conditions (LOS F). The City of Los Angeles typically uses LOS D as a standard, meaning that LOS D or better is considered satisfactory conditions, while LOS E or F is generally considered to be substandard.

Table 3.14-4 provides LOS definitions for signalized intersections per LADOT traffic study guidelines.

Table 3.14-4: Level-of-Service Definitions for Signalized Intersections

Level of Service	V/C Ratio	Definition
A	0.000–0.600	EXCELLENT. No vehicle waits longer than one red light, and no approach phase is fully used.
B	0.601–0.700	VERY GOOD. Occasionally, an approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701–0.800	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801–0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to clear developing lines and prevent excessive backups.
E	0.901–1.000	POOR. This represents the maximum number of vehicles the intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent the movement of vehicles out of the intersection approaches. Tremendous delays, with continuously increasing queue lengths.
Sources: Transportation Research Board. 1980. *Transportation Research Circular No. 212, Interim Materials on Highway Capacity*; Transportation Research Board. 2010. *Highway Capacity Manual.*		

The city's Automated Traffic Surveillance and Control (ATSAC) system is a computer-based traffic signal control system that monitors traffic conditions and system performance to manage signal timing and improve traffic flow. The Adaptive Traffic Control System (ATCS) is an enhancement to ATSAC and provides traffic-adaptive signal control that is based on real-time traffic conditions. All of the 21 signalized intersections in the study area are currently operating under the city's ATSAC system. Deployment of ATCS control has not yet been completed, though it will be operational by 2016. ATSAC and, where installed, ATCS improve operating conditions. In accordance with City of Los Angeles procedures, a credit amounting to a 0.07 V/C ratio reduction was applied to study intersections to reflect the benefits of ATSAC.

3.14.4.2 Thresholds of Significance

Criteria for Determination of Significant Traffic Impact

Under the LADOT guidelines, an intersection would be significantly affected with an increase in the V/C ratio equal to or greater than 0.04 if operating at LOS C, equal to or greater than 0.02 if operating at LOS D, or equal to or greater than 0.01 if operating at LOS E or F after the addition of project-related traffic. Intersections operating at LOS A or B after the addition of the project-related traffic are not considered significantly affected, regardless of the increase in the V/C ratio.

The following table summarizes the impact criteria:

Table 3.14-5: Intersection Condition with Project Traffic

LOS	V/C Ratio	Project-Related Increase in V/C Ratio
C	> 0.70–0.80	Equal to or greater than 0.04
D	> 0.80–0.90	Equal to or greater than 0.02
E or F	> 0.90	Equal to or greater than 0.01

Regional Transportation System Impact Thresholds

The 2010 guidelines from the County's CMP require the determination of the geographic scope of the study area to be the first issue addressed. The criteria for determining the study area for CMP arterial intersection and freeway monitoring locations are:

- All CMP arterial intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours.
- All CMP mainline freeway locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C 0.02), causing LOS F (V/C > 1.00).
- If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C 0.02).

Project impacts on public transit services would be considered significant if the project would result in a substantial increase in ridership on the existing public transit system, thereby creating capacity shortages on the system and necessitating system improvements to accommodate additional transit demand.

In addition to the CMP freeway impact analysis, the *Agreement between the City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures* (City of Los Angeles 2013) sets forth criteria for when a freeway impact analysis should be conducted. Therefore, a freeway screening analysis was conducted to determine whether a freeway impact analysis would be required for the LAC+USC Medical Center Campus Master Plan Project. The methodologies used to conduct the screening analysis for the project, as well as the results of the screening, are described in the traffic study provided in Appendix G. Based on the results of the freeway screening analysis, project-added trips along each freeway mainline segment and ramp that would be likely to be used by project traffic do not meet the screening thresholds. Because the project would not meet the criteria for requiring a freeway impact analysis, there is no need to look at segments located farther away. Overall, no further freeway analysis under the city's agreement with the California Department of Transportation (Caltrans) is required.

State CEQA Thresholds

For the purposes of this EIR, and in accordance with Appendix G of the State CEQA Guidelines, the proposed project would result in a significant environmental impact if it would:

TRAF-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and no-motorized travel, and relevant components of the circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

TRAF-2: Conflict with an applicable congestion management program, including LOS and travel demand measures, or other standards established by the County Congestion Management Agency for designated roads or highways.

TRAF-3: Result in a change in air traffic patterns, including either an increase in traffic levels or change in location that would result in substantial safety risks.

TRAF-4: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

TRAF-5: Result in inadequate emergency access.

TRAF-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle facilities, or pedestrian facilities or otherwise decrease the performance or safety of such facilities.

TRAF-7: Result in inadequate parking capacity.[2]

[2] Although CEQA no longer explicitly requires an analysis of parking, the potential changes to existing parking and the potential effects of the proposed parking changes during construction and operations are being analyzed as part of this EIR.

3.14.4.3 Impacts and Mitigation Measures

Impact TRAF-1: Would the Proposed Project Conflict with an Applicable Plan, Ordinance, or Policy Establishing Measures of Effectiveness for the Performance of the Circulation System, Taking into Account All Modes of Transportation, Including Mass Transit and Non-motorized Travel, and Relevant Components of the Circulation System, Including Intersections, Streets, Highways and Freeways, Pedestrian and Bicycle Paths, and Mass Transit?

Construction

The proposed project could involve intermittent lane and sidewalk closures during construction of the master plan elements. Traffic operations during these closures would deteriorate. The delays to vehicular traffic, mass transit, bicycle riders, and pedestrians would be temporary but could be significant. The extent of lane and sidewalk closures will not be known until individual development projects are proposed and project plans are developed. Nonetheless, to ensure construction transportation impacts due to projects proposed under the master plan would be minimized and reduced to a less-than-significant level, construction traffic control measures would be developed and implemented (see mitigation measure MM-TRAF-1, below).

Operation

To determine operational traffic impacts in compliance with CEQA, two scenarios were analyzed: 1) existing year (2014) plus project traffic volumes and 2) cumulative year (2040) plus project traffic volumes. Existing baseline plus project traffic volumes were analyzed to determine potential operational conditions and traffic impacts resulting from the incremental addition of project-generated traffic associated with buildout of the LAC+USC Medical Center Campus Master Plan on existing (2104) street conditions. Table 3.14-6 shows the results of this analysis, and analysis sheets are provided as part of the traffic study in Appendix G. As indicated in Table 3.14-6, after applying the city's significant impact criteria, it can be determined that the proposed project would result in significant impacts on the following four intersections under existing baseline plus project conditions:

1. Daly Street and Main Street (PM)
9. State Street and Cesar E. Chavez Avenue (PM)
13. State Street and Marengo Street (AM and PM)
19. Soto Street and Marengo Street (AM)

Table 3.14-7 presents the impacts of cumulative plus project traffic generated in 2040 at the study intersections. As shown in the table, using the criteria for the determination of significant impacts, the proposed project would create significant impacts at the following four analyzed intersections under cumulative year plus project conditions:

9. State Street and Cesar E. Chavez Avenue (PM)
13. State Street and Marengo Street (AM and PM)
19. Soto Street and Marengo Street (AM and PM)
20. Soto Street and Charlotte Street/I-10 westbound on-/off-ramps (AM)

Table 3.14-6: Existing Base and Existing Year (2014) Plus Project Intersection Level-of-Service Analysis

ID	N/S Street Name	E/W Street Name	Peak Hour	Existing (2014) V/C[a]	Existing (2014) LOS	E+P (2014) V/C[b]	E+P (2014) LOS	Project Increase In V/C	Significant Impact	E+P (2014) plus Mitigation V/C[a]	E+P (2014) plus Mitigation LOS	Project Increase in V/C	Significant Impact
1	Daly Street	Main Street	AM	0.755	C	0.769	C	0.014	NO	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.768	C	0.013	NO
			PM	0.655	B	0.714	C	0.059	YES	0.713	C	0.058	**YES**
2	I-5 SB Ramps/ I-10 On-Ramp	Mission Road	AM	0.750	C	0.759	C	0.009	NO	No Significant Impact			
			PM	0.537	A	0.546	A	0.009	NO				
3	Daly Street/ Marengo Street	Mission Road	AM	0.801	D	0.820	D	0.019	NO	No Significant Impact			
			PM	0.820	D	0.769	C	-0.051	NO				
4	Workman Street	Mission Road	AM	0.555	A	0.555	A	0.000	NO	No Significant Impact			
			PM	0.467	A	0.431	A	-0.036	NO				
5	Sichel Street	Mission Road	AM	0.535	A	0.571	A	0.036	NO	No Significant Impact			
			PM	0.402	A	0.396	A	-0.006	NO				
6	Griffin Avenue/ Zonal Avenue	Mission Road	AM	0.629	B	0.651	B	0.022	NO	No Significant Impact			
			PM	0.515	A	0.581	A	0.066	NO				
7	Mission Road	Valley Boulevard	AM	0.734	C	0.738	C	0.004	NO	No Significant Impact			
			PM	0.779	C	0.795	C	0.016	NO				
8	Mission Road	Main Street	AM	0.605	B	0.616	B	0.011	NO	No Significant Impact			
			PM	0.473	A	0.493	A	0.020	NO				
9	State Street	Cesar E. Chavez Avenue	AM	0.691	B	0.726	C	0.035	NO	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.723	C	0.032	NO
			PM	0.769	C	0.804	D	0.035	YES	0.800	C	0.031	NO
10	State Street	I-10 EB Ramps	AM	0.593	A	0.641	B	0.048	NO	No Significant Impact			
			PM	0.643	B	0.673	B	0.030	NO				
11	State Street	I-10 WB Off-Ramp	AM	0.507	A	0.551	A	0.044	NO	No Significant Impact			
			PM	0.239	A	0.277	A	0.038	NO				
12	State Street	Pomeroy Avenue	AM	0.506	A	0.571	A	0.065	NO	No Significant Impact			
			PM	0.378	A	0.409	A	0.031	NO				

ID	N/S Street Name	E/W Street Name	Peak Hour	Existing (2014) V/C[a]	Existing (2014) LOS	E+P (2014) V/C[b]	E+P (2014) LOS	Project Increase In V/C	Significant Impact	E+P (2014) plus Mitigation V/C[a]	E+P (2014) plus Mitigation LOS	Project Increase in V/C	Significant Impact
13	State Street	Marengo Street	AM	0.712	C	0.803	D	0.091	YES	Physical Mitigation			
										0.740	C	0.028	NO
										TDM Mitigation (-5% in Project Trips)			
										0.794	C	0.082	**YES**
			PM	0.626	B	0.814	D	0.188	YES	Physical Mitigation			
										0.659	B	0.033	NO
										TDM Mitigation (-5% in Project Trips)			
										0.802	D	0.176	**YES**
14	I-5 NB Off-Ramp	Cesar E. Chavez Ave.	AM	0.684	B	0.715	C	0.031	NO	No Significant Impact			
			PM	0.319	A	0.329	A	0.010	NO				
15	Brittania Street	Marengo Street	AM	0.407	A	0.460	A	0.053	NO	No Significant Impact			
			PM	0.383	A	0.364	A	-0.019	NO				
16	Chicago Street	Marengo Street	AM	0.487	A	0.511	A	0.024	NO	No Significant Impact			
			PM	0.335	A	0.341	A	0.006	NO				
17	San Pablo Street	Valley Boulevard	AM	0.494	A	0.485	A	-0.009	NO	No Significant Impact			
			PM	0.473	A	0.453	A	-0.020	NO				
18	Soto Street	I-10 EB Off-Ramp/ Wabash Ave.	AM	0.642	B	0.666	B	0.024	NO	No Significant Impact			
			PM	0.637	B	0.648	B	0.011	NO				
19	Soto Street	Marengo Street	AM	0.817	D	0.877	D	0.060	YES	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.871	D	0.054	**YES**
			PM	0.710	C	0.738	C	0.028	NO	0.734	C	0.024	NO
20	Soto Street	Charlotte Street/I-10 WB Ramps	AM	0.873	D	0.889	D	0.016	NO	No Significant Impact			
			PM	0.882	D	0.866	D	-0.016	NO				
21	Soto Street	Alcazar Street	AM	0.689	B	0.700	B	0.011	NO	No Significant Impact			
			PM	0.683	B	0.692	B	0.009	NO				

Notes:
[a] The signalized intersections listed above are currently operating under the ATSAC system. A credit amounting to a 0.07 V/C ratio reduction was included in this analysis for all signalized intersections.
Source: Fehr & Peers, 2014.

Table 3.14-7: Cumulative Base and Cumulative Year (2040) Plus Project Intersection Level-of-Service Analysis

ID	N/S Street Name	E/W Street Name	Peak Hour	Cumulative Base (2040) V/C[a]	Cumulative Base (2040) LOS	C+P (2040) V/C[a]	C+P (2040) LOS	Project Increase In V/C	Significant Impact	C+P (2040) plus Mitigation V/C[a]	C+P (2040) plus Mitigation LOS	Project Increase In V/C	Significant Impact
1	Daly Street	Main Street	AM	0.786	C	0.801	D	0.015	No	No Significant Impact			
			PM	0.739	C	0.747	C	0.008	No				
2	I-5 SB Ramps/I-10 On-Ramp	Mission Road	AM	0.809	D	0.820	D	0.011	No	No Significant Impact			
			PM	0.574	A	0.584	A	0.010	No				
3	Daly Street/ Marengo Street	Mission Road	AM	0.842	D	0.861	D	0.019	No	No Significant Impact			
			PM	0.901	E	0.850	D	-0.051	No				
4	Workman Street	Mission Road	AM	0.581	A	0.581	A	0.000	No	No Significant Impact			
			PM	0.512	A	0.476	A	-0.036	No				
5	Sichel Street	Mission Road	AM	0.558	A	0.595	A	0.037	No	No Significant Impact			
			PM	0.442	A	0.436	A	-0.006	No				
6	Griffin Avenue/Zonal Avenue	Mission Road	AM	0.659	B	0.679	B	0.020	No	No Significant Impact			
			PM	0.563	A	0.599	A	0.036	No				
7	Mission Road	Valley Boulevard	AM	0.817	D	0.820	D	0.003	No	No Significant Impact			
			PM	0.826	D	0.842	D	0.016	No				
8	Mission Road	Main Street	AM	0.630	B	0.641	B	0.011	No	No Significant Impact			
			PM	0.492	A	0.511	A	0.019	No				
9	State Street	Cesar E. Chavez Avenue	AM	0.731	C	0.765	C	0.034	No	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.763	C	0.032	NO
			PM	0.839	D	0.875	D	0.036	Yes	0.870	D	0.031	**YES**
10	State Street	I-10 EB ramps	AM	0.635	B	0.679	B	0.044	No	No Significant Impact			
			PM	0.691	B	0.720	C	0.029	No				
11	State Street	I-10 WB off-ramp	AM	0.543	A	0.587	A	0.044	No	No Significant Impact			
			PM	0.256	A	0.293	A	0.037	No				
12	State Street	Pomeroy Avenue	AM	0.531	A	0.595	A	0.064	No	No Significant Impact			
			PM	0.391	A	0.436	A	0.045	No				

ID	N/S Street Name	E/W Street Name	Peak Hour	Cumulative Base (2040)		C+P (2040)		Project Increase	Significant Impact	C+P (2040) plus Mitigation		Project Increase In V/C	Significant Impact
				V/C[a]	LOS	V/C[a]	LOS	In V/C		V/C[a]	LOS		
13	State Street	Marengo Street	AM	0.751	C	0.843	D	0.092	Yes	Physical Mitigation			
										0.773	C	0.022	NO
										TDM Mitigation (-5% in Project Trips)			
										0.833	D	0.082	**YES**
			PM	0.686	B	0.859	D	0.173	Yes	Physical Mitigation			
										0.692	B	0.006	NO
										TDM Mitigation (-5% in Project Trips)			
										0.846	D	0.160	**YES**
14	I-5 NB Off-Ramp	Cesar E. Chavez Avenue	AM	0.727	C	0.758	C	0.031	No	No Significant Impact			
			PM	0.331	A	0.341	A	0.010	No				
15	Brittania Street	Marengo Street	AM	0.425	A	0.478	A	0.053	No	No Significant Impact			
			PM	0.415	A	0.369	A	-0.046	No				
16	Chicago Street	Marengo Street	AM	0.510	A	0.535	A	0.025	No	No Significant Impact			
			PM	0.343	A	0.345	A	0.002	No				
17	San Pablo Street	Valley Boulevard	AM	0.518	A	0.509	A	-0.009	No	No Significant Impact			
			PM	0.547	A	0.525	A	-0.022	No				
18	Soto Street	I-10 EB off-ramp/Wabash Avenue	AM	0.705	C	0.729	C	0.024	No	No Significant Impact			
			PM	0.685	B	0.696	B	0.011	No				
19	Soto Street	Marengo Street	AM	0.897	D	0.955	E	0.058	Yes	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.949	E	0.052	**YES**
			PM	0.788	C	0.814	D	0.026	Yes	0.811	D	0.023	**YES**
20	Soto Street	Charlotte Street/ I-10 WB ramps	AM	0.966	E	0.976	E	0.010	Yes	No Feasible Physical Mitigation TDM Mitigation (-5% in Project Trips)			
										0.973	E	0.007	NO
			PM	0.967	E	0.952	E	-0.015	No	0.948	E	-0.019	NO
21	Soto Street	Alcazar Street	AM	0.800	C	0.812	D	0.012	NO	No significant impact			
			PM	0.752	C	0.759	C	0.007	NO				

Notes:
[a] The signalized intersections listed above are assumed to operate under both the ATSAC and ATCS system by 2040. A credit amounting to a 0.10 V/C ratio reduction was included in this analysis for all signalized intersections.
Source: Fehr & Peers, 2014.

Mitigation Measures

The following measure is proposed to mitigate potential construction traffic impacts.

MM-TRAF-1: The County shall develop and implement traffic control measures for master plan projects that would result in lane or sidewalk closures, removal of parking, or similar traffic disruptions. Temporary traffic control during construction shall meet the requirements of the California Manual on Traffic Control Devices (CA-MUTCD). Daytime closures shall be covered by the applications shown in Chapter 6 of the manual. Overnight closures, long-term closures, and detours shall require a Traffic Control Plan, which shall be prepared as part of the project design package according to CA-MUTCD requirements. The Traffic Control Plan may include, but is not limited to, the elements listed below. Note that some of these elements may not be feasible or appropriate in all circumstances. The project-level environmental analysis shall identify the appropriate measures for each project.

- Provide a roadway layout that shows the locations of construction activity and surrounding roadways to be used as detour routes, including special signage.
- Establish detour routes in coordination with the City of Los Angeles to minimize disturbances to local traffic conditions; review potential detour routes to make sure adequate capacity is available.
- Avoid creating additional delay at intersections that are currently operating under congested conditions either by choosing haul routes that avoid these locations (such as choosing haul routes that avoid the State Street/Marengo Street and State Street/Cesar Chavez Avenue intersections) or constructing during non-peak times of day (peak periods are generally 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m., Monday through Friday).
- Maintain access to existing residences at all times.
- Work with LADOT, LASD, LAFD, and LAPD to coordinate all construction-related plans and minimize disturbances to local EMS providers; ensure that alternative evacuation and emergency routes are designed to maintain response times during construction.
- Provide adequate off-street parking areas at designated staging areas for construction-related vehicles.
- Work with local and regional transit providers to maintain access and circulation routes to existing stops and stations during construction phases and identify appropriate detours to provide traffic rerouting during construction while minimizing disturbance to bus services.
- Work with the City of Los Angeles to maintain continuity and operation of existing pedestrian and bicycle facilities during construction.

The following measures are proposed to mitigate the operational traffic impacts at the State Street and Marengo Street intersection.

MM-TRAF-2: To mitigate the significant traffic impact at the intersection of State Street and Marengo Street (study intersection #13) during the AM and PM peak hours, the southbound approach on State Street (within the LAC+USC Medical Center) shall be widened and reconfigured to provide one left-turn lane, one through lane, and one shared through/right-turn lane. Traffic signal enhancements, such as additional closed-circuit television cameras, should also be considered. In addition, the existing westbound bus stop at this intersection on Marengo Street shall be relocated eastward to allow for the introduction of a separate westbound right-turn lane. The County shall consult with affected transit providers as well as LADOT to coordinate relocation of this bus stop. All elements of this mitigation measure need to be implemented to mitigate the significant impact.

The aforementioned physical improvements in mitigation measures in MM-TRAF-2 are subject to LADOT's acceptance and approval. If LADOT determines that one or more of these proposed improvements are not feasible, the impacts at the affected intersection would remain significant and unavoidable.

In addition, the LAC+USC Medical Center is long-established at this site and has an ongoing program of transportation demand management (TDM) measures to minimize single-occupant auto trips and to support non-automotive trips. Ongoing measures include regularly scheduled newsletters and rideshare events, rideshare matching services, a transit information center with commuter information kiosks, flexible time schedules for many employees, guaranteed rides home, preferential parking for rideshare commuters and bicycle parking. The proposed Master Plan project supports those measures and includes design features that would be expected to enhance the usage of walking, biking, and transit modes as alternatives to the automobile. Mitigation measure MM-TRAF-3 below identifies potential additional TDM program elements that could reduce vehicle trips.

MM-TRAF-3: The County shall explore implementation of the following TDM measures to further reduce vehicle trips:

- provide bicycle parking for new development that exceeds the County's code requirement;
- provide other bicycle-supportive amenities such as bicycle lockers;
- locate a station of a bicycle-sharing system on-site;
- expand the County-operated Wellness Center Shuttle to include more stops on or near the site; and,
- work cooperatively with other transit providers (Metro, LADOT, Metrolink, Foothill Transit, USC) to establish new transit stops or stations or to upgrade existing transit stops adjacent to the Medical Center or in the local area.

If these actions were to result in a 5% reduction in net new peak hour trips to and from the campus, relative to the what is analyzed in this study, the impact at State Street & Cesar E. Chavez Boulevard (Study Intersection 9) under Existing plus Project conditions would be mitigated, though that intersection would remain significantly affected under Cumulative Year plus Project conditions. In addition, the cumulative impact at Soto Street & Charlotte Street/I-10 Westbound On-/Off-Ramps (Study Intersection 20) under Cumulative Year plus Project conditions would be mitigated. The other locations identified where significant impacts were identified would be partially mitigated through expanded TDM measures, as shown in Tables 3.14-6 and 3.14-7.

Level of Significance after Mitigation

Following the implementation of measures MM-TRAF-2, the significant impacts at the State Street/Marengo Street (study intersection 13) intersection would be reduced to a less-than-significant level. However, as noted above, mitigation measure MM-TRAF-2 is subject to LADOT's acceptance and approval. If LADOT determines that one or more of the proposed improvements are not feasible, the impact at intersection 13 would remain significant and unavoidable.

No feasible mitigation measures have been identified for study intersection 1, 9, 19, and 20, as discussed below. Therefore, impacts at these intersections would be considered to be significant and unavoidable. This is generally due to the intersection being fully built out or otherwise physically constrained or the potential improvement conflicting with current transportation policy.

Daly Street and Main Street (Study Intersection 1)

The intersection of Daly Street and Main Street would experience a significant impact during the PM peak hour under existing plus project conditions. A potential mitigation measure was explored that would reconfigure the eastbound approach and provide a separate right-turn lane, resulting in one shared through/left-turn lane, one through lane, and one right-turn lane. This improvement was determined to be infeasible because of the constrained roadway width (56 feet curb to curb) and the need to maintain sufficient lane widths. Furthermore, the city's Bicycle Master Plan indicates a long-term intent to provide a bicycle lane on this segment of Main Street, which would also limit the ability to reconfigure the roadway and provide additional vehicular capacity. This impact would be considered significant and unavoidable.

State Street and Cesar E. Chavez Boulevard (Study Intersection 9)

The intersection of State Street and Cesar E. Chavez Boulevard has a significant impact during the PM peak hour under the existing plus project conditions and under cumulative plus project conditions. A mitigation measure was explored that would reconfigure the functional right-turn lane on the northbound approach to provide additional through capacity, resulting in one left-turn lane, one through lane, and one shared through/right-turn lane. This was not acceptable to LADOT, however, due to concerns related to intersection geometry and consistency with the plan to maintain and enhance the bicycle-friendly characteristics of State Street in the area. As discussed above, the project impact would be fully mitigated through an expanded TDM program but the cumulative impact would remain significant and unavoidable.

Soto Street and Marengo Street (Study Intersection 19)

The intersection of Soto Street and Marengo Street would experience a significant impact during the AM peak hour under existing plus project conditions and during the AM and PM peak hours under cumulative year plus project conditions. A potential mitigation measure was explored that would provide dual left-turn lanes on the northbound and southbound approaches. These changes would require a signal phasing modification as well. This would change the north/south approaches from split phasing to protected left-turn phasing. The existing raised center medians would need to be modified within the overall 80-foot roadway width. The intersection is entirely on a bridge structure over I-10, and the city's Bicycle Master Plan indicates a long-term intent to create a bicycle lane or other bikeway on Soto Street. Because a similar mitigation measure was proposed for a different project and ultimately determined to be infeasible, this impact would be considered significant and unavoidable.

Soto Street and Charlotte Street/I-10 Westbound On-/Off-Ramps (Study Intersection 20)

The intersection of Soto Street and Charlotte Street/I-10 westbound on-/off-ramps would experience a significant impact during the AM peak hour under cumulative plus project conditions. A potential mitigation measure was explored that would reconfigure the southbound right-turn lane to a shared through/right-turn lane, providing additional though capacity. This was found to be inadequate, however, because the southbound left-turn movement is critical. The possibility of reconfiguring the southbound approach to provide dual left-turn lanes was explored and found to mitigate the identified impact fully. The resulting configuration would be two left-turn lanes, one through lane, and one shared through/right-turn lane. However, this is not recommended because it would create an entrapment lane (the number one southbound lane on Soto Street) that would not be readily visible to approaching southbound drivers because of the topography at this location. Slightly farther south, the southbound curb lane on Soto Street becomes a dedicated right-turn lane at the intersection with Marengo Street, which would create an undesirable weaving pattern for southbound traffic on this segment of Soto Street. Furthermore, the city's Bicycle Master Plan indicates a long-term intent to create a bicycle lane or other bikeway on Soto Street. For these reasons, the potential improvements appear infeasible, and no other measures were identified. Therefore, this impact would remain significant and unavoidable.

Impact TRAF-2: Would the Proposed Project Conflict with an Applicable Congestion Management Program, Including LOS and Travel Demand Measures, or Other Standards Established by the County Congestion Management Agency for Designated Roads or Highways?

Construction

Construction of the various elements identified in the LAC+USC Medical Center Campus Master Plan could result in a temporary increase in traffic volumes due to construction-generated traffic. In some cases, construction may require temporary road or lane closures, which, in turn, would result in a decrease in roadway capacity and increased congestion. However, the affected roadways would be located immediately adjacent to or in close proximity to the campus. No CMP arterials or freeway mainlines (see discussion below under Operation for the locations of closest CMP facilities) would be significantly affected by project construction activities, and therefore impacts would be less than significant.

Operation

Arterial Monitoring Station Analysis

The CMP arterial monitoring stations closest to the project study area are listed below. Each one is more than 3 miles from the project site.

- Valley Boulevard and I-710 northbound ramps (Arterial Monitoring Station 1)
- Fremont Avenue and Valley Boulevard (Arterial Monitoring Station 68)
- Alameda Street and Washington Boulevard (Arterial Monitoring Station 43)

Based on project trip generation estimates and trip assignments, the project would add fewer than 50 new peak-hour vehicle trips at any of these arterial monitoring stations. Therefore, no further analysis of CMP arterial intersections is required. CMP arterial intersection impacts are considered to be less than significant.

Freeway Mainline Monitoring Station Analysis

The CMP mainline freeway monitoring locations closest to the project site are:

- I-10 at East Los Angeles city limit (Freeway Monitoring Station 1,014)
- I-5 at Ferris Avenue (Freeway Monitoring Station 1,003)

- I-5 at Stadium Way (Freeway Monitoring Station 1,004)
- US 101 south of Vignes Street (Freeway Monitoring Station 1,036)

According to project trip generation estimates and project-only traffic assignments, the proposed project would be expected to add fewer than 150 one-way trips at any freeway monitoring location and therefore would not meet the freeway analysis criteria at these locations. Because incremental project-related traffic in any direction during either peak hour is projected to be less than the criterion of 150 trips in either direction during either the AM or PM peak hours, no further CMP freeway analysis is required. Therefore, CMP freeway impacts are considered to be less than significant.

Mitigation Measures

No measures are required to mitigate impacts at the CMP facilities identified above.

Impact TRAF-3: Would the Proposed Project Result in a Change in Air Traffic Patterns, Including either an Increase in Traffic Levels or Change in Location that Would Result in Substantial Safety Risks?

Construction

The proposed project would relocate the existing at-grade helipad, currently located just west of Parking Lot 5. However, a temporary at-grade helipad would be built adjacent to its existing location prior to removal of the existing helipad to maintain existing air traffic patterns and respond to emergencies at the campus. The emergency department at the Medical Center has been consulted to ensure that the location of the temporary at-grade helipad would not result in substantial safety risks. Therefore, impacts during construction would be less than significant.

Operation

The proposed project would not result in a change in air traffic patterns. Helicopters would use the same routes they use now when landing on top of the new hospital emergency room. The only change would be to the location of the helipad where the helicopter pilot waits for the flight crew to discharge patients. The new location is proposed in the northeast quadrant of the intersection of Mission Road and Zonal Avenue, within the existing campus, and would not result in substantial safety risks. Therefore, impacts would be less than significant.

Mitigation Measures-

No mitigation is proposed. Impacts would be less than significant.)

Impact TRAF-4: Would the Proposed Project Substantially Increase Hazards Due to a Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)?

Construction

Construction activities would increase the mix of heavy construction vehicles and general purpose traffic and could result in an increase in safety hazards due to a higher proportion of heavy trucks. Additionally, the impact of construction-generated traffic on safety could be significant for projects that would require roadways restrictions, lane closures, and similar actions. However, the traffic control measures proposed in mitigation measure MM-TRAF-1 would reduce any safety impacts to a less-than-significant level.

Operation

During operation of the proposed project, upgrades to the campus would improve design features for campus visitors and employees. These upgrades would include improved sidewalks and safe, pleasant pedestrian walking paths throughout the campus. Project improvements to access, wayfinding, and the general orientation of campus facilities would also improve safety for motorists, pedestrians, and bicyclists as they travel to and around the campus. No sharp curves or dangerous intersections would be created, nor would incompatible uses be introduced. Therefore, impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant; therefore, no mitigation measures are required.

Impact TRAF-5: Would the Proposed Project Result in Inadequate Emergency Access?

Construction

As mentioned in Impact TRAF-1, above, in some cases, construction could require temporary road or lane closures. This, in turn, would result in a decrease in roadway capacity and increased congestion. However, coordination with EMS providers that serve the campus and surrounding communities, as described in mitigation measure MM-TRAF-1, would ensure that impacts on emergency access during construction would be less than significant.

Operation

Section 3.12, Public Services, discusses in detail the proposed project's potential impacts on the provision of public services, including police and fire protection. Operation of proposed facilities under the master plan would not affect emergency access to the campus. Therefore, impacts would be less than significant.

Mitigation Measures

Mitigation measure MM-TRAF-1 is proposed to mitigate Impact TRAF-5 during construction.

Level of Significance after Mitigation

Less than significant.

Impact TRAF-6: Would the Proposed Project Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle Facilities, or Pedestrian Facilities or Otherwise Decrease the Performance or Safety of Such Facilities?

Construction

Construction of the proposed project could involve intermittent lane and sidewalk closures. These closures would occur for limited periods of time during construction of individual projects proposed under the master plan. Traffic operations during these closures would deteriorate. The delays could be substantial for vehicular traffic, mass transit, bicycle riders, and pedestrians. To mitigate potential construction traffic impacts, traffic control measures are proposed as part of mitigation measure MM-TRAF-1. Impacts would be less than significant. However, efforts would be made to further minimize these less-than-significant impacts.

Operation

The extensive bus service at the LAC+USC Medical Center campus is currently provided by Metro and other providers. More than 20 bus routes have stops within or adjacent to the site; there is also an in-line station on the El Monte Busway immediately south of the site. Current schedules indicate that, in combination, these bus routes provide hundreds of buses in each direction every weekday. In the AM and PM peak hours (defined by the CMP as 7:30 to 8:30 a.m. and 4:30 to 5:30 p.m.), there are more than 60 buses. Operation of the proposed master plan would not interfere or conflict with this existing transit service.

The proposed project would result in an estimated increase in vehicle trip generation totaling approximately 842 net vehicle trips during the AM peak hour and 598 during the PM peak hour before the transit credit. Applying the average vehicle ridership (AVR) factor of 1.4 to the estimated number of vehicle trips would result in an estimated increase of approximately 1,179 and 837 person trips during the AM and PM peak hours, respectively. With respect to the number of net person trips from a project, the CMP provides that 15% will be designated as transit riders who are traveling to or from various projects, which are primarily commercial and located within 0.25 mile of a transit center, in this case the in-line station on the El Monte Busway. Following this approach, the project would increase the estimated number of transit trips by 177 during the AM peak hour and 126 during the PM peak hour. Therefore, no significant impacts on the transit system are anticipated. Given the frequency and density of existing bus transit service in proximity to the project site, the incremental increase in the number of transit riders (on average, 3 or fewer passengers per bus) resulting from the project is anticipated to result in a less-than-significant impact on the transit lines that serve the area. Furthermore, bicyclists choose routes based on a number of factors, with safety and convenience being very highly valued in route selection. Build out of the planned bike network near the medical center campus is critical to providing multi-modal options. The County is committed to making the campus a more integrated, accessible resource for not only patients and employees but the surrounding community as well. Implementation of the proposed project would be supportive of build out of the local and regional bicycle network.

Mitigation Measures

See mitigation measure MM-TRAF-1 and MM-TRAF-3 above.

Level of Significance after Mitigation

Less than significant.

Impact TRAF-7: Would the Proposed Project Result in Inadequate Parking Capacity?

Construction

Construction workers could increase parking demand in the project vicinity; such demand could exceed the available parking supply. However, development of the proposed master plan would result in a net increase in the number of parking spaces compared with what is currently available on the campus and the removal of existing parking would be coordinated to ensure that there would be adequate parking for employees, patients, and visitors throughout the construction period. Consequently, the impact on parking demand on the campus during construction would be minimized. Therefore, construction parking impacts would be less than significant.

Operation

Providing access to adequate parking is a current challenge for the LAC+USC Medical Center. The proximity of parking to the campus is another issue, as parking facilities are not located in close proximity to drivers' destination. The master plan proposes additional parking in key locations by:

- Providing a new central drop-off location that would serve the existing hospital and future outpatient facilities by expanding the current drop-off area on the east side of State Street, just north of Marengo Street.
- Providing additional parking in proximity to the new drop-off area.
- Providing parking for future outpatient, community, and office buildings.

The provision of additional parking at the key locations identified above would minimize the project's parking impacts. All parking would be provided at the level required by the Los Angeles County Code and impacts would be less than significant..

Mitigation Measures

Impacts would be less than significant; therefore, no mitigation measures are required.

3.14.5 Cumulative Impacts

The study area for the cumulative traffic impact analysis consists of the 21 intersections shown in Figure 3.14-1 and listed in Table 3.14-1. These intersections are generally located within a 1-mile radius of the campus, were identified in consultation with the County and City of Los Angeles, and represent those study intersections that would most likely be affected by project generated traffic combined with traffic from future cumulative growth and development. The projected cumulative year plus project conditions presented in Table 3.14-7, above, depict the traffic generated by cumulative development and related projects combined with project generated traffic in 2040. Existing (2014) traffic conditions at the 21 study intersections are shown in Table 3.14-1. A comparison of existing (2014) conditions with future cumulative plus project conditions shows a deterioration in LOS at 10 of the 21 study intersections. Additionally, while none of the study intersections is operating at LOS E or F under existing conditions,; two intersections are projected to operate at LOS E or F in the AM or PM peak hour under the cumulative year plus project conditions. Also, as noted above in the discussion for Impact TRAF-1, the proposed project would result in significant and unavoidable traffic impacts at four of the 21 study intersections. Therefore, the project and cumulative development would result in significant cumulative traffic impacts.

Mitigation Measures

See mitigation measure MM-TRAF-2 for measures that would mitigate the project's impacts at the intersection of State Street and Marengo Street (study intersection 13). No mitigation measures were considered feasible for four of the 21 study intersections that would be significantly affected by project generated traffic.

Level of Significance after Mitigation

Significant cumulative impact.

3.15 Utilities/Service Systems

3.15.1 Introduction

This section describes the existing utility systems that serve the project site including water supply, wastewater conveyance and treatment, stormwater conveyance, solid waste generation and disposal, and electrical service and availability and the impacts on those systems that could occur due to implementation of the proposed master plan. Measures that would mitigate potential significant impacts are also identified.

3.15.2 Regulatory Setting

3.15.2.1 Federal

Clean Water Act

Passed in 1972, the Clean Water Act is a federal regulation whose objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands (United States Environmental Protection Agency, 2013). Its NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The Hyperion Treatment Plant (HTP), which treats wastewater generated by the LAC USC Medical Center, is subject to a NPDES permit requirements. On November 22, 2010, the Los Angeles RWQCB and EPA reissued the federal NPDES permit for HTP, which became effective on December 24, 2010 (City of Los Angeles Water Integrated Resources Plan, 2012).

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996, and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. The SDWA applies to every public water system in the United States.

The SDWA authorizes the U.S. EPA to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The U.S. EPA, states, and water systems work together to make sure that these standards are met.

Originally, the SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

3.15.2.2 State

California Water Plan

The California Water Plan is prepared by the California Department of Water Resources, most recently updated in 2009. The plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses.

The plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs. The Plan provides resource management strategies and recommendations to strengthen integrated regional water management. The resource management strategies help regions meet future demands and sustain the environment, resources, and economy, involve communities in decision-making, and meet various goals. A resource management strategy is a project, program, or policy that helps local agencies and governments manage their water and related resources. These strategies can reduce water demand, improve operational efficiency, increase water supply, improve water quality, practice resource stewardship, and improve flood management.

California Water Code

The California Water Code contains provisions that control almost every consideration of water and its use. Division 2 of the California Water Code provides that the SWRCB shall consider and act upon all applications for permits to appropriate waters. Division 6 of the California Water Code controls conservation, development, and utilization of the state water resources, while Division 7 addresses water quality protection and management.

Senate Bill 610

Senate Bill 610 (Water Code Sections 10910 and 10912) took effect on January 1, 2002. SB 610 seeks to promote more collaborative planning between local water suppliers and cities and counties. It requires that water supply assessments occur early in the land use planning process for all large-scale development projects.[1] The required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the

---

[1] In accordance with the 2014 CEQA Statute and Guidelines Section 15155, a project is considered to be a "water-demand project" if one of the following definitions applies:

(a) A residential development of more than 500 dwelling units.
(b) A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
(c) A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
(d) A hotel or motel, or both, having more than 500 rooms.
(e) An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
(f) A mixed-use project that includes one or more of the projects specified in subdivisions (a)(1)(A), (a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(1)(E), and (a)(1)(G) of this section.
(g) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

sufficiency of the groundwater basin to sustain a new project's demands. It also requires an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries.

Senate Bill 221

Enacted in 2001, SB 221, which has been codified in the California Water Code beginning with Section 10910, requires that the legislative body of a city or county that is empowered to approve, disapprove, or conditionally approve a subdivision map must condition such approval upon proof of sufficient water supply. The term "sufficient water supply" is defined in SB 221 as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the projected demand associated with the proposed subdivision. The definition of sufficient water supply also includes the requirement that sufficient water encompass not only the proposed subdivision, but also existing and planned future uses, including, but not limited to, agricultural and industrial uses. SB 221 requirements do not apply to the general plans of cities and counties, but rather to specific development projects.

California Urban Water Management Act

The California Urban Water Management Planning Act requires urban water suppliers to prepare and adopt an Urban Water Management Plan (UWMP) every five years. The main goal of the UWMP is to forecast future water demands and water supplies under average and dry year conditions, identify future water supply projects such as recycled water, provide a summary of water conservation best management practices, and provide a single and multi-dry year management strategy. In 2011, LADWP, which is the water supplier to the project site, approved the 2010 UWMP for the Los Angeles metropolitan area.

Health and Safety Code Section 17921.3

Health and Safety Code Section 17921.3 requires low-flush toilets and urinals in the majority of buildings.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Assembly Bill 939) requires each city and county in the State of California and regional solid waste management agencies to enact plans and implement programs to divert 25% of its waste stream by 1995 and 50% by 2000.

Assembly Bill 75

Assembly Bill 75 (Public Resources Code 42920-4297) required all state agencies and large state facilities to divert at least 25 percent of all solid waste from landfills by January 1, 2002 and 50 percent by January 1, 2004. The law also requires each state agency and large facility to submit an annual report to the California Department of Resources Recycling and Recovery (CalRecycle) summarizing its yearly progress in implementing waste diversion programs.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327) was enacted on October 11, 1991 and added Chapter 18 to Part 3 of Division 30 of the Public Resources Code. It required each jurisdiction to adopt an ordinance by September 1, 1994, requiring any "development project" for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials.

California Code of Regulations,Title 24, Part 6

Title 24, Part 6 of the California Code of Regulations (also known as the California Energy Code) establishes energy conservation standards for new construction. These standards relate to insulation requirements, glazing, lighting, shading, and water and space heating systems. Local governmental agencies may adopt and enforce energy standards for newly constructed buildings, additions, alterations, and repairs to existing buildings provided the California Energy Commission finds that the standards will require buildings to be designed to consume no more energy than permitted by Title 24, Part 6. Section 91.1300 of the City of Los Angeles Municipal Code incorporates these state requirements.

2010 California Green Building Standards Code (CALGreen)

CALGreen is a statewide mandatory green building code all cities in California were required to adopt by January 1, 2011. CALGreen requires new standards in materials reuse, locally sourced materials, water/energy efficiency, and indoor air quality. To meet CALGreen requirements, the Los Angeles County Board of Supervisors adopted the Los Angeles County Green Building Standards Code (Title 31), which is designed to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact, or positive environmental impact, and encouraging sustainable construction practices in the following categories (Green Buildings Standards Code, 2013):

1. Planning and design.
2. Energy efficiency.
3. Water efficiency and conservation.
4. Material conservation and resource efficiency.
5. Environmental air quality.

Senate Bill 1078

In 2002, SB 1078 (Public Utilities Code Chapter 2.3 Section 387, 390.1, and 399.25) implemented a Renewable Portfolio Standard, which established a goal that 20% of the energy sold to customers be generated by renewable resources by 2017. The goal was accelerated in 2006 under SB 107 and expanded in 2011 under SB 2, which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33% of total procurement by 2020 (LADWP Power Integrated Resource Plan, 2012).

3.15.2.3 Local

Regional

Greater Los Angeles County Integrated Regional Water Management Plan

This Integrated Regional Water Management Plan (IRWMP) reflects the Greater Los Angeles County Region's collaborative efforts to ensure a sustainable water supply through the more efficient use of water, the protection and improvement of water quality, and environmental stewardship. The plan integrates water supply, water quality, flood management, and open space strategies to maximize the utilization of local water resources. The region includes approximately 10 million residents, portions of four counties, and 84 cities. To make governance and stakeholder involvement manageable, the region is organized into subregions. The subregions include the Lower San Gabriel and Los Angeles Rivers, North Santa Monica Bay, South Bay, Upper Los Angeles River, Upper San Gabriel and Rio Hondo Rivers (Greater Los Angeles County Integrated Regional Water Management Plan, 2014).

The LAC+USC Medical Center at 2051 Marengo Street is located in the Upper Los Angeles River subregion. The Upper Los Angeles River also has a subregional Plan to guide the protection and improvement of its water resources.

County of Los Angeles

Los Angeles County General Plan

The Conservation and Natural Resources Element of the County's General Plan serves to augment the protection, conservation and preservation of natural resource and open space areas in Los Angeles County. This element addresses Open Space Resources, Biological Resources, Local Water Resources, Agricultural Resources, Mineral and Energy Resources, Scenic Resources, and Historical, Cultural and Paleontological Resources (Los Angeles County General Plan, 2002). The primary goals for the Local Water Resources component are to protect and use local surface water, groundwater, and watershed resources. This is proposed to be done through a combination of goals and policies in the Conservation and Natural Resources Element. These include but are not limited to minimizing water pollution; actively engaging with stakeholders in the formulation and implementation of surface water preservation and restoration plans, river master plans, restoration projects and other natural resource conservation aims; requiring compliance by all County departments with adopted Municipal Separate Storm Sewer System (MS4), General Construction, and point source NPDES permits; actively supporting the design of new and retrofit of existing infrastructure to accommodate watershed protection goals; protecting natural groundwater recharge areas and regional spreading grounds; preventing stormwater infiltration where inappropriate and unsafe; promoting the development of multi-use regional facilities for stormwater quality improvement, groundwater recharge, detention/attenuation, flood management, retaining non-stormwater runoff, and other compatible uses (Los Angeles County General Plan, Conservation and Natural Resources Element, 2002).

Los Angeles County Integrated Waste Management Plan

The California Integrated Waste Management Act (AB 939) mandates jurisdictions to meet a diversion goal of 50 percent by 2000 and thereafter. In addition, each county is required to prepare and administer a Countywide Integrated Waste Management Plan. This plan is comprised of the County's and the cities' solid waste reduction planning documents, an Integrated Waste Management Summary Plan (Summary Plan), and a Countywide Siting Element (CSE) (County of Los Angeles Integrated Waste Management Plan, 2011). In order to assess jurisdiction's compliance with AB 939, the Disposal Reporting System was established to measure the amount of disposal from each jurisdiction and determine if it has met the goals.

City of Los Angeles

LADWP 2010 Urban Water Management Plan

The California Urban Water Management Planning Act requires water suppliers to develop water management plans every five years. LADWP most recently completed this five-year update in 2010. LADWP 's 2010 Urban Water Management Plan describes how water resources are used and presents strategies that will be used to meet the city's current and future water needs, which focuses primarily on water supply reliability and water use efficiency measures. The plan projects water demand and supplies through 2035; total demand for water is predicted to be 675,604 acre-feet in 2025 and 710,760 acre-feet in 2035 with passive water conservation, and 632,275 acre-feet in 2025 and 641,622 acre-feet in 2035 with passive and active water conservation. LADWP expects it will be able meet their forecasted demand for water resources with a combination of existing supplies, planned supplies, and Metropolitan Water District (MWD) purchases (Los Angeles Department of Water and Power, Urban Water Management Plan, 2010).

City of Los Angeles Water Integrated Resources Plan

Prepared jointly by the Bureau of Sanitation and the Department of Water and Power, the City of Los Angeles adopted its Water Integrated Resources Plan (IRP) in 2006. It contains an implementable facilities plan through the year 2020 that integrates water supply, water conservation, water recycling, runoff management, and wastewater facilities planning using a regional watershed approach. The adopted IRP contains recommendations that would be achieved through a series of projects and policy directions to staff (City of Los Angeles Water Integrated Resources Plan, 2012).

City of Los Angeles Emergency Water Conservation Plan (Ordinance No. 181288)

The city adopted Ordinance No. 181288 (amendment to Chapter XII, Article I of LAMC) to clarify prohibited uses and modify certain water conservation requirements of the City of Los Angeles Emergency Water Conservation Plan. The purpose of the ordinance is to minimize the effect of a water shortage on the customers of the City of Los Angeles and to adopt provisions that will significantly reduce water consumption over an extended period of time.

The revised Water Conservation Ordinance contains five water conservation "phases," which correspond to severity of water shortage, with each increase in phase requiring more stringent conservation measures. Water conservation phases define outdoor watering restrictions, as appropriate, including sprinkler use restrictions and other prohibited water uses.

Industrial Waste Control Ordinance

The Industrial Waste Management Division of the Bureau of Sanitation was established to protect the local receiving waters by regulating industrial wastewater discharge to the city's sewer system and by administering and enforcing the Industrial Waste Control Ordinance (Los Angeles Municipal Code Section 64.30) as well as federal EPA pretreatment regulations.

Industrial facilities and certain commercial facilities that plan to discharge industrial wastewater to the city's sewage collection and treatment system are required to first obtain an industrial wastewater permit. Permits are issued when a determination has been made by the Board of Public Works for the City of Los Angeles that the wastewater to be discharged will not violate any provisions of the ordinance, the Board's Rules and Regulations, the water quality objectives for receiving waters established by the California Water Quality Control Board, Los Angeles Region, or applicable federal or state statutes, rules, or regulations.

City of Los Angeles Sewer Allocation (Ordinance No. 166060)

City Ordinance No. 166,060 (Sewer Allocation) limits the annual increase in wastewater flows discharged into the HTP to 5 million gallons per day (mgd). The Los Angeles Department of Public Works, Bureau of Engineering Special Order No. SO06-0691 changed the design peak dry weather flow for sanitary sewers from three-quarter depth to one-half the sewer diameter to implement the city-adopted goal of no overflows or diversions from the wastewater collection system.

Sewer System Management Plan

On May 2, 2006, the SWRCB adopted the Statewide General WDRs for publicly owned sanitary sewer systems. Under the WDRs, the owners of such systems must implement a written Sewer System Management Plan and make it available to the public.

Los Angeles has one of the largest sewer systems in the world including more than 6,600 miles of sewers serving a population of more than four million in the following three Sanitary Sewer Systems: Hyperion Sanitary Sewer System, Terminal Island Water Reclamation Plant Sanitary Sewer System, and the City of Los Angeles Regional Sanitary Sewer System. To comply with the WDRs, a Sewer System Management Plan was prepared for each of the city's three sanitary sewer systems. The LAC USC Medical Campus is located in the Hyperion Sanitary Sewer System. The Sewer System Management Plan must be updated every five years, where its objectives are to properly fund, manage, operate and maintain all parts of the sanitary sewer system; provide adequate capacity to convey base flows and peak flows; and take all feasible steps to stop and mitigate overflows (Hyperion Sewer System Management Plan, 2014).

LADWP Power Integrated Resources Plan

LADWP is also responsible for the construction, operation, maintenance, and management of electric works and property for the benefit of the city and its habitats. The goal of the Power Integrated Resources Plan is to identify a portfolio of generation resources and power system assets that meets the city's future energy needs at the lowest cost and risk consistent with LADWP's environmental priorities and reliability standards (LADWP Power Integrated Resource Plan, 2012). The 2012 Final Draft Power IRP provides a 20-year framework to ensure that current and future energy needs of the city can be met over the next 20 years.

The Power IRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet SB 1078's 33% renewable energy goal by 2020.

3.15.3 Environmental Setting

3.15.3.1 Water Supply

Water service to the project site is provided by LADWP. In addition to LADWP, the two other major water utility providers that serve the area in the vicinity of the project site are the Metropolitan Water District (MWD) and the California Water Service (CWS).

LADWP covers an area of 465 square miles, serving residents and businesses in Los Angeles and its surrounding communities. With over 3.8 million residents, there are 679,000 water customers with active service connections (Los Angeles Department of Water and Power, 2013). Water supply and conveyance structures within the LADWP system include a series of 114 tanks and reservoirs and a network of pipelines, including 7,221 miles of distribution mains. Between 2007 and 2011, LADWP supplied an average of about 197 billion gallons (604,570 Acre-Feet[2]) of water annually, where the average daily use for all customers was 129 gallons per capita per day (89 gallons per capita per day for residential use) (Los Angeles Department of Water and Power, 2013). In terms of acre-feet, the average daily use translates to 0.0004 AF per capita per day.

[2] 1 acre-foot = 325,851 gallons.

The Los Angeles Aqueducts, local groundwater, and supplemental water purchased from MWD are the primary sources of water supply for the City of Los Angeles. The Los Angeles Aqueduct supplies an average of 36% of the city's water, WMD purchases account for about 52%, and local groundwater resources comprise 11% (Los Angeles Department of Water and Power, 2013). In terms of gross volume over the same years, LADWP received 221,289 AFY from the Los Angeles Aqueduct, 326,012 AFY in MWD purchases, and used 71,087 AFY in local groundwater resources (with recycled water contributing an additional 5,072 AFY). The water from MWD is delivered through the Colorado River Aqueduct and the State Water Project's California Aqueduct. These three sources have historically delivered an adequate and reliable supply to serve the city's needs. Implementation of recycled water projects is expected to fill a larger role in Los Angeles' water supply portfolio. Recycled water currently accounts for 1% of the city's water supply (Los Angeles Department of Water and Power, 2013). Stormwater capture projects for groundwater recharge to improve groundwater reliability are also being developed.

The UWMP projects water demand through the year 2035. A summary table of the projected net water demand for their service area through 2035 can be seen in Table 3.15-1.

Table 3.15-1. LADWP Projected Water Demand through Year 2035

Demand Forecast	**Year**		
Total (with Passive Conservation)	**2015**	**2025**	**2035**
	614,794 AFY	675,604 AFY	710,760 AFY
Total (with Active Conservation)	**2015**	**2025**	**2035**
	599,563 AFY	632,275 AFY	641,622 AFY
Source: Los Angeles Department of Water and Power Urban Water Management Plan, 2010.			

The UWMP also predicts that LADWP's reliance on MWD purchases for their water supply will be reduced by half to 24% by Fiscal Year 2034/35 (under average weather conditions) (Los Angeles Department of Water and Power Urban Water Management Plan, 2010).

Using the LADWP UWMP projections, the Greater Los Angeles County Integrated Regional Water Management Plan also makes demand forecasts. For comparative purposes, the projections for the Upper Los Angeles River subregion can be seen in Table 3.15-2.

Table 3.15-2. ULARA Water Demand through Year 2035

Demand Forecast	**Year**		
Total	**2015**	**2025**	**2035**
	439,000 AFY	477,00 AFY	500,000 AFY
Source: Greater Los Angeles County Integrated Regional Water Management Plan, 2014.			

Water demand for FY 2013-2014 at the LAC+USC Medical Center was 539,027 gallons per day, or 196,744,944 gallons per year (Los Angeles County, 2014). This represents a 5.3% increase in water consumption when compared to FY 2012-2013. The existing offsite water infrastructure near the LAC+USC Medical Center campus includes the following pipelines (LAC+USC Medical Center Campus Master Plan Report, 2013):

- A 24-inch transmission water line along North Mission and Zonal Avenue to Marengo Street.
- An 8-inch transmission water line and an 8-inch fire water line along Zonal Avenue from North Cummings Street to North Mission Road.
- A 24-inch water main along Marengo Street from North Cummings Street to North Mission Road; a 12-inch and 8-inch fire water line run from Chicago Street to the existing Diagnostic & Treatment Building.
- A 6-inch water line along North Cummings Street adjacent to the project site.

The current onsite water service infrastructure includes pipelines ranging in size from 1-inch service lines to 8-inch mains. The water distribution system conveys flow from the offsite main system to the medical center campus main facilities, providing flow to meet domestic water service, fire protection, and irrigation demands (LAC+USC Medical Center Campus Master Plan Report, 2013).

3.15.3.2 Sewers and Wastewater Treatment

The existing sanitary sewer system on the LAC-USC campus splits wastewater flows between the north and south regions on campus through a system of cast-iron pipes that connect to service mains composed of vitrified clay pipes. LAC+USC's clay pipes range from 10 to 21 inches in diameter. Connections to service mains occur at various points along Zonal Avenue from North Cummings to North Mission Road and along Marengo Street between North Chicago and North Mission (LAC+USC Medical Center Building & Site Assessment Report, 2013).

Wastewater from the campus is conveyed via public sewer lines that are owned by the City of Los Angeles. These local sewer lines connect to the city's North East Interceptor Sewer (NEIS), a 10-mile sewer in tunnel ranging in diameter from 6 to 8 feet. NEIS connects to other major interceptor and outfall sewers that ultimately convey flows to the Hyperion Treatment Plant, located in Playa del Rey, for treatment. The Hyperion Treatment Plant is part of the Hyperion System, which is the largest of the city's three sanitary sewer systems. Currently, an average of nearly 300 million gallons per day (mgd) is generated in the system. Approximately 60 mgd is treated upstream at the Donald C. Tilman and Los-Angeles Glendale Water Reclamation Plants. All other flow in the Hyperion System, and the biosolids from these reclamation plants, which is returned to the collection system, are treated at the Hyperion Treatment Plant (City of Los Angeles Sewer System Management Plan, 2014). The Hyperion Treatment Plant provides full secondary treatment and has an average dry weather capacity of 450 mgd. Treated effluent is discharged from the Hyperion Treatment Plant into Santa Monica Bay via a 5-mile ocean outfall.

According to the city's Sewer System Management Plan (February 2014), the city's sewer system has sufficient capacity to handle peak dry-weather flows and has not experienced any wet weather overflows since major relief sewers were completed in 2006. Additionally, the city has virtually eliminated dry-weather overflows resulting from power outages or equipment failures at its pump stations.

Wastewater flows include residential, employment, industrial, and groundwater infiltration sources. The most recent city estimates for wastewater flows use SCAG 2008 adjusted data. Using SCAG's population assumptions, the City of Los Angeles Water Integrated Resources Plan from June 2012 estimated wastewater flows to be 458 mgd in the year 2000. Actual wastewater flow for the same year was 425 mgd. Projections are made through the year 2020, and vary between 400 and

500 mgd. Historical data from 2002 to June 2011 showed a significant decrease in wastewater flow, which may be attributed to water conservation, economic downturn, and DWP Tier 1 and Tier 2 rate adjustments (City of Los Angeles Bureau of Sanitation and Department of Water and Power, 2012).

The LAC+USC Medical Center generated 501,393 gallons per day of wastewater or 183,008,672 gallons per year for FY 2013-2014 (Los Angeles County, 2014). This represents a 5.4% increase in sewer consumption when compared to FY 2012-2013. This wastewater is generated on the campus is conveyed to and treated at the Hyperion Treatment Plant.

3.15.3.3 Stormwater

The LAC+USC Medical Center campus is served by the Los Angeles County Flood Control District (LACFCD). Large storm drain systems (D-5999 and D-26567) run north-to-south through the west campus area. These existing drains eventually join together offsite, south of the I-10 freeway, and ultimately carry stormwater to the Los Angeles River.

The existing stormwater management system utilizes a system of vertical roof drains, underground reinforced concrete pipe, overland sheet flow, curb, gutters, catch basins, and driveways to convey stormwater runoff to the existing public system owned and operated by LACFCD.

Historically, urban development and storm drain system design have consisted of streets, driveways, sidewalks, and structures constructed out of impervious materials that directly convey runoff to curb and gutter systems, the storm drain system, and downstream receiving waters. Until recently, conventional storm drainage and flood control systems have been designed to convey stormwater away from developed areas as quickly as possible without thoroughly addressing stormwater quality and/or groundwater discharge. As of January 2009, LACFCD has developed standards to address these issues. Current LACFCD LID standards for stormwater management require limiting storm runoff from redeveloped sites to the pre-development condition. Various measures used to achieve this may include: infiltration, store and reuse (rainwater collection cisterns), bio-retention basins, and filtration systems. To the extent it is technically feasible, a developed site is required to capture, infiltrate, or reuse the difference in volume generated during a 0.75-inch storm event on the developed site versus that generated by the same event on the site in an undeveloped condition. In addition, a developed site may be required to treat the entire 0.75-inch rainfall to remove urban stormwater pollution.

3.15.3.4 Solid Waste

Solid waste generated by facilities on the LAC+USC Medical Center campus is collected by private waste haulers for eventual disposal at one of the designated landfills in the Los Angeles area.

Demand for landfill capacity is continually evaluated by Los Angeles County through preparation of the Los Angeles County Integrated Waste Management Plan (CIWMP) Annual Reports. The total quantity of waste disposed of by the City of Los Angeles in 2000 was reported as 3,859,622 tons (City of Los Angeles Solid Waste Planning Background Studies Summary Report, 2006).

The total quantity of waste diverted for the same year was 5,719,354 tons (City of Los Angeles Solid Waste Planning Background Studies Summary Report, 2006). Based on these numbers, the city's total generation for 2000 was 9.58 million tons and the city's diversion rate was 60%, ten points above the California Integrated Waste Management Act mandates for that year.

Landfills are categorized as one of three classes:

- Class I landfills accept hazardous and non-hazardous wastes
- Class II landfills accept non-hazardous and "designated" wastes, as defined by the State Department of Resources Recycling and Recovery
- Class III landfills accept municipal and other non-hazardous, household waste

Unclassified landfills are defined as facilities that accept inert materials only, such as soil, concrete, asphalt, and other construction and demolition debris. Non-hazardous municipal solid waste is disposed in Class III landfills, while construction waste, yard trimmings, and earth-like waste are disposed in unclassified (inert) landfills.

In 2012, Los Angeles County generated 8.7 million tons of solid waste for disposal (Los Angeles County Integrated Waste Management Plan, 2012). Of those 8.7 million tons, 6.3 million tons went to in-county Class II landfills, 0.6 million tons went to transformation facilities, and 1.8 million were exported to out-of-county landfills (Los Angeles County Integrated Waste Management Plan, 2012). Additionally, the amount of inert waste disposed at permitted inert waste landfills totaled 89,142 tons (Los Angeles County Integrated Waste Management Plan, 2012). On average, the solid waste disposed for 2012 was 27,942 tons per day. The city produced 3.08 million tons of solid waste that same year for disposal. Assuming a diversion rate of 60%, the County generated a total 21.5 million tons (58,987 tpd) and the city generated a total of 7.7 million tons (21,096 tpd) of solid waste.

There are several major landfills in the Los Angeles metropolitan area that may serve the project site. These landfills are classified as major landfills, which are defined as those facilities that receive more than 250,000 tons of solid waste per year. Additionally, these landfills are classified as Class III landfills since they are permitted to accept non-hazardous wastes only.

A list of the existing available Class III solid waste disposal facilities that can serve the project site and their remaining capacity is provided in Table 3.15-3.

Using waste generation rates for hospital facilities provided by the California Department of Resources Recycling and Recovery, the 600-bed hospital facility on the LAC+USC Medical Center campus currently generates an estimated 9,600 pounds per day of solid waste (CalRecycle, 2013).[3]

The waste generated by campus facilities for disposal includes both medical and biohazardous waste. Existing hazardous waste is disposed of at designated Class I facilities. The state of California currently operates three designated Class I landfills (State Water Resources Control Board, 2013). They are the Buttonwillow Hazardous Waste Facility in Kern County, the Kettleman Hills Hazardous Waste Facility in Kings County, and the Imperial (Westmorland) Hazardous Waste Facility in Imperial County. The Buttonwillow facility is 320 acres and operates a permitted drum handling and storage area that can store up to 1,500 drums (Clean Harbors Buttonwillow, LLC, 2013). Their current constructed landfill capacity is 950,000 cubic yards whereas the permitted landfill capacity is 10 million cubic yards (Clean Harbors Buttonwillow, LLC, 2013). The Imperial facility is 640 acres, with a drum capacity of 1,000 drums (50,000 gallons) and a bulk storage capacity of 195 cubic yards (Clean Harbors Westmorland, LLC, 2013). The Kettleman Hills facility is a 1,600-acre property that is permitted to receive a maximum of 2,000 tons of municipal solid waste per day (TPD), but typically receive an average of about 1,350 TPD (Waste Management, 2014).

[3] Based on a solid waste generation factor of 16 pounds/bed/day.

Table 3.15-3. Existing (2012) Available Class III Solid Waste Disposal Facilities

Landfill	Remaining Capacity (millions of tons)	Remaining Life (years)
Sunshine Canyon	74.37	20
Antelope Valley	16.91	30
Lancaster	12.27	13
Chiquita Canyon	3.97	2
Savage Canyon	3.56	13
Scholl Canyon	3.41	16
Burbank	2.95	41
Pebbly Beach	0.09	16
San Clemente	0.04	20
Notes: Landfill remaining life based on 2012 average daily disposal rates and permitted capacity and/or facility restrictions. Source: Los Angeles County Integrated Waste Management Plan, 2012.		

3.15.3.5 Natural Gas

The Southern California Gas Company (SoCalGas), Pacific Region, is the principal distributor of natural gas in Southern California, providing retail and wholesale customers with transportation, exchange and storage services and also procurement services to most retail core customers. As the nation's largest natural gas distribution utility, SoCalGas is responsible for providing safe and reliable energy to its 20.9 million consumers over a 20,000-square-mile service area throughout Central and Southern California (Southern California Gas Company, 2014). They maintain 5.8 million meters in more than 500 communities (Southern California Gas Company, 2014). SoCalGas is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas for enhanced oil recovery (EOR) and electric generation (EG) customers in Southern California. As a public utility, the SoCalGas is under the jurisdiction of federal and state regulatory agencies.

According to SoCalGas, there are no current deficiencies in the natural gas supply systems that serve the city (2013 California Gas Report, 2013). SoCalGas regularly assesses and upgrades its systems to meet current and future needs to accommodate future expansion in residential, commercial, and industrial uses.

The 2012 California Gas Report estimates the total annual gas supply taken by SoCalGas was 2,876 million cubic feet per day (MMcf/day) in 2012. SoCalGas projects total gas demand to grow at an annual rate of 0.12% from 2011 to 2030 (2013 California Gas Report, 2013). A summary table of the projected gas supply to be taken through year 2030 is provided in Table 3.15-4.

Table 3.15-4. SoCalGas Projected Gas Supply Taken through Year 2030

Demand Forecast	Year			
Total	**2015**	**2020**	**2025**	**2030**
	2,615 MMcf/day	2,619 MMcf/day	2,599 MMcf/day	2,619 MMcf/d
Source: 2013 California Gas Report, 2013.				

The report also predicts that the total available capacity for these same years will remain constant at 3,875 MMcf/day (2013 California Gas Report, 2013).

The LAC+USC Medical Center currently consumes an estimated 11,105 cf per year of natural gas[4] (see Appendix H for natural gas consumption assumptions and calculations).

3.15.3.6 Electricity

Existing power and electrical services to the Medical Center campus are provided by LADWP. LADWP supplies more than 26 million megawatt hours (MWh) of electricity per year for its 1.4 million residential and business customers (Los Angeles Department of Water and Power, 2013). They are responsible for the maintenance of 10,000 miles of overhead distribution lines and underground distribution cables and 15,452 transmission towers (Los Angeles Department of Water and Power, 2013). They also maintain 162 distributing stations, 21 receiving stations, and over 50,000 substructures (Los Angeles Department of Water and Power, 2013). Of LADWP's total power resources, about 20% are from renewable sources, 21% from natural gas, 10% from nuclear, and 33% from coal (Los Angeles Department of Water and Power, 2013). About 70% of the electricity in the City of Los Angeles is consumed by business and industry, with the remaining 30% of residents averaging about 5,900 kilowatt hours (5.9 MWh) of usage per year (Los Angeles Department of Water and Power, 2013).

LADWP also prepares energy forecasts as a part of their Power Integrated Resource Plan (PIRP). LADWP's Load Forecast incorporates updates to reflect the latest load forecast, fuel price and projected renewable price forecasts, and other numerous modeling assumptions. The most recent PIRP from 2012 makes projections out to Fiscal Year 2039/40. A summary table of the projected net energy demand for their service area through 2040 are shown in Table 3.15-5.

Table 3.15-5. LADWP Projected Energy Demand through Year 2040

Demand Forecast	Year		
Total	2020	2030	2040
	27,115 GWh	30,101 GWh	33,114 GWh
Source: Los Angeles Department of Water and Power Power Integrated Resources Plan, 2012.			

The LAC+USC Medical Center currently consumes an estimated 11,382,705 kwh per year of electricity (see Appendix H for electricity consumption assumptions and calculations).

3.15.3.7 Transportation Fuels

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. California is the most populous state in the nation and its total energy demand is second only to Texas (U.S. Energy Information Administration, 2012).

Driven by high demand from California's many motorists, major airports, and military bases, the transportation sector is the state's largest energy-consumer (Luna Glushon, 2009). The majority of transportation energy is currently derived from a wide variety of petroleum products. Automobiles

[4] Conversion from Kbtu to cubic feet uses U.S. EIA Energy Calculator(s).

and trucks consume gasoline and diesel fuel. The transportation sector consumes relatively minor amounts of natural gas or electricity but, propelled mainly by air quality laws and regulations, technological innovations in transportation are expected to increasingly rely on compressed natural gas and electricity as energy sources. Energy consumption by on-road motor vehicles reflects the types and numbers of vehicles, the extent of their use (typically described in terms of VMT), and their fuel economy (typically described in terms of mpg).

Between 2007 and 2030, it is estimated total annual gasoline consumption in California will decrease 13.3 percent in the low-demand case to 13.57 billion gallons, largely as a result of high fuel prices, efficiency gains, and competing fuel technologies. In the high-demand case, the recovering economy and lower relative prices are projected to lead to a gasoline demand peak in 2014 of 16.40 billion gallons before consumption falls to a 2030 level of 14.32 billion gallons, 8.5 percent below 2007 levels (California Energy Commission, 2010).

3.15.4 Environmental Impact Analysis

This section presents a discussion of the potential impacts on utilities services that could result from implementation of the proposed master plan.

3.15.4.1 Thresholds of Significance

For the purposes of this EIR, and in accordance with Appendix F and Appendix G of the State CEQA Guidelines, the proposed project would have a significant environmental impact on utilities and service systems if it would:

UTL-1: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

UTL-2: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

UTL-3: Require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.

UTL-4: Not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

UTL-5: Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

UTL-6: Be served by a landfill that does not have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

UTL-7: Not comply with federal, state, and local statutes and regulations related to solid waste.

UTL-8: Result in a substantial increase in energy demand that would affect local or regional energy supplies and require additional capacity to meet the increased demand.

3.15.4.2 Impacts and Mitigation Measures

Impact UTL-1: Would the Proposed Project Exceed Wastewater Treatment Requirements of the Applicable Regional Water Quality Control Board?

Construction

The proposed project would include development of new or renovation of existing office space for medical uses, retail space, open space, parking facilities, and potential employee housing on the medical center campus. Construction activities would include demolition of some on-site buildings and structures, site preparation and grading, and construction of new and renovated facilities. During construction of individual projects implemented under the master plan, wastewater would be generated by construction workers. The amount, however, would be relatively small and substantially less than the 501,393 gallons per day of wastewater generated by existing uses on the campus and would not exceed the wastewater treatment requirements of the Los Angeles RWQCB or the capacities of the local sewer lines and wastewater treatment facilities that serve the project site (Bureau of Sanitation, 2014). Therefore, construction impacts would be less than significant.

Operation

Wastewater generated by future campus uses would be conveyed via sewer lines to the Hyperion Treatment Plant for treatment to full secondary standards. The treated wastewater, which is discharged via a 5-mile ocean outfall into Santa Monica Bay, is subject to state waste discharge requirements and federal NPDES permit requirements. Therefore, the proposed project would not generate wastewater that would exceed Los Angeles RWQCB's wastewater treatment requirements and impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact UTL-2: Would the Proposed Project Require or Result in the Construction of New Water or Wastewater Treatment Facilities or Expansion of Existing Facilities, the Construction of Which Could Cause Significant Environmental Impacts?

Construction

Construction of individual projects proposed under the master plan would use water for various purposes, such as mixing and pouring concrete, and other construction-related activities. Additionally, construction workers would consume water and generate wastewater (see discussion above). However, the additional water used by construction activities is expected to be substantially less than the current water consumption on campus of 539,027 gallons per day. The incremental increase in water consumption during construction would not be permanent and new water treatment facilities would not be required to meet this incremental increase in demand. Additionally, as noted above, any incremental increase in wastewater generation due to onsite construction workers would not result in exceedances of the capacities of the existing offsite conveyance and treatment systems. Although new on-campus sewer lines may have to be constructed or existing campus sewer lines relocated to accommodate future master plan projects, no new or expanded offsite water or wastewater treatment facilities would be required as result of development under the master plan and therefore, impacts would be less than significant.

Operation

The proposed master plan provides a framework and vision for development on the Medical Center campus through the year 2040. Future development would result in increased water consumption and wastewater generation. Based on the proposed future uses and demolition of existing facilities that could occur under the master plan, the proposed project could result in a net increase in wastewater generation of 173,382 gpd and water consumption of 192,647 gpd.[5] Projections for on campus wastewater generation are shown in Table 3.15-6.

Table 3.15-6. Projected Wastewater Discharges

Type Description	Wastewater Generation Factors	Building Size	Average Daily Flow (gpd)
Existing Uses to be Demolished			
Offices	120 gpd/1,000 sq ft	197,288 sq ft	(23,675)
Medical Offices	250 gpd/1,000 sq ft	457,727 sq ft	(114,431)
Maintenance Facilities	30 gpd/1,000 sq ft	31,000 sq ft	(930)
Utility Plant & Cooling Tower	170 gpd/1,000 sq ft	20,938 sq ft	(3,559)
Warehouse & Storage	30 gpd/1,000 sq ft	15,756 sq ft	(473)
Total			(143,068)
Proposed Uses			
Hospital	70 gpd/bed	450 beds	31,500
Retail	50 gpd/1,000 sq ft	55,000 sq ft	2,750
Utility Plant & Maintenance	30 gpd/1,000 sq ft	40,000 sq ft	1,200
Medical Offices	250 gpd/1,000 sq ft	200,000 sq ft	50,000
Administrative Offices	250 gpd/1,000 sq ft	265,000 sq ft	66,250
Offices	120 gpd/1,000 sq ft	50,000 sq ft	6,000
Research Space	250 gpd/1,000 sq ft	635,000 sq ft	158,750
Total			316,450
Net Increase			173,382

Note: Projected wastewater discharges recalculated based on master plan square footage estimate updates on 9/2/2014.
Source: Poosti, Ali. Division Manager, City of Los Angeles Bureau of Sanitation, Los Angeles, CA. July 16, 2014—personal communication.

LADWP provides water services to the Medical Center and the city's Hyperion Sewer System conveys and treats wastewater generated by Medical Center campus facilities. The California Urban Water Management Planning Act requires LADWP to prepare an Urban Water Management Plan to forecast future water demands based on anticipated population growth and ensure a reliable water supply to its service areas. Similarly, the SWRCB adopted Waste Discharge Requirements for publicly owned sanitary sewer systems, and as such, a Sewer System Management Plan is required for each. The Hyperion Sanitary Sewer System management plan ensures that its system is

[5] Water consumption was calculated based on the assumption(s) that wastewater generation is equal to 90% of water consumption (Source: San Francisco Water Power Sewer, http://www.sfwater.org/index.aspx?page=132; accessed 8/6/2014) and on the net increases in building square footage as shown in Table 3.15-6.

adequately funded, managed, operated, and maintained to provide sufficient capacity to handle flows from its service areas and stop and mitigate overflows. As part of the Integrated Water Resources Plan for the City of Los Angeles, both of these plans have been developed to maintain the sustainability of the city's natural resource systems. The proposed project and projected increase in water consumption and wastewater generation is consistent with the Sewer System Management Plan, UWMP, and Integrated Water Resources Plan and, therefore, its operation would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. As a result, impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact UTL-3: Would the Proposed Project Require or Result in the Construction of New Stormwater Drainage Facilities or the Expansion of Existing Facilities, the Construction of Which Could Cause Significant Environmental Effects?

Construction

Future construction of individual projects under the proposed master plan would result in ground surface disruption during excavation, grading, and trenching that would create the potential for erosion to occur. However, a SWPPP incorporating BMPs for erosion control would be prepared for some projects prior to the start of construction in accordance NPDES permit requirements (for more information, see Section 3.5-Geology and Section 3.8-Hydrology/Water Quality of this EIR). Additionally, a conceptual grading plan and a proposed stormwater management system were developed for the master plan in accordance with Los Angeles County LID Standards. New grading required to construct proposed projects under the master plan would closely follow existing contours and direct stormwater runoff toward the center of the west campus. Therefore, it is not expected that master plan construction activities would substantially increase stormwater runoff from the project site and require new or expanded off-campus stormwater drainage facilities. Potential construction impacts on stormwater facilities would be less than significant.

Operation

The existing stormwater management system utilizes a system of vertical roof drains, underground reinforced concrete pipe, overland sheet flow, curb, gutters, catch basins, and driveways to convey stormwater runoff to the existing public system owned and operated by LACFCD. The LID Ordinance became effective in November 2011 and amends and expands on the existing Standard Urban Stormwater Mitigation Plan requirements (which have been in effect since 2002) by incorporating LID practices and principles and expanding the applicable development categories. To ensure that proposed master plan development projects mitigate runoff in a manner that captures rainwater at its source, a large engineered wetland is proposed along the pedestrian spine at the lowest point on the campus. The wetland would serve as a stormwater treatment strategy and would be designed to be an accessible open space enhancement. As a result of the project and the incorporation of LID features, the amount of impervious cover, currently 95%, would decrease and landscaped areas would increase. Thus, the proposed project would not require or result in the construction of new off-campus stormwater drainage facilities or the expansion of existing facilities. Therefore, impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact UTL-4: Would Sufficient Water Supplies Be Available to Serve the Proposed Project from Existing Entitlements and Resources, or Require New or Expanded Entitlements?

Construction

As discussed above, the proposed project would use water during construction for various purposes, such as mixing and pouring concrete, and other construction-related activities. However, the incremental increase in water use as a result of construction activities would be temporary and not substantial and, thus, existing water supplies would be sufficient to meet this demand. Although construction of individual projects could extend throughout the 25 year planning horizon of the current master plan, water use during construction would be a relatively small contribution to the current on campus water consumption of 539,027 gallons per day and would not result in an increase in long-term water demand. Therefore, construction under the proposed project would not require new or expanded entitlements to ensure the availability of sufficient water supplies. Impacts would be less than significant.

Operation

LADWP provides water services to the LAC+USC Medical Center campus. The California Urban Water Management Planning Act requires LADWP to prepare an Urban Water Management Plan to forecast future water demands based on anticipated population growth and ensure a reliable water supply to its service areas. As part of the Integrated Water Resources Plan for the City of Los Angeles, these plans have been developed to maintain the sustainability of the city's natural resource systems. The proposed project is consistent with these plans and, therefore, the potential increase in water consumption is not expected to require new or expanded entitlements to maintain sufficient water supplies. LADWP projected water demand through year 2035 is shown in Table 3.15-1. Additionally, development projects under the master plan would include the installation of low-flush toilets, showerheads, faucets, and urinals in compliance with Administrative and Municipal Code. Compliance with this code, as well as Title 24's energy conservation standards for new construction and the Green Building Standards Code relating to water and energy efficiency, would minimize potential increases in water consumption as a result of the new development that could occur under the master plan. Impacts would be less than significant. However, it should be noted that the UWMP projections end in 2035, while the master plan is intended to provide a framework and vision for development on the medical center campus through 2040.

Future development under the master plan would result in a net increase in water consumption compared with the existing baseline condition. The County of Los Angeles coordinated with LADWP to prepare a Water Supply Assessment (WSA) for the proposed master plan. LADWP prepared the WSA based on the net increases in building square footage on the campus that could occur under the master plan (see Table 3.15-7). As shown in Table 3.15-7, the proposed project could result in a net increase in water consumption of 169,951 gpd. Based on this projected water demand, as well as water conservation design measures implemented as part the master plan, LADWP has determined that there are sufficient water supplies to meet project demand as well as LADWP's other existing and future commitments for water service. The WSA has been recommended for adoption by the

Table 3.15-7. Projected Water Demand

LAC+USC Medical Center Master Plan Project						
Calculated Total Additional Water Demand						
Existing Use to Be Removed	**Quantity**	**Unit**	**Water Use Factor[c] (gpd/unit)**	**Water Use (gpd)**	**afy**	**% of Total**
Maintenance Facilities[d]	31,000	sq ft	0.03	930	1.04	0.42%
Utility Plant[d]	20,938	sq ft	0.03	628	0.70	0.28%
Cooling Tower[b]	1,500	tons	35.64	53,460	59.88	24.25%
Outpatient Clinic/Medical Offices	457,727	sq ft	0.25	114,432	128.16	51.90%
Professional/Administrative Offices	197,288	sq ft	0.12	23,675	26.52	10.74%
Warehouse/Storage	15,756	sq ft	0.03	473	0.53	0.21%
Parking Lot	1,033,570	sq ft	0.02	20,671	23.15	9.38%
Landscape Irrigation – Turf (PF = 0.8)	24,829	sq ft	[a]		—	
Landscape Irrigation – Ornamental (PF = 0.3)	140,699	sq ft	[a]		—	
Total Irrigation[a]				6,214	6.96	2.82%
Existing to Be Removed				**220,483**	**247**	
Proposed Use						
Wellness-Oriented Community Meeting Space[e]	85,000	sq ft	0.12	10,200	11.42	2.61%
Wellness-Oriented Community Retail Space	20,000	sq ft	0.025	500	0.56	0.13%
Utility Plant and Maintenance[d]	40,000	sq ft	0.03	1,200	1.34	0.31%
Cooling Tower[b]	3,000	tons	35.64	106,920	119.75	27.38%
Outpatient Clinic/Medical Offices	200,000	sq ft	0.25	50,000	56.00	12.81%
Administrative Offices	265,000	sq ft	0.12	31,800	35.62	8.14%
Research and Development – Laboratory	508,000	sq ft	0.12	60,960	68.28	15.61%
Research and Development – Offices	127,000	sq ft	0.15	19,050	21.34	4.88%
Hospital	450	beds	70	31,500	35.28	8.07%
Parking Lot	2,688,700	sq ft	0.02	53,774	60.23	13.77%
Landscape Irrigation – Turf (PF = 0.8)	98,010	sq ft	[a]		—	
Landscape Irrigation – Ornamental (PF = 0.3)	555,390	sq ft	[a]		—	
Total Irrigation[a]				24,530	27.47	6.28%
Proposed Water Demand				**390,434**	**437**	

LAC+USC Medical Center Master Plan Project						
Calculated Total Additional Water Demand						
Existing Use to Be Removed	**Quantity**	**Unit**	**Water Use Factor[c] (gpd/unit)**	**Water Use (gpd)**	**afy**	**% of Total**
Total						
Less Existing to Be Removed				(220,483)	(247)	
Total Net Potable Water Demand				**169,951**	**190**	**77.08%**

[a] Calculated per DWR MAWA ETWU methodology
[b] Water use factor per Barlow Hospital WSA Table 1
[c] Per SFC Sewage Generation Factor Table (Effective April 6, 2013)
[d] Estimated as "warehouse" category
[e] Estimated as "office"
Source: Brezack and Associates, 2014.

LADWP Board. However, for master plan projects that may be proposed far in the future (i.e., beyond 2035), it is not known whether sufficient water supplies and entitlements would exist to accommodate those projects' water demand. Therefore, water supply impacts for projects constructed far in the future (i.e., beyond 2035) could be potentially significant. Accordingly, in the future (i.e., 2035 and beyond), when individual development projects under the master plan are proposed and building plans are developed, prior to the issuance of building permits, LACDPW will coordinate with the water provider, LADWP, to confirm that adequate water supplies exist to serve these future master plan projects (see Mitigation Measure MM-UTL-1, below).

Mitigation Measures

The following measure is proposed to mitigate Impact UTL-4 above.

> **MM-UTL-1:** In conjunction with preparation of a subsequent CEQA environmental document for any future individual development project under the master plan proposed in 2035 and beyond that is defined as a "water-demand project" in Section 15155 of the CEQA Guidelines, the County shall request, pursuant to Section 15155, that the water provider determine whether the projected water demand associated with the project was included in the most recently adopted urban water management plan. If required pursuant to Section 15155 and SB 610, the County shall request that LADWP prepare a water assessment for the proposed project. The County shall determine, pursuant to Section 15155, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

Level of Significance after Mitigation

Significant if it is determined that water supplies will not be sufficient to meet future (i.e., 2035 and beyond) master plan projects' water demands.

Impact UTL-5: Would the Proposed Project Result in a Determination by the Wastewater Treatment Provider that Serves or May Serve the Project that It Does Not Have Adequate Capacity to Serve the Project's Projected Demand in Addition to the Provider's Existing Commitments?

Construction

Construction workers on the project site could generate a minor incremental increase in wastewater flows to the city's wastewater system. This increase would be insignificant and, as mentioned, could readily be accommodated by the city's existing wastewater treatment system.

Operation

The City of Los Angeles Bureau of Sanitation (BOS) has conducted a preliminary evaluation of the potential impacts of future development under the master plan on the city's wastewater system. The city's estimates of the net increase in wastewater discharges with implementation of the preliminary list of potential projects that could occur under the master plan are provided in Table 3.15-6, above. As shown in the table, implementation of the master plan could result in a net increase of 173,382 gpd of wastewater, which represents less than 0.06% of the average daily flows in the Hyperion Sewer System.

The sewer infrastructure in the vicinity of the proposed project includes four discharge routes, for which the BOS has obtained approximate flow levels and design capacities. Based on the estimated flows, BOS has concluded the sewer system might be able to accommodate the total flow for the proposed project, but that further detail gauging and evaluation may be needed as part of the permit process for individual projects to identify a specific sewer connection point. A final approval for sewer capacity and connection permit shall be made at that time. If BOS determines that there is insufficient capacity in the local sewer lines that would serve an individual future project, then the impact would be considered to be significant. To ensure local city sewer lines have sufficient capacity to accommodate future individual development projects, Mitigation Measure MM-UTL-2 below is proposed.

All wastewater generated on the campus would ultimately be conveyed to the Hyperion Treatment Plant, which has sufficient capacity to accommodate the project as well as existing commitments (personal communication with A. Poosti, Los Angeles Bureau of Sanitation, July 16, 2014). Consequently, significant impacts on the city's wastewater treatment system are not anticipated.

Mitigation Measures

The following measure is proposed to ensure adequate local city sewer line capacity exists to accommodate future development projects (see Impact UTL-5, above).

> **MM-UTL-2:** Prior to issuance of a building permit for any future development project under the master plan that could result in an increase in wastewater generation, the County shall coordinate with the City of Los Angeles Bureau of Sanitation to conduct further detailed gauging and evaluation to identify a specific sewer connection point with sufficient capacity. If the public sewer has insufficient capacity, then the County shall be required to build a sewer line to a point in the sewer system with sufficient capacity.

Level of Significance after Mitigation

Less than significant if BOS conducts further gauging and evaluation and identifies a sewer connection point with sufficient capacity. Since the County cannot compel another public entity, in this case BOS, to conduct further gauging and evaluation, for the purposes of this EIR, the impacts on local sewer lines are considered to be significant and unavoidable.

Impact UTL-6: Would the Proposed Project Be Served by a Landfill that Has Sufficient Permitted Capacity to Accommodate the Project's Solid Waste Disposal Needs?

Construction

The proposed project would include development of new or renovation of existing office space for medical uses, retail space, open space, parking facilities, and potential employee housing on the medical center campus. Construction activities would include demolition of some on-site buildings and structures, site preparation, grading and trenching, as well as construction of new and renovated facilities. Construction and demolition activities would generate solid waste requiring disposal at local landfills. There are several major landfills in the Los Angeles metropolitan area that serve the project site. Major landfills are defined as those facilities that receive more than 250,000 tons of solid waste per year. Given demolition debris and solid waste generated by other construction activities would be finite and limited to the construction periods, existing landfills have sufficient long-term permitted capacity to accommodate construction generated solid waste (See Table 3.15-8, below). As a result, construction impacts on solid waste facilities and capacity would be less than significant.

Operation

The new development that may occur under the master plan could result in increased generation of solid waste. Based on waste generation factors provided on the California Department of Resources Recycling and Recovery website and net increases in square footage identified in Table 3.15-6, it is estimated that the proposed master plan could generate a net increase of 10,270 pounds of solid waste per day (see Table 3.15-8, below).

Table 3.15-3 shows the available Class III solid waste disposal facilities in Los Angeles County. Of those, Sunshine Canyon has the largest remaining capacity at 74.37 millions of tons. Its estimated remaining life is 20 years. The closest landfill to the proposed project is Scholl Canyon, which has a remaining capacity of 3.41 millions of tons and an estimated remaining life of 16 years. Additionally, demand for landfill capacity is continually evaluated by Los Angeles County through preparation of the Los Angeles CIWMP Annual Reports. Therefore, it is expected that the project site would be served by a landfill that has sufficient permitted capacity to accommodate the project's solid waste disposal needs. Impacts would be less than significant.

New and renovated medical/research facilities that may be developed under the master plan could result in increases in biomedical or other hazardous wastes. All hazardous waste, including biomedical waste, would be transported, used, and disposed of at designated Class I landfills in accordance with applicable local and regional regulations. Such activities already take place at the LAC+USC Medical Center campus, and facilities for the proper handling of these materials are already present on the site. Consequently, no significant impacts to hazardous waste disposal facilities is anticipated as a result of future development under the proposed master plan.

Table 3.15-8. Projected Solid Waste Generation

Type Description	Solid Waste Generation Factor	Building Size	Pounds per Day
Existing Uses to be Demolished			
Offices	6 lbs/1000 SQ.FT./day	197,288 SQ.FT	(1,184)
Medical Offices	6 lbs/1000 SQ.FT./day	457,727 SQ.FT	(2,746)
Maintenance Facilities	6 lbs/1000 SQ.FT./day	31,000 SQ.FT	(186)
Utility Plant & Cooling Tower	6 lbs/1000 SQ.FT./day	20,938 SQ.FT	(126)
Warehouse & Storage	10 lbs/1000 SQ.FT./day	15,756 SQ.FT	(158)
Total			(4,400)
Proposed Uses			
Hospital	16 lbs/bed/day	450 BEDS	7,200
Retail	6 lbs/1000 SQ.FT/day	55,000 SQ.FT	330
Utility Plant & Maintenance	6 lbs/1000 SQ.FT/day	40,000 SQ.FT	240
Medical Offices	6 lbs/1000 SQ.FT./day	200,000 SQ.FT	1,200
Administrative Offices	6 lbs/1000 SQ.FT./day	265,000 SQ.FT	1,590
Offices	6 lbs/1000 SQ.FT./day	50,000 SQ.FT	300
Research Space	6 lbs/1000 SQ.FT./day	635,000 SQ.FT	3,810
Total			14,670
Net Increase			10,270
Source: CalRecyle; http://www.calrecycle.ca.gov/WASTECHAR/WasteGenRates; accessed 8/11/2014; ICF, 2014.			

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact UTL-7: Would the Proposed Project Fail to Comply with Federal, State, and Local Statutes and Regulations Related to Solid Waste?

Construction and Operation

Under the California Integrated Waste Management Act (AB 939), the City of Los Angeles adopted the Construction and Demolition Waste Recycling Ordinance (Ordinance 181,519), which requires solid waste haulers and contractors to obtain a permit prior to transporting construction and demolition waste, and stipulates that such waste may only be processed at city-certified construction and demolition waste-processing facilities. The proposed project would comply with this ordinance.

AB 939 also mandates that jurisdictions meet a diversion goal of 50% by the year 2000 and thereafter. The City of Los Angeles initiated a SWIRP in 2007 and is moving towards zero waste by 2030. Similarly, AB 75 requires all state agencies and large state facilities to divert at least 50% of solid waste from landfills. The proposed project would comply with both.

Development under the LAC+USC Medical Center Campus Master Plan would also be subject to other solid waste regulations such as the Industrial Waste Control Ordinance of the Los Angeles Municipal Code, the City of Los Angeles Sewer Allocation (Ordinance No. 166060), and the California

Solid Waste Reuse and Recycling Access Act, which governs building permits that oversee the transfer, receipt, storage, and loading of recyclable materials. The proposed project would comply with all three. Thus, the proposed project would comply with federal, state, and local statutes and regulations related to solid waste and its construction and operational impacts would be less than significant.

Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

Impact UTL-8: Would the Proposed Project Result in a Substantial Increase in Energy Demand that would Affect Local or Regional Energy Supplies and Require Additional Capacity to Meet the increased Demand?

Construction

Construction of individual projects under the master plan would require the use of energy resources including electricity and natural gas and transportation fuels for construction worker vehicles and trucks hauling construction materials or debris. The additional energy consumption from construction activities would be limited in duration and finite. Construction activities would not result in a permanent increase in demand for energy resources and, thus, a substantial direct impact on existing energy supplies and infrastructure is not anticipated. Therefore, construction of projects under the master plan would not require additional energy capacity to meet the increased demand and impacts would be less than significant.

Operation

New and renovated buildings and facilities that may occur under the master plan could result in long-term increases in energy consumption. It is estimated that the net increase in square footage development (see Table 3.15-6) under the master plan could increase electricity consumption by 23,295,307 kWh per year and natural gas consumption by 27,573 cf per year (see Appendix H for utility consumption assumptions and calculations). Additionally, increased motor vehicle trips to and from the campus as a result of this potential new development could increase energy consumption by 596,385 gallons of gasoline per year (see Appendix H).

As part of their Power Integrated Resources Plan, LADWP prepares energy forecasts to ensure their ability to accommodate the future energy needs of its service areas. The most recent PIRP from 2012 makes projections out to year 2040, which are shown in Table 3.15-5. The anticipated electrical consumption that could occur under the current master plan, which represents 0.0007% of LADWP's projected energy demand for the year 2040, would not result in a substantial increase in electricity demand that would affect local or regional electricity supplies and require additional capacity to meet the increased demand. Additionally, future individual development projects would be required to submit a load schedule to LADWP to more accurately determine the electrical demand associated with site-specific development and the ability for LADWP to serve the electrical demand.

With regards to natural gas, SoCalGas projects their gas supply through year 2030. A summary of these projections is shown in Table 3.15-4. SoCalGas projects total gas demand to grow at an annual rate of 0.12% from 2011 to 2030 (California Gas Report, 2013). It also predicts that the total available capacity for these same years will remain constant at 3,875 MMcf/day (California Gas

Report, 2013). In the year 2030, it is estimated that the available capacity will exceed the projected demand by 48%, a total difference of 1,256 MMcf/day. Therefore, potential development under the proposed master plan is not expected to have a significant impact on natural gas supplies or infrastructure. Given projected gas supply and consumption trends, it is likely that there will be sufficient supply beyond 2030, however, SoCalGas has not made projections beyond that year. Therefore, for the purposes of this EIR, the impacts on natural gas supplies due to master plan projects constructed after 2030 are considered to be potentially significant.

The proposed master plan also includes more energy efficient project elements such as solar electric power, solar thermal and hot water, as well as ground source heating energy for various facilities. These efforts, combined with compliance with Title 24's energy conservation standards for new construction, would help to offset any additional energy consumption as a result of the proposed project. As a result, electricity impacts would be less than significant.

The anticipated increase in consumption of transportation fuel as a result of the proposed project, approximately 596,385 gallons of gasoline per year (see Appendix H), would not substantially contribute to the overall consumption of transportation fuel in California, which the California Energy Commission estimates would be 13.57 billion gallons per year in 2030 under the low-demand scenario and 14.32 billion gallons per year in 2030 under the high-demand scenario. As a result, transportation fuel impacts would be less than significant.

Mitigation Measures

No mitigation measures are required for energy impacts that would be less than significant. No feasible mitigation measures have been identified to address long-term impacts on natural gas supplies due to master plan projects developed after 2030.

Level of Significance after Mitigation

Impacts on natural gas supplies are considered to be potentially significant for master plan projects developed beyond the year 2030. Other energy impacts would be less than significant.

3.15.5 Cumulative Impacts

The study areas for cumulative impacts to utilities includes the service areas of the individual utility providers that serve the project site to reflect cumulative regional demand on these providers' utility supplies and infrastructure as well as the immediate area in the vicinity of the project site to take into account cumulative impacts on local utility infrastructure due to the proposed project and nearby related projects (e.g., cumulative impacts on local sewer lines that serve the campus and other development in the immediate area).

The cumulative increases in regional and local study area populations would increase the demand for utilities services. Because the service areas for the various utility providers (water, sewer and wastewater, stormwater, solid waste, natural gas and electricity) varies widely, and, in some cases, covers large geographic areas (e.g. Southern California Gas Company or Los Angeles Department of Water and Power), it is possible that increased demand due to future cumulative development within the service areas could require additional utility capacity and supplies to meet projected future demand and maintain adequate levels of service, notwithstanding future savings resulting from increased energy efficiencies. Although the regional utility providers have planned for long-term increases in demand (see discussions above), new supply and delivery infrastructure facilities could be required to meet increased regional demands, the construction of which could result in impacts to the environment. Where the utility providers have identified specific individual projects that are required to meet future projected regional cumulative demands and determined that construction or operation of those projects would result in significant impacts to the environment, then the cumulative impact of the proposed master plan and other projects in the services areas would be considered significant. Because the planning horizon for the master plan extends well into the future (year 2040), it is possible that yet unidentified improvements to the regional providers utility infrastructure may also be required over the life of the master plan. Therefore, for the purposes of this EIR, it is anticipated that the proposed project and other regional development would result in significant cumulative impacts on utilities and energy.

With regards to localized cumulative utility impacts, a list of related projects in the area is provided in Table 2-2 of the Project Description chapter (Chapter 2 of this EIR). There are nine related projects in the surrounding area at various stages of conceptual planning and development. The list includes several housing and commercial development projects that would increase the residential and daytime employee populations in the study area. The cumulative utility demands of the related and proposed projects may require improvements to local utility infrastructure (e.g., new local sewer or water lines or connections; power substations, etc.), the construction of which could result in impacts to the environment. The details and extent of future local utility infrastructure improvements are not known; therefore, the significance of potential cumulative impacts on local infrastructure cannot be definitively determined. Nonetheless, for the purposes of this EIR, the cumulative local utility infrastructure impacts are considered to be potentially significant.

Chapter 4
Other Analyses Required by CEQA

4.1 Significant Unavoidable Adverse Environmental Impacts

Significant unavoidable impacts would occur as a result of the proposed LAC+USC Medical Center Campus Master Plan in the following resource areas:

Air Quality

The primary source of PM10 and PM2.5 emissions is fugitive dust from on-site clearing and demolition. As shown in Table 3.2-9, implementation of Mitigation Measures AQ -1 and AQ-2 would reduce emissions, but PM10 and PM2.5 levels would remain in excess of SCAQMD thresholds. Compliance with Rule 403 would reduce PM emissions, but not to a level below thresholds. Therefore, this impact would be considered significant and unavoidable.

Aesthetics

Demolition of the Women's and Children's Hospital building, which is aesthetically noteworthy because of its architectural design and is a historical resource, would be a significant unavoidable adverse visual impact of the proposed project.

Cultural Resources

The proposed demolition of the Women's and Children's Hospital building, which has been determined eligible for listing in the California Register of Historical Resources, would be an unavoidable significant adverse historical resources impact.

Greenhouse Gas Emissions

Because project emissions would exceed the 3,000 MT CO_2e annual threshold, project generated GHG emissions would be a significant and unavoidable cumulative impact.

Noise and Vibration

While MM-NOI-1 would reduce construction noise levels, it would not eliminate the predicted noise impacts entirely; therefore, construction noise impacts are considered significant and unavoidable. Construction vibration impacts would be considered significant unavoidable after implementation of mitigation measure MM-NOI-6.

Recreation

Construction of new landscaped open space areas could result in noise and air quality impacts on nearby sensitive receptors (also see Air Quality and Noise and Vibration discussion above). Although mitigation is proposed to reduce these impacts, they would remain significant after mitigation.

Transportation/Traffic

The proposed development under the master plan would generate additional vehicle trips that would result in significant traffic impacts at four study intersections (intersections 1, 9, 13, and 19) under the existing baseline plus-project scenario and four study intersections (intersections 9, 13, 19, and 20) under the cumulative year (2040) plus-project scenario. No feasible mitigation measures have been identified for intersections 1, 9, 19, and 20. As a consequence, the impacts to those intersections would be significant and unavoidable. The proposed mitigation measures at study intersection 13 would reduce the impact to less than significant. However, given the intersection is located within the City of Los Angeles and the mitigation is subject to approval by the City of Los Angeles Department of Transportation (LADOT), if LADOT does not approve the proposed mitigation, the impact at this intersection would be significant and unavoidable.

Utilities

Proposed development under the master plan would increase the consumption of various utilities including water and natural gas. The Los Angeles Department of Water and Power's Urban Water Management Plan identifies future water supply and demand in their service area through the year 2035. Therefore, it's not known whether future water supplies beyond the year 2035 would be sufficient to meet the needs of the master plan projects constructed far in the future, i.e. beyond the year 2035. Therefore future water supply impacts, beyond the year 2035, are considered to be significant and unavoidable. Similarly, existing SoCalGas forecasts of future natural gas supplies and demand extend to the year 2030. If insufficient supplies exist for master plan projects beyond the year 2030, the impact would be significant and unavoidable.

4.2 Impacts Found to Be Less than Significant

The environmental analyses presented in Chapter 3 of this DEIR concluded that the proposed project would result in no impacts in the following areas:

- Aesthetics
    - Scenic Vista (construction and operation)
    - Light and Glare (construction)
- Biological Resources
    - Local Policies (operation)
- Cultural Resources
    - Historical Resources (operation)
    - Archaeological Resources (operation)
    - Paleontological Resources (operation)
- Hydrology
    - Seiche, Tsunami (construction and operation)
- Land Use
    - Physical Division of an Established Community (operation)
- Population and Housing
    - Displacement of Housing and People (construction and operation)

Additionally, Los Angeles County, as the CEQA lead agency, determined in the NOP/IS (see Appendix A) that the proposed project would not result in impacts in the following areas and no further environmental review of those resource areas was conducted as part of this EIR.

- Agricultural and Forestry Resources
- Mineral Resources

The analyses presented in Chapter 3 concluded that the proposed project would result in less than significant impacts in the following categories, and therefore, no mitigation measures are required.

- Aesthetics
  - Scenic Resources (operation)
  - Visual Character (construction and operation)
  - Light and Glare (operation)
- Air Quality
  - Obstruct Implementation of the Applicable Air Quality Plan
  - Violate Air Quality Standard (operation)
  - Expose Sensitive Receptors to Substantial Pollutant Concentrations (operation)
  - Objectionable Odors (construction and operation)
- Biological Resources
  - Habitat Modification (construction and operation)
  - Species (construction and operation)
  - Wetlands (construction and operation)
- Hazards and Hazardous Material
  - Routine Transport (operation)
  - Upset and Accident conditions (construction and operation)
  - Hazards to Schools (operation)
  - Hazardous Materials Sites (operation)
  - Emergency response (operation)
- Hydrology
  - Water Quality Standards (operation)
  - Groundwater Supplies (construction)
  - Drainage and Flooding (construction and operation)
  - Stormwater Runoff (construction and operation)
- Land Use
  - Physical Division of an Established Community (construction)
  - Conflicts with Applicable Plans and Policies (construction and operation)
- Population and Housing
  - Population Growth (construction and operation)

- Public Services
  - Police and Fire services (operation)
  - Schools (construction and operation)
  - Parks (construction and operation)
- Recreation
  - Increased Use of Existing parks (construction and operation)
  - Require Construction of Recreational Facilities (construction and operation)
- Transportation/Traffic
  - Conflict with Congestion Management Agency (operation)
  - Increase Hazards due to Design Feature (operation)
  - Inadequate Emergency Access (operation)
  - Conflict with Adopted Plans Regarding Public Transit, Pedestrian Facilities (operation)
  - Inadequate Parking (construction and operation)
- Utilities
  - Exceed Wastewater Treatment Requirements (construction and operation)
  - Require Expansion of Existing Facilities (construction and operation)
  - Construction of New Stormwater Drainage Facilities (construction and operation)
  - Water Supplies (construction)
  - Adequate Capacity for Wastewater Treatment Provider (operation)
  - Landfill Capacity (construction and operation)
  - Compliance with Solid Waste Regulations (construction and operation)

The following impacts were identified as potentially significant but would be reduced to less than significant with incorporation of proposed mitigation measures.

- Air Quality
  - Violate Air Quality Standard (construction)
  - Increase in a Criteria Pollutant
  - Biological Resources-
  - Migratory Wildlife and/Corridors (construction and operation)
  - Local Policies (operation)
- Cultural Resources
  - Archaeological Resources (construction)
  - Paleontological Resources (construction)
- Geology and Soils
- Hazards and Hazardous Materials
  - Routine Transport (construction)
  - Hazardous Materials Sites (construction)
  - Emergency Response (construction)
  - Schools (construction)

- Hydrology
  - Water Quality Standards (construction)
  - Groundwater Supplies (operation)
  - Drainage (construction and operation)
  - Degrade Water Quality (construction and operation)
- Noise
  - Traffic Noise and Other Operational Sources
- Public Services
  - Police and fire services (construction)
- Transportation/Traffic
  - Conflict with Congestion Management Agency (construction)
  - Change in Air Traffic Patterns (construction and operation)
  - Increase Hazards due to Design Features (construction)
  - Inadequate Emergency Access (construction)
  - Conflict with Adopted Plans Regarding Public Transit, Pedestrian Facilities (construction)
- Utilities
  - Adequate Capacity for Wastewater Treatment Provider (construction)

4.3 Growth-Inducement and Indirect Impacts

According to Section 15126.2 (d) of the CEQA Guidelines, growth-inducing impacts of the proposed project shall be discussed in the EIR. Growth-inducing impacts are those effects of the proposed project that might foster economic or population growth or the construction of new housing, either directly or indirectly, in the surrounding environment. According to CEQA, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potential does not automatically lead to growth, whether it would be below or in exceedance of the projected level. Under CEQA, it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

One of the guiding principles of the proposed master plan is to maximize access to LAC+USC Medical Center facilities. Accordingly, the project is likely to attract additional visitors and consequently may indirectly increase growth in the surrounding area. However, the proposed project would not include the extension of roads or other infrastructure improvements outside the boundaries of the campus that would indirectly induce substantial population growth in the surrounding area. The proposed project would not include a substantial housing component or displace any existing populations.

As stated in Section 3.11, Population and Housing, the increase in the employee population that would occur under the proposed project would fall within SCAG projections, which anticipates a citywide population growth of 16.1% by 2035. The increases in the on-campus employee and residential populations that could occur with buildout of the master plan would not contribute substantially to any population growth in the area beyond what SCAG has projected in its regional and city forecasts. Therefore, the proposed project is not expected to result in significant growth-inducing impacts on the environment.

4.4 Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project, and states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the proposed project would occur on the existing LAC+USC medical center campus. Proposed development would include the irreversible commitment of natural resources, energy, land, and human resources. Ongoing maintenance and operation of the new developments would entail a further irreversible commitment of energy resources in the form of petroleum products (diesel fuel and gasoline), natural gas, and electricity. Long-term impacts would also result from an increase in vehicular traffic, and the associated air pollutant and noise emissions.

In summary, implementation of proposed project would involve the following irreversible environmental changes:

- Soil erosion associated with grading and construction activities;
- Usage of essential public services (including fire and police protection, solid waste) and utility/service systems (including water, wastewater, electricity, and natural gas) during and after construction of new development;
- Temporary and permanent commitment of energy and water resources as a result of the construction, long-term operation, and maintenance of new development;
- Utilization of various new raw materials (such as lumber, sand, and gravel) for construction; and
- Incremental increases in vehicular activity with resultant air pollutant and noise emissions.

Chapter 5
Alternatives Analysis

5.1 Introduction

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project or to the location of a project that could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant environmental impacts. According to the State CEQA Guidelines, the EIR should compare the merits of the alternatives and determine an environmentally superior alternative. The range of alternatives discussed in an EIR is governed by the "rule of reason," which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6(f)(1) explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that 1) has an effect that cannot be reasonably identified or that has remote or speculative implementation and 2) would not achieve the basic project objectives.

5.2 CEQA Alternatives

Pursuant to the CEQA requirements identified in Section 5.1 above, alternatives to the proposed master plan were developed for this EIR that would obtain many or most of the objectives of the project and would avoid or substantially lessen one or more of the proposed master plan's significant environmental impacts.

The basic objectives of the master plan are:

- Achieve a community-friendly campus
- Promote healthy lifestyles and wellness
- Maximize access to the medical center by the community
- Provide opportunities for appropriate education and job training
- Incorporate on-campus business opportunities
- Plan for future program development.

The proposed master plan would result in the following significant and unavoidable impacts:

- Aesthetics – demolition of a scenic resource (Women's and Children's Hospital building)
- Air Quality-exposure of sensitive receptors to substantial pollutant concentrations during construction
- Cultural Resources-demolition of a historical resource (Women's and Children's Hospital building)
- Greenhouse Gas Emissions – cumulative impact on climate change

- Noise and Vibration – construction and operational impacts
- Recreation – construction of landscaped open space areas could result in air quality and noise impacts on nearby sensitive receptors
- Transportation/Traffic – significant impact on the level-of-service at four intersections under the existing baseline plus-project and cumulative year (2040) plus-project scenarios
- Utilities – long-term water and natural gas consumption impacts.

Based on the above, the following alternatives to the proposed project have been identified:

- Alternative A: No Project/No-Build Alternative;
- Alternative B: Reduced Development Alternative; and
- Alternative C: Individual Development Zone Construction Alternative.

These alternatives are described below.

5.2.1 Alternative A – No Project

As required by CEQA Guidelines Section 15126.6 (e), under the No-Project Alternative, the proposed master plan would not be implemented. The need for upgraded campus facilities, improved wayfinding, better access/circulation, and open space for visitors, employees, and area residents would not be realized. Under this alternative, there would be no changes and the campus would continue to operate as it does currently.

5.2.2 Alternative B – Reduced Development Alternative

Alternative B would be a reduced development alternative to the proposed master plan. Alternative B would include many of the elements in the proposed master plan, with the exceptions noted below.

Alternative B would only include one of the proposed three new inpatient towers in the area now occupied by the OPD and Interns and Residents buildings.

Alternative B would only include the development of 1/3 of the Biotech Research or workforce housing buildings proposed for the west campus under the proposed master plan. This would result in approximately 211,667 square feet, as opposed to 635,000 square feet of biotech research development.

Under Alternative B, the emphasis would be on meeting the most critical needs of the existing campus, which include improved wayfinding, additional parking to serve the needs under this alternative, and open and inviting spaces for the community, visitors, and employees of the campus. These goals are all accomplished under Alternative B, as are the goals of providing additional inpatient beds, and biotech research opportunity spaces, though not to the same extent as the proposed master plan. This alternative would result in a reduction of 423,333 square feet and 300 new inpatient beds of development compared to what could occur under the proposed master plan.

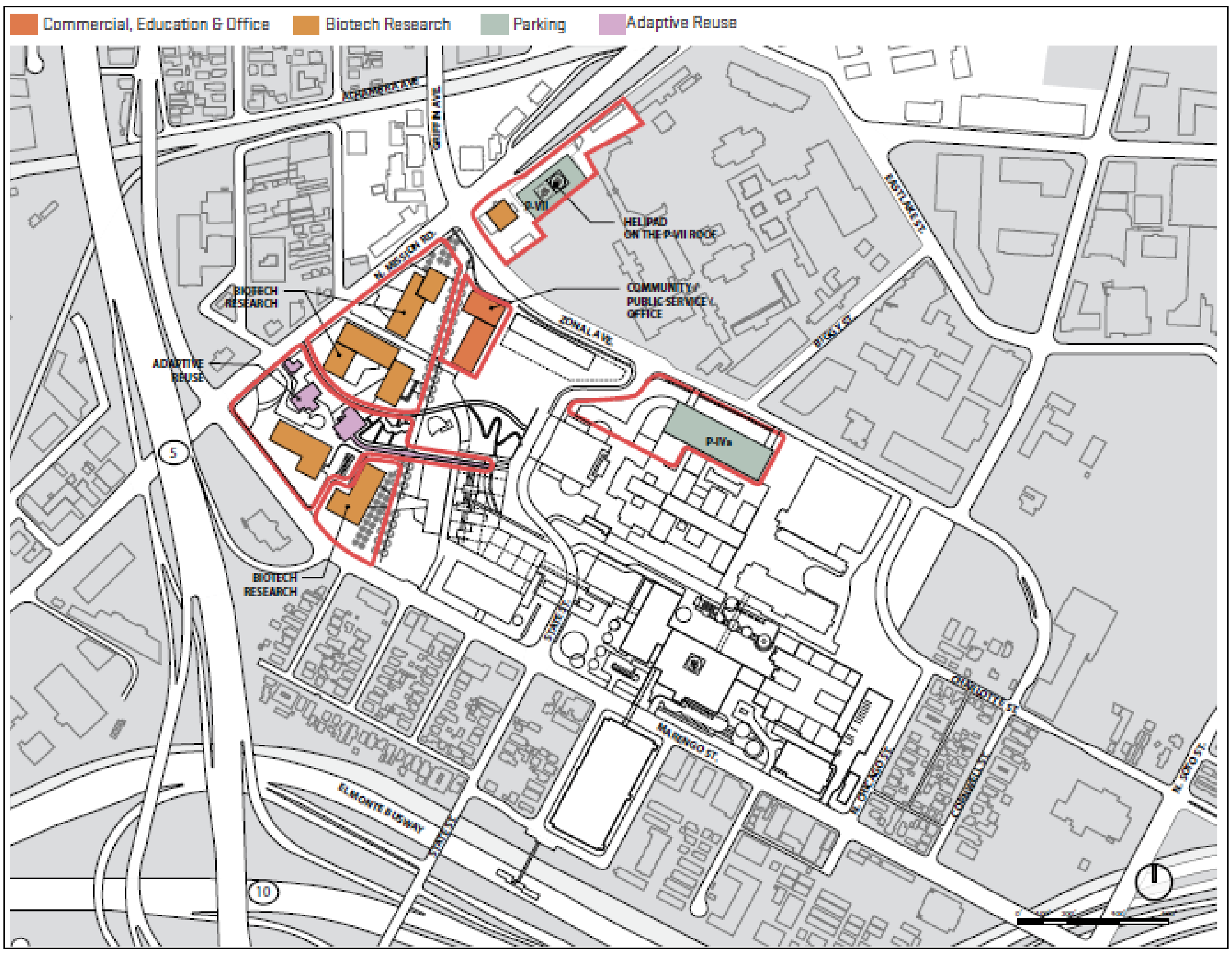
5.2.3 Alternative C – Individual Development Zone Construction Alternative

Alternative C identifies distinct development zones as part of the master plan that would be constructed individually, rather than developing elements of the master plan on multiple zones concurrently. While this alternative would include the same elements as the proposed master plan, the elements would be constructed one zone at a time, but within the same 25-year period as the proposed project. By limiting construction activity to one development zone at a time, this alternative would reduce the potentially significant construction-related impacts of the master plan. The development zones are described below.

5.2.3.1 Main Campus West Development Zone

The Main Campus West Development Zone leverages the remaining under-utilized areas on the western portion of the main campus as a biotechnology research oriented development. Development in this zone would include the construction of the biotech research buildings proposed under the master plan east of Mission Road, In addition, community serving functions along the north-south community spine could be combined with new facilities for the College of Nursing and Allied Health, and some parking facilities. Figure 5-1 illustrates the limits of this development zone.

Figure 5-1: Main Campus West Development Zone

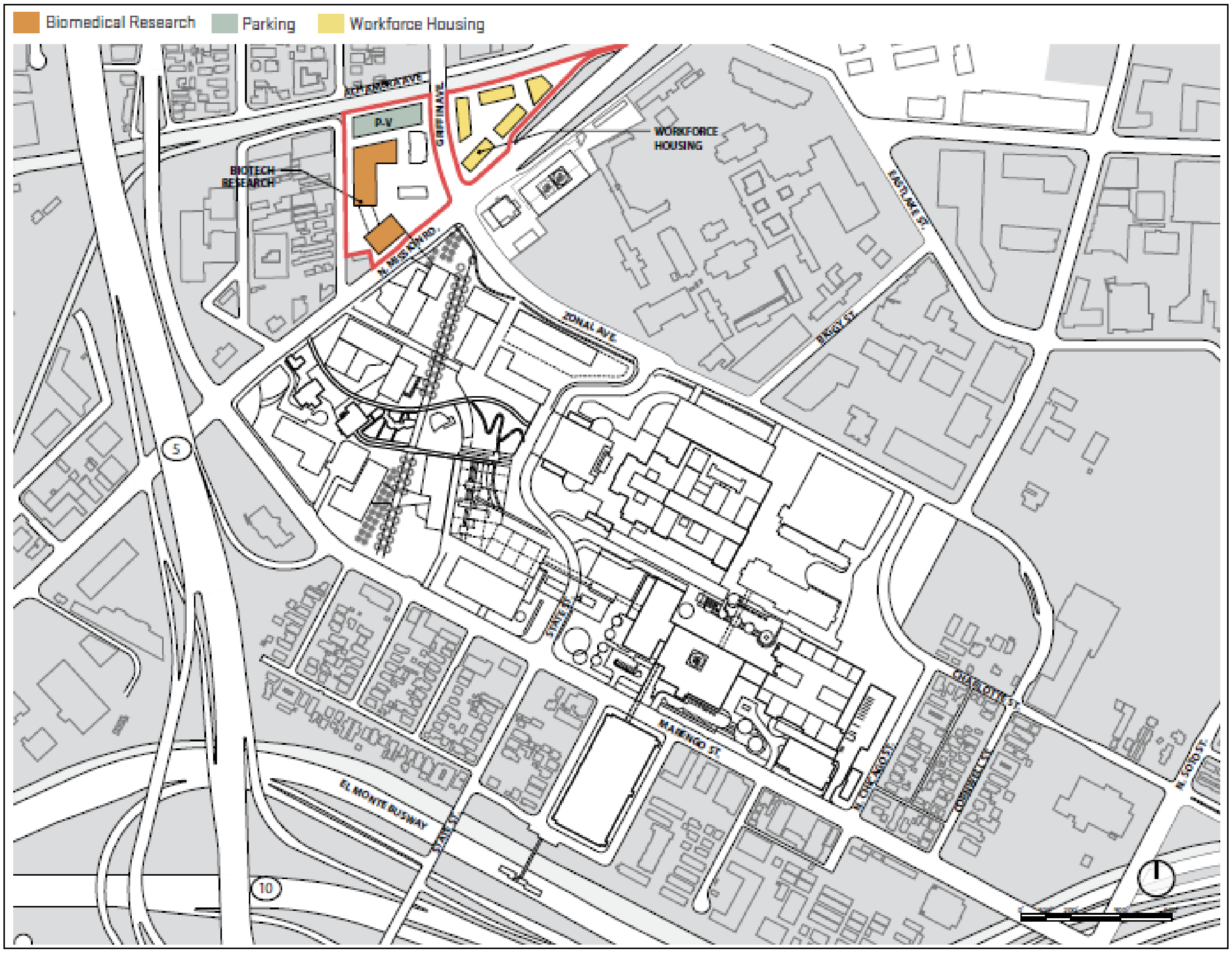


Source: LBL, Inc., 2014.

5.2.3.2 North of Mission Road Development Zone

The area to the north of Mission Road would include additional biotech research facilities, along with the potential for on-campus housing for members of the research and Medical Center community. Figure 5-2 shows the limits of construction for this development zone.

Figure 5-2: North of Mission Road Development Zone

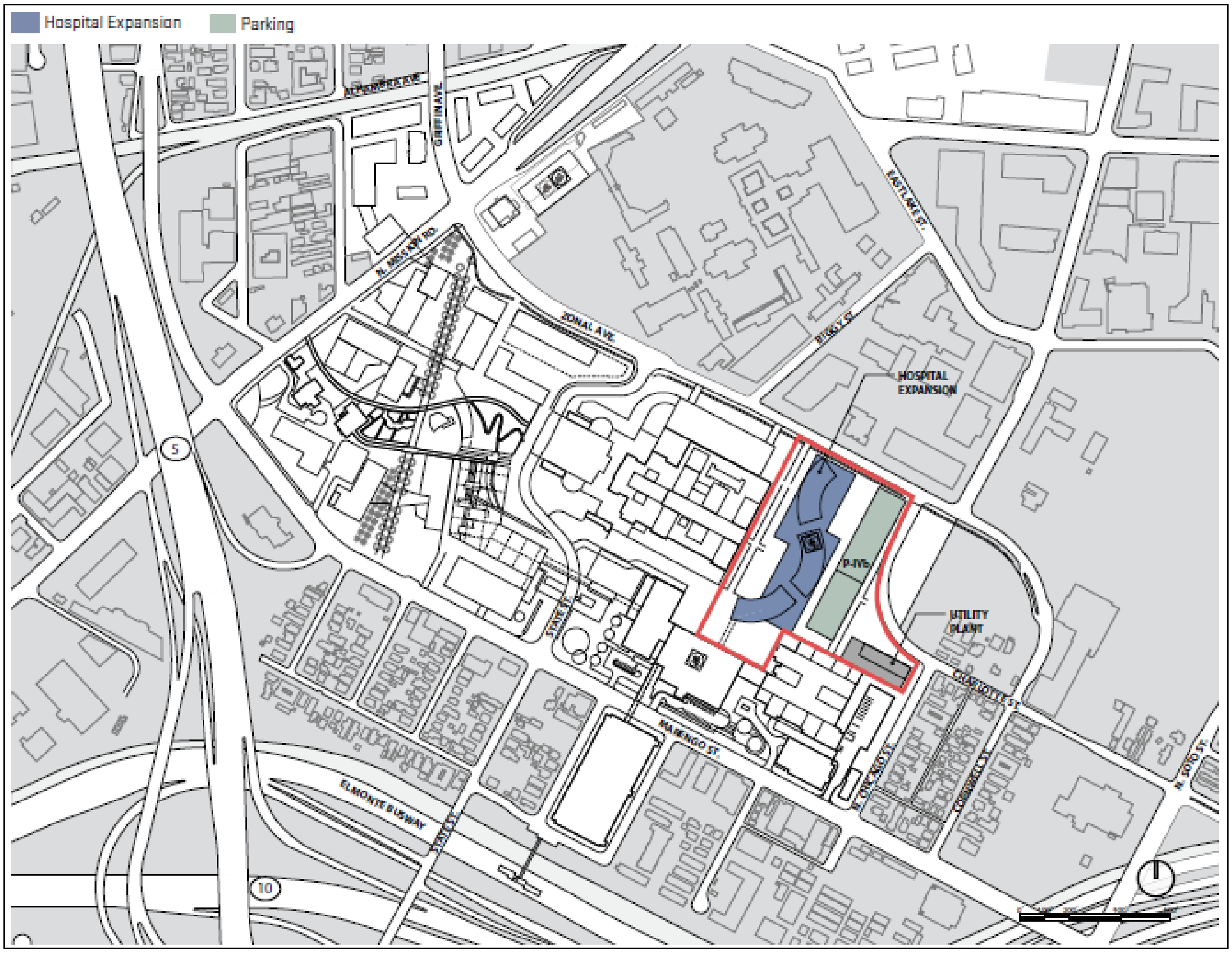


Source: LBL, Inc., 2014.

5.2.3.3 Future Inpatient Bed Expansion Development Zone

Figure 5-3 shows the area of the campus that is intended to be used for construction of future inpatient bed expansion. This general location represents the best and most logical expansion site for future hospital beds. By building new beds in this area, there is the potential for building connectivity to the existing Diagnostic & Treatment Building and possibly to the existing Inpatient Tower. Construction activities for this development zone would include the demolition of the existing Outpatients Building, Interns & Residents Building, and an existing parking structure, followed by construction of the hospital beds expansion, a new parking structure, and a utility plant to support the new development.

Figure 5-3: Future Inpatient Bed Expansion Development Zone



Source: LBL, Inc., 2014.

As discussed above, under Alternative C, construction activities would be limited to occur in each of the identified zones above, one at a time, so as to limit the effects of overlapping construction activities throughout the campus.

5.2.4 Alternatives Considered but Rejected As Infeasible

5.2.4.1 Full Adaptive Re-Use Alternative

This alternative would provide for most of the development under the proposed master plan, but would propose to adaptively re-use the existing vacant Women's and Children's Hospital, in the same way that Tower Hall and Phinney Hall are being re-used as part of the proposed master plan. A Seismic Performance Evaluation was conducted in 2006 for the Women's and Children's Hospital building (Saiful/Bouquet, 2006). The results of this evaluation recommended the building not be used for heavy storage, but that with some upgrades, the building could be used for office or laboratory space. This alternative would require the County to repair the building in accordance with the structural recommendations in the Saiful/Bouquet evaluation at an estimated cost of approximately $18 million-$31.8 million.[1] Although this alternative would preserve the historic Women's and Children's Hospital building, it would leave less space for new parking, a new Central Utility Plant, and additional community open space proposed under the master plan. Furthermore, similar to the proposed project, this alternative would result in significant unavoidable impacts to air quality, transportation/traffic, greenhouse gas emissions, and noise and vibration.

Under this alternative, some of the objectives of the master plan would be met, such as the construction of 450 additional hospital beds, and the development of increased biotech research capabilities and facilities. In addition, this alternative would also provide improvements to wayfinding, and additional open space and community uses that would occur under the proposed master plan. However, retention of the Women's and Children's Hospital would preclude proposed access and circulation improvements that would link the northwest campus to the main part of the campus and would limit the effectiveness of the north-west pedestrian spine through the proposed pedestrian walk. Under this alternative, the northwestern part of the campus would not be directly connected to the central part of the campus and would require pedestrians navigate to entrances to the campus near the intersections of Zonal Avenue /State Street or Mission Road/Marengo Street in much the same way as now. Thus, opportunities to make this zone of the campus more accessible to pedestrians and bicyclists would not be achieved. Under this alternative the Bike Depot Pocket Park would not be constructed, nor would the underground parking structure proposed for the area at the eastern edge of the existing Women's and Children's Hospital. To meet the parking needs of the rehabilitated Women's and Children's Hospital building under this alternative, an expansion of parking at the existing Parking Lot 10 would have to occur, but would likely be mostly above ground, as this location does not feature the same topographic gradient that would allow the parking structure to be built into the grade in the space between the Women's and Children's Hospital and The Hill.

5.2.5 Initial Master Plan Options

During the master plan planning process, four master plan options were developed based upon the master plan team's evaluation of the existing site, understanding of proposed program development, input from community residents and County stakeholders, and vision for the site. These four master plan options, which are described below, propose different solutions to the inherent challenges of the campus. The pros and cons of each of the master plan options below were taken into account, along with community and stakeholder input. As explained in Section 5.2.5.5, these initial planning options all informed a hybrid option, which is the proposed master plan as described in detail in Chapter 2 of this Draft EIR.

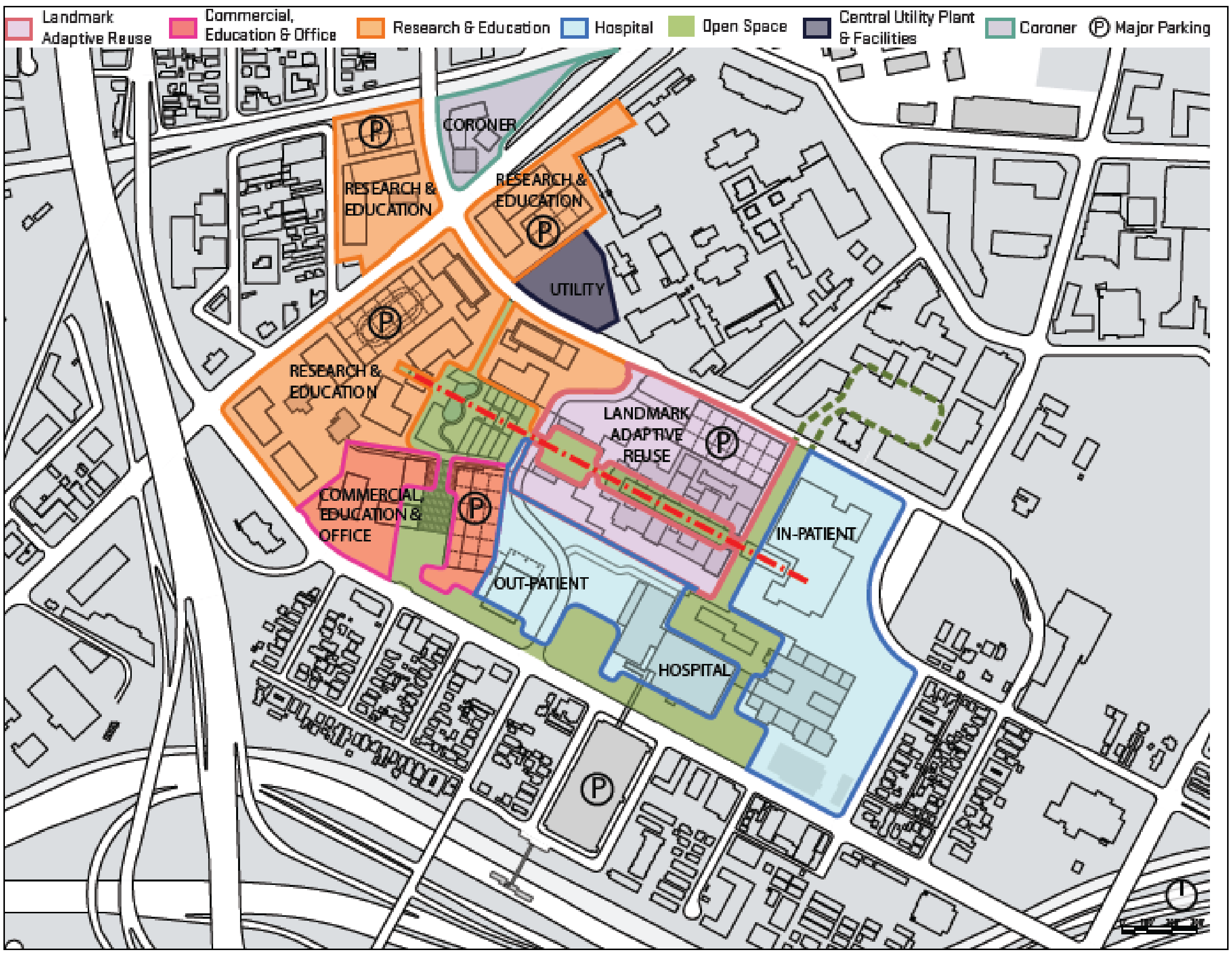
---

[1] This range is a rough order-of-magnitude cost estimate, as provided in Saiful/Bouquet's 2006 *Seismic Performance Evaluation for the LAC+USC Women's & Children's Hospital* with $18 million reflecting the estimated cost for minimum recommended structural upgrades to prevent building collapse, and $31.8 million reflecting the estimated cost for 50-year design life structural upgrades for life safety. Costs are estimates of construction hard costs only (e.g. concrete work, foundation work, demolition, surface preparation, etc.) and do not reflect assumed escalations of 10% per annum to the mid-point of construction. Cost estimates do not include allowance for A/E design fees, project management fees, and other soft costs. Cost estimates do not include allowance for hazardous materials abatement, infrastructure upgrade, or interior renovation work. Cost estimate does not include allowance for design contingency, which can be estimated as an additional 20% of the total hard cost.

5.2.5.1 Path & Place

Path & Place would create a flexible framework for future development by linking a series of outdoor and indoor spaces, including General Hospital, the Wellness Center, the historic plaza, and the existing inpatient and outpatient programs. It would accentuate the strong axial relationship formed by General Hospital and its strong east-west visual impacts. This network of public spaces would allow easy navigation across the site's varied topography. Convenient parking would be integrated throughout the site and located adjacent to proposed functional building development. Like-functions would be grouped together. Where appropriate, open and landscaped areas are designated to preserve the desired open spaces (Figure 5-4).

Figure 5-4: Path & Place Zoning

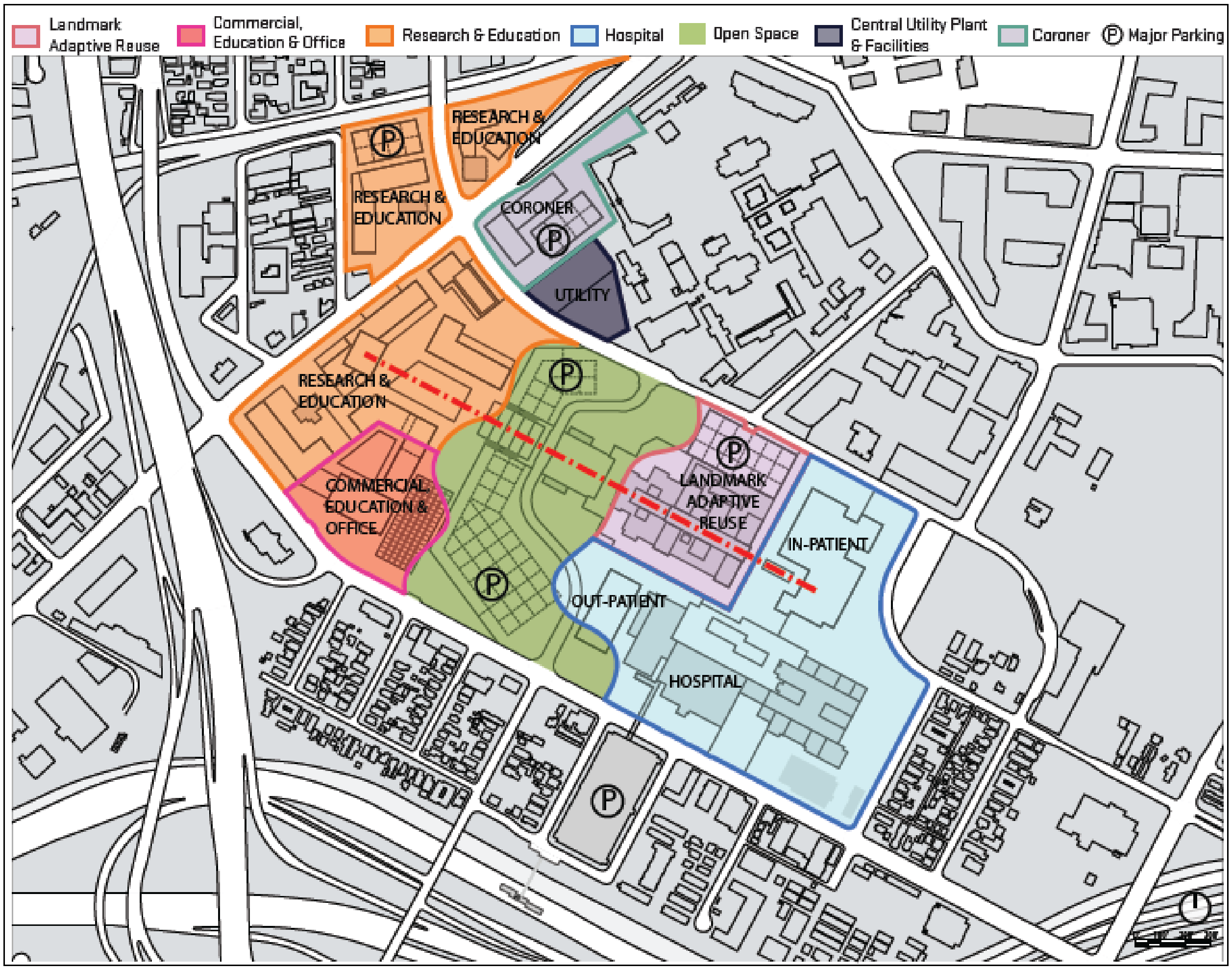


Source: LBL, Inc., 2014.

5.2.5.2 Central Green

The Central Green option would create a grand open space along State Street at the heart of the campus engaging General Hospital, the Wellness Center, the historic plaza, and the plaza area immediately in front of the Clinic Tower. The major open space would be at the heart of the site's most dramatic grade changes and would provide an opportunity to mitigate the elevation challenges by integrating parking, hillside activities, and walkways to connect the two campuses. Central structural parking with terraces and roof gardens would be integrated into the hillside, and would help create improved access from the lower campus to the west to the main General Hospital Plaza area (Figure 5-5).

Figure 5-5: Central Green Zoning

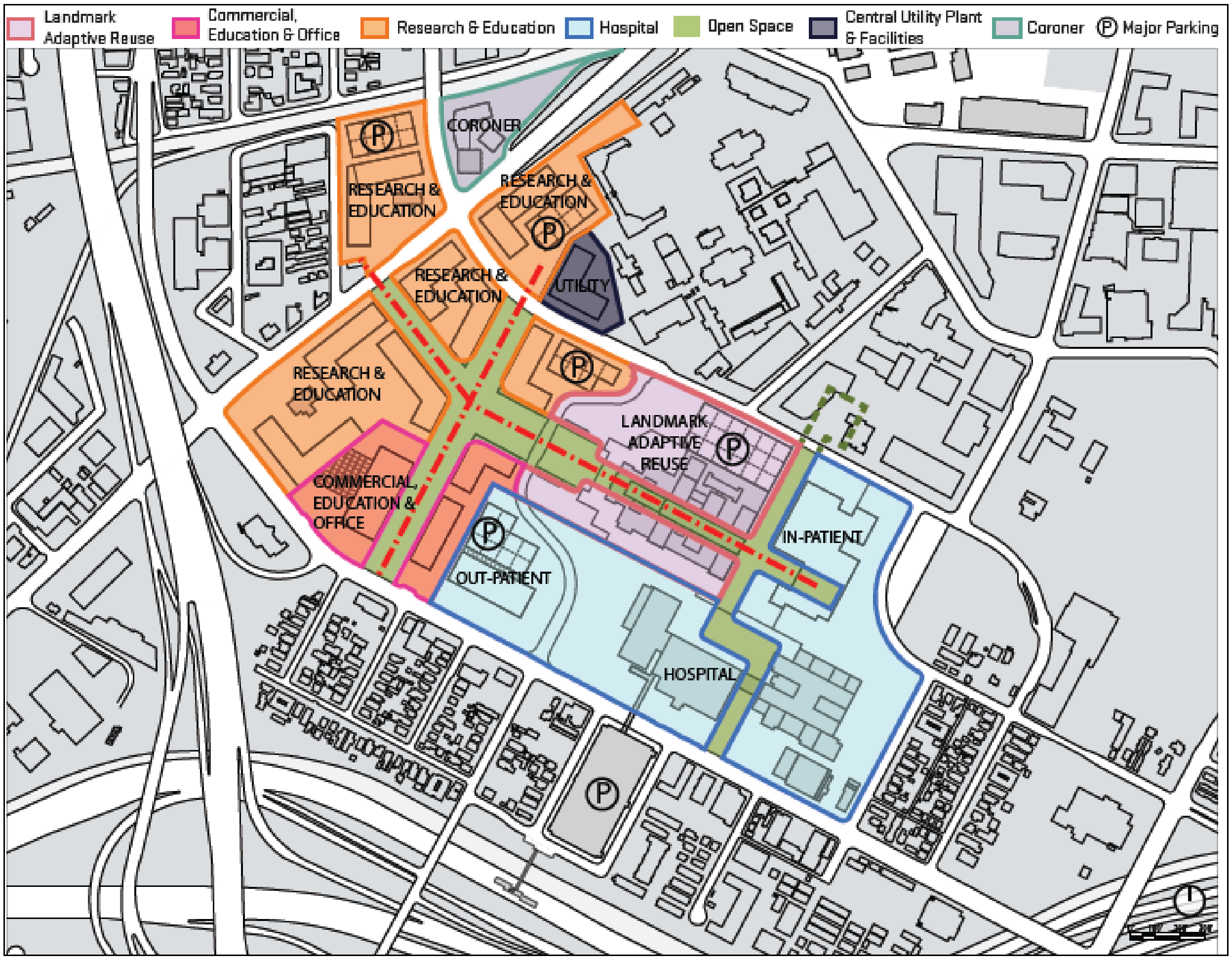


Source: LBL, Inc., 2014.

5.2.5.3 Urban Cross Axis

The Urban Cross Axis would create strong east-west and north-south connections through the site. It would reinforce the main existing axis through General Hospital, the Wellness Center, the historic plaza, and the current pedestrian corridors adjacent to the Replacement Hospital. It would begin to create a concept of "streets," albeit pedestrian and visual streets to complement the existing State Street. In doing so, it attempts to provide visual and possibly functional connections from the site to adjacent neighborhoods. In this option, convenient parking is also planned to be distributed throughout the campus (Figure 5-6).

Figure 5-6: Urban Cross Axis Zoning

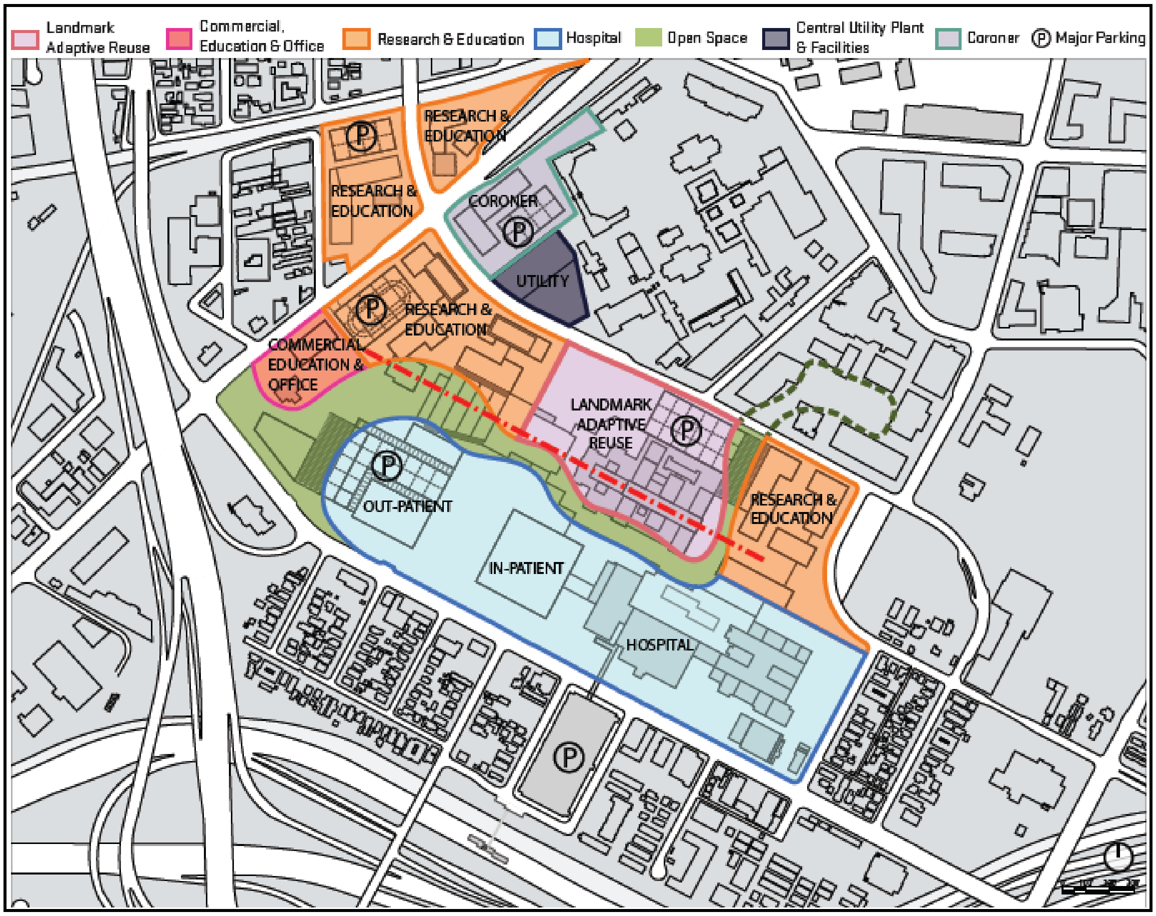


Source: LBL, Inc., 2014.

5.2.5.4 Green Ribbon

The Green Ribbon master plan option would create a series of organic open spaces that begin at the corner of North Mission Road and Marengo Street, moves east around General Hospital and the Wellness Center, and eventually integrates with the Tranquility Court and connects north to the USC campus. In this option, State Street would be deactivated for vehicular circulation and parking areas would be assigned to the campus perimeter. Unlike the previous master plan options, a major healthcare zone would be established along Marengo Street. This effectively would create an entire "medical care presence" along Marengo Street. Biotechnology and research functions would also be bifurcated in this scheme. Parking options would be distributed throughout the site and located adjacent to functions that would generate parking demands (Figure 5-7).

Figure 5-7: Green Ribbon Zoning



Source: LBL, Inc., 2014.

5.2.5.5 Summary

These options were presented for discussion and review at the master plan community outreach meeting held at the Medical Center in January, 2012. Each option was presented to the attendees at that meeting, and specific discussion was focused for each option. Community residents provided their critical comments and views for each of the options, and their ideas and comments were recorded. The objective of obtaining community input was to better understand their expectations and to identify what they viewed as strengths and weaknesses of each alternative.

Similarly, in subsequent meetings with the Project Steering Committee, the public comments and attitudes were shared and additional input was received from members of the committee. This information was then used by the master plan team to refine the options into what is now the proposed master plan that is described in Chapter 2 and evaluated in Chapter 3 of this EIR.

5.3 Evaluation of CEQA Alternatives

The impacts of each of the alternatives are briefly described below and are compared to the impacts of the proposed LAC+USC Medical Center Campus Master Plan. The analysis includes a discussion of a No Project Alternative as required under Section 15126(e)(1) of the State CEQA Guidelines so that decision-makers can compare the impacts of approving the proposed master plan with the impacts of not approving the proposed master plan. Other than the No Project Alternative, each of these alternatives would meet most of the master plan objectives described in Chapter 2, but only the proposed master plan meets them all. In addition, any alternatives that would result in less-than-significant impacts with mitigation that are similar to the proposed project, would be required to comply with the same mitigation measures as would be implemented for the proposed master plan.

5.3.1 Alternative A – No Project Alternative

Since no master plan development would occur under this alternative, none of the unavoidable significant adverse master plan impacts to aesthetics, air quality, cultural resources, transportation/traffic, greenhouse gas emissions, or noise and vibration would occur. However, as described in the Building & Site Assessment Report prepared as part of the master plan process, existing utility infrastructure on the campus is in poor condition and needed upgrades or replacement (LBL Inc., 2013) would not occur under the No Project Alternative. In addition, the proposed improvements to hydrologic conditions through water quality BMPs and increased pervious surface area would not occur under the No Project Alternative. The addition of open spaces throughout the campus would also not be built under this alternative and other benefits to the community would not occur. None of the master plan objectives would be met with this alternative.

5.3.2 Alternative B – Reduced Development Alternative

5.3.2.1 Aesthetics

Under this alternative, changes to the existing visual and aesthetic environment of the campus and surrounding area would be similar but slightly less than under the proposed master plan, because this alternative proposes less development than the proposed project. However, since this alternative would result in demolition of the Women's and Children's Hospital, a scenic resource due to its visually distinct architectural style, both this alternative and the proposed master plan would result in a unavoidable significant adverse visual impact.

5.3.2.2 Air Quality

Under this alternative, there would be less construction activity and fewer vehicle trips generated by new development that would contribute to vehicular emissions. Thus, this alternative would have less of an impact to air quality than the proposed project.

5.3.2.3 Biological Resources

Under this alternative, there would be less construction activity and consequently it could result in the potential removal of fewer trees and less vegetation used by migratory birds. Therefore, this alternative would have less of an impact to biological resources, than the proposed project.

5.3.2.4 Cultural Resources

Under this alternative, impacts to historic architectural resources would be similar as the proposed project, as this alternative still would have a significant unavoidable impact, due to the demolition of the existing Women's and Children's Hospital. However, this alternative would result in less ground disturbance on the western portion of the campus, and thus, would have less of a potential to affect buried archaeological or paleontological resources on parcels on either side of Mission Road and where the existing OPD and Interns and Residents buildings are now located.

5.3.2.5 Geology/Soils

Under this alternative, there would be less soil disturbance and excavation required in the western part of campus and where the OPD and Interns and Residents buildings are now located. Therefore, there would be slightly less potential for impacts to geology/soils, than under the proposed project.

5.3.2.6 Greenhouse Gas Emissions

Under this alternative, there would be less construction activity and fewer trips generated by new development that would contribute to vehicular emissions. Thus, this alternative would have less of an impact to greenhouse gas emissions than the proposed project.

5.3.2.7 Hazards and Hazardous Materials

Under this alternative, there would be less building demolition and excavation in areas with potential hazards and hazardous materials. Therefore, this alternative would have less of an impact with regard to hazards and hazardous materials than the proposed project.

5.3.2.8 Hydrology and Water Quality

Under this alternative, the main hydrologic and water filtration improvement features of the campus would still be built. Therefore, impacts to hydrology and water quality under this alternative would be similar to those of the proposed project.

5.3.2.9 Land Use/Planning

Under this alternative, the impacts to land use/planning would be similar to those under the proposed project since there would be no change to land use designations.

5.3.2.10 Noise

Under this alternative, construction activities for only one new inpatient tower would occur, and therefore this alternative would result in less noise impacts on the existing patients and visitors of the new replacement hospital than would occur due to the proposed project.

5.3.2.11 Population/Housing

Under this alternative, the potential development of workforce housing could still occur, although there is less development anticipated overall for the western portion of the campus under this alternative, accordingly, Alternative B would result in less of an impact to population /housing than the proposed project.

5.3.2.12 Public Services

Under this alternative, there would be less development occurring overall on the campus, and as a consequence, there would be less demand for public services than under the proposed project.

5.3.2.13 Recreation

Under this alternative, less development would result in fewer employees; therefore, the increased demand for recreational facilities generated by new employees, though minor, would be less than the proposed project. However, most of the open space and recreational opportunities included in the proposed project would also be built under this alternative. Therefore, the potential significant impacts that could occur during construction n of the landscaped open space areas on the campus would be similar to the proposed project.

5.3.2.14 Transportation/Traffic

The reduced level of development under this alternative would reduce overall trip generation compared to the proposed master plan and would be expected to avoid the Existing Plus Project impact at State Street & Cesar E. Chavez Boulevard (Study Intersection 9) and the cumulative impact identified for the project at one study intersection – Soto & Charlotte/I-10 Ramps (Study Intersection #20). Therefore, it's expected that the demands on and potential impacts to the existing transportation system would be less than under the proposed project.

5.3.2.15 Utilities and Service Systems

Under this alternative, there would be less development on the campus, and thus less demand for utility services. Therefore, it can be assumed that this alternative's potential for impacts would be less than that of the proposed project with regard to demand for utility services.

5.3.2.16 Project Objectives Met

Under this alternative, four of the six objectives of the master plan would be met, such as increased open space, community space, parking, and improvements to wayfinding and circulation. However, this alternative would include the addition of less inpatient beds and less development of biotech research capabilities and facilities.

5.3.3 Alternative C – Individual Development Zone Construction Alternative

5.3.3.1 Aesthetics

Under this alternative, changes to the existing visual and aesthetic environment of the campus and surrounding area would be similar to those under the proposed master plan. During construction, impacts may be less than could occur under the master plan because less of the campus would be under construction at any one time.

Since this alternative would result in demolition of the Women's and Children's Hospital, a scenic resource due to its visually distinct architectural style, both this alternative and the proposed master plan would result in a unavoidable significant adverse visual impact.

5.3.3.2 Air Quality

Under this alternative, there would be less construction activity and fewer construction vehicle trips generated at any one time by new development that would contribute to vehicular emissions. This is because construction would be limited to specified zones and occur in only one zone at a time. Thus, this alternative would have less of an impact to air quality during construction than the proposed project, though similar impacts during operation of the master plan.

5.3.3.3 Biological Resources

Under this alternative, the potential for removal of vegetation and trees supporting migratory birds would be similar to the proposed project; however this alternative may result in the removal of fewer trees at any one time, since construction would be restricted to distinct zones of development, thereby removing fewer potential nesting sites for birds at any one time during construction. Therefore, this alternative may have slightly less of an impact to biological resources.

5.3.3.4 Cultural Resources

Under this alternative, impacts to historic architectural resources would be similar to the proposed project, as both this alternative and the proposed master plan would result in a significant unavoidable impact due to the demolition of the existing Women's and Children's Hospital. In addition, this alternative would result in the same amount of potential ground disturbance as the proposed project and potential impacts to archaeological resources as would occur under the proposed master plan.

5.3.3.5 Geology/Soils

Under this alternative, the amount of soil excavation and ground disturbance that would occur would be similar to the proposed project. Therefore, this alternative has the same potential for impacts to geology/soils as the proposed project.

5.3.3.6 Greenhouse Gas Emissions

Under this alternative, there would be less construction activity and fewer construction vehicle trips generated at any one time by new development that would contribute to vehicular emissions. This is because construction would be limited to specified zones and occur in only one zone at a time. However, the total amount of construction GHG emissions over time would be similar to the amount that could occur under the proposed master plan. GHG emissions during operation would be similar to the emissions that could occur under the proposed master plan.

5.3.3.7 Hazards and Hazardous Materials

The potential for hazardous materials impacts throughout the campus under this alternative would be similar to the impacts of the proposed project, with the potential for less release of hazardous materials to occur at a given time.

5.3.3.8 Hydrology and Water Quality

Under this alternative, the main hydrologic and water filtration improvement features of the campus would still be built. Therefore, impacts to hydrology and water quality under this alternative would be similar to those of the proposed project.

5.3.3.9 Land Use/Planning

Under this alternative, the impacts to land use/planning would be similar to those under the proposed project since there would be no change to land use designations.

5.3.3.10 Noise

Under this alternative, the potential for noise impacts during construction would not be similar to those of the proposed project, since construction activities would be limited to only one of the three identified major development zones at a given time, rather than construction occurring concurrently at multiple locations throughout the campus. Therefore, this alternative would have less of a noise impact during construction. However, the potential for operational noise impacts would be similar to those that would occur under the proposed project, since operational conditions under this alternative would be the same as those of the proposed project.

5.3.3.11 Population/Housing

Since this alternative would result in the same level of development that would occur under the proposed master plan, the resulting population and housing impacts would also be the similar to the proposed project.

5.3.3.12 Public Services

This alternative would result in a demand for public services similar to what would occur under the proposed project; therefore, the resulting public services impacts would also be similar to those of the proposed project.

5.3.3.13 Recreation

Under this alternative, the development of recreational and open space opportunities would be built; similar to the proposed project, and therefore, Alternative C would also have a significant impact due to construction of these open space/recreational areas.

5.3.3.14 Transportation/Traffic

Under this alternative, the amount of construction activity and vehicle trips generated by planned development would be similar to the proposed project. However, construction activities under Alternative C would be restricted to one of three major development zones at a given time, rather than concurrently throughout the campus as could conceivably occur under the proposed master plan. Therefore, traffic impacts under this alternative would be less, during construction, than could occur under the proposed master plan, but similar to during operation.

5.3.3.15 Utilities and Service Systems

Under this alternative, the demand for utility services would be similar to what would occur under the proposed project; therefore, this alternative would also result in a significant unavoidable impact to utility infrastructure.

5.3.4 Project Objectives Met

Under this alternative, all six of the project objectives are met, similar to the proposed project. The advantage of this alternative is that it would reduce impacts to air quality, greenhouse gas emissions, traffic, and noise during construction, as it would restrict construction activity to only one development zone at a time, rather than concurrent construction throughout the campus. However, this alternative would not reduce the potential for impacts during operations due to increased traffic and noise, nor to aesthetics and cultural resources due to the demolition of Women's and Children's Hospital. Construction activities, and thus construction impacts would be less intense than if construction occurred concurrently at multiple sites and zones as could conceivably occur under the proposed master plan. However, limiting construction to only one zone of the campus at a time may potentially result in construction occurring over a longer period of time within the 25-year timeframe of the master plan. Another disadvantage of this alternative is that it does not allow the same level of flexibility as the proposed project for sequencing construction elements. For example, a situation may arise where funding becomes available for a limited time for two elements of the master plan, but because those individual projects are located in different zones of the campus, they cannot be constructed at the same time, despite funding being available to do so under Alternative C. Under such a scenario, not only could the overall duration of construction be extended, but construction costs could also increase because of the escalating cost of construction over time.

5.3.5 Comparison of CEQA Alternatives

Table 5-1 summarizes the environmental advantages and disadvantages of the three alternatives analyzed above in comparison to the proposed master plan.

Table 5-1. Comparison of Impacts of the Alternatives to the Proposed Project

Environmental Topic	Proposed Project	Alternative A – No Project	Alternative B – Reduced Development Alternative	Alternative C – Individual Development Zone Construction Alternative
Aesthetics	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Neutral	Environmentally Neutral
Air Quality	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Superior	Environmentally Superior
Biological Resources	Less than Significant Impact with Mitigation	Environmentally Superior	Environmentally Superior	Environmentally Superior during construction. Environmentally Neutral during operation.

Environmental Topic	Proposed Project	Alternative A – No Project	Alternative B – Reduced Development Alternative	Alternative C – Individual Development Zone Construction Alternative
Cultural Resources	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Neutral for Historic Architectural Resources Environmentally Superior for Archaeological and Paleontological Resources	Environmentally Neutral for Historic Architectural Resources Environmentally Neutral for Archaeological and Paleontological Resources
Geology/Soils	Less than Significant Impact with Mitigation	Environmentally Superior	Environmentally Superior	Environmentally Neutral
Greenhouse Gas Emissions	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Superior	Environmentally Neutral
Hazards and Hazardous Materials	Less than Significant Impact with Mitigation	Environmentally Superior	Environmentally Superior	Environmentally Neutral
Hydrology and Water Quality	Less than Significant with Mitigation	Environmentally Inferior	Environmentally Neutral	Environmentally Neutral
Land Use/Planning	Less than Significant	Environmentally Superior	Environmentally Neutral	Environmentally Neutral
Noise	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Superior	Environmentally Superior during construction of the master plan. Environmentally Neutral during operation of the master plan.
Population/Housing	Less than Significant	Environmentally Superior	Environmentally Superior	Environmentally Neutral
Public Services	Less than Significant with Mitigation	Environmentally Superior	Environmentally Superior	Environmentally Neutral
Recreation	Significant and Unavoidable Impact	Environmentally Inferior	Environmentally Neutral	Environmentally Neutral

Environmental Topic	Proposed Project	Alternative A – No Project	Alternative B – Reduced Development Alternative	Alternative C – Individual Development Zone Construction Alternative
Transportation/Traffic	Significant and Unavoidable Impact	Environmentally Superior	Environmentally Superior	Environmentally Superior during construction of the master plan. Environmentally Neutral during operation of the master plan.
Utilities and Service Systems	Significant and Unavoidable Impact	Environmentally Neutral	Environmentally Superior	Environmentally Neutral
Number of Project Objectives Met	6 of 6	None	4 of 6	6 of 6
Source: ICF International, 2014.				

5.4 Environmentally Superior Alternative

In compliance with CEQA, an EIR must identify an "environmentally superior" alternative. The No Project alternative would be the environmentally superior alternative because it would result in none of the adverse environmental impacts of the proposed master plan. However, it should also be recognized that there could be adverse health, community, and environmental consequences from making no improvements to the existing campus and none of the medical, employment, recreational, and other community benefits that could occur under the proposed master plan, would occur under the No Project Alternative.

Pursuant to CEQA regulations (see CEQA Guidelines Section 15126.6(e)(2)), when the No Project Alternative is identified as the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives. To determine which of the other alternatives would be environmentally superior, the analysis focused on those master plan impacts identified as significant and unavoidable. Alternative C would reduce the impacts during construction to air quality, biological resources, noise, and traffic, as it would restrict construction activities to only one zone of development at a time. However, similar to the proposed project, Alternative C would result in significant unavoidable impacts to aesthetics (scenic resources), historical resources, transportation/traffic, greenhouse gas emissions, and noise and vibration during operation of the master plan. Under Alternative B, it's possible all impacts could be reduced to less than significant with proposed mitigation, with the exception of significant unavoidable impacts to aesthetic and historic resources due to the demolition of the Women's and Children's Hospital. Therefore, Alternative B is the project alternative that would result in the fewest environmental impacts, and would be the environmentally superior alternative. However, Alternative B would not meet all of the project objectives or provide all of the benefits that could occur under the proposed master plan or under Alternative C.

Chapter 6
Responses to Comments

6.1 Comments and Responses

In accordance with Section 15088 of Title 14 of the California Code of Regulation (the *State CEQA Guidelines*), the County has reviewed and evaluated the comments received on the draft EIR for the LAC+USC Medical Center Campus Master Plan, and has prepared written responses to those comments. This chapter contains copies of the comments received during the public review process and written responses to each of the comments (please note that comment letters received after the close of the public review period are included in Section 6.3 at the end of this chapter).

The draft EIR was made available for agency and public review during a 45-day review period from September 5 to October 20, 2014. Public meetings for the draft EIR were held on September 20, 2014 and September 23, 2014, at which time transcribed oral and written comments were received. The public meeting transcripts from these meetings are included in Appendix I of this Final EIR. A copy of each comment letter, as well as the corresponding responses,are provided in Section 6.2.

6.2 List of Commenters

The public agencies and private citizens who submitted comments on the draft EIR during the public review period are listed below (arranged by date of correspondence). The comment letters and their responses are arranged by (a) public agencies and (b) private citizens and organizations

A. Public Agencies

No.	Agency	Name	Date
1	City of Los Angeles, Bureau of Sanitation, Wastewater Engineering Services Division	Ali Poosti, Division Manager	10/2/14
2	County of Los Angeles Fire Department	Frank Vidales, Chief, Forestry Division, Prevention Services Bureau	10/2/14
3.	California Department of Transportation	Dianna Watson, Caltrans District 7 Branch Chief, Community Planning and LD IGR Review	10/20/14

B. Private Citizens and Organizations

No.	Affiliation	Name	Date
1	Community Resident	Margarita Mejia	9/23/14
2	DHS Employee	Danila Oder	9/29/14
3	DHS Employee	Danila Oder	10/6/2014

Comment Letter A1

CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

BUREAU OF SANITATION

ENRIQUE C. ZALDIVAR
DIRECTOR

TRACI J. MINAMIDE
CHIEF OPERATING OFFICER

VAROUJ S. ABKIAN
ADEL H. HAGEKHALIL
ALEXANDER E. HELOU
ASSISTANT DIRECTORS

VACANT
CHIEF FINANCIAL OFFICER

WASTEWATER ENGINEERING SERVICES DIV.
2714 MEDIA CENTER DRIVE
LOS ANGELES, CA 90065
FAX: (323) 342-6210
(323) 342-6211

October 2, 2014

File: SC.CE.

Clarice Nash, Project Manager
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
900 S. Fremont Ave.
Alhambra, CA 91803-1331

Dear Ms. Nash:

LAC+USC MEDICAL CENTER CAMPUS MASTER PLAN PROJECT-DRAFT ENVIRONMENTAL IMPACT REPORT

This is in response to your September 9, 2014 letter requesting a review of your proposed medical center project located at 2051 Marengo Street, Los Angeles, CA 90033. The Bureau of Sanitation has conducted a preliminary evaluation of the potential impacts to the wastewater and stormwater systems for the proposed project.

WASTEWATER REQUIREMENT

1 The Bureau of Sanitation, Wastewater Engineering Services Division (WESD) is charged with the task of evaluating the local sewer conditions and to determine if available wastewater capacity exists for future developments. The evaluation will determine cumulative sewer impacts and guide the planning process for any future sewer improvements projects needed to provide future capacity as the City grows and develops.

Projected Wastewater Discharges for the Proposed Project:

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Proposed No. of Units	Average Daily Flow (GPD)
Existing			
Offices	120 GPD/1000 SQ.FT	197,288 SQ.FT	(23,675)
Medical Offices	250 GPD/1000 SQ.FT	460,727 SQ.FT	(115,182)
Maintenance Facilities	30 GPD/1000 SQ.FT	31,000 SQ.FT	(930)
Utility Plant & Cooling Tower	170/1000 SQ.FT	20,938 SQ.FT	(3,559)
Warehouse & Storage	30/1000 SQ.FT	15,756 SQ.FT	(473)
TOTAL			**(143,819)**
Proposed			

RECEIVED

zero waste • one water

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Clarice Nash, COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
September 22, 2014
Page 2 of 4

Hospital	70/ BED	450 BED	31,500
Retail	50 GPD/1000 SQ.FT	55,000 SQ.FT	2,750
Utility Plant & Maintenance	30 GPD/1000 SQ.FT	40,000 SQ.FT	1,200
Medical Offices	250/1000 SQ.FT	200,000 SQ.FT	50,000
Administrative Offices	250/1000 SQ.FT	265,000 SQ.FT	66,250
Offices	120/1000 SQ.FT	50,000 SQ.FT	6,000
Research Space	250/1000 SQ.FT	635,000 SQ.FT	158,750
Total			**316,450**
Total			**172,631**

1 (cont'd.)

SEWER AVAILABILITY

The sewer infrastructure in the vicinity of the proposed project includes four (4) discharge routes. The first discharge route is made up of two (2) 6-inch lines on Chicago St and Cummings St. The sewage from the two lines join an 8-inch line on Marengo St before discharging to a 15-inch line on State St RW. The Second route includes an existing 8-inch line on Marengo St, and existing 12-inch line on Zonal Ave R/W. The sewage from both lines feed into a 12-inch line on Lord St before discharging into an 18-inch line on Cesar E Chavez Ave R/W. The third discharge route is through an existing 8-inch line on Mission Rd. The sewage from this 8-inch line joins the first and second discharge routes at an 18-inch line before discharging to a 21- inch line on Cesar E Chavez Ave R/W. The fourth route includes a 6-inch line on Cummings St, a 6-inch line on Zonal Ave, an 8-inch line and a 12-inch line on Mission Rd. The sewage from these lines feed into a 24-inch line on Alhambra Ave before discharging into a 48-inch line on Mission Rd. Figure 1 shows the details of the sewer system within the vicinity of the project. 2 The current flow level (d/D) in the 6-inch lines cannot be determined at this time without additional gauging. 3

The current approximate flow level (d/D) and the design capacities at d/D of 50% in the sewer system are as follows:

Pipe Diameter (in)	Pipe Location	Current Gauging d/D (%)	50% Design Capacity
Route #1			
6	Chicago St.	*	706,323 GPD
6	Cummings St.	*	782,481 GPD
8	Marengo St.	48	229,323 GPD
21	Cesar E Chavez Ave.	*	2.47 MGD
27	Mission Rd.	42	6.5 MGD
30	Mission Rd.	15	8.6 MGD
27	Mission Rd R/W	31	4.9 MGD
48	Mission Rd.	58	30.78 MGD
Route #2			
8	Marengo St.	*	598,000 GPD
12	Zonal Ave R/W	*	641,424 GPD
12	Lord St.	26	1.03 MGD
8	Mission Rd.	*	324,311 GPD
21	Cesar E Chavez Ave.	54	2.47 MGD
27	Mission Rd.	42	6.5 MGD
30	Mission Rd.	15	8.6 MGD
27	Mission Rd R/W	31	4.9 MGD
48	Mission Rd.	58	30.78 MGD

4

Clarice Nash, COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
September 22, 2014
Page 3 of 4

Route #3			
6	Cummings St.	*	238,916 GPD
6	Zonal Ave R/W	*	315,877 GPD
8	Mission Rd.	*	229,323 GPD
8	Mission Rd.	*	166,160 GPD
24	Alhambra Ave	27	4.5 MGD
48	Mission Rd.	58	30.78 MGD

* No gauging available

4 (cont'd.)

Based on the estimated flows, it appears the sewer system might be able to accommodate the total flow for your proposed project. Further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point. If the public sewer has insufficient capacity then the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit will be made at that time. Ultimately, this sewage flow will be conveyed to the Hyperion Treatment Plant, which has sufficient capacity for the project. 5

If you have any questions, please call Kwasi Berko of my staff at (323) 342-1562.

STORMWATER REQUIREMENTS

The Bureau of Sanitation, Watershed Protection Division (WPD) is charged with the task of ensuring the implementation of the Municipal Stormwater Permit requirements within the City of Los Angeles. We anticipate the following requirements would apply for this project.

POST-CONSTRUCTION MITIGATION REQUIREMENTS

The project requires implementation of stormwater mitigation measures. These requirements are based on the Standard Urban Stormwater Mitigation Plan (SUSMP) and the recently adopted Low Impact Development (LID) requirements. The projects that are subject to SUSMP/LID are required to incorporate measures to mitigate the impact of stormwater runoff. The requirements are outlined in the guidance manual titled"*Development Best Management Practices Handbook – Part B: Planning Activities*". Current regulations prioritize infiltration, capture/use, and then biofiltration as the preferred stormwater control measures. The relevant documents can be found at: www.lastormwater.org. It is advised that input regarding SUSMP requirements be received in the early phases of the project from WPD's plan-checking staff. 6

GREEN STREETS

The City is developing a Green Street Initiative that will require projects to implement Green Street elements in the parkway areas between the roadway and sidewalk of the public right-of-away to capture and retain stormwater and urban runoff to mitigate the impact of stormwater runoff and other environmental concerns. The goals of the Green Street elements are to improve the water quality of stormwater runoff, recharge local ground water basins, improve air quality, reduce the heat island effect of street pavement, enhance pedestrian use of sidewalks, and encourage alternate means of transportation. The Green Street elements may include infiltration systems, biofiltration swales, and permeable pavements where stormwater can be easily directed from the streets into the parkways and can be implemented in conjunction with the SUSMP/LID requirements. 7

Clarice Nash, COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
September 22, 2014
Page 4 of 4

CONSTRUCTION REQUIREMENTS

The project is required to implement stormwater control measures during its construction phase. All projects are subject to a set of minimum control measures to lessen the impact of stormwater pollution. In addition for projects that involve construction during the rainy season that is between October 1 and April 15, a Wet Weather Erosion Control Plan is required to be prepared. Also projects that disturb more than one-acre of land are subject to the California General Construction Stormwater Permit. As part of this requirement a Notice of Intent (NOI) needs to be filed with the State of California and a Storm Water Pollution Prevention Plan (SWPPP) needs to be prepared. The SWPPP must be maintained on-site during the duration of construction. 8

If there are questions regarding the stormwater requirements, please call Kosta Kaporis at (213) 485-0586, or WPD's plan-checking counter at (213) 482-7066. WPD's plan-checking counter can also be visited at 201 N. Figueroa, 3rd Fl, Station 18.

SOLID RESOURCE REQUIREMENTS

The City has a standard requirement that applies to all proposed residential developments of four or more units or where the addition of floor areas is 25 percent or more, and all other development projects where the addition of floor area is 30 percent or more. Such developments must set aside a recycling area or room for onsite recycling activities. For more details of this requirement, please contact Daniel Hackney of the Special Project Division at (213) 485-3684. 9

Sincerely,

A. Dan

Ali Poosti, Division Manager
Wastewater Engineering Services Division
LA Sanitation

KB\AP:tn

Attachment: Figure 1 – Sewer Map

c: Kosta Kaporis, LA SAN
Daniel Hackney, LA SAN
Eduardo Perez, LA SAN

File Location: \Div Files\SCAR\CEQA Review\FINAL CEQA Response LTRs\LAC+USC Medical Center Campus Master Plan-Draft EIR.doc

Wastewater Engineering Services Division
Bureau of Sanitation
City of Los Angeles

FIGURE 1
LAC+USC Medical Center Master Plan
Sewer Map

0 610 1,220 1,830 2,440 Feet

Responses to the October 2, 2014, Comment Letter from Ali Poosti, Wastewater Engineering Services Division Manager, City of Los Angeles Bureau of Sanitation

Response to Comment A1-1

Comment noted. The County of Los Angeles looks forward to continuing consultation with your department as project building plans under the proposed master plan are developed.

Response to Comment A1-2

Comment noted. The County understands that additional gauging will be required and will coordinate with the City Bureau of Sanitation, Wastewater Engineering Services Division to conduct additional gauging, in compliance with Mitigation Measure MM-UTl-2.

Response to Comment A1-3

The County looks forward to continued consultation with your department during the building permit process to facilitate the performance of detailed gauging.

Response to Comment A1-4

Comment noted. The current gauging results show limited capacity in the existing sewage pipelines, so as described in Mitigation Measure MM-UTL-2, the County will coordination with the City Bureau of Sanitation, Wastewater Engineering Services Division to conduct more detailed gauging during final design for development under the master plan.

Response to Comment A1-5

This information is useful to the project team, and the County looks forward to continued consultation during the building permit process to ensure proposed buildings and wastewater demand can be accommodated within the existing sewer infrastructure, or improvements made as determined after the standard detailed gauging and evaluation as part of the permit process.

Response to Comment A1-6

The proposed project would incorporate post-construction mitigation measures for stormwater as described in Mitigation Measures MM-HYD-2, MM-HYD-5, and MM-HYD-6.

Response to Comment A1-7

The proposed project is a master plan for a medical center campus on County Owned property. However, if improvements to City streets are incorporated as part of the proposed master plan, the County will coordinate with the City to determine the need for green street elements as, practicable.

Response to Comment A1-8

The proposed project will comply with construction stormwater requirements and includes the implementation of Mitigation Measure MM-HYD-1 to mitigate potential stormwater impacts during construction.

Response to Comment A1-9

Proposed Sustainable Design Strategies identified in the master plan include the provision of centralized waste management and recycling.

Comment Letter A2

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

October 2, 2014

Clarice Nash, Project Manager
Department of Public Works
Project Management Division I
900 South Fremont Avenue
Alhambra, CA 91803-1331

Dear Ms. Nash:

DRAFT ENVIRONMENTAL IMPACT REPORT, "LAC+USC MEDICAL CENTER CAMPUS MASTER PLAN," IT CONSISTS OF A MASTER PLAN THAT IS ENVISIONED OVER A PERIOD OF APPROXIMATELY 25 YEARS, THAT WOULD BE USED TO GUIDE FUTURE DEVELOPMENT OF THE LAC+USC MEDICAL CENTER CAMPUS, 2051 MARENGO STREET, LOS ANGELES (FFER #201400157)

The Draft Environmental Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:

1 1. The subject property is entirely within the City of Los Angeles, which is not a part of the emergency response area of the Los Angeles County Fire Department (also known as the Consolidated Fire Protection District of Los Angeles County). Therefore, this project does not appear to have any impact on the emergency responsibilities of this Department.

LAND DEVELOPMENT UNIT:

2 1. The document refers to the City of Los Angeles Fire Department as the primary lead for Fire Prevention activities for future development of the LAC+USC

RECEIVED

PROJECT MANAGEMENT DIVISION I

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS, ARTESIA, AZUSA, BALDWIN PARK, BELL, BELL GARDENS, BELLFLOWER, BRADBURY, CALABASAS, CARSON, CERRITOS, CLAREMONT, COMMERCE, COVINA, CUDAHY, DIAMOND BAR, DUARTE, EL MONTE, GARDENA, GLENDORA, HAWAIIAN GARDENS, HAWTHORNE, HIDDEN HILLS, HUNTINGTON PARK, INDUSTRY, INGLEWOOD, IRWINDALE, LA CANADA FLINTRIDGE, LA HABRA, LA MIRADA, LA PUENTE, LAKEWOOD, LANCASTER, LAWNDALE, LOMITA, LYNWOOD, MALIBU, MAYWOOD, NORWALK, PALMDALE, PALOS VERDES ESTATES, PARAMOUNT, PICO RIVERA, POMONA, RANCHO PALOS VERDES, ROLLING HILLS, ROLLING HILLS ESTATES, ROSEMEAD, SAN DIMAS, SANTA CLARITA, SIGNAL HILL, SOUTH EL MONTE, SOUTH GATE, TEMPLE CITY, WALNUT, WEST HOLLYWOOD, WESTLAKE VILLAGE, WHITTIER

Clarice Nash, Project Manager
October 2, 2014
Page 2

Medical Center Campus Master Plan. This information is not correct, and should be corrected to refer to the County of Los Angeles Fire Department. All inspections and new development are coordinated through the County of Los Angeles Fire Department. Coordination with the City of Los Angeles Fire Department will be through the County of Los Angeles Fire Department's County Facilities Unit. The plan check reviews will be done by the County of Los Angeles Fire Department's Engineering Section. The City of Los Angeles Fire Department has primary emergency response to the LAC+USC Medical Center Campus. **2 (cont'd.)**

2. The County of Los Angeles Fire Department, Land Development Unit's comments are only general requirements. Specific fire and life safety requirements will be addressed at the building and fire plan check phase. There may be additional requirements during this time. **3**

3. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and fire hydrants. **4**

4. The proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. **5**

5. Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building. **6**

6. All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to and within 30 feet of an exterior wall on one side of the proposed structure. **7**

7. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in-length and at the end of all cul-de-sacs. **8**

8. All access devices and gates shall comply with California Code of Regulations, Title 19, Articles 3.05 and 3.16. **9**

Clarice Nash, Project Manager
October 2, 2014
Page 3

9. All access devices and gates shall meet the following requirements:

   a) Any single gated opening used for ingress and egress shall be a minimum of 28 feet in-width, clear-to-sky.

   b) Any divided gate opening (when each gate is used for a single direction of travel i.e., ingress or egress) shall be a minimum width of 20 feet clear-to-sky.

   c) Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device. **10**

   d) All limited access devices shall be of a type approved by the Fire Department.

   e) Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths and details of the proposed gates.

10. All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the County of Los Angeles Fire Department for review, prior to implementation. **11**

11. The development may require fire flows up to 8,000 gallons per minute at 20 per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of buildings, the installation of an automatic fire sprinkler system, and type(s) of construction used. **12**

12. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

   a) No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

   b) No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant. **13**

   c) Additional hydrants will be required if hydrant spacing exceeds specified distances.

Clarice Nash, Project Manager
October 2, 2014
Page 4

d) When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block.

e) A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use. **13 (cont'd.)**

13. An automatic fire sprinkler system is required for all future development. **14**

14. If there are any questions regarding the Land Development Unit's response, please contact the County of Los Angeles Fire Department, Land Development Unit Inspector, Wally Collins, at (323) 890-4243 or at Wally.Collins@fire.lacounty.gov. **15**

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. **16**

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division has no additional comments than those already provided.

If you have any additional questions, please contact this office at (323) 890-4330. **17**

Very truly yours,

Frank Vidales

FRANK VIDALES, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

FV:jl

Responses to the October 2, 2014, Comment Letter from Frank Vidales, Chief, Forestry Division, Prevention Services Bureau

Response to Comment A2-1

Comment noted. The comment is consistent with the description of fire protection for the campus as described in the Public Services section of this EIR.

Response to Comment A2-2

The correction to the text has been made in the third paragraph under 'Operation' in the discussion of Impact PS-1, Fire Protection in this Final EIR.

Response to Comment A2-3

Comment noted. Further coordination with the County of Los Angeles Fire Department will continue in the building and fire plan check phase.

Response to Comment A2-4

This requirement is included in the second paragraph under 'Operation' in the discussion of Impact PS-1, Fire Protection in this Final EIR.

Response to Comment A2-5

This statement and clarification that the County of Los Angeles Fire Department will review the ingress/egress of proposed development under the master plan has been included in the fourth paragraph of the Fire Protection Operation discussion of Impact PS-1 in this Final EIR.

Responses to Comments A2-6 through A2-10

Compliance with these building requirements will be verified as building plans are developed, and plan check is performed by the County of Los Angeles Fire Department during the standard building plan approval process.

Response to Comment A2-11

The proposed project would not include development of traffic calming measures such as speed humps/bumps/cushions, traffic circles, or roundabouts. In the event that these are proposed in the future, an analysis of the potential impacts of these measures, including review by the County of Los Angeles Fire Department, will be performed.

Responses to Comments A2-12 through A2-14

Compliance with these building requirements will be verified as building plans are developed, and plan check is performed by the County of Los Angeles Fire Department during the standard building plan approval process.

Response to Comment A2-15

Comment noted. If there are further questions regarding these comments the Land Development Unit will be contacted as requested.

Response to Comment A2-16

Comment noted. The Forestry Division will be contacted as applicable regarding campus improvements.

Response to Comment A2-17

Comment noted.

Comment Letter A3

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov

Serious drought
Help save water!

October 20, 2014

Mr. Clarice Nash
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803

RE: LAC+USC Medical Center Campus
Master Plan
Vic. LA-05/PM 18.78, LA-10/PM 19.07
SCH # 2014051061
IGR/CEQA No. 140915AL-DEIR

Dear Mr. Nash:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project is a master plan on the medical campus over a period of 25 years including 450 new hospital beds, medical offices, laboratories and other supporting functions. Full buildout of the master plan could result in a total of approximately 1,725,000 square feet of development throughout the campus. 1

Appendix D from the Traffic Impact Study (TIS), prepared in August 2014, indicates that a freeway screening analysis is used per the Agreement between City for Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures. This agreement only applies when the projects are developed and reviewed by the City of Los Angeles Department of Transportation. 2

In addition, Caltrans sent a comment letter dated August 1, 2014 for the Los Angeles County General Plan Update and met with County staff regarding consultation with Caltrans when preparing a traffic study to determine the impacts that a local development project would have on State facilities. 3

Although the lead agency is required to comply with Los Angeles County Congestion Management Program (CMP) standards and thresholds of significance, Caltrans does not consider the Los Angeles County's CMP criteria alone to be adequate for the analysis of transportation impacts pursuant to a CEQA review. CMP requirements were developed by Los Angeles County in the context of CMP goals and objectives; it does not supersede the criteria from the responsible agency under CEQA. Caltrans' Guide directs preparers of traffic impact analysis to consult with the local District as early as possible to determine the appropriate requirements and criteria of significance to be used in the traffic impact analysis. The CMP analysis may not include site-specific safety considerations, or may not be based on an appropriate measure of effectiveness for site-specific considerations. 4

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Mr. Clarice Nash
October 20, 2014
Page 2

On page 27 of the TIS, "A trip distribution pattern was developed for the project based on two sources. Home zip code data of existing LAC+USC patients and employees was supplied by Los Angeles County staff and then mapped. This data was supplemented with a select zone analysis using the City of Los Angeles' Transportation Demand Model (Year 2010) to inform the general distribution pattern for this study." Caltrans would like to review the select zone analysis so the potential traffic impact on the freeways can be identified properly. 5

On Table 5, Proposed Project Trip Generation, the Lead Agency should verified and validate each existing land use for its accurate trip generation. For example, Laboratory and Clinic Buildings trip generation should be separated and how many existing bed is in operation need to be disclosed properly in order to calculate an accurate trips generation. The usage of trips credit for internal (15%), transit (15%), and pass-by trips (20%) needs to be conservative and justified even when using the City of Los Angeles' criteria. Otherwise, the trip generation as shown does not provide sufficient data. Based on this information, it appears that 3,944 daily trips and, 711/502 AM/PM peak hour trips are low. 6

Caltrans would like the County to disclose the traffic impact to the off-ramps by preparing a queuing analysis using 85th percentile. For a more accurate off-ramp queuing analysis, capacity of the off-ramp should be calculated by the actual length of the off-ramp between the terminuses to the gore point with 30 feet per car. Generally, the demand of the off-ramp should be calculated from the traffic counts, actual signal timing percent of truck assignment on the ramp with a passenger car equivalent factor of 3.0. 7

When the level of service is changing from one level to another level and at least 50 trips will be assigned to the study location. Potentially, an improvement will be needed for the following ramps:

Location # 2, SB I-5 off-ramp to Mission Rd.
Location #14, NB I-5 off-ramp to Ceasar E Chavez Ave. 8
Location # 18, EB I-10 off-ramp to Soto St.
Location # 20, WB I-10 off-ramp to Soto St.

On Table 6, Trip Generation Estimates for Related Projects, there will be 43,379 daily trips, 3,335/4,101 AM/PM peak hour trips. In the project vicinity, the Level of Service for I-10 and I-5 are operating at LOS E and F. Many of the related trips will be utilizing the State facilities. Therefore, we believe a cumulative traffic impact will occur. The decision maker should be aware of this issue and be prepared to mitigate cumulative project impact in the future. We recommend the County establish a mechanism to address cumulative transportation impacts. 9

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Mr. Clarice Nash
October 20, 2014
Page 3

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan. 10

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods. 11

If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 140915AL.

Sincerely,

DIANNA WATSON
Branch Chief
Community Planning & LD IGR Review

cc: Scott Morgan, State Clearinghouse

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Responses to the October 20, 2014, Comment Letter from the California Department of Transportation

Response to Comment A3-1

This comment summarizes the overall level of development allowed for under full buildout of the proposed Master Plan and thanks the County for including Caltrans in the environmental review process. No further response is necessary.

Response to Comment A3-2

The comment acknowledges that a Freeway Screening Analysis was prepared for the proposed project and was included in the draft EIR, per an agreement between the City of Los Angeles and Caltrans District 7, and notes that the agreement only applies when projects are developed and reviewed by the City of Los Angeles Department of Transportation.

The lead agency for the environmental analysis of the proposed project, a Master Plan to guide the long-term development of the LAC+USC Medical Center Campus, is Los Angeles County. The site is owned by the County and the facilities there are operated by the County. Because the project is wholly surrounded by the City of Los Angeles, however, the County and the City jointly scoped the traffic study and agreed at the outset that the procedures outlined in the Traffic Study Policies and Procedures developed by the City of Los Angeles Department of Transportation would be applied in the analysis of city-maintained facilities.

The screening criteria listed below were applied to the proposed project to determine if the proposed project would require an impact analysis on the freeway system beyond the freeway analysis required under the Los Angeles County Metropolitan Transportation Authority (Metro) Congestion Management Program (CMP).

- *The screening criteria state that freeway mainline segments should be evaluated if a project adds traffic equivalent to 1% or more of capacity when a segment or off-ramp operates at LOS E or F, or 2% or more of capacity when a segment or off-ramp operates at LOS D, and further specifies that a capacity value of 2,000 vehicles per hour (vph) per lane for freeway segments and 1,500 vph per lane for off-ramps should be used in this screening.*

This detailed screening analysis is documented in a memorandum attached as Appendix D of Appendix G of the draft EIR, the Traffic Study prepared by Fehr & Peers dated August 2014.

The screening analysis and evaluation included seven freeway segments and six freeway off-ramps in the vicinity of the project site (and thus likely to carry the highest number of project trips). The evaluation calculated freeway segment level of service using both volume data from PeMS and speed data from INRIX and conservatively used the worst – case level of service in the segment screening analysis. Baseline turning movement counts collected for the draft EIR traffic study and observations of the existing signal timing and phasing were used in the off-ramp screening analysis.

In Appendix D of the Traffic Study in Appendix G of the draft EIR, Table 2 summarizes the Freeway Segment screening analysis for the a.m. and p.m. peak hours, and Table 3 summarizes the screening analysis for off-ramps during the a.m. and p.m. peak hours. The screening analysis concluded that the proposed project would not require freeway traffic impact analysis beyond the freeway analysis that was prepared under the requirements of the CMP.

Response to Comment A3-3

The comment states that comment letter was sent by Caltrans to Los Angeles County regarding another project in August 1, 2014 and that a meeting was subsequently held between the County and Caltrans staff regarding interagency coordination.

This comment is noted. However, the Memorandum of Understanding for conducting the traffic impact analysis was executed by the project team and the County on June 19, 2014. This Memorandum of Understanding required the project to analyze the potential traffic impact on the following freeway segments:

- I-10 Freeway at East LA City Limit
- State Route 60 east of Indiana Street
- US-101 north of Vignes Street
- State Route 110 at Pasadena Avenue
- I-5 Freeway at Stadium Way

Consultation with Caltrans was conducted at the outset of the study process through the CEQA process. A comment letter during the scoping period, dated May 27, 2014, was received from Caltrans, and is included in Appendix A of the draft EIR.

The NOP comment letter states that a traffic study should be prepared in advance of the draft EIR, and references the general "Guide for the Preparation of Traffic Impact Studies" (Caltrans, December, 2002). The letter lists some elements that should be included in the traffic study, including the methods used to estimate trip generation, distribution, mode choice, and assignment of trips to I-10 and I-5 and the nearest freeway ramps. Each of these elements was included in the study and is described in detail in Chapter III of Appendix G to the draft EIR.

The NOP comment letter recommends consistency with regional and local modeling forecasts, which was addressed through the use of an ambient growth factor for this area that was drawn from the regional (Metro) model, which was found to be slightly more conservative than the growth forecast from the City of Los Angeles model.

The NOP comment letter requests analysis of daily traffic volumes, and AM and PM peak hour volumes on freeways, interchanges, intersections, and HOV facilities, and requests the use of the HCM 2000 methodology, make realistic estimates of transit use and include traffic growth related to other development projects in the area. The draft EIR analysis analyzed existing conditions at six freeway off-ramps at nearby interchanges using the HCM 2000 method, as requested. Additional analysis was conducted of freeway mainline segments and intersections using other methods specified by the lead agency and a local responsible agency, the City of Los Angeles. The intersection analysis methods were consistent with what is specified in the traffic impact analysis guidelines used by Los Angeles County and the City of Los Angeles. Two approaches to conducting freeway mainline analysis were used in the draft EIR following consultation with County and city staff: one was the threshold-test specified in the CMP (discussed further in response to Comment A3-4) and the other was the screening criteria analysis mentioned in response to Comment A3-2. These freeway analyses are presented in Chapter V of Appendix G of the draft EIR.

The NOP comment letter requests analysis of all appropriate traffic volumes, specifying Existing + Project + Other Projects + Other Growth. Each of these elements was included in the growth projections described and presented in Chapter IV of Appendix G of the draft EIR. Because neither the County nor Caltrans has an applicable defined threshold of significance for daily traffic volumes, forecasting and analysis was limited to the AM and PM peak hour volumes. Estimated daily traffic volumes were, however, reported for the proposed project and for other planned development projects in the area.

The NOP comment letter requests that the study include a discussion of "mitigation measures appropriate to alleviate anticipated traffic impacts." A detailed discussion of identified impacts and mitigation measures is provided in Chapter IV of Appendix G of the draft EIR. As requested in the NOP comment letter, mitigation involving TDM was conservatively estimated.

The NOP comment letter requests that the study include specification of the developer's percent share of the cost of realistic mitigation measures. As stated in the Mitigation Monitoring and Reporting Plan included in the Final EIR, Los Angeles County would be responsible for 100% of the cost of the identified mitigation measures.

The NOP comment letter concludes by recognizing that Caltrans will receive a copy of the draft EIR from the State Clearinghouse and extending an offer to meet with the County and its consultant. This offer was not accepted, as the analysis conducted in the draft EIR did not identify impacts to the regional transportation system.

Response to Comment A3-4

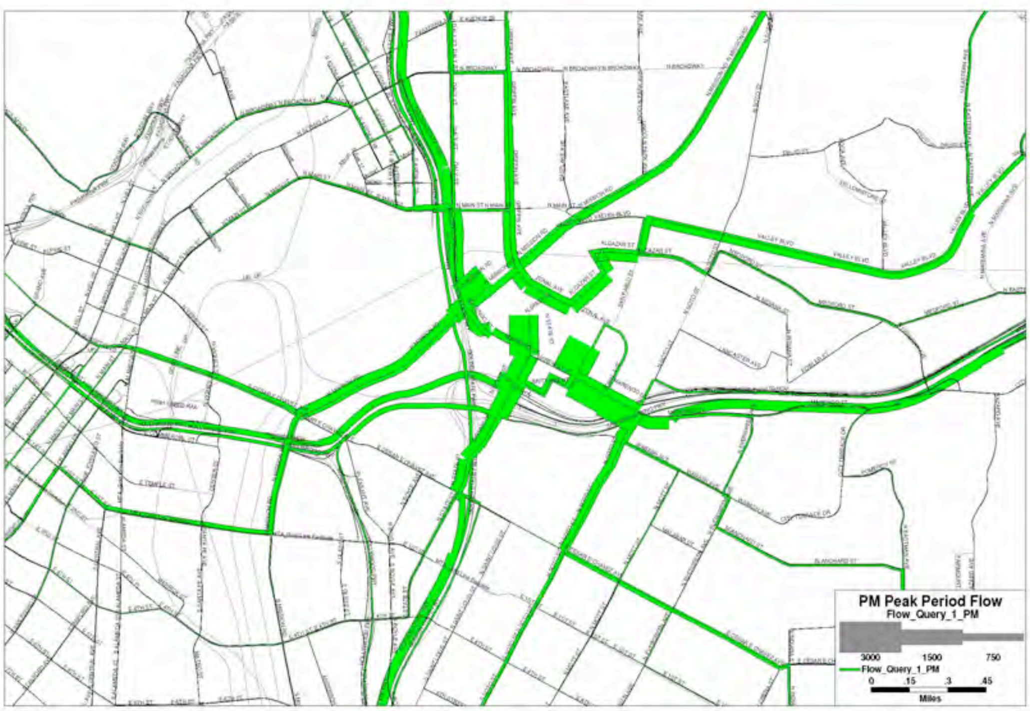
The comment states that Caltrans does not consider CMP criteria alone to be adequate for the analysis of transportation impacts under CEQA, noting that CMP requirements do not supersede other applicable criteria established by responsible agencies. The comment states that Caltrans' normal requirements are that it be consulted early in the study process to determine what analysis and impact criteria should be used for assessing impacts to the State Highway System.

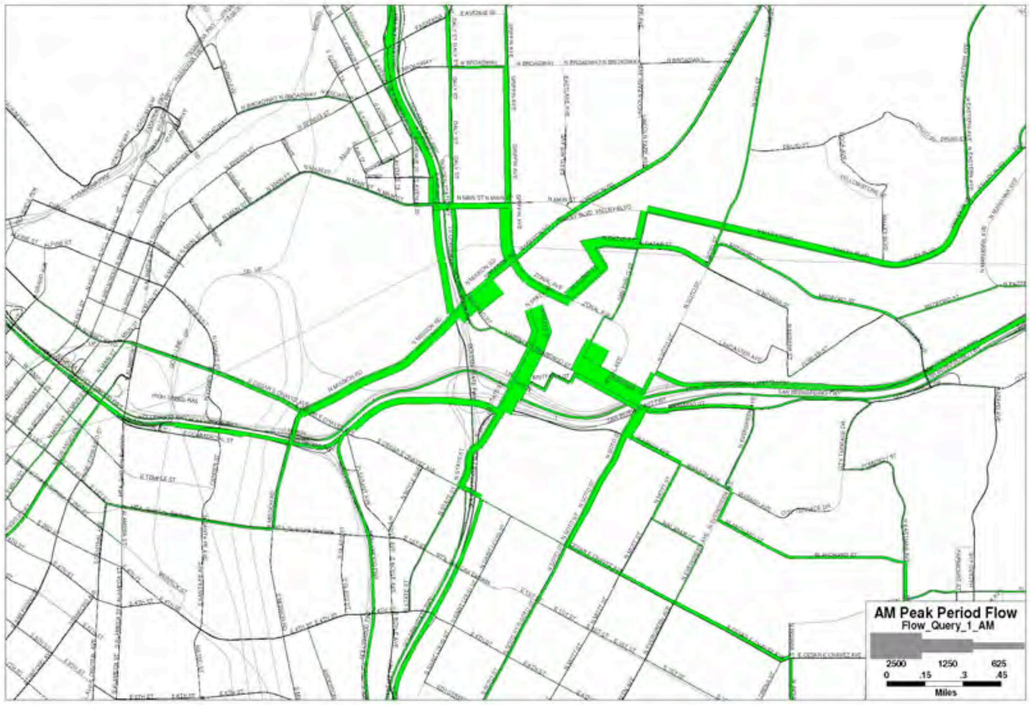
The traffic impact study included in the draft EIR was prepared in a manner consistent with the City of Los Angeles traffic study policies in effect when the study was begun, which include analysis to comply with the local Congestion Management Program, and application of the Freeway Screening Analysis described above in Response to Comment A3-2. The CMP, which is a statutory requirement administered by the Los Angeles County Metropolitan Transportation Authority (Metro) that became effective with the passage of Proposition 111 in 1990, includes procedures for measuring a project's impacts on the freeway system. Both the city's and Metro's guidelines clearly define what constitutes a significant traffic impact and both were used to assess the project's traffic impacts. The Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002) does not define significant impact thresholds. Since Caltrans has not adopted generally applicable thresholds of significance, the analysis methods described in the Metro CMP and the screening analysis described in the response to Comment A3-2 were utilized to assess freeway and off-ramp impacts. The Metro CMP provides clear and consistent evaluation procedures for evaluating freeway impacts.

Response to Comment A3-5

The comment notes that the overall trip distribution pattern used in the draft EIR traffic analysis was based, in part, on use of the City of Los Angeles travel demand forecasting model and asks to review the select zone analysis to properly identify the project's potential traffic impact on the freeways.

The trip distribution and trip assignment patterns were among the basic elements of the traffic study that were determined in consultation with LADOT and Los Angeles County staff at the outset of the study process. As noted in the comment, and as stated on page 3.14-12 of the draft EIR and on page 27 of the traffic study, the overall trip distribution pattern was developed for the project using several sources. Initially home zip code data for existing patients and employees was mapped. As a supplemental input, a select zone analysis was conducted using the City of Los Angeles model. The select zone run plots for the AM and PM peak periods, which depict the raw unadjusted model output, are provided below as requested in the comment. These inputs were used, together with local knowledge of the surrounding street system and professional judgment, to assign project traffic to the surrounding street and freeway system. It is important to recognize that the data in these plots was not used blindly but, as discussed above and as explained in the draft EIR, it was used as one of several factors in assigning project-related traffic to the freeways.





Response to Comment A3-6

The comment recommends that the Lead Agency verify and validate the trip generation of existing land uses and suggests that a more discrete breakdown of on-site land uses be used in calculating existing trip generation, and that the number of occupied beds be disclosed. The comment states that adjustments for internal, transit, and passer-by trips should be made conservatively to avoid underestimating site-generated trips and concludes by expressing an opinion that the net trip generation estimates presented in the draft EIR appear low.

The draft EIR includes information on the size of existing buildings housing active on-site uses that would be removed as part of the proposed master plan, as well as the proposed development program. Information is also provided in the draft EIR on vacant buildings, such as the Women's and Children's Hospital, that would be removed. The summaries presented in Table 2-1 on page 2-15 of the draft EIR and in Table 5 of Appendix G to the draft EIR include a detailed breakdown of the relevant land uses, including Medical Office, General Office, Heavy Industrial, Utilities, Warehousing, Hospital, Specialty Retail, Research & Development, and Recreational Community Center. Of these land use types, the first five were applied to occupied buildings that would be removed under the proposed master plan project.

The sizes and uses of the existing active buildings to be removed were based on detailed building-by-building data gathered during the master plan process and compiled in the "Building & Site Assessment Report." The tables cited above do not include vacant buildings or vacant portions of buildings, such as the upper floors of the former General Hospital building, nor do they include occupied buildings or areas where no change is proposed as part of the project, such as the new General Hospital inpatient tower; those site elements were not included in the overall net trip generation estimates for the project. Trip credits were only taken for existing, active uses that would be removed by the project.

Each of the land use categories listed above is included in the “Trip Generation Manual, 9th Edition,” which provides specific trip generation factors based on empirical studies of similar facilities throughout the country. Responding to the comment, the Medical Office land use was used to estimate existing and future trips associated with laboratories and clinics, consistent with the land use description in “Trip Generation Manual, 9th Edition,” which says that a medical office building is a “facility that provides diagnoses and outpatient care on a routine basis but is unable to provide in-house medical and surgical care.” No trip generation rates are provided for Laboratories alone. Very limited data is provided for a separate Clinic land use category but it was not used because it is based on a very small data set, and because the Medical Office rates were appropriate.

As stated on page 1 of “Trip Generation Manual, 9th Edition,” the data was “primarily collected at suburban locations having little or no transit service, nearby pedestrian amenities or travel demand management (TDM) programs” and notes that it is appropriate to adjust the published trip generation rates to reflect “the presence of public transportation service, ridesharing, or other TDM measures; enhanced pedestrian or bicycle trip-making opportunities; or other special characteristics of the site or surrounding area.” Such adjustments were made in the draft EIR to reflect the characteristics of the LAC+USC Medical Center Campus Master Plan project and its surroundings, and were reviewed and approved by both County and city staff during the scoping of the traffic study.

The 15% adjustment to the trip generation estimates to account for trips between the various uses on the site was made to acknowledge the fact that the facilities on the campus do not stand alone, and is consistent with the internal trip adjustment made in previous studies for similar projects in the immediate area. A further 15% adjustment was then made for transit use at existing and proposed facilities, because the site is well-served by transit and this adjustment is consistent with LADOT’s “Traffic Study Policies and Procedures.” In addition, the pass-by trip adjustment was made only to the proposed community-serving uses. The adjustments of 20% to the proposed Wellness-Oriented Community Meeting Space and Community-Serving Use and 10% to the Wellness-Oriented Community Retail Space were based on the pass-by rates specified in Attachment I of LADOT’s “Traffic Study Policies and Procedures.” While some patrons of the Community-Serving uses may be walk-ins from the surrounding area, a separate discount was not made for this phenomenon, but rather the pass-by adjustment in essence conservatively reflects the combined effect of both pass-by and walk-in trips (a total reduction of only 26 trips in the AM peak hour and 35 trips in the PM peak hour). In all, the draft EIR study estimates for future trip generation are approximately 30% lower than they would have been without adjustments for transit, internal, and pass-by trips.

Response to Comment A3-7

The comment states that Caltrans would like the County to disclose traffic impacts to off-ramps by preparing a queuing analysis, and suggests some techniques for doing so.

As discussed in the response to Comment A3-2, the traffic impact study was prepared following initial consultation with Caltrans and under close coordination with the Los Angeles County Department of Public Works and LADOT, and in a manner consistent with LADOT's traffic study guidelines and the Metro CMP. This provides clear and consistent evaluation procedures for evaluating freeway impacts. The draft EIR includes the results of a Freeway Impact Screening Analysis that concluded that the proposed project would not require freeway traffic impact analysis beyond the freeway analysis that was prepared under the requirements of the CMP.

This comment letter does not define significant impact thresholds, either for freeway off-ramps or for other facilities, nor does Caltrans' "Guide for the Preparation of Traffic Impact Studies." This is clearly stated in Caltrans' recent environmental impact report for the 1-710 Corridor Project: "Caltrans has not adopted specific thresholds of significance for determining whether an impact is significant." Since Caltrans has not adopted thresholds of significance, the process of determining traffic impacts at off-ramps (beyond what is presented in the draft EIR) and mitigation is subjective and questionable. The Metro CMP provides clear and consistent evaluation procedures and has been adopted by the County.

Response to Comment A3-8

The intent of this comment is unclear. It mentions changing levels of service and "at least 50 trips assigned to one study location." The comment concludes by stating that unspecified improvements may be needed at four particular freeway off-ramps.

As shown in Section 3.14 and Appendix D of Appendix G to the draft EIR, fewer than 50 net new trips are expected to use the off-ramps listed in the comment. The addition of project traffic was found to result in a change in level of service at only one of these locations, I-5 Northbound Off-Ramp & Cesar E. Chavez Avenue under Existing plus Project conditions; the change from LOS B to LOS C is not considered significant under any applicable thresholds. The detailed traffic impact analysis presented in the draft EIR includes six freeway off-ramps in the vicinity of the project site and determined that the project would contribute to a cumulative significant impact at one of them, the westbound off-ramp to Soto Street from I-10 in the AM peak hour, based on the applicable criteria, and identified mitigation to address that impact (mitigation measures MM-TRAF-3). As a point of information, this off-ramp was widened within the last three years to provide an additional westbound right-turn lane.

Response to Comment A3-9

The comment restates data presented in the draft EIR regarding the estimated number of trips generated by several other projects within approximately 1.5 miles of the project site and concludes that a cumulative traffic impact will occur. This is consistent with the findings of the draft EIR, which identified significant impacts under Cumulative plus Project conditions, and identified mitigation measures where feasible. It should be noted that two of the nine related projects, the Wyvernwood Boyle Heights Project and the Sears Building Adaptive Reuse Project, when combined represent over 70% of the total growth in traffic attributable to specific related projects.

The comment also recommends that the County establish a mechanism to address cumulative transportation impacts on the I-10 and I-5 Freeways. Since the County does not maintain these facilities, the County will direct project applicants to consult with Caltrans.

Response to Comment A3-10

The proposed project would incorporate post-construction mitigation measures for stormwater as described in mitigation measures MM-HYD-2, MM-HYD-5, and MM-HYD-6 in Section 3.8 of the EIR.

Response to Comment A3-11

The comment advises that oversized vehicles traveling on State highways must obtain a transportation permit from Caltrans and recommends that large truck trips be limited to off-peak commute periods.

As indicated in this comment, if the use of oversized-transport vehicles on State highways becomes necessary during project construction, the project would be required to obtain a Caltrans transportation permit. Construction truck trips could occur during peak periods. However, Mitigation Measure MM-TRAF-1 in Section 3.14, Transportation/Traffic of the draft EIR requires the County to devise a Traffic Control Plan to be implemented during construction of the project. As part of that plan, haul routes for deliveries and pick-ups of construction materials would be defined as well as appropriate restrictions on travel times.

Comment Letter B1

LAC+USC Medical Center Campus Master Plan
Draft Environmental Impact Report
Public Meeting

☐ **September 20, 2014** ☒ **September 23, 2014**

Comment Form ***Formulario de comentarios***

MARGARITA MEJIA MMEJIA777@GMAIL

Name/Affiliation *Nombre/Afiliación* E-mail Address *Dirección de correo electrónico*

1955½ BAILEY ST. L.A. 90033 (909) 917-6554

Street Address/City/Zip Code *Dirección/Ciudad/Código Postal* Phone Number *Número de teléfono*

Comment *Comentario*

at the #4 (Potential Worksource Housing) Create a Ronald McDonald House for Temporary housing for families with children at the hospital for treatment. 1

Response to the September 23, 2014, Comment Letter from Margarita Mejia

Response to Comment B1-1

Comment noted. This is certainly an option to be considered during the programming of the on-campus facilities.

Comment Letter B2

Comments on DEIR for LAC+USC Medical Center Campus Master Plan
By Danila Oder

Re Impact AES-3 (p. ES-7):

On p. 3.1-14 and on the map on p. 3.1-21, the view from the Clinic Tower of the Existing Medical Center (#31 on map) was not included in the analysis of impacted views, which were provided on pages 3.1-22 to 3.1-24. It should be included. #31 is the new hospital recently built (opened 2009), one of the few structures that will remain in the master plan. The Clinic Tower is the part of the hospital *most used* by community residents, with clinics along the curtain wall on floors 3, 4, 5 and half of 6, as shown in the sample photos below. The panoramic view towards downtown through the glass wall on the west side of Clinic Tower is the *main* architectural feature of the building. In the master plan, building #27 blocks the view from and of the Clinic Tower.

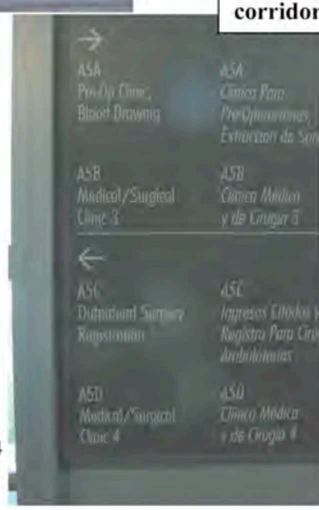
It is inexcusable that this view was not included in the analysis, especially in view of the comment about building #27 blocking the view that was submitted at an earlier meeting, included in the September 2014 DEIR, and directly quoted on page ES-5 of the September 2014 DEIR. If it had been analyzed, an unavoidable significant impact would have had to be listed under item AES-3 (p. ES-7), or Building #27 would have had to be removed from the master plan. 1

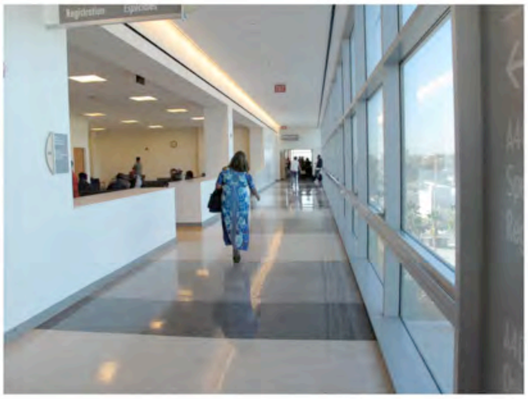
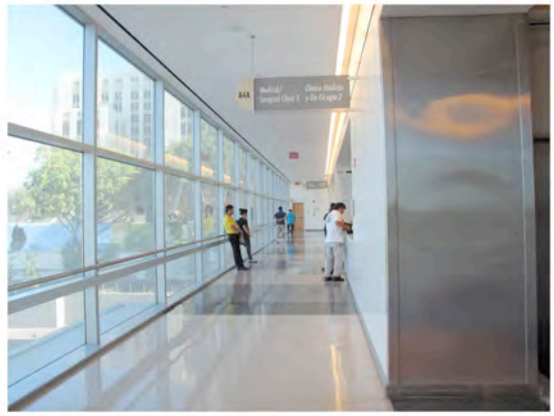
View from Clinic Tower, 4th floor

Proposed location of Building 27

Wayfinding signs on 4th and 5th floors showing public use of corridor

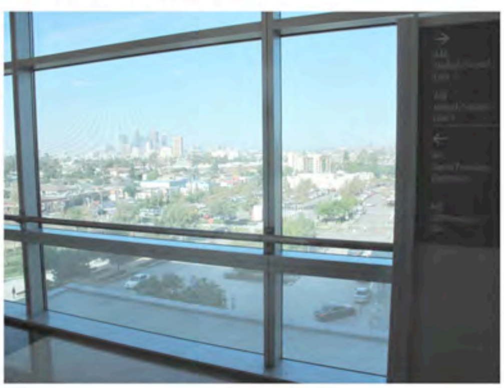
1 of 4



Fourth floor corridor along curtain wall to left and right of wayfinding sign

Fifth floor wayfinding sign along curtain wall corridor, adjacent to the only patient/visitor elevators in the building.



The full view from the fourth floor

2 of 4

Re Impact HAZ-5 (p. ES-32):

Impact HAZ-5: *Would the Proposed Project Impair Implementation of or Physically Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan?* Construction activities could temporarily impair and/or interfere with emergency response access in the vicinity of the project site because of possible lane closures, detours, and construction-related traffic. Operation of future campus facilities would allow for adequate access within and around the project site.

The conclusion under Impact HAZ-5 here that "operation of future campus facilities would allow for adequate access within and around the project site" is unsupported by the references, which are to MM-PS-1 and MM-TRAF-1.

MM-PS-1 only refers to mitigation during *construction*, which appears to be adequate. Impact TRAF-1 acknowledges that four intersections will be impacted under full build-out:

implemented. Buildout of the master plan would result in significant impacts on the level of service at four intersections under the existing baseline plus-project scenario (study intersections 1, 9, 13, and 19) and cumulative year (2040) plus-project scenario (study intersections 9, 13, 19, and 20).

Yet, the mitigation measures proposed for Impact TRAF-1 are wholly inadequate. MM-TRAF-1 only refers to construction. MM-TRAF- 2 only refers to widening the part of State Street north of Marengo, which is *within* the campus, and moving a bus stop. MM-TRAF-3 refers only to the County encouraging use of bikes, a shuttle, and more bus stops. 2

We are left with four or five intersections that *are* unavoidably significantly impacted by the project. We cannot expect that the City Department of Transportation will widen those streets that are under its control. These intersections include all intersections adjacent to the freeway exits/entrances serving the campus: Soto/Marengo, State/Marengo, State/Chavez.

It is disengenous to state "operation of future campus facilities would allow for adequate access within and around the project site". Not only will the emergency response plan be affected, the intersections of Soto/Marengo and State/Marengo *are on the routes used by emergency vehicles bringing trauma patients to the emergency room from the hospital's designated catchment area, which is part of downtown and the San Gabriel Valley.* In other words, full buildout of the campus, post-construction, will unavoidably affect the speed of emergency vehicles *performing one of the hospital's primary functions*.

Impact HAZ-5 (p. ES-32) should be rewritten to say that "build-out of all planned campus facilities will affect access within and around the project site".

Issues to be resolved on page ES-5 should include "access to the hospital by emergency vehicles as the site is built out and traffic increases". 3

I think that it would be valuable to include projections of the effect on the five intersections of several scenarios of a *partial* build-out of the campus. 4

3 of 4

Additional comments:

p. 2.13 The location of the bike depot should be changed to be close to the existing medical center buildings and General Hospital, for the following reasons
- the uncertainty of development of the western half of the campus, as acknowledged in the DEIR, means that for the forseeable future the eastern half of the campus, where the hospital and General Hospital are, will be the destination of most bicyclists visiting the campus
- one of the greatest advantages of riding a bike over other modes of transportation is the ability to park close to the front door/entryway of the destination. This is both for convenience and security: foot traffic and often, security cameras, help protect parked bikes. The planned bike depot is too far away for current users (staff, visitors) of the hospital and General Hospital. They will not use it. Even when the pedestrian mall is developed, hospital users will not park their bikes there; at most they will visit it for repairs (if there is a bike kiosk there). **5**

An appropriate location for a bike depot is in the footprint of building #27, on part of the surface parking lot 5. Another appropriate location is on the south side of the General Hospital building, in or near the courtyard. Nothing further away from the existing hospital will meet the expectations of bicyclists visiting the hospital. **6**

---

p. 213 The community garden is not sufficiently defined and is probably impracticable at the location on the master plan. I manage a community garden so I am familiar with the logistic needs and challenges of operating them.
- A garden must have a fence at least 6 feet high plus a barrier above that, to prevent theft. Nothing discourages gardeners more than theft. Is such fencing compatible with the aesthetics of the master plan?
- A garden must have driveway access, ideally *into* the garden, for trucks that deliver lumber, mulch and compost. Is that included?
- The garden location next to Marengo Street is impractical because gardeners need to be able to load and unload things from vehicles. An expanded concrete area in front of the garden would be necessary. Even with that, vehicles would turn into the driveway from Marengo and have to immediately stop next to the garden. This would create a safety hazard for other drivers making a blind right turn into the driveway from Marengo Street.
- Gardens must have committed leadership to thrive. Smaller gardens are more difficult to manager than large ones, because there are only a few members to do the volunteer work necessary, and if they do not want to or are physically unable to, the garden can be neglected and unsightly. A large garden can have procedures in place that hold the members accountable. The plan appears to show a very small garden (fewer than 20 plots), and it is very visible, adjacent to Marengo Street. The likelihood of it becoming neglected and unsightly within a year or two is, in my judgment, high. It should be made larger and moved elsewhere in the campus, or eliminated. **7**
- Community gardens look messy during part of the year. This is an inevitable part of growing vegetables, and also occurs because some gardeners do not plant in the winter, some gardeners do not keep up their plots because of illness or travel, etc. Because community gardens are not professionally landscaped, this garden is not appropriately sited at the 'welcome corner' of a major street entrance to the campus.
- If the County does decide to go ahead with a community garden *anywhere* on campus, the Los Angeles Community Garden Council, <www.lacgc.org> should be consulted for technical expertise before anything is designed or built. The Los Angeles Conservation Corps can assist with the construction, but does not have garden design or planning expertise.

4 of 4

Responses to the September 29, 2014, Comment Letter from Danila Oder

Response to Comment B2-1

Although the view from the Clinic Tower was not identified as one of 18 representative views, the draft EIR did acknowledge on page 3.1-25 that informal views from some locations on campus, including the Clinic Tower, would be obstructed by some proposed buildings under the master plan. However, the potential obstruction of those views, including the views from the Clinic Tower, were not determined to be significant impacts under CEQA for the reasons described below.

Many informal viewpoints within the LAC+USC campus exist from which moderately high-quality southwest-facing views of the downtown Los Angeles skyline and northeast –facing views of the San Gabriel Mountains and intervening foothills can be acquired. These views are described as informal because they have not been systematically identified, mapped, and evaluated for their degree of scenic quality, nor recognized in local planning policy documents. Current general plan and specific plan policies governing the project area have not catalogued such views within the LAC+USC campus, or views towards the campus from the adjoining Lincoln Heights, Boyle Heights, or East Los Angeles communities. Nor have they determined, based on substantial community input, which ones are significant enough to merit preservation and protection, or provided development standards and guidelines to help protect such views. Visual quality within the neighborhoods adjoining LAC+USC and LAC HSC campuses typically falls within the moderately-low range and sometimes reaches moderate quality. Furthermore, as described on pages 3.1-18 and 3.1-19 of the draft EIR, there are different viewer groups who have different viewer response to the existing visual environment. Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a project. Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, duration of their view, speed at which the viewer moves, and position of the viewer. Out of the viewer groups identified in the analysis, residents in the surrounding community, have the highest viewer exposure and sensitivity, as they are the most numerous and most long-term viewer group. While the curtain wall on floors 3-6 of the Clinic Tower provides a pleasant view for visitors and employees to the building, visitors and employees do not visit the building primarily to experience the views from the corridor along the curtain wall. Employees and visitors are exposed to the view in transition from the elevator lobby to the areas at each end of the corridor in the Clinic Tower. Therefore, this view while pleasant is transitory and short-term. Additionally, it should be noted that the view of downtown Los Angeles from the Clinic Tower would only be partially and not fully obstructed by the buildings proposed under the master plan. Nonetheless, given scenic view/vantages that offer sweeping views of downtown Los Angeles and the San Gabriel Mountains is one of the few available elements of moderately high visual quality in the community and within the campus, minimization measure MM-AES-1 is proposed (see Section 3.1 of this EIR), which would help protect such views on the campus.

Response to Comment B2-2

The comment questions the conclusion of the draft EIR that the project, upon completion, would "allow for adequate access within and around the project site" and states that this conclusion is not supported by the two construction-period mitigation measures cited that are relevant to this issue (MM-PS-1 an d MM-TRAF-1). Section 3.7 of the draft EIR, Hazards and Hazardous Materials, addresses the proposed project's potential to expose people and the environment to hazards and hazardous materials. The finding of the draft EIR with respect to Impact HAZ-5, was that access within the site or on the immediately adjacent streets could be reduced during construction but that in the operational phase adequate access would be provided through and to the project site. The two mitigation measures cited by the commenter, MM-PS-1 and MM-TRAF-1, address the temporary impacts that could occur during construction and are not meant to address impacts during the operational period.

The finding of a less than significant impact in the operational phase was based in part on the fact that new buildings would be designed to conform to County of Los Angeles Fire Department standards for emergency ingress/egress and clearances, and that the new buildings would be integrated into the existing emergency response plan and emergency evacuation plan for the site. This has now been clarified in the discussion of Impact HAZ-5.

Furthermore, while the comment correctly notes that the proposed project would result in significant and unavoidable traffic impacts at several intersections in the vicinity of the LAC+USC Campus, none of the those intersections is projected to operate at gridlock conditions (LOS F). Under congested traffic conditions emergency service providers, in emergency situations, can use sirens and can maneuver through traffic to reach their destination. Therefore, the impact on emergency vehicle access is considered less than significant. Nevertheless, the discussion on pages 3.7-25 and ES-32 of the draft EIR has been clarified in the Final EIR to read:

"While it is acknowledged that build-out of the master plan would increase traffic congestion around the Medical Center campus, no significant impacts during project operation would be expected because the proposed project would allow for adequate access through and to the project site. No mitigation measures would be required during project operation."

Response to Comment B2-3

The issue of access to the hospital by emergency vehicles and how design of the master plan would comply with standards to provide adequate access for emergency response have been addressed in the response to Comment B2-2, and language to clarify this has been added in this Final EIR under the discussion of Impact HAZ-5. The conclusion for Impact HAZ-5 remains valid.

Response to Comment B2-4

The Alternatives Analysis chapter of the draft EIR did include the analysis of transportation/traffic under Alternative B to the proposed project, the Reduced Development Alternative, on page 5-13 of the draft EIR. The reduced level of development under this alternative would reduce overall trip generation compared to the proposed master plan and would be expected to avoid the Existing Plus Project impact at State Street & Cesar E. Chavez Boulevard (Study Intersection 9) and the cumulative impact identified for the project at one study intersection – Soto & Charlotte/I-10 Ramps (Study Intersection #20).

Response to Comment B2-5

The intent of the bike depot is to invite the community into the campus. The master plan is only a guideline and other locations for bike amenities may be considered during design.

Response to Comment B2-6

Comment noted. As previously mentioned, the master plan is only a guideline and other locations may be considered during design.

Response to Comment B2-7

With regard to potential aesthetic impacts, the community garden would not be located at a major street entrance to the campus. The conceptual location identified in the master plan would be located opposite the on-ramp to the I-5 freeway and would be set back from Marengo Street and a proposed pedestrian mall to the east. Additionally, as depicted in the master plan, two rows of new street trees are proposed along Marengo Street, which would help visually screen the community garden from viewpoints along Marengo Street and to the south. Nonetheless, further measures to screen the garden, such as fencing or additional landscaping, will be considered during development of the garden design plans. Additionally, community input on the design of the community garden would be obtained prior to final design of the community garden. Therefore, the aesthetic impacts of a community garden are expected to be less than significant. However, as individual projects are identified in the future, the EIR will be reviewed to determine whether further documentation under CEQA is required.

Also, please note the master plan is a guide and framework for future development. A detailed site plan that includes access and egress locations has not yet been developed for the community garden. The master plan only identifies a potential location for the community garden within the campus. When plans are developed for the community garden, access and egress to the facility will be reviewed by County traffic engineers to ensure no safety hazards are created due to queuing of vehicles or inadequate sightlines. Additionally, new facilities proposed under the master plan would be designed to conform to County of Los Angeles Fire Department standards for emergency ingress/egress and clearances. The County of Los Angeles Fire Department reviews building plans to conform to these standards as part of the standard building plan approval process.

Comment Letter B3

From: Danila Oder [mailto:doder@usc.edu]
Sent: Monday, October 06, 2014 12:03 PM
To: Nash, Clarice
Subject: Another comment on DEIR for LAC+USC campus

Dear Ms. Nash:
I would like to add to my comments the following:

I was involved with a nonprofit group in LA about 15 years ago, and we had to stop offering programs to the public because we could not find rooms to hold meetings in that were low cost, centrally located and large enough (holding 50 people or more). Mostly we looked at the facilities from the LA Department of Recreation and Parks.

I know that the campus plan includes plans for community rooms. I would guess that there is a tremendous demand from the community for these, and even more so if a kitchen (or at least, a sink) is available as well. 1

I suggest that when the community buildings are planned, you try to get a sense of the demand, perhaps by asking Rec & Parks about the demand on their facilities.

Sincerely,
Danila Oder
LA County DHS employee
LAC+USC Medical Center
doder@usc.edu

Response to the October 6, 2014, Comment Letter from Danila Oder

Response to Comment B3-1

Comment noted. The appropriate agencies will be consulted during programming/design of the community rooms.

6.3 Comment Letters Sent After the Close of the Public Comment Period

This section includes comment letters received after the close of the public review period. Although CEQA does not require responses to comment letters submitted after the close of the 45-day public review period, as a courtesy, the letters and responses to comments in the letters are included in this section.

C. Comment Letters Sent After the Close of the Public Comment Period

No.	Affiliation	Name	Date
1	State Clearinghouse and Planning Unit	Scott Morgan, Director, State Clearinghouse	10/21/14
2	City of Los Angeles Department of Transportation	Tomas Carranza, Senior Transportation Engineer	10/22/14

Comment Letter C1

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

October 21, 2014

Clarice Nash
Los Angeles County
900 South Fremont Avenue
Alhambra, CA 91803

Subject: LAC+USC Medical Center Master Plan
SCH#: 2014051061

Dear Clarice Nash:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on October 20, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. 1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH#	**2014051061**
Project Title	LAC+USC Medical Center Master Plan
Lead Agency	Los Angeles County

Type	**EIR** Draft EIR
Description	The LAC+USC Medical Center Campus Master Plan would guide future development on the campus over a period of approximately 25 years (2015-2040) and would influence the delivery of health care services and health-related community programs. Development under the master plan would include the construction of new, or renovation of existing, office space for medical uses; retail space; open space; and parking. Demolition of some existing buildings and structures would be required to accommodate new development. Full buildout of the master plan could result in a total of approximately 1,725,000 sf of development throughout the campus.

Lead Agency Contact

Name	Clarice Nash		
Agency	Los Angeles County		
Phone	626 300 2363	***Fax***	
email			
Address	900 South Fremont Avenue		
City	Alhambra	***State*** CA	***Zip*** 91803

Project Location

County	Los Angeles						
City	Los Angeles, City of						
Region							
Lat / Long	34° 3' 33.9" N / 118° 12' 32.3" W						
Cross Streets	Zonal Street, Mission Road, Marengo Street, State Street						
Parcel No.	5201-001-901						
Township	1S	***Range***	13W	***Section***	26	***Base***	

Proximity to:

Highways	I-5, 10, SR 110, 101
Airports	
Railways	UPRR, Amtrak
Waterways	Los Angeles River
Schools	Several
Land Use	PF-1

Project Issues	Air Quality; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Landuse; Cumulative Effects; Aesthetic/Visual; Drainage/Absorption; Flood Plain/Flooding
Reviewing Agencies	Resources Agency; Department of Boating and Waterways; Department of Conservation; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Department of Housing and Community Development; Air Resources Board; Regional Water Quality Control Board, Region 4; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission

Date Received	09/05/2014	***Start of Review***	09/05/2014	***End of Review***	10/20/2014

Response to the October 21, 2014, Comment Letter from Scott Morgan, Director, State Clearinghouse

Response to Comment C1-1

The letter acknowledges the formal close of the 45-day review period and the County's compliance with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. No further response is required.

Comment Letter C2

CITY OF LOS ANGELES

CALIFORNIA

Seleta J. Reynolds
GENERAL MANAGER

ERIC GARCETTI
MAYOR

DEPARTMENT OF TRANSPORTATION
100 S. Main St., 10th Floor
LOS ANGELES, CA 90012
(213) 972-8470
FAX (213) 972-8410

2051 Marengo St / 1200 N. State St
LADOT Case No. 14-42593

October 22, 2014

Jeff Pletyak, PE
Los Angeles County Department of Public Works
Traffic and Lighting Division
1000 South Fremont Avenue
Building A-9E, 4th Floor
Alhambra, CA 91803

Subject: **TRANSPORTATION IMPACT ANALYSIS FOR THE PROPOSED LAC+USC MEDICAL CENTER MASTER PLAN PROJECT (DEIR SCH #2014 051061)**

Dear Mr. Pletyak,

The City of Los Angeles Department of Transportation (LADOT) appreciates the opportunity to review and comment on the traffic study prepared by Fehr & Peers dated August 2014 for the proposed LAC+USC Medical Center Master Plan project. The proposed project is located at 2051 Marengo Street and 1200 N. State Street within the Boyle Heights and Lincoln Heights areas of the City of Los Angeles. The main portion of the medical center campus is bounded by Zonal Street, Mission Road, Marengo Street, and Chicago Street. The campus also includes parcels on the northeast, northwest and southwest corners of Mission Road & Zonal Avenue/Griffin Avenue. The site is under the jurisdiction of Los Angeles County; nonetheless, the traffic study was prepared following LADOT's traffic study guidelines since the project site is surrounded by the City of Los Angeles. 1

In order to evaluate the effects of the project's traffic on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change to the volume-to-capacity (V/C) ratio between the "future no project" and the "future with project" scenarios. This change in the V/C ratio is compared to established threshold standards to assess the project-related traffic impacts. Based on LADOT's traffic impact criteria[1], the study included the detailed analysis of 21 intersections and determined that the proposed development is expected to result in four significant traffic impacts. The results of the traffic impact analysis, which adequately evaluated the project's traffic impacts on the surrounding community, are summarized in **Attachment 1**. 2

[1] Per the DOT Traffic Study Policies and Procedures, a significant impact is identified as an increase in the Critical Movement Analysis (CMA) value, due to project related traffic, of 0.01 or more when the final ("with project") Level of Service (LOS) is LOS E or F; an increase of 0.020 or more when the final LOS is LOS D; or an increase of 0.040 or more when the final LOS is LOS C.

Jeff Pletyak Page 2 October 22, 2014

DISCUSSION AND FINDINGS

A. Project Description

The proposed master plan envisions a series of improvements to the campus' medical facilities, including new or renovated buildings and facilities for in-patient and out-patient care, 450 new hospital beds, medical offices, laboratories and other supporting functions. The master plan also anticipates the development of community-oriented and wellness-related facilities, educational uses, and retail opportunities and enhanced outdoor space. The western area of the master plan allows for the development of bio-tech research and development facilities. Supporting parking facilities would be located throughout the campus. With a projected build out year of 2040, the Master Plan provides a framework within which the site can be developed in the coming decades. 3

Parking within the LAC+USC campus is currently provided in three large parking structures (Structure 9 south of Marengo Street, Structure 10 east of Mission Road and Structure 12 south of Zonal Avenue) as well as numerous parking lots throughout the site and metered and unmetered parking on the surrounding streets. Driveways are located on each of the streets bounding the campus and on State Street, which runs through the campus. The proposed Master Plan allows for the removal of Structures 10 and 12 and construction of new parking structures on the west side of State Street, on Zonal Avenue, and on Sichel Street. Access would continue to be located on the perimeter streets and on State Street. The conceptual site plan for the proposed project is illustrated in **Attachment 2**. 4

B. Trip Generation

The project is estimated to generate a net increase of approximately 3,944 daily trips, 711 trips in the a.m. peak hour and 502 trips in the p.m. peak hour. A copy of the trip generation table can be found in **Attachment 3**. The trip generation estimates are based on rates and formulas published by the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition, 2012. These trip generation rates are typically derived from surveys of similar land use developments but in areas with little to no transit service. Therefore, DOT's traffic study guidelines allow projects to reduce their total trip generation to account for potential transit usage to and from the site, and for the internal-trip making opportunities that are afforded by mixed-use projects. Consistent these guidelines, the estimated trip generation includes trip credits to account for the mixed-use nature of the project and for the expected transit mode share. 5

C. Freeway Analysis

The traffic study included a freeway impact analysis that was prepared in accordance with the State-mandated Congestion Management Program (CMP) administered by the Los Angeles County Metropolitan Transportation Authority (MTA). According to this analysis, the project would not result in significant traffic impacts on any of the evaluated freeway mainline segments. To comply with the Freeway Analysis Agreement executed between Caltrans and DOT in October 2013, the study also included a screening analysis to determine if additional evaluation of freeway mainline and ramp segments was necessary beyond the CMP 6 requirements. Exceeding one of the four screening criteria would require the applicant to work directly with Caltrans to prepare more detailed freeway analyses. However, the project did not meet or exceed any of the four thresholds defined in the agreement; therefore, no additional freeway analysis was required. 6 (CONT'D.)

D. Significant Traffic Impacts

Under the "Future with Project" scenario, the traffic study estimates that the project would result in a significant traffic impact at four study intersections. The study identifies transportation mitigations designed to fully mitigate the impacts at two of the four significantly impacted intersections. The impacted intersections are: 7

- State Street & Cesar E. Chavez Boulevard (p.m. peak hour)
- State Street & Marengo Street (both peak hours)
- Soto Street & Marengo Street (both peak hours)
- Soto Street & Charlotte St/I-10 Westbound On-/Off-Ramps (a.m. peak hour)

PROJECT REQUIREMENTS

A. Transportation Mitigations

To fully or partially off-set the expected traffic impacts at the impacted intersections, the study proposes the following measures (which are acceptable to LADOT):

1. Transportation Demand Management Plan

Consistent with City policies on sustainability and smart growth, and with LADOT's trip reduction and multi-modal transportation goals, the project mitigation program first focuses on developing a comprehensive trip reduction program and on solutions that promote other modes of travel. The project proposes to implement a Transportation Demand Management (TDM) program to reduce the number of vehicle trips generated by the site. The purpose of a TDM program should be to reduce the use of single occupant vehicles (SOV) by increasing the number of trips by walking, bicycle, carpool, vanpool and transit. The design of the development should contribute to minimizing traffic impacts by emphasizing non-auto modes of transportation. Also, a pedestrian-friendly project with safe and walkable sidewalks should be included in the overall design of the proposed Master Plan. 8

LADOT recommends that the developer submit a TDM program to LADOT for review and approval prior to the issuance of the first certificate of occupancy for the project. The TDM program should include, but is not limited to, the following strategies:

- Design the project to ensure a bicycle, transit, and pedestrian friendly environment;
- Provide bicycle parking for new development that exceeds the County's code requirement;
- Expand the County-operated Wellness Center Shuttle to include more stops on or near the site;

Jeff Pletyak Page 4 October 22, 2014

- Work cooperatively with other transit service providers (Metro, LADOT, Metrolink, Foothill Transit, USC) to establish new transit stops/stations or to upgrade existing stops adjacent to or within close proximity to the Medical Center;
- Improve the condition and/or aesthetics of existing sidewalks leading to transit station(s) with adequate lighting to provide for a safer pedestrian environment;
- Coordinate with LADOT and Metro to contribute to "next bus" technologies at key bus stops;
- Administrative support for the formation of carpools/vanpools and rideshare matching services;
- Coordinate with LADOT to determine if the site would be eligible for one or more of the services to be provided by the future Mobility Hubs program (secure bike parking, bike-share kiosks, and car-share parking spaces); **8 (CONT'D.)**
- Provision of subsidized transit passes for eligible employees;
- Provide transit routing and schedule information on-site;
- Contribute a one-time fixed-fee of $50,000 to be deposited into the City's Bicycle Plan Trust Fund to implement bicycle improvements within the area of the proposed project;
- Provide secure bicycle parking amenities such as a bike station. An ideal location for a bike station would be at the Bike Depot Pocket Park being proposed at the intersection of Zonal Avenue and Mission Road. This type of facility could be jointly used by the public, students and the campus employees;
- Secure bicycle parking should be considered to serve the student population at the Los Angeles County USC OB/Gynecology Nursing School located on Mission Road.

2. **Intersection Improvement**
   To mitigate the expected impact at the intersection of **State Street and Marengo Street**, the study proposes to widen the southbound approach on State Street (within the LAC+USC Medical Center) to provide one left-turn lane, one through lane and one shared through/right-turn lane. Additionally, the applicant has proposed to relocate the westbound bus stop eastward to allow the installation of an exclusive westbound right-turn lane to provide one left-turn lane, two through lanes and one right-turn lane. Conceptually, this improvement is acceptable to LADOT; however, detailed roadway striping plans would need to be submitted for a final determination. Also, Metro would need to be consulted for approval of the bus stop relocation. The applicant may also be responsible for any traffic signal upgrades and modifications associated with this mitigation. LADOT may also require the installation of a CCTV camera and any necessary infrastructure (including fiber optic and interconnect) at this intersection. **9**

3. **New Traffic Signal**
   In the preparation of traffic studies, LADOT guidelines indicate that unsignalized intersections should be evaluated solely to determine the need for the installation of a traffic signal or other traffic control device. When choosing which unsignalized intersections to evaluate in the study, intersections that are adjacent to the project or that are integral to the project's site access and circulation plan should be identified. The traffic study included a traffic signal warrant analysis for the intersection of **State Street and Zonal Avenue.** **10**

Jeff Pletyak Page 5 October 22, 2014

Based on the warrant analysis results, one of the warrants for a new traffic signal is satisfied for this intersection. However, the satisfaction of a traffic signal warrant does not in itself require the installation of a signal. Other factors relative to safety, traffic flow, signal spacing, coordination, etc. should be considered. If the signal is warranted and approved, LADOT's Central District Office will issue a Traffic Control Report authorizing the installation of the new traffic signal. At that point, the applicant would be required to design and construct the new signal through the Bureau of Engineering's B-permit process. The applicant should work with LADOT's Central District Office to initiate this process and the review of the traffic signal warrants analysis for this intersection prior to the issuance of the project's first building permit. 10 (CONT'D.)

B. Implementation of Mitigation Measures

Since this is a master plan development proposal, the applicant should work with LADOT to establish an appropriate phasing plan that coordinates all transportation mitigation measures, project development and the associated permitting. The pashing plan should define when mitigation measures should be guaranteed (prior to issuance of building permits) and when they should be completed (prior to issuance of certificate of occupancy) in accordance with an appropriate development phase. All transportation improvements and associated traffic signal work within the City of Los Angeles should be suitably guaranteed through the B-permit process of the Bureau of Engineering during the permitting process.

Temporary certificates of occupancy may be granted in the event of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the satisfaction of LADOT. Prior to setting the bond amount to satisfy the guarantees needed for the issuance of building permits, the applicant's engineer or contractor should contact LADOT's B-Permit Coordinator, at (213) 972-8685, to arrange a pre-design meeting to finalize the proposed designs and the traffic signal modifications needed for the mitigation. If this proposed transportation mitigation does not receive the required approval during design review, a substitute mitigation measure may be provided subject to the approval of LADOT, upon demonstration that the substitute measure is environmentally equivalent or superior to the original measure in mitigating the project's significant traffic impact. 11

C. Construction Impacts

LADOT recommends that a construction work site traffic control plan be submitted to LADOT for review and approval prior to the start of any construction work involving the closure of traffic lanes. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. LADOT also recommends that all construction related traffic be restricted to off-peak hours, as feasible. 12

D. Site Access Plan

The conceptual site plan for the proposed project is acceptable to LADOT. However, please note that the review of the study does not constitute approval of the 13 driveway dimensions and internal circulation schemes. Those require separate review and approval and should be coordinated with LADOT's Citywide Planning Coordination Section (201 N. Figueroa Street, 4th Floor, Station 3, @ 213-482-7024) to avoid delays in the building permit approval process.

Prior to the commencement of building or parking layout design efforts, the applicant should contact LADOT for driveway width and internal circulation requirements so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans. All driveways should be Case 2 driveways - 30 feet and 16 feet wide for two-way and one-way operations, respectively. All pick-up and drop-off activities should take place on-site. Any security gates should be a minimum of 20 feet from the property line. 13 (CONT'D.)

E. Highway Dedication Requirements

Highway dedication and street improvements may be required along the project's frontage to improve the affected roadways to the standards identified in the City's Transportation Element of the General Plan. The applicant should check with Bureau of Engineering's Land Development Group to determine if there are any highway dedication, street widening and/or sidewalk requirements for this project. 14

PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

LADOT also reviewed the Draft Environmental Impact Report (DEIR) prepared for the LAC+USC Medical Center Master Plan Project and offers the following comments:

- The 2010 Bicycle Plan for the City of Los Angeles includes the provision for bicycle lane and bike friendly street (not a bicycle path) treatments for Zonal Avenue. These treatments would provide for slower traffic and more human scale transportation on specified roadways to improve safety for all modes of travel - motorists, pedestrians, and bicyclists. These treatments on Zonal Avenue provide bicycle access to the off-street bicycle path proposed in the DEIR. 15

- The City's Bicycle Plan also calls for on-street bicycle lanes on Mission Road, Griffin/Zonal Avenue, Main Street, Valley Boulevard and Soto Streets and a Bicycle Friendly Street (traffic calming treatments) on Zonal Avenue, Cromwell Street and Cummings Street. Bicyclists choose routes based on a number of factors with safety and convenience being very highly valued in route selection. Build out of the planned bike network near the medical campus is critical to providing multi-modal options. The applicant's commitment to the bikeway network is greatly needed in this area to serve the student population as well as the public using the medical center. 16

- LADOT recommends that the project's EIR make reference to the City of Los Angeles Bicycle Plan and facilities required per the Plan, as follows: Bicycle Lanes on Mission Road, Griffin/Zonal Avenue, Main Street, Valley Boulevard and Soto Streets and a Bicycle Friendly Street (traffic calming treatments) on Zonal Avenue, Cromwell Street and Cummings Street. 17

Jeff Pletyak Page 7 October 22, 2014

If you have any questions, please contact Vicente Cordero of my staff at (213) 972-8473 or me at (213) 972-8476.

Sincerely,

Tomas Carranza
Senior Transportation Engineer

Attachments

c: Tanner Blackman, Council District 14
Netai Basu, Fehr & Peers
Clarice Nash, Los Angeles County
Blake Lamb, Department of City Planning
Gregg Vandergriff, Los Angeles City BOE
Taimour Tanvoli, LADOT Development Services
Mehrdad Moshksar, Central District, DOT

Jeff Pletyak Page 8 October 22, 2014

Attachment 1
Summary of Volume to Capacity Ratios (V/C) and Levels of Service (LOS)
Existing 2014 plus Project

TABLE 7
EXISTING BASE AND EXISTING YEAR (2014) PLUS PROJECT
INTERSECTION LEVEL OF SERVICE ANALYSIS

ID	N/S Street Name	E/W Street Name	Peak Hour	Existing (2014)* V/C	Existing (2014)* LOS	E+P (2014) V/C	E+P (2014) LOS	Project Increase in V/C	Significant Impact	E+P (2014) plus Mitigation V/C	E+P (2014) plus Mitigation LOS	Project Increase in V/C	Significant Impact
1	Daly Street	Main Street	AM	0.755	C	0.769	C	0.014	NO	Physical Mitigation: No Feasible Physical Mitigation			
			PM	0.655	B	0.714	C	0.059	YES	TDM Mitigation / 5% in Project Trips			
										0.768	C	0.013	NO
										0.713	C	0.058	YES
2	I-5 SB Ramps/I-10 On-Ramp	Mission Road	AM	0.750	C	0.759	C	0.009	NO	No Significant Impact			
			PM	0.537	A	0.546	A	0.009	NO				
3	Daly Street/Marengo Street	Mission Road	AM	0.801	D	0.820	D	0.019	NO	No Significant Impact			
			PM	0.820	D	0.769	C	-0.051	NO				
4	Workman Street	Mission Road	AM	0.553	A	0.553	A	0.000	NO	No Significant Impact			
			PM	0.467	A	0.431	A	-0.036	NO				
5	Sichel Street	Mission Road	AM	0.535	A	0.571	A	0.036	NO	No Significant Impact			
			PM	0.402	A	0.346	A	-0.056	NO				
6	Griffin Avenue/Zonal Avenue	Mission Road	AM	0.629	B	0.651	B	0.022	NO	No Significant Impact			
			PM	0.515	A	0.581	A	0.066	NO				
7	Mission Road	Valley Boulevard	AM	0.734	C	0.738	C	0.004	NO	No Significant Impact			
			PM	0.779	C	0.795	C	0.016	NO				
8	Mission Road	Main Street	AM	0.605	B	0.616	B	0.011	NO	No Significant Impact			
			PM	0.473	A	0.493	A	0.020	NO				
9	State Street	Cesar E. Chavez Avenue	AM	0.692	B	0.726	C	0.034	NO	Physical Mitigation: No Feasible Physical Mitigation			
			PM	0.769	C	0.804	D	0.035	YES	TDM Mitigation / 5% in Project Trips			
										0.723	C	0.032	NO
										0.800	C	0.031	NO
10	State Street	I-10 EB Ramps	AM	0.593	A	0.641	B	0.048	NO	No Significant Impact			
			PM	0.643	B	0.673	B	0.030	NO				
11	State Street	I-10 WB Off-Ramp	AM	0.507	A	0.551	A	0.044	NO	No Significant Impact			
			PM	0.259	A	0.277	A	0.018	NO				
12	State Street	Pomeroy Avenue	AM	0.386	A	0.571	A	0.185	NO	No Significant Impact			
			PM	0.378	A	0.409	A	0.031	NO				
13	State Street	Marengo Street	AM	0.712	C	0.803	D	0.091	YES	Physical Mitigation:			
			PM	0.626	B	0.814	D	0.188	YES	0.740	C	0.028	NO
										0.654	B	0.033	NO
										TDM Mitigation / 5% in Project Trips			
										0.794	C	0.082	YES
										0.802	D	0.176	YES
14	I-5 NB Off-Ramp	Cesar E. Chavez Avenue	AM	0.684	B	0.715	C	0.031	NO	No Significant Impact			
			PM	0.319	A	0.329	A	0.010	NO				
15	Brittania Street	Marengo Street	AM	0.407	A	0.460	A	0.053	NO	No Significant Impact			
			PM	0.383	A	0.364	A	-0.019	NO				
16	Chicago Street	Marengo Street	AM	0.487	A	0.511	A	0.024	NO	No Significant Impact			
			PM	0.335	A	0.342	A	0.006	NO				
17	San Pablo Street	Valley Boulevard	AM	0.494	A	0.485	A	-0.009	NO	No Significant Impact			
			PM	0.471	A	0.453	A	-0.020	NO				
18	Soto Street	I-10 EB Off-Ramp/Wabash Avenue	AM	0.640	B	0.664	B	0.024	NO	No Significant Impact			
			PM	0.637	B	0.648	B	0.011	NO				
19	Soto Street	Marengo Street	AM	0.817	D	0.877	D	0.060	YES	Physical Mitigation: No Feasible Physical Mitigation			
			PM	0.710	C	0.738	C	0.028	NO	TDM Mitigation / 5% in Project Trips			
										0.871	D	0.054	YES
										0.734	C	0.024	NO
20	Soto Street	Charlotte Street/I-10 WB Ramps	AM	0.873	D	0.889	D	0.016	NO	No Significant Impact			
			PM	0.862	D	0.850	D	-0.012	NO				
21	Soto Street	Alcazar Street	AM	0.689	B	0.700	B	0.011	NO	No Significant Impact			
			PM	0.683	B	0.692	B	0.009	NO				

Notes:
* Indicates oversaturated conditions. Delay cannot be calculated.
[illegible]
[illegible]
[illegible]

Jeff Pletyak Page 9 October 22, 2014

Attachment 1 (cont'd)
Summary of Volume to Capacity Ratios (V/C) and Levels of Service (LOS)
Future 2040 plus Project

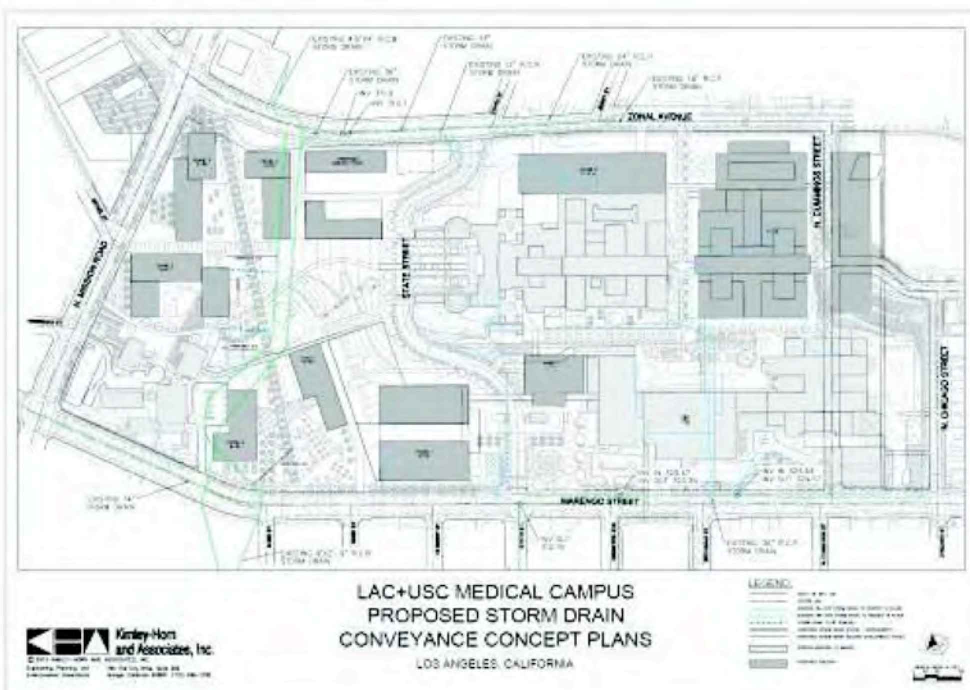
TABLE 8
CUMULATIVE BASE AND CUMULATIVE YEAR (2040) PLUS PROJECT
INTERSECTION LEVEL OF SERVICE ANALYSIS

ID	N/S Street Name	E/W Street Name	Peak Hour	Cumulative Base (2040) V/C*	Cumulative Base (2040) LOS	C+P (2040) V/C*	C+P (2040) LOS	Project Increase in V/C	Significant Impact	C+P (2040) plus Mitigation[1] V/C*	C+P (2040) plus Mitigation[1] LOS	Project Increase in V/C	Significant Impact
1	Daly Street	Main Street	AM	0.786	C	0.801	D	0.015	NO	No Significant Impact			
			PM	0.739	C	0.747	C	0.008	NO				
2	I-5 SB Ramps/I-10 On-Ramp	Mission Road	AM	0.809	D	0.820	D	0.011	NO	No Significant Impact			
			PM	0.574	A	0.584	A	0.010	NO				
3	Daly Street/Marengo Street	Mission Road	AM	0.840	D	0.861	D	0.018	NO	No Significant Impact			
			PM	0.901	E	0.850	D	-0.051	NO				
4	Workman Street	Mission Road	AM	0.581	A	0.581	A	0.000	NO	No Significant Impact			
			PM	0.512	A	0.476	A	-0.036	NO				
5	Sichel Street	Mission Road	AM	0.558	A	0.595	A	0.037	NO	No Significant Impact			
			PM	0.462	A	0.456	A	-0.006	NO				
6	Griffin Avenue/Zonal Avenue	Mission Road	AM	0.659	B	0.679	B	0.020	NO	No Significant Impact			
			PM	0.563	A	0.599	A	0.036	NO				
7	Mission Road	Valley Boulevard	AM	0.817	D	0.820	D	0.003	NO	No Significant Impact			
			PM	0.826	D	0.842	D	0.016	NO				
8	Mission Road	Main Street	AM	0.630	B	0.641	B	0.011	NO	No Significant Impact			
			PM	0.492	A	0.511	A	0.019	NO				
9	State Street	Cesar E. Chavez Avenue	AM	0.731	C	0.765	C	0.034	NO	Physical Mitigation: No Feasible Physical Mitigation			
			PM	0.839	D	0.875	D	0.036	YES				
										TDM Mitigation (-5% in Project Trips)			
										0.763	C	0.032	NO
										0.870	D	0.031	YES
10	State Street	I-10 EB Ramps	AM	0.635	B	0.679	B	0.044	NO	No Significant Impact			
			PM	0.691	B	0.720	C	0.029	NO				
11	State Street	I-10 WB Off-Ramp	AM	0.543	A	0.587	A	0.044	NO	No Significant Impact			
			PM	0.256	A	0.263	A	0.007	NO				
12	State Street	Pomeroy Avenue	AM	0.531	A	0.595	A	0.064	NO	No Significant Impact			
			PM	0.391	A	0.436	A	0.045	NO				
13	State Street	Marengo Street	AM	0.751	C	0.843	D	0.092	YES	Physical Mitigation			
			PM	0.686	B	0.859	D	0.173	YES	0.771	C	0.020	NO
										0.692	B	0.006	NO
										TDM Mitigation (-5% in Project Trips)			
										0.833	D	0.082	YES
										0.846	D	0.160	YES
14	I-5 NB Off-Ramp	Cesar E. Chavez Avenue	AM	0.727	C	0.751	C	0.024	NO	No Significant Impact			
			PM	0.331	A	0.341	A	0.010	NO				
15	Brittania Street	Marengo Street	AM	0.425	A	0.478	A	0.053	NO	No Significant Impact			
			PM	0.415	A	0.369	A	-0.046	NO				
16	Chicago Street	Marengo Street	AM	0.510	A	0.531	A	0.021	NO	No Significant Impact			
			PM	0.343	A	0.345	A	0.002	NO				
17	San Pablo Street	Valley Boulevard	AM	0.548	A	0.539	A	-0.009	NO	No Significant Impact			
			PM	0.547	A	0.525	A	-0.022	NO				
18	Soto Street	I-10 EB Off-Ramp/Wabash Avenue	AM	0.705	C	0.729	C	0.024	NO	No Significant Impact			
			PM	0.685	B	0.696	B	0.011	NO				
19	Soto Street	Marengo Street	AM	0.887	D	0.950	E	0.063	YES	Physical Mitigation: No Feasible Mitigation			
			PM	0.788	C	0.814	D	0.026	YES				
										TDM Mitigation (-5% in Project Trips)			
										0.949	E	0.062	YES
										0.811	D	0.023	YES
20	Soto Street	Charlotte Street/I-10 WB Ramps	AM	0.966	E	0.976	E	0.010	YES	Physical Mitigation: No Feasible Mitigation			
			PM	0.967	E	0.952	E	-0.015	NO				
										TDM Mitigation (-5% in Project Trips)			
										0.973	E	0.007	NO
										0.948	E	-0.019	NO
21	Soto Street	Alcazar Street	AM	0.800	C	0.812	D	0.012	NO	No Significant Impact			
			PM	0.752	C	0.759	C	0.007	NO				

Notes:
* Indicates [illegible]
[illegible]
[1] Mitigation measures proposed at significantly impacted intersections are either physical mitigation measures [illegible] or a TDM measure [illegible]

Jeff Pletyak Page 10 October 22, 2014

Attachment 2
Project Site Plan



Jeff Pletyak Page 11 October 22, 2014

Attachment 3
Project Trip Generation Estimates

TABLE 1
PROPOSED PROJECT TRIP GENERATION - LAC + USC MEDICAL CENTER MASTER PLAN

Land Use	Size	ITE Code	Trip Generation Rates [a] Daily Rate	AM Peak Hour Rate	AM In	AM Out	PM Peak Hour Rate	PM In	PM Out	Estimated Trip Generation Daily	AM Peak Hour In	AM Out	AM Total	PM Peak Hour In	PM Out	PM Total
Hospital Addition	450 beds	610 *Hospital*	12.94	1.12	72%	28%	1.42	33%	67%	5,823	428	166	594	211	428	639
Less Internal Trips credit	-15% [b]									(873)	(64)	(25)	(89)	(32)	(64)	(96)
Less Transit credit	-15% [c]									(743)	(55)	(21)	(76)	(27)	(54)	(81)
Net External Vehicle Trips										4,207	309	120	429	152	310	462
Wellness-Oriented Community Meeting Space & Community-Serving Uses	85,000 ksf	495 *Recreational Community Center*	33.82	2.05	66%	34%	2.74	49%	51%	2,875	115	59	174	114	119	233
Less Internal Trips credit	-15% [b]									(431)	(17)	(9)	(26)	(17)	(18)	(35)
Less Transit credit	-15% [c]									(367)	(14)	(8)	(22)	(15)	(15)	(30)
Driveway Trips										2,077	84	42	126	82	86	168
Less Pass-By credit	-20% [d]									(415)	(17)	(8)	(25)	(17)	(17)	(34)
Net External Vehicle Trips										1,662	67	34	101	65	69	134
Wellness-Oriented Community Retail Space [e]	20,000 ksf	826 *Specialty Retail*	44.32	0.70	62%	38%	2.71	44%	56%	886	9	5	14	24	30	54
Less Internal Trips credit	-15% [b]									(133)	(1)	(1)	(2)	(4)	(4)	(8)
Less Transit credit	-15% [c]									(113)	(1)	(1)	(2)	(3)	(4)	(7)
Driveway Trips										640	7	3	10	17	22	39
Less Pass-By credit	-10% [d]									(64)	(1)	0	(1)	(2)	(2)	(4)
Net External Vehicle Trips										576	6	3	9	15	20	35
New Utility Plant and Facilities [f]	60,000 ksf	170 *Utilities*	[f]	0.60	90%	10%	0.76	45%	55%	134	29	3	32	14	18	32
Less Internal Trips credit	-15% [b]									(25)	(5)	0	(5)	(2)	(3)	(5)
Less Transit credit	-15% [c]									(20)	(4)	0	(4)	(2)	(3)	(4)
Net External Vehicle Trips										89	20	1	21	10	11	21
Outpatient Clinics	200,000 ksf	720 *Medical Office Building*	36.13	2.39	79%	21%	3.57	28%	72%	7,226	378	100	478	200	514	714
Less Internal Trips credit	-15% [b]									(1,084)	(57)	(15)	(72)	(30)	(77)	(107)
Less Transit credit	-15% [c]									(921)	(48)	(13)	(61)	(25)	(66)	(91)
Net External Vehicle Trips										5,221	273	72	345	145	371	516
Professional/Administrative Offices	265,000 ksf	710 *General Office Building*	11.03	[g]	88%	12%	[g]	17%	83%	2,924	367	50	417	64	311	375
Less Internal Trips credit	-15% [b]									(438)	(55)	(8)	(63)	(10)	(46)	(56)
Less Transit credit	-15% [c]									(373)	(47)	(6)	(53)	(8)	(40)	(48)
Net External Vehicle Trips										2,113	265	36	301	46	225	271
Biotech Research and Development [h]	633,000 ksf	760 *Research & Development*	8.11	1.22	83%	17%	1.07	15%	85%	5,134	641	132	773	102	577	679
Less Internal Trips credit	-15% [b]									(770)	(96)	(20)	(116)	(15)	(87)	(102)
Less Transit credit	-15% [c]									(655)	(82)	(17)	(99)	(13)	(74)	(87)
Net External Vehicle Trips										3,709	463	95	558	74	416	490
DRIVEWAY TRIPS										18,066	1,423	371	1,794	526	1,441	1,967
EXTERNAL VEHICLE TRIPS										**17,587**	**1,405**	**363**	**1,768**	**507**	**1,422**	**1,929**
EXISTING TRIPS TO BE REMOVED [i]																
General Office Space	197,288 ksf	710	11.03	[g]	88%	12%	[g]	17%	83%	(2,176)	(290)	(40)	(330)	(52)	(248)	(300)
Laboratory and Clinic Buildings	457,737 ksf	720	36.13	2.39	79%	21%	3.57	28%	72%	(16,538)	(864)	(230)	(1,094)	(458)	(1,176)	(1,634)
Carpenter's Mill [j]	31,000 ksf	120	1.50	0.51	88%	12%	0.68	12%	88%	(47)	(14)	(2)	(16)	(3)	(18)	(21)
Central Power Plant and Cooling Tower	20,938 ksf	170	[f]	0.80	90%	10%	0.76	45%	55%	(84)	(15)	(2)	(17)	(7)	(9)	(16)
Warehouse and Storage Trailers	15,756 ksf	150	3.56	0.30	79%	21%	0.32	25%	75%	(56)	(4)	(1)	(5)	(1)	(4)	(5)
Existing Trips To Be Removed										(18,901)	(1,187)	(275)	(1,462)	(520)	(1,455)	(1,975)
Less Internal Trips credit	-15% [b]									2,835	178	41	219	78	218	296
Less Transit credit	-15% [c]									2,408	151	35	186	66	186	252
TOTAL EXISTING VEHICLE TRIPS TO BE REMOVED										**(13,643)**	**(858)**	**(199)**	**(1,057)**	**(376)**	**(1,051)**	**(1,427)**
TOTAL NET EXTERNAL VEHICLE TRIPS										**3,944**	**547**	**164**	**711**	**131**	**371**	**502**

Notes:
[a] Source: Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), 2012.
[b] Internal capture represents the percentage of trips between the land uses that occur within the LAC+USC Medical Center. [illegible]
[c] The transit credit is based on LADOT's Traffic Study Policies and Procedures, June 2013. [illegible]
[d] The pass-by credit is based on Attachment H of LADOT's Traffic Study Policies and Procedures, June 2013.
[e] [illegible]
[f] [illegible]
[g] [illegible]
[h] [illegible]
[i] [illegible]
[j] [illegible]

Response to the October 22, 2014, Comment Letter from Tomas Carranza, Senior Transportation Engineer, City of Los Angeles Department of Transportation

Response to Comment C2-1

As noted in the comment, since the site is surrounded by the City of Los Angeles, potential traffic impacts on the city's streets were analyzed, and as such, the analysis was prepared following LADOT's traffic study guidelines. No further response is required.

Response to Comments C2-2

The comment acknowledges that the traffic study adequately evaluated the project's traffic impacts on the surrounding community. No further response to the comment is required.

Response to Comments C2-3 and C2-4

These comments correctly summarize the project description and the conceptual access, circulation, and parking proposed at the project site.

Response to Comments C2-5 and C2-6

These comments correctly summarize and acknowledge the methodology for the traffic study's trip generation and freeway analysis screening criteria.

Response to Comment C2-7

This comment correctly summarizes the significant traffic impacts at the four identified intersections.

Response to Comment C2-8

This comment correctly summarizes and acknowledges the inclusion of a TDM program mitigation measure for the campus. The County will continue to coordinate with LADOT and the transit agencies to develop TDM program elements as development projects are proposed and implemented under the master plan.

Response to Comments C2-9, C2-10, and C2-11

These comments summarize the proposed mitigation measures at intersections where significant impacts would occur, including warrant analysis for traffic signals. The comments also specify the need for the County to submit plans and continue to coordinate with LADOT to implement these mitigation measures as planned. The County intends to continue the successful working relationship with LADOT and continue to coordinate during the transition from mitigation planning to mitigation implementation.

Response to Comment C2-12

The construction work site traffic control plan will be prepared, in consultation with LADOT, and submitted for LADOT consideration prior to start of any construction work involving the closure of traffic lanes on City of Los Angeles streets.

Response to Comment C2-13

The County of Los Angeles will be responsible for developing, reviewing, and approving internal site access, circulation, and parking plans on County-owned land within the master plan campus. LADOT will be consulted regarding the design and location of driveways that would intersect city-owned streets adjacent to the campus.

Response to Comment C2-14

The County will check and coordinate with the City of Los Angeles Bureau of Engineering's Land Development Group, as necessary, to determine if there are any highway dedication, street widening, and/or sidewalk improvements required for projects proposed under the master plan.

Response to Comments C2-15, C2-16, and C2-17

References to the 2010 City of Los Angeles Bicycle Plan have been included as recommended in the EIR, and the text of the EIR has been revised to incorporate information from the city's 2010 Bicycle Plan as described in the comments. Please see the revisions to the text of Chapter 2-Project Description, Section 3.1-Aesthetics, and Section 3.14-Transportation/Traffic. The County recognizes the importance of the bikeway network and is supportive of bicycle friendly design and improvements to the bikeway network.

Chapter 7
Preparers

County of Los Angeles

Christine Frias, County of Los Angeles Chief Executive Office

Clarice Nash, County of Los Angeles Department of Public Works

Lauren Dods, County of Los Angeles Office of the County Counsel

ICF International

Charles Smith, Project Director

Lee Lisecki, Senior Project Manager

Mario Anaya, Deputy Project Manager

John Mathias, Technical Editor

Carson Anderson, Aesthetics

Keith Cooper, Air Quality, Greenhouse Gas Emissions

Matthew McFalls, Air Quality, Greenhouse Gas Emissions

Erika Eidson, Biological Resources

Jessica Feldman, Architectural History

Mark Robinson, Archaeology

Michelle Long, Archaeology

Tamseel Mir, Geology/Soils, Hazardous Materials, Hydrology/Water Quality, Land Use/Planning

Rusty Whisman, Hazardous Materials

Jonathan Higginson, Noise and Vibration

Peter Feldman, Population and Housing, Recreation

Tanvi Lal, Public Services, Utilities and Service Systems

Andrew Johnson, Population and Housing, Public Services, Utilities and Service Systems

Victoria Williams, Recreation

Fehr & Peers

Netai Basu, Traffic

Christine Mercado, Traffic

Ninyo & Moore

Michael Rogers, Geology/Soils

Jalal Vakili, Geology/Soils

John Jay Roberts, Hazardous Materials

Jonathan Johnson, Hazardous Materials

Cogstone

Sherri Gust, Paleontology

Kim Scott, Paleontology

Watearth

Jennifer J. Walker, Hydrology and Water Quality

Chapter 8
References

Section 3.1 Aesthetics

California Department of Transportation. 2014. *Caltrans Landscape Architecture Scenic Highways Program*. Available: <http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm>. Accessed: June 2014.

City of Los Angeles Department of Recreation and Parks. 2014. *Descriptions of City Park Facilities*. Available: <http://www.laparks.org/dos/parks/Facility/hazardPk.htm>.

City of Los Angeles. 1999. *City of Los Angeles General Plan*, *Transportation Element.* Available: <http://www.lacity.org/cwd/gnlpln/trans-elt/TE/TEToC.htm>. Accessed: June 2014.

City of Los Angeles. 1999. *Northeast Los Angeles Community Plan*. Department of City Planning. June 15. Available: <http://cityplanning.lacity.org/complan/pdf/nlacptxt.pdf>.

City of Los Angeles. 2011. *Boyle Heights Mixed-Use Community Project EIR*. October.

City of Los Angeles. n.d. *Generalized Land Use, Northeast Los Angeles Map.* Available: <http://cityplanning.lacity.org/complan/central/pdf/genlumap.nla.pdf>. Accessed: May 19, 2014.

County of Los Angeles. 2012. *Los Angeles County Bicycle Master Plan*. Available: <http://dpw.lacounty.gov/pdd/bike/masterplan.cfm>. Accessed: June 2014.

Federal Highway Administration. 1981 (1983 reprint). *Visual Impact Assessment for Highway Projects.* Document DOT-FH-11-9694. Washington, D.C.: U.S. Department of Transportation. March.

Kimley-Horn and Associates. 2013. *LAC+USC Medical Center, 1744 Zonal Avenue, Los Angeles, Phase I Environmental Assessment*. Prepared for Los Angeles County Chief Executive Office and Lee, Burkhart, Liu, Inc. October.

U.S. Bureau of Land Management. 2006. *Visual Resource Management Manual 8410*. Available: <http://www.blm.gov/nstc/VRM/8410.html>. Accessed: April 2006.

Section 3.2 Air Quality

California Air Resources Board. 1998. Scientific Review Panel Findings on the Report: "Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant," as Adopted at the Panel's April 22, 1998, Meeting. Available: <http://www.arb.ca.gov/toxics/dieseltac/combined.pdf>.

California Air Resources Board. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October. Sacramento, CA.

California Air Resources Board. 2010. California Air Toxics Program – Background. Last Reviewed: April 22, 2010. Available: <http://www.arb.ca.gov/toxics/background.htm>. Accessed: February 5, 2013.

California Air Resources Board. 2013a. Ambient Air Quality Standards. Available: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. June 4

California Air Resources Board. 2013b. Area Designations Maps. Available: <http://www.arb.ca.gov/regact/2013/area13/area13.htm>. Accessed: April 24, 2014.

California Air Resources Board. 2013c. Board Meeting Summary, Agenda No. 26. February 1. Available:<http://www.aqmd.gov/hb/attachments/2011-2015/2013Feb/2013-Feb1-026.pdf>.

California Air Resources Board. 2014. Top 4 Measurements and Days Above the Standard. Available: <http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed: June 12, 2014.

Fehr & Peers. 2014. Draft Traffic Study for the LAC+USC Medical Center Master Plan Environmental Impact Report. July 16.

Garza, V. J., P. Graney, and D. Sperling. 1997. Transportation Project-Level Carbon Monoxide Protocol. Davis, CA. December.

National Oceanic and Atmospheric Administration. n.d. Climate of Los Angeles. Available: <http://www.wrh.noaa.gov/lox/climate/climate_intro.php>. Accessed: June 13, 2013.

South Coast Air Quality Management District. 1993. CEQA Air Quality Handbook. November.

South Coast Air Quality Management District. 2005. Final Draft – Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. March 18.

South Coast Air Quality Management District. 2006. Final Methodology to Calculate PM2.5 and PM2.5 Significance Thresholds. October. Available: <http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html>.

South Coast Air Quality Management District. 2008a. Localized Significance Threshold Methodology for CEQA Evaluations.

South Coast Air Quality Management District. 2008b. Multiple Air Toxics Exposure Study III, Model Estimated Carcinogenic Risk. Available: <http://www3.aqmd.gov/webappl/matesiii/>.

South Coast Air Quality Management District. 2009. Final Localized Significance Threshold Methodology. October 21.

South Coast Air Quality Management District. 2011a. SCAQMD Rules and Regulations. Last Updated: June 9, 2011. Available: <http://www.aqmd.gov/rules/rulesreg.html>.

South Coast Air Quality Management District. 2011b. Meteorological Sites – Central Los Angeles. Available: <http://www.aqmd.gov/smog/metdata/AERMOD_Table1.html>.

South Coast Air Quality Management District. 2011c. SCAQMD Air Quality Significance Thresholds. March. Available: <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>.

South Coast Air Quality Management District. 2012a. December 7. Final 2012 Air Quality Management Plan. Available: <http://www.aqmd.gov/aqmp/2012aqmp/draft/index.html>.

South Coast Air Quality Management District. 2012b. Lead State Implementation Plan for Los Angeles County. May 4. Available: <http://aqmd.gov/aqmp/Lead_SIP/homepage.htm>.

South Coast Air Quality Management District. 2013. California Emissions Estimator Model (CalEEMod), Version 2013.2.2. Available: <www.caleemod.com>.

South Coast Air Quality Management District. 2014. 2013 Annual Report on AB 2588 Air Toxics Hot Spots Program. Available: <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2014/2014-jul11-039.pdf?sfvrsn=2>. July 11.

U.S. Environmental Protection Agency. 2012. Ground-Level Ozone Basic Information. Last Updated: November 1, 2012. Available: <http://www.epa.gov/airquality/ozonepollution/basic.html>. Accessed: February 4, 2013.

U.S. Environmental Protection Agency. 2014a. Criteria Pollutant Area Summary Report. Available: <http://www.epa.gov/oaqps001/greenbk/ancl2.html>. Last Updated: July 2, 2014. Accessed: July 17, 2014.

U.S. Environmental Protection Agency. 2014b. Monitor Values Report. Available: <http://www.epa.gov/air/data/monvals.html>. Accessed: June 12, 2014.

Western Regional Climate Center. 2014. Monthly Climate Summary for Los Angeles Civic Center (045115). Available: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5115>. Accessed: July 21, 2014.

Section 3.3 Biological Resources

California Department of Fish and Wildlife. 2014. *California Natural Diversity Database*. Sacramento, CA: California Department of Fish and Wildlife, Wildlife and Habitat Data Analysis Branch. Data Date: May 14, 2014.

Section 3.4 Cultural Resources

Bean, L. J., and C. R. Smith. 1978. Gabrielino. In *Handbook of North American Indians*, Vol. 8, California, R. F. Heizer (ed.), pp. 538–549. Washington, D.C.: Smithsonian Institution.

Bureau of Land Management. 2007. *Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands.* Available: <http://www.blm.gov/wo/st/en/info/regulations/Instruction>.

Cogstone. 2014. *Paleontological Literature Search of the Los Angeles County and University of Southern California Medical Center Campus Master Plan, Los Angeles County, California.*

Dibblee, T. W., Jr. 1989. *The San Andreas Fault and Major Rock Terranes of California Displaced by It and Its Tectonics.* South Coast Geological Society, Inc. Guidebook Number 17, San Andreas Fault, Cajon Pass to Wallace Creek.

Dillon, B.D. 1994. Alameda District Plan, Los Angeles, California: Prehistoric and Early Historic Archaeological Research. Ms. on file, South Central Coastal Archaeological Information Center, Institute of Archaeology, University of California, Los Angeles. Gebhard, David, and Robert Winter. 1965. A Guide to Architecture in Southern California. The Los Angeles County Museum of Art.

Gebhard, David, and Robert Winter. 1994. *Los Angeles, An Architectural Guide*. Salt Lake City, UT: Gibbs Smith Publishers.

Hay. 1927. *Pleistocene of the Western Region of North America and its Vertebrated Animals.* Carnegie Institution of Washington Publication, 322B:1–345.

Jefferson. 1991a. *A Catalogue of Late Quaternary Vertebrates from California: Part One, Nonmarine Lower Vertebrate and Avian Taxa.* Natural History Museum of Los Angeles, Technical Report #5.

Jefferson. 1991b. *A Catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals*. Natural History Museum of Los Angeles, Technical Report #7.

Kroeber, Alfred. 1925. Handbook of the Indians of California. In *Bulletin 78, American Bureau of Ethnology.* NY: Dover Publications, Inc. Reprinted: 1976.

LACM Invertebrate Paleontology. 2014. Online records search. Department of Invertebrate Paleontology. June.

McLeod. 2014. *Vertebrate Paleontology Records Check for Paleontological Resources for the Proposed Los Angeles County+University of Southern California Medical Center Replacement Project.* Cogstone Project #2787, in the City of Los Angeles, Los Angeles County, California. Appendix B to Cogstone 2014 and on file with Cogstone, Orange CA.

Mellon & Associates. 1999. *National Register Eligibility and Findings of Effects Report, Los Angeles County+University of Southern California Medical Center Replacement Hospital.* February.

Miller. 1971. Pleistocene Vertebrates of the Los Angeles Basin and Vicinity (exclusive of Rancho la Brea). *Bulletin of the Los Angeles County Museum of Natural History #10*, 124 pp.

Moratto, Michael J. 1984. *California Archaeology*. Orlando, FL: Academic Press.

Newmark. 1916. *Sixty Years in Southern California*. New York: The Knickerbocker Press.

Paleobiology Database. 2014. Online records search. June.

Robinson, W. W. 1952. *The Indians of Los Angeles: Story of the Liquidation People*. Los Angeles, CA: Dawson's Books.

Yerkes, Robert F., Campbell, Russell H. 2005. *Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California.* Menlo Park, CA: U.S. Geological Survey.

Section 3.5 Geology/Soils

California Building Standards Commission. 2013. *California Building Standards Code*. Available: <http://www.bsc.ca.gov/codes.aspx>. Accessed: June 27, 2014.

California Department of Conservation, California Geological Survey. 2007. Fact Sheet, Seismic Hazards Zonation Program Survey. Available: <http://www.conservation.ca.gov/cgs/shzp/Documents/SHZ_FactSheet.pdf>. Accessed: July 31, 2014.

City of Los Angeles. 1996. *Safety Element of the Los Angeles City General Plan.* Available: <http://cityplanning.lacity.org/cwd/gnlpln/SaftyElt.pdf>. Accessed: June 27, 2014.

International Conference of Building Officials. 1994. *Uniform Building Code*. January 1.

Ninyo & Moore. 2014a. *Preliminary Geotechnical Evaluation for the LAC+USC Medical Center Master Plan Project.* June 13.

Section 3.6 Greenhouse Gas Emissions

California Air Pollution Control Officers Association. 2008. CEQA and Climate Change. January. Available: <www.capcoa.org>.

California Air Resources Board. 2008. Climate Change Scoping Plan. December. Available: <http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf>.

California Air Resources Board. 2011. Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. August 19. Available: <http://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf>. Released August 19, 2011, and considered at the August 24, 2011, board hearing.

California Air Resources Board. 2012. California Air Resources Board Quarterly Auction 1. Available: <http://www.arb.ca.gov/cc/capandtrade/auction/november_2012/auction1_results_2012q4nov.pdf>.

California Air Resources Board. 2014a. First Update to the AB 32 Scoping Plan. May 22. Available: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.

California Air Resources Board. 2014b. California Greenhouse Gas Emissions Inventory: 2000–2010. February 19. Available: <http://www.arb.ca.gov/cc/inventory/data/data.htm>.

California Energy Commission. 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. December.

California Environmental Law Blog. 2014. U.S. Supreme Court Declines to Hear Dispute over California Low Carbon Fuel Standard. Posted: June 30, 2013. Available: <http://www.californiaenvironmentallawblog.com/ab-32/us-supreme-court-declines-to-hear-dispute-over-california-low-carbon-fuel-standard/>.

County of Los Angeles. 2014. Unincorporated Los Angeles County Community Climate Action Plan 2020 – Final Draft. June. Available: <http://planning.lacounty.gov/assets/upl/project/ccap_draft.pdf>.

Intergovernmental Panel on Climate Change. 2007. Changes in Atmospheric Constituents and in Radiative Forcing. In Climate Change 2007: The Physical Science Basis (Working Group I Fourth Assessment Report.) Available: <http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter2.pdf>.

Intergovernmental Panel on Climate Change. 2013. Climate Change 2013: The Physical Science Basis. Available: <http://www.ipcc.ch/report/ar5/wg1/>.

Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura, and H. Zhang. 2013. Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Stocker, T. F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P. M. Midgley [eds.]). Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA, pp. 659–740.

National Oceanic and Atmospheric Administration. 2005. *Greenhouse Gases: Frequently Asked Questions*. Available: <http://lwf.ncdc.noaa.gov/oa/climate/gases.html>.

South Coast Air Quality Management District. 2008. Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold. October.

Southern California Association of Governments. 2008. Regional Comprehensive Plan and Guide. October 2. Available: <http://scag.ca.gov/rcp/index.htm>.

Southern California Association of Governments. 2012. 2012 Regional Transportation Plan/Sustainable Communities Strategy – Home. April 4. Available: <http://www.scag.ca.gov/rtp2012/index.htm>.

Sutley, Nancy. 2010. Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Memorandum for heads of federal departments and agencies. February 18.

U.S. Environmental Protection Agency. 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. August. Available: <http://www.epa.gov/otaq/climate/documents/420f12051.pdf>.

U.S. Environmental Protection Agency. 2014. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2012. April 15. Available: <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html>.

Section 3.7 Hazards and Hazardous Materials

Ninyo & Moore. 2014b. *Draft Hazardous Materials Assessment, LAC+USC Medical Center.* June 12.

Section 3.8 Hydrology and Water Quality

County of Los Angeles. 2014c. *Low-Impact Development Standards Manual.* Department of Public Works. February.

Kimley Horn & Associates, Inc. 2013. *Phase I Environmental Site Assessment for 1744 Zonal Avenue.* October.

Los Angeles Regional Water Quality Control Board. 1994 (amended 2007, 2010). *Water Quality Control Plan, Los Angeles Region – Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.*

Watearth, 2014b. *Memorandum of Hydrology Modeling Results for LAC+USC Medical Center EIR.* July 15.

Watearth. 2014a. *Memorandum of Water Resources and Hydrology Sections of LAC+USC Medical Center EIR.* July 24.

Section 3.9 Land Use/Planning

City of Los Angeles. 2003. *City of Los Angeles General Plan Framework Element*. Available: <http://cityplanning.lacity.org/Cwd/Framwk/chapters/03/F31MtoMp.pdf>. Accessed: May 25, 2014.

City of Los Angeles. 2014 *Generalized Land Use, Northeast Los Angeles Map.* Available: <http://cityplanning.lacity.org/complan/central/pdf/genlumap.nla.pdf>. Accessed: May 19, 2014.

City of Los Angeles. n.d. *City of Los Angeles General Plan.* Department of City Planning. Available: <http://cityplanning.lacity.org/>. Accessed: May 19, 2014.

City of Los Angeles. n.d. *ZIMAS*. Available: <http://zimas.lacity.org/>. Accessed: May 19, 2014.

Los Angeles County Metropolitan Transportation Authority. n.d. *Congestion Management Program, Background.* Available: <http://www.metro.net/projects/congestion_mgmt_pgm/>. Accessed: May 19, 2014.

Southern California Association of Governments. 2012a. *2012 Regional Transportation Plan/Sustainable Communities Strategy.* Available: <http://rtpscs.scag.ca.gov/Documents/ 2012/final/f2012RTPSCS.pdf>. Accessed: May 19, 2014.

Section 3.10 Noise

California Department of Transportation. 2012. *Traffic Counts*. Traffic volume and truck mix spreadsheets (*2012AADT.xlsx* and *2012Truck.xlsx*). Available: <http://traffic-counts.dot.ca.gov/>. Accessed: August 5, 2014.

California Department of Transportation. 2013. *Transportation and Construction Vibration Guidance Manual*. Final. CT-HWANP-RT-13-069.25.3. September. Sacramento, CA.

Caltrans. 1998. *Technical Noise Supplement*. October. Sacramento, CA: Environmental Program, Noise, Air Quality, and Hazardous Waste Management Office. Available: <http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf>. Accessed: July 19, 2014.

City of Los Angeles. 2006. *L.A. CEQA Thresholds Guide.*

City of Los Angeles. 2013. *City of Los Angeles Municipal Code Chapter XI, Section 111.03*. Available: <http://www.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode?f=templates$fn=default.htm$3.0$vid=amlegal:losangeles_ca_mc>.

County of Riverside. 2012. *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*. Department of Environmental Health, Office of Industrial Hygiene. July 2. Riverside, CA. Prepared by Steven Hinde, REHS, CIH, Senior Industrial Hygienist.

Federal Highway Administration. 2004. *FHWA Traffic Noise Model.* Version 2.5. Look-Up Tables User's Guide. Final. FHWA-HEP-05-008/DOT-VNTSC-FHWA-0406. December. Washington, D.C.: U.S. Department of Transportation, Research and Special Programs Administration. John A. Volpe National Transportation Systems Center Acoustics Facility. Cambridge, MA.

Federal Highway Administration. 2008. *FHWA Roadway Construction Noise Model.* Version 1.1. December 8.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. Final. FTA-VA-90-1003-06. May. Washington, D.C.: U.S. Department of Transportation. Prepared by Harris Miller Miller & Hanson, Inc. Burlington, MA.

State of California. 2003. *General Plan Guidelines.*

Section 3.11 Population/Housing

Association of Environmental Professionals. 2014. *2014 California Environmental Quality Act Statute and Guidelines.* Palm Desert, CA. January 1. Available: <http://resources.ca.gov/ceqa/docs/2014_CEQA_Statutes_and_Guidelines.pdf>.

City of Los Angeles. 1999. *Northeast Los Angeles Community Plan*. Department of City Planning. June 15. Available: <http://cityplanning.lacity.org/complan/pdf/nlacptxt.pdf>.

City of Los Angeles. 2002b. *City of Los Angeles General Plan: Housing Element*. Department of City Planning. February 27. Available: <http://planning.lacity.org/cwd/gnlpln/index.htm>.

City of Los Angeles. 2005. *Draft Environmental Impact Report: USC Health Sciences Campus Project.* Department of City Plannning. May 1. Available: <http://clkrep.lacity.org/onlinedocs/2014/14-0267_misc_h_02-27-2014.pdf>.

County of Los Angeles. 2014a. *Los Angeles County General Plan 2035*. Department of Regional Planning. January 1. Available: <http://planning.lacounty.gov/generalplan/draft2014>.

County of Los Angeles. 2014b. LAC+USC Medical Center (website home page). Department of Health Services. July 17. Available: <http://dhs.lacounty.gov/wps/portal/dhs/lacusc/>.

Southern California Association of Governments. 2009. *2008 Regional Comprehensive Plan: Land Use and Housing.* Los Angeles, CA. February 9. Available: <http://www.scag.ca.gov/NewsAndMedia/Pages/RegionalComprehensivePlan.aspx>.

Southern California Association of Governments. 2012b. *2012 Growth Forecast.* Los Angeles, CA. July 18. Available: <http://www.scag.ca.gov/DataAndTools/Pages/GrowthForecasting.aspx>.

U.S. Census Bureau. 2011. *2010 Census Summary File 1.* Washington, D.C. June 16. Available: <http://www.census.gov/population/www/cen2010/glance/>.

Section 3.12 Public Services

California Building Standards Commission. 2014. *California State Fire Code*. Sacramento, CA. Available: <https://law.resource.org/pub/us/code/bsc.ca.gov/gov.ca.bsc.2013.09.pdf>. Accessed: July 10, 2014.

California Department of Parks and Recreation. 2014. *Los Angeles State Historic Park.* Sacramento, CA. Available: <http://www.parks.ca.gov/?page_id=22272>. Accessed: July 1, 2014.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. Available: <http://cityplanning.lacity.org/complan/pdf/nlacptxt.pdf>. Accessed: July 9, 2014.

City of Los Angeles Department of City Planning. 2002a. *City of Los Angeles General Plan: Fire Protection and Prevention Plan.* February 27. Available: <http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf>. Accessed: July 9, 2014.

City of Los Angeles Department of City Planning. 2002b. *City of Los Angeles General Plan: Housing Element.* February 27. Available: <http://planning.lacity.org/cwd/gnlpln/index.htm>. Accessed: July 9, 2014.

City of Los Angeles Department of City Planning. 2002c. *City of Los Angeles General Plan: Public Recreation Plan.* February 27. Available: <http://cityplanning.lacity.org/Code_Studies/GeneralElement/PublicRecreationPlan.pdf>. Accessed: July 9, 2014.

City of Los Angeles Department of City Planning. 2002d. *City of Los Angeles General Plan: Safety Element.* February 27. Available: <http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf>. Accessed: July 9, 2014.

City of Los Angeles Department of Recreation and Parks. 2014a. *Park Sites*. Available: <http://www.laparks.org/dos/parks/parks.htm>. Accessed: July 1, 2014.

City of Los Angeles Department of Recreation and Parks. 2014b. *Recreation Centers*. Available: <http://www.laparks.org/dos/reccenter/reccenter.htm>. Accessed: July 1, 2014.

City of Los Angeles Office of the Controller. 2012. *Analysis of the Los Angeles Fire Department's Response Times.* May 18. Available: <http://controller.lacity.org/stellent/groups/electedofficials/@ctr_contributor/documents/contributor_web_content/lacityp_020450.pdf>. Accessed: July 14, 2014.

City of Los Angeles. 2014. *Los Angeles Municipal Code*. June 30. Available: <http://www.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode?f=templates$fn=default.htm$3.0$vid=amlegal:losangeles_ca_mc>. Accessed: July 10, 2014.

County of Los Angeles. 2014a. *Los Angeles County General Plan 2035.* Department of Regional Planning. Available: <http://planning.lacounty.gov/generalplan/draft2014>. Accessed: July 11, 2014.

County of Los Angeles. 2014b. *Los Angeles County General Plan 2035, Chapter 10: Parks and Recreation Element*. Department of Regional Planning. Available: <http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter10_2014.pdf>. Accessed: July 11, 2014.

County of Los Angeles. 2014c. *Los Angeles County General Plan 2035, Chapter 12: Safety Element*. Department of Regional Planning. Available: <http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter12_2014.pdf>. Accessed: July 11, 2014.

County of Los Angeles. 2014d. *Los Angeles County General Plan 2035, Chapter 13: Public Services and Facilities Element.* Department of Regional Planning. Available: <http://planning.lacounty.gov/assets/upl/project/gp_2035_Chapter13_2014.pdf>. Accessed: July 11, 2014.

Los Angeles County Office of Education. 2011. *Service Overview*. Available: <http://www.lacoe.edu/AboutLACOE.aspx>. Accessed: July 1, 2014.

Los Angeles County Sheriff's Department. 2014. Department home page. Available: <http://sheriff.lacounty.gov/wps/portal/lasd>. Accessed: July 14, 2014.

Los Angeles Fire Department. 2014a. *Department Overview*. Available: <http://www.lafd.com/administration/97-lafd-administration/320-department-overview>. Accessed: July1, 2014.

Los Angeles Fire Department. 2014b. *City of Los Angeles, Neighborhood Fire Stations*. Available: <http://lafd.org/fsloc.htm>. Accessed: July 2, 2014.

Los Angeles Police Department. 2014a. *About Hollenbeck*. Hollenbeck Community Police Station web page. Available: <http://www.lapdonline.org/hollenbeck_community_police_station/content_basic_view/1649>. Accessed: July 7, 2014.

Los Angeles Police Department. 2014b. *Community Police Station Address Directory*. Available: <http://www.lapdonline.org/inside_the_lapd/content_basic_view/6279>. Accessed: July 14, 2014.

Los Angeles Police Department. 2014c. *COMPSTAT, Hollenbeck Area Profile*. Hollenbeck Community Police Station web page. Available: <http://www.lapdonline.org/assets/pdf/hbkprof.pdf>. Accessed: July 21, 2014.

Los Angeles Police Department. 2014d. Department home page. Available: <http://www.lapdonline.org/>. Accessed: July 14, 2014.

Los Angeles Public Library. 2009. *Annual Report 2008–2009*. December 31. Available: <http://www.lfla.org/annual-report/index.php>. Accessed: July 1, 2014.

Los Angeles Public Library. 2014. *Locations and Hours*. Available: <http://www.lapl.org/branches/>. Accessed: July 1, 2014.

Los Angeles Unified School District. 2014. *District Information*. Available: <http://home.lausd.net/apps/pages/index.jsp?uREC_ID=178745&type=d&pREC_ID=371201>. Accessed: July1, 2014.

U.S. Department of Education. 2012. *Search for Public Schools.* Institute for Education Sciences, National Center for Education Statistics. Washington, D.C. December 31. Available: <http://nces.ed.gov/ccd/schoolsearch/>. Accessed: July 10, 2014.

Personal Communication

Fligiel, Phillip. Battalion Chief 1, Los Angeles Fire Department, Los Angeles, CA. July 9, 2014—personal communication.

Kennison, Martha. Staff sergeant, Los Angeles County Sheriff's Department, Los Angeles, CA. July 8, 2014—personal communication.

Section 3.13 Recreation

California Department of Parks and Recreation. 2013. *California State Parks Community Fact Finder*. Available: <http://www.parks.ca.gov/?page_id=26166>. Accessed: June 2, 2014.

City of Los Angeles Department of Recreation and Parks. 2014. *Who We Are.* Available: <http://www.laparks.org/dos/dept/who.htm>. Accessed: June 2, 2014.

City of Los Angeles. n.d. *City of Los Angeles Department of City Planning, General Plan.* Available: <http://cityplanning.lacity.org/>. Accessed: May 22, 2014.

Section 3.14 Transportation/Traffic

City of Los Angeles. 2012. *Traffic Study Policies and Procedures*. Department of Transportation. May.

City of Los Angeles. 2013. *Agreement between the City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures.*

County of Los Angeles Department of Public Works. 1997. *Traffic Impact Analysis Report Guidelines.* January 1.

County of Los Angeles. 1997. *Traffic Impact Analysis Report Guidelines.*

Crain & Associates. 2014. *Sears Building Adaptive Reuse Project Traffic Study – Memorandum of Understanding.*

Fehr & Peers. 2011. *Traffic Impact Study for the Boyle Heights Mixed-Use Project.*

Fehr & Peers. 2014. *Traffic Study for the LAC+USC Medical Center Master Plan Environmental Impact Report.*

Gibson Transportation Consulting. 2006. *Addendum to the Environmental Impact Report USC Health Sciences Campus Project – Traffic Assessment.*

Institute of Transportation Engineers. 2012. *Trip Generation*. Ninth edition.

Iteris, Inc. 2008. *Metro Union Division Bus Maintenance and Operations Facility Traffic Impact Analysis.*

Los Angeles County Metropolitan Transportation Authority. 2010. *Congestion Management Program.*

Overland Traffic Consultants. 2006. *1101 N. Main Street Traffic Impact Study.*

Overland Traffic Consultants. 2011. *Traffic Impact Analysis for a Proposed Commercial Building*.

Transportation Research Board. 1980. *Transportation Research Circular No. 212, Interim Materials on Highway Capacity.*

Transportation Research Board. 2010. *Highway Capacity Manual.*

Section 3.15 Utilities and Service Systems

Buttonwillow, Clean Harbors Buttonwillow, LLC. 2013. *Buttonwillow, California Facility Facts.* January. Available: <http://clark.cleanharbors.com/ttServerRoot/Download/12381_FINAL_Buttonwillow_CA_Facility_FS_030108.pdf>. Accessed: August 4, 2014.

California Department of Resources Recycling and Recovery. 2013. *Estimated Solid Waste Generation Rates.* January 14. Available: <http://www.calrecycle.ca.gov/WASTECHAR/WasteGenRates/Institution.htm>. Accessed: August 1, 2014.

California Energy Commission. 2010. *Transportation Energy Forecasts and Analyses for the 2009 Integrated Energy Policy Report*. May. Available: <http://www.energy.ca.gov/2010publications/CEC-600-2010-002/CEC-600-2010-002-SF.PDF>. Accessed: August 11, 2014.

California Environmental Protection Agency, State Water Resources Control Board. 2013. *Land Disposal Program. Sacramento.* February 25. Available: <http://www.waterboards.ca.gov/water_issues/programs/land_disposal/walist.shtml>. Accessed: August 4, 2014.

City of Los Angeles Department of City Planning. 2002. *City of Los Angeles General Plan, Conservation Element.* February 27. Available: <http://cityplanning.lacity.org/Code_Studies/GeneralElement/openspaceelement.pdf>. Accessed: June 23, 2014.

City of Los Angeles Department of City Planning. 2002. *City of Los Angeles General Plan, Housing Element.* February 27. Accessed on 6/23, 2014. Available: <http://planning.lacity.org/cwd/gnlpln/index.htm>. Accessed: June 23, 2014.

City of Los Angeles Department of City Planning. 2002. *City of Los Angeles General Plan, Open Space Element.* February 27. Available: <http://cityplanning.lacity.org/Code_Studies/GeneralElement/openspaceelement.pdf>. Accessed: June 23, 2014.

City of Los Angeles Department of Public Works, Bureau of Sanitation. 2006. *City of Los Angeles Solid Waste Management Policy Plan.* Available: <http://www.lacitysan.org/solid_resources/pdfs/rfp-swirp-appendix-b3.pdf>. Accessed: July 7, 2014.

City of Los Angeles Department of Public Works, Bureau of Sanitation. 2006. *City of Los Angeles Solid Waste Planning Background Studies Summary Report.* Available: <http://www.lacitysan.org/solid_resources/pdfs/rfp-swirp-appendix-b3.pdf>. Accessed: July 7, 2014.

City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power. 2012. *City of Los Angeles Water Integrated Resources Plan*. June. Available: <http://www.lacitysan.org/irp/documents/FINAL_IRP_5_Year_Review_Document.pdf>. Accessed: July 14, 2014.

City of Los Angeles Department of Public Works. 2014. *Hyperion Sewer System Management Plan*. Available: <http://www.lasewers.org/ssmp/pdfs/SSMP_Hyperion.pdf>. Accessed: July 7, 2014.

City of Los Angeles. 2006. *Solid Waste Planning Background Studies Summary Report.*

City of Los Angeles. 2010. *California Green Building Standards Code, Los Angeles Green Building Code Ordinance No. 181480.* December 15. Available: <ladbs.org/LADBSWeb/LADBS_Forms/Publications/LAGreenBuildingCodeOrdinance.pdf>. Accessed: July 15, 2014.

County of Los Angeles Department of Public Works. 2012. *County of Los Angeles Countywide Integrated Waste Management Plan: 2011 Annual Report*. August 1. Alhambra, CA. Available: <http://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=391&hp=yes&type=PDF>. Accessed: July 10, 2014.

County of Los Angeles. 2002. *Los Angeles County General Plan 2035, Conservation and Natural Resources Element.*

Kettleman City Waste Management. 2014. *Kettleman Hills Facility Overview*. January. Available: <http://kettlemanhillslandfill.wm.com/fact-sheets/2011/facility-overview.jsp>. Accessed: August 4, 2014.

LBL, Inc. 2013. *LAC+USC Medical Center Building and Site Assessment Report*. November.

LBL, Inc. 2013. *LAC+USC Medical Center Master Plan Report*. October.

Los Angeles County Board of Supervisors. 2013. *California Green Building Standards Code (Title 31).* November. Available: <http://planning.lacounty.gov/green>. Accessed: August 28, 2014.

Los Angeles County Sanitation Districts. 2014. *Solid Waste Facilities, Whittier*. January. Available: <http://www.lacsd.org/solidwaste/swfacilities/default.asp>. Accessed: July 1, 2014.

Los Angeles Department of Water and Power. 2010. *Urban Water Management Plan.*

Los Angeles Department of Water and Power. 2012. *Integrated Resources Plan.*

Los Angeles Department of Water and Power. 2013. *Power, Los Angeles.* Available: <https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power?_adf.ctrl-state=13adufvw9n_21&_afrLoop=300969056464935>. Accessed: July 9, 2014.

Los Angeles Department of Water and Power. 2013. *Water, Los Angeles.* Available: <https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water?_adf.ctrl-state=13adufvw9n_21&_afrLoop=300942770833546>. Accessed: July 9, 2014.

Los Angeles Department of Water and Power. 2014. *Greater Los Angeles County Integrated Regional Water Management Plan*. Available: <http://www.ladpw.org/wmd/irwmp/index.cfm?fuseaction=TopDocListing&directory=RMC12-10Submittal-FinalPlan&ttl=2014 Public Draft IRWMP Update>. Accessed: July 7, 2014.

Luna & Glushon. 2009. *California Oil and Gas Report*. October. Available: <http://www.caloilgas.com/state-energy-resources/>. Accessed: August 11, 2014.

San Francisco Water Power Sewer. 2013. *Wastewater Service Charge Appeal.* San Francisco Public Utilities Commission web page. Available: <http://www.sfwater.org/index.aspx?page=132>. Accessed: August 6, 2014.

Southern California Gas Company. 2013. *California Gas Report.* July. Available: <http://www.socalgas.com/regulatory/documents/cgr/2013-cgr.pdf>. Accessed: July 7, 2014.

Southern California Gas Company. 2014. *Company Profile.* January. Available: <http://www.socalgas.com/about-us/company-info.shtml>. Accessed: July 8, 2014.

U.S. Energy Information Administration. 2007. *Structural and Geographical Information for Large Hospitals*. Commercial Buildings Energy Consumption Survey. January. Available: <http://www.eia.gov/consumption/commercial/reports/2007/large-hospital.cfm>. Accessed: August 28, 2014.

U.S. Energy Information Administration. 2012. *Annual Energy Review*. January. Available: <http://www.eia.gov/totalenergy/data/annual/index.cfm>. Accessed: August 11, 2014.

U.S. Environmental Protection Agency. 2013. *Clean Water Act.* March 12. Washington, D.C. Available: <http://www.epa.gov/oecaagct/lcwa.html>. Accessed: July 7, 2014.

Westmorland, Clean Harbors Westmorland, LLC. 2013. *Westmorland, California Facility Facts.* January. Available: <http://clark.cleanharbors.com/ttServerRoot/Download/12543_FINAL_Westmorland_CA_Facility_FS_010507.pdf>. Accessed: August 4, 2014.

Personal Communication

Poosti, Ali. Division manager, City of Los Angeles Bureau of Sanitation. July 16, 2014—Email to Clarice Nash, project manager, County of Los Angeles Department of Public Works.

Quan, Wayne. Internal Services Department, County of Los Angeles, Energy Management Division. August 18, 2014—Email to Clarice Nash, project manager, County of Los Angeles Department of Public Works.

Tsap, Leonid. Community relations officer, Los Angeles Police Department. August 11, 2014—Email to Andrew Johnson, environmental planner, ICF International.

Chapter 5 Alternatives Analysis

LBL, Inc. 2013. *LAC+USC Medical Center Building and Site Assessment Report.* November.

Saiful/Bouquet. 2006. *Seismic Performance Evaluation for the LAC+USC Women's & Children's Hospital.* October.