

DEPARTMENT OF VETERANS AFFAIRS  
MEDICAL CENTER LONG BEACH

# DRAFT ENVIRONMENTAL ASSESSMENT

FOR THE  
SEISMIC CORRECTIONS, MENTAL HEALTH AND  
COMMUNITY LIVING CENTER

Project 600-405

March 28, 2015



Prepared for:

US Department of Veteran Affairs  
Office of Construction and Facilities Management

Under Contract to:

HOK  
9530 Jefferson Boulevard  
Culver City, California 90232

Submitted by:

Geomorph Information Systems, LLC  
P.O. Box 122886  
San Diego, CA 92112

**GeomorphIS**

VA Contract Number: VA101CFM-P0043  
GeomorphIS Project Number: 9205-001

*This page intentionally left blank*

# Table of Contents

EXECUTIVE SUMMARY ..... 1

1 INTRODUCTION ..... 3

    1.1 Project Background ..... 3

    1.2 Purpose and Need ..... 3

2 ALTERNATIVES ..... 3

    2.1 Development of Alternatives ..... 3

    2.2 Alternatives Retained For Detailed Analysis ..... 4

        2.2.1 Proposed Action Alternative (Preferred Alternative) ..... 5

        2.2.2 No Action Alternative ..... 9

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES ..... 11

    3.1 Local Environmental Setting ..... 11

    3.2 Resources Analyzed ..... 11

    3.3 Air Quality ..... 15

        3.3.1 Existing Condition ..... 16

        3.3.2 Proposed Action Alternative ..... 20

        3.3.3 No Action Alternative ..... 23

    3.4 Cultural Resources ..... 24

        3.4.1 Existing Condition ..... 24

        3.4.2 Proposed Action Alternative ..... 25

        3.4.3 No Action Alternative ..... 26

    3.5 Hydrology and Water Quality ..... 26

        3.5.1 Existing Condition ..... 27

        3.5.2 Proposed Action Alternative ..... 27

        3.5.3 No Action Alternative ..... 28

    3.6 Noise ..... 28

        3.6.1 Existing Condition ..... 28

        3.6.2 Proposed Action Alternative ..... 28

        3.6.3 No Action Alternative ..... 29

    3.7 Solid and Hazardous Wastes ..... 29

        3.7.1 Existing Condition ..... 29

        3.7.2 Proposed Action Alternative ..... 29

        3.7.3 No Action Alternative ..... 30

    3.8 Transportation and Parking ..... 30

        3.8.1 Existing Condition ..... 30

        3.8.2 Proposed Action Alternative ..... 30

        3.8.3 No Action Alternative ..... 31

    3.9 US Environmental Regulations ..... 31

    3.10 Cumulative Impact ..... 33

4 PUBLIC INVOLVEMENT ..... 37

5 MITIGATION ..... 39

6 CONCLUSIONS ..... 43

7 LIST OF PREPARERS ..... 45

8 REFERENCES CITED ..... 47

9 LIST OF ACRONYMS AND ABBREVIATIONS ..... 53

- Appendix A Native American Tribes Correspondence
- Appendix B Agency Correspondence
- Appendix C List of Environmental Permits / Modifications Required

## List of Figures

Figure 1 VAMC Long Beach Project Location and Vicinity .....	5
Figure 2 Proposed MHOP, MHIP, CLC, Parking Structure, and Co-Gen Project Sites .....	6
Figure 3. Architectural Rendering of Proposed Mental Health Outpatient (MHOP) Facility.....	6
Figure 4. Architectural Rendering of Proposed Mental Health Inpatient (MHIP) Facility .....	6
Figure 5. Architectural Rendering of Proposed Community Living Center (CLC) Facility .....	7
Figure 6. Architectural Rendering of Proposed Parking Structure .....	7
Figure 7. Buildings to be Demolished or Removed.....	9

## List of Tables

Table 1 Environmental Attributes Assessed in the EA.....	12
Table 2 Federal and State Ambient Air Quality Standards and Attainment Status Designation for South Coast Air Quality Basin .....	17
Table 3 <i>De minimis</i> Thresholds .....	18
Table 4 SCAQMD Air Quality Significance Thresholds .....	19
Table 5 SCAQMD Localized Significance Thresholds.....	19
Table 6 Proposed Action Alternative Annual Construction Emission Estimates .....	21
Table 7 Proposed Action Alternative Daily Construction Emission Estimates.....	21
Table 8 Proposed Action Alternative Annual Operational Emission Estimates.....	22
Table 9 Proposed Action Alternative Daily Operational Emission Estimates .....	22
Table 10 Proposed Action Alternative Annual GHG Emission Estimates.....	23
Table 11 Project Compliance with Federal Legal Authorities .....	32
Table 12. VA Planned Projects for the Long Beach Medical Center .....	33

## EXECUTIVE SUMMARY

The Department of Veterans Affairs (VA) is proposing to construct new Mental Health (MH) and Community Living Center (CLC) facilities, a new parking structure, and a new Combined Heat and Power plant, also known as a Co-Generation (Co-Gen) plant, and to demolish certain existing buildings to make way for new construction at the VA Medical Center (VAMC) Long Beach, California. In accordance with the National Environmental Policy Act (NEPA), the VA prepared this Environmental Assessment (EA) to analyze the potential environmental effects of the proposed action.

The existing Mental Health and Nursing Home facilities at VAMC Long Beach are seismically deficient and do not meet current VA space planning criteria and patient privacy standards. To correct these deficiencies, the VA considered the following alternatives: (1) construct new MH and CLC buildings; (2) renovate existing buildings; (3) lease off-campus facilities; (4) contract out MH and CLC services to outside providers; (5) acquire existing facilities nearby; (6) integrate services with nearby Department of Defense facilities; and (7) maintain status quo (take no action). “Construct new MH and CLC buildings” was selected as the preferred alternative and will be analyzed in this EA as the proposed action.

The proposed action also includes the following related improvements to the Medical Center. A new parking structure would be built to mitigate the loss of parking from the footprint of the new MH and CLC buildings and to improve the current parking shortage at the Medical Center. A new Co-Gen plant will be installed to improve energy production efficiency.

The VA prepared this EA in accordance with NEPA to analyze the potential environmental effects of the proposed action. The analysis performed in this EA concludes that the proposed action would not have significant adverse impact, either individually or cumulatively, to the human environment, provided mitigation measures consisting of best management practices and regulatory compliance measures described in this EA are implemented. Therefore, this EA concludes that a Finding of No Significant Impact is appropriate and that an Environmental Impact Statement is not required.

*This page intentionally left blank*

# 1 INTRODUCTION

The Department of Veterans Affairs (VA) is proposing to construct new Mental Health (MH) and Community Living Center (CLC) facilities, a new parking structure, and a new Combined Heat and Power (CHP) plant, also known as a Co-Generation (Co-Gen) plant, and to demolish certain existing buildings at the VA Medical Center (VAMC) Long Beach, California. The new MH facility will include construction of new Mental Health Outpatient (MHOP) and Mental Health Inpatient (MHIP) buildings. The new CLC will replace an existing Nursing Home facility. The new multi-level parking structure will be built on the site of an existing parking lot. A new Co-Gen plant will be installed to upgrade the current energy/chiller plant. Several existing buildings will be demolished to accommodate the new buildings and associated infrastructure. In accordance with the National Environmental Policy Act (NEPA), the VA prepared this Environmental Assessment (EA) to analyze the potential environmental effects of the proposed action.

## 1.1 Project Background

VAMC Long Beach is located at 5901 East 7th Street, Long Beach, California (figure 1). The Medical Center is situated on approximately 100 acres of federally owned property adjacent to the California State University Long Beach (CSULB) campus. The facility is the part of the VA Long Beach Healthcare System (VALBHS), which provides comprehensive inpatient, outpatient, and extended care programs. The Medical Center and its community clinics employ more than 2,200 full-time employees, and VA Long Beach is the health care provider of choice for more than 50,000 Veterans. The VALBHS is active in both research and education, partnering with universities and education centers across Southern California to train a new generation of health care leaders (VA 2014a). Figure 2 shows the existing layout of the VA Medical Center campus with the project footprint delineated.

This Environmental Assessment (EA) has been prepared to ensure VA compliance with the regulations set forth by the Council on Environmental Quality (CEQ) implementing the provisions of the National Environmental Policy Act (NEPA), Title 40 Code of Federal Regulations (CFR) Parts 1500-1508; and VA Regulations, Environmental Effects of VA Actions, Title 38 CFR, Part 26 (51 FR 37182, Oct. 20, 1986) (VA 1998). This EA has also been prepared in accordance with the VA NEPA Interim Guidance for Projects (VA 2010).

An Environmental Assessment looks at the effects of a proposed action and reasonable alternatives to achieve the agency's objectives (VA 2010). The EA is intended to be a concise document that 1) briefly provides sufficient evidence and analysis for determining the significance of the action and whether to prepare and Environmental Impact Statement (EIS); 2) aides the VA's compliance with NEPA when no EIS is necessary; and 3) facilitates preparation of an EIS when one is necessary. If the analysis finds there are no significant impacts, a Finding of No Significant Impact (FONSI) can be issued concluding the NEPA process.

## 1.2 Purpose and Need

The existing MH and Nursing Home buildings at the VAMC Long Beach are seismically deficient and not in compliance with current VA space planning criteria and patient privacy standards. A constructability

analysis conducted by the engineering firm recommended demolition of the existing MH and Nursing Home buildings and the construction of new MH and CLC (replaces the Nursing Home) buildings (GLHN 2008). Subsequent analysis by the VA indicated the need for a new parking structure to relieve the current parking shortage on campus, and a new Co-Generation plant to improve energy production efficiency. The project would also require demolition of existing buildings in the proposed construction footprint.

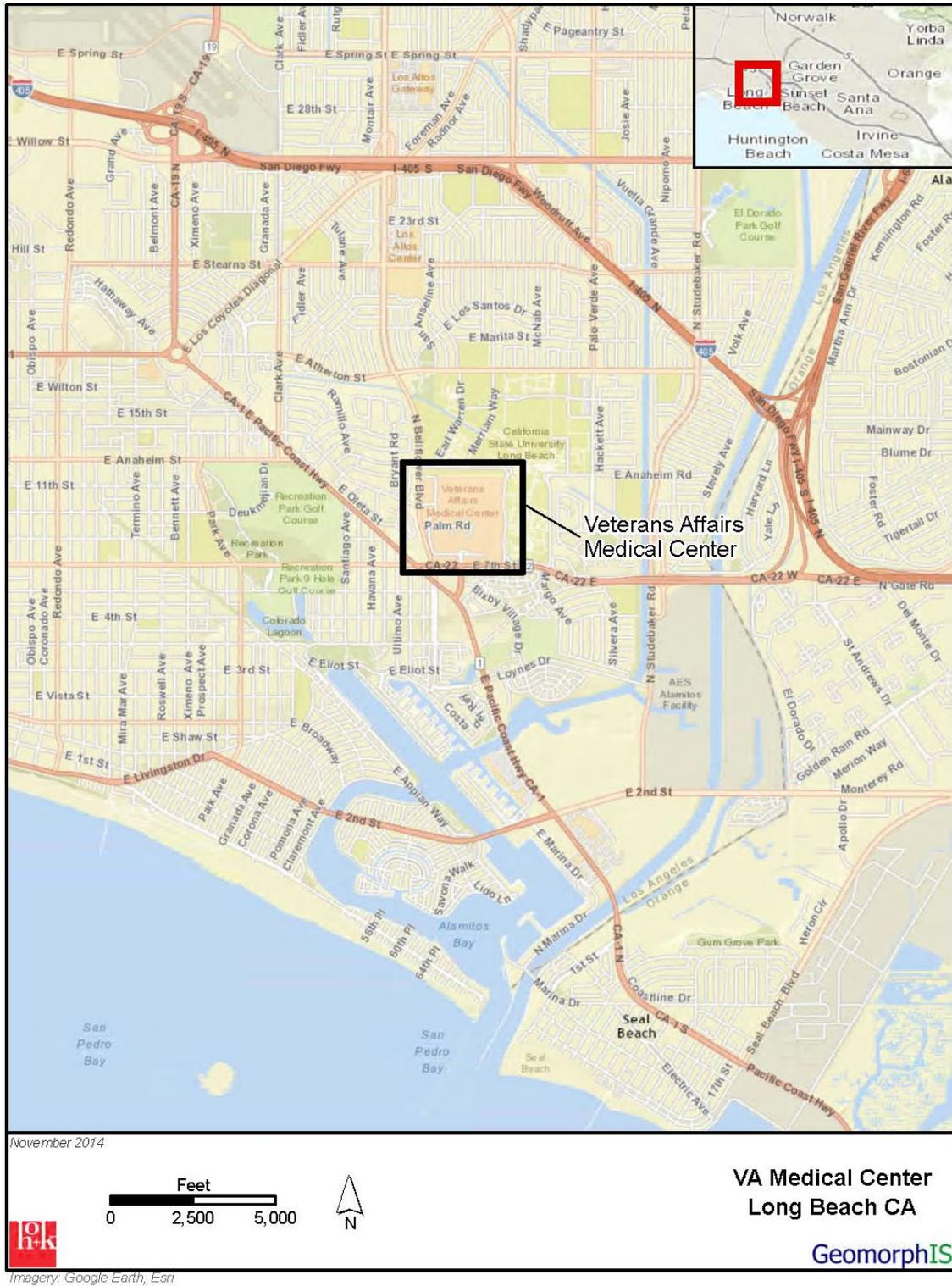


Figure 1 VAMC Long Beach Project Location and Vicinity

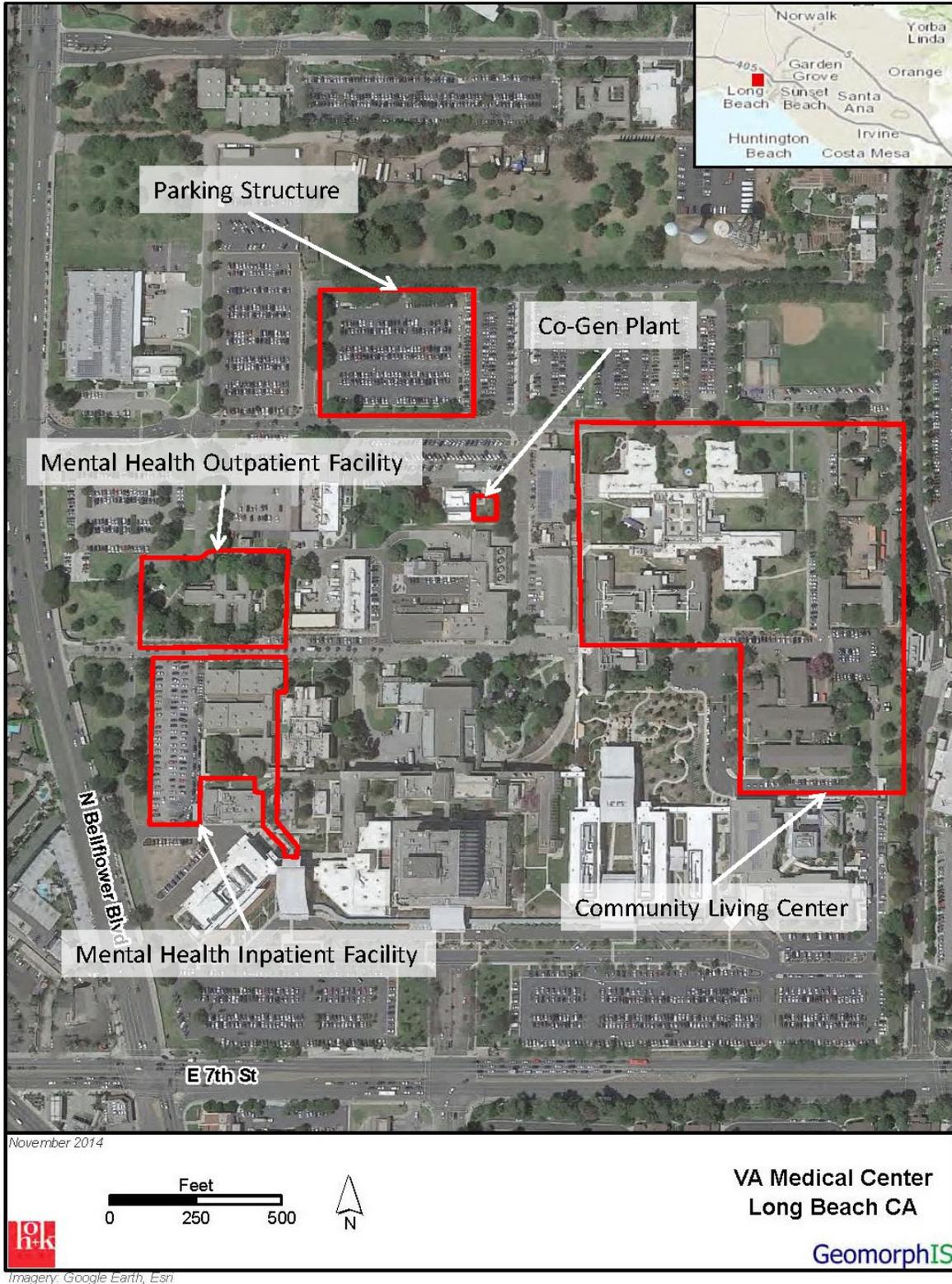


Figure 2 Proposed MHOP, MHIP, CLC, Parking Structure, and Co-Gen Project Sites

## 2 ALTERNATIVES

### 2.1 Development of Alternatives

The VA considered the following alternatives for correcting seismically deficient buildings and meeting associated mission needs at the VA Long Beach Healthcare System in Long Beach, CA (VA 2014b).

#### **Alternative 1: New Construction (Preferred Alternative)**

This alternative involves demolishing Building 133 (Nursing Home) and Building 128 (Mental Health) and replacing them with new seismically compliant buildings – a new building for the Community Living Center and two new buildings for Mental Health. This option also reduces recurring operating costs and maintenance costs by replacing old maintenance-intensive and energy inefficient building service equipment with new energy efficient equipment and provides new, state-of-the-art space to deliver the best possible care to Veterans.

#### **Alternative 2: Renovation**

This alternative renovates Buildings 133 and 128 only. The VA would not construct permanent new buildings. The likely result of renovation is the aggravation and increased dysfunction of building space. New seismic shear walls required to comply with seismic codes will segment the building space, disrupting operational efficiency and breaking up contiguous spaces. In addition, it is not physically possible to renovate Building 133 in a way that would eliminate semi-private rooms and replace them with private rooms, baths and showers to comply with current privacy standards. Since this alternative is not feasible, it was excluded from further analysis.

#### **Alternative 3: Lease**

In this alternative, the VA would lease a facility off-campus that could accommodate CLC and Mental Health facilities in the same manner as the New Construction alternative. However, care would be provided in a location apart from the existing clinical and ancillary support services at the VALBHS, which would negatively impact the continuity of care if Veterans would have to travel to different places for different services. Further, this alternative would not address the existing seismic deficiencies at the VAMC Long Beach. For these reasons, this alternative is not the preferred alternative.

#### **Alternative 4: Contract Out**

This alternative proposes to contract out all inpatient and outpatient services to other area healthcare providers in the community. This alternative assumes that all services and programs currently housed in Buildings 128 and 133 would be contracted out to providers in the local community, regardless of whether these providers can feasibly absorb this workload. Contracting out is not considered a viable alternative since it would essentially disenfranchise this VA location from providing CLC and Inpatient/ Outpatient Mental Health services for our Veteran population with no comparable services available in the local area. Since this alternative is cost-prohibitive, this alternative is not the preferred alternative.

**Alternative 5: Acquisition of an Existing Facility Through Purchase**

This alternative proposes to purchase an existing facility in the local community that is suitable for renovation and that would accommodate all project requirements in the same manner as the preferred alternative. However, high-level market research has indicated that a suitable facility for possible acquisition and subsequent renovation that would meet all project requirements in the same manner as the preferred alternative does not exist in the delineated market area (10-mile radius of the VAMC Long Beach) of the proposed project. Therefore, this is not a viable option and has been excluded from further analysis.

**Alternative 6: Collaboration with DoD for a Joint Facility**

This alternative proposes to construct a new integrated facility in collaboration with the Department of Defense (DoD) in the vicinity of the existing VAMC to provide space for existing services and functions. Although the VA has a strong collaboration and various sharing agreements in place with DoD, and serves as a TRICARE provider for the LA and Orange County areas, there are currently no concrete plans for a joint facility. Therefore, this alternative has been excluded from further analysis.

**Alternative 7: Status Quo**

The status quo alternative would continue to house the Nursing Home (or CLC) and Mental Health services in the existing, high-risk, seismically deficient buildings. In addition to the seismic life safety issues, this alternative also does not address any of the other current facility condition deficiencies, which hamper the VAMC's ability to provide modern healthcare to Veterans. Therefore, this alternative is the least preferred.

**2.2 Alternatives Retained For Detailed Analysis**

The preferred alternative, New Construction, would deliver the best benefit to the VA compared to all other alternatives. As discussed in the previous section, the Status Quo would not address any of the existing facility deficiencies, and the Renovation, Lease, Contract Out, Acquire an Existing Facility, and VA/DoD Collaboration alternatives are not viable. New Construction, with total life cycle costs of approximately \$975 million would be the best solution to address the VA's existing facility condition deficiencies and support strategic goals and objectives to provide high-quality, reliable, and efficient care. The preferred alternative will provide state-of-the-art CLC and Mental Health facilities, offering local Veterans access to high quality care (VA 2014b).

For the environmental impact analysis, the preferred alternative, New Construction, is considered the Proposed Action. The Status Quo is the No Action Alternative and represents conditions if the Proposed Action is not implemented.

### 2.2.1 Proposed Action Alternative (Preferred Alternative)

#### MH and CLC Buildings

The Proposed Action includes the replacement of two buildings, the seismically deficient Mental Health facility and Nursing Home (HOK 2014). The intent is to build two separate buildings for Behavioral/ Mental Health: a two-story Outpatient facility (MHOP), Building 162, totaling about 81,000 gross building square footage (GBSF) (figure 3); a two-story Inpatient facility (MHIP), Building 163, totaling about 78,000 GBSF (figure 4); and a three-story CLC, Building 167, totaling about 181,350 square feet (SF), to replace the Nursing Home Building 128 (figure 5). In addition, one-story enclosed Corridor Connectors of approximately 5,000 SF will connect to the existing main campus circulation system.

The intent is to construct the new MH buildings simultaneously. The new CLC building will start construction approximately 6 to 9 months later. All buildings will be Type “1A” construction, built to comply with VA requirements for essential facilities. The CLC building will be located on the east side of the Medical Campus and construction will include site improvements for approximately 15 acres. The MH Inpatient and Outpatient facilities will be constructed on the west side of the Campus and will include site improvement of approximately 5 acres. Site improvements for the project also include the demolition of 8 to 10 aging wood frame buildings and 2 one-story concrete buildings. The new buildings will provide connections to the existing campus vehicular circulation and covered walkway systems.

The Proposed Action is divided into two components. The CLC is designed under the VA Nursing Home Community Living Center Design Guide, dated June 2011. The MHOP and MHIP facilities are designed under the VA Mental Health Facilities Design Guide (Revised 1 August, 2014, Final). In addition, since MHIP and the CLC are designated as Mission Critical Facilities, both buildings will comply with the requirements listed under the Unified Facilities Criteria (UFC 4-010-01) Department of Defense Minimum Anti-Terrorism Standards for Buildings (DoD ATSB), and the Physical Security Design Manual for Mission Critical Facilities (PSDM-MC). The Mental Health Outpatient will comply with the requirements listed under the Physical Security Design Manual for Life-Safety Protected (PSDM-LS).

Sustainable design principles are significant factors in the design of the project. The buildings will be designed with the goal of achieving a US Green Building Council, Leadership in Energy & Environmental Design (LEED; [www.usgbc.org/leed](http://www.usgbc.org/leed)) Silver Certification level. The VA is targeting a minimum of the following:

- Minimum of 50% water savings for irrigation over conventional methods.
- Minimum of 20% water savings for plumbing fixtures based on EPA 1993, with a target of 30% savings.
- MHIP: energy cost savings of 17% below ASHRAE 90.1 2007 (30% below 2004).
- MHOP: energy cost savings of 22% below ASHRAE 90.1 2007 (30% below 2004).
- Renewable energy to provide 7.5% of the electricity.
- CLC: 30% savings from ASHRAE 90.1 2004 and 7.5% electricity from photovoltaics.



**Figure 3. Architectural Rendering of Proposed Mental Health Outpatient (MHOP) Facility  
(Looking to the northwest)**



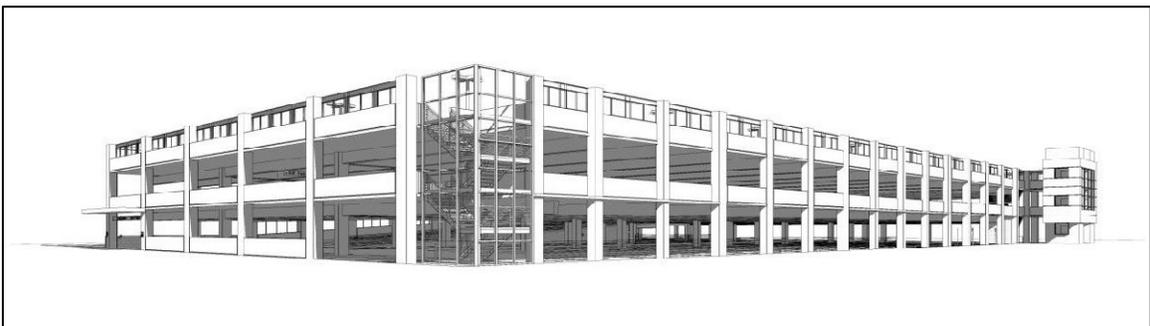
**Figure 4. Architectural Rendering of Proposed Mental Health Inpatient (MHIP) Facility  
(Looking to the south)**



**Figure 5. Architectural Rendering of Proposed Community Living Center (CLC) Facility**  
(Looking to the east)

### **Parking Structure**

The parking structure will be constructed on existing parking Lot N located along Sam Johnson Road and south of the existing golf course. The parking structure is designed with a foot print area of 89,350 SF (about 2 acres) and yields 488 parking spaces (figure 6). The total area is 164,888 SF and the building efficiency is 338 SF/space. It is a Type IB - S2 Open Parking Structure as defined in the 2012 International Building Code. The parking structure will comply with the applicable codes listed in the VA Design Manual. The parking structure is a three-level parking building with a 306-foot long by 188-foot wide footprint. The overall height from adjacent grade to the top of the spandrel of the structure is 26.5 feet. The structure will be long-span, cast-in-place concrete with lateral moment frames. A surface parking lot accessed from the parking structure to the north provides an additional 55 spaces.



**Figure 6. Architectural Rendering of Proposed Parking Structure**  
(Looking to the northwest)

Storm drainage from the above ground open parking structure will consist of primary roof drains at the top level and emergency drains at the ground and intermediate level. The storm drain system will be piped to the ground level and gravity connected to the on-site storm drain system 5 feet outside the

building. The proposed parking structure will occupy essentially the same area as the existing parking lot. Thus the change in impervious area for this project is anticipated to be zero or negligible.

Adding a parking structure as depicted in the site plan will result in changes to existing drainage patterns. Minor drainage improvements (inlets, drain lines) are anticipated to capture runoff flowing from the south toward the north side of the parking structure. These improvements will convey the runoff underground toward the west or the east around the parking structure eventually either outleting into an existing storm drain line or through a curb outlet. Due to zero or negligible change in impervious area, storm water run-off mitigation (basin and/or underground storage) is not anticipated. However, a basin or underground storage may be required for storm water quality mitigation.

Lighting on the parking structure will enhance security and the perception of security – passive security is accomplished by designing open floor plans, reducing the incident of dark corners or places of low-visibility from the exterior. Shielded exterior light fixtures shall be utilized to reduce light spill into adjacent properties and provide illumination that do not exceed recommended light levels for high traffic commercial areas. Exterior luminaries will be installed in a manner that provides properly distributed illumination, reveals such hazards as curbs and steps, and illuminates dark and potentially dangerous areas.

### **Co-Generation Plant**

All power plants emit heat while generating electricity. With cogeneration, this discarded heat is captured and put to use in the central energy/chiller plant. In order to optimize the payback, the Co-Gen Plant will be located near the existing Central Plant (figure 2). A closer distance equals a shorter utility run and reduces the need for expensive heavily insulated pipes. The cogeneration equipment will be exterior grade equipment that can be installed on slabs behind the existing Central Plant.

Gas-driven turbine generator sets will be installed in the Co-Gen Plant. The gas turbines will drive a generator to produce electricity that will be used at the site and will reduce the campus's consumption of electricity from Southern California Edison. Hot turbine exhaust will be diverted to a heat recovery steam generator to produce steam that will be utilized to drive an absorption chiller, which in turn, is used for space cooling. An additional cooling tower will be required for this chiller. Both the existing chiller room and cooling tower yard have provisions for one more additional unit in their respective space.

### **Demolition**

Subsequent to the completion of new construction, existing Buildings 128 (Mental Health) and 133 (Nursing Home) will be demolished along with several minor buildings and structures. Other buildings that will be demolished include buildings 3, 4, 11, 47, 89, 90, 136, and T162. Four structures identified as buildings 40, 92, 123 and 154 will also be demolished (figure 7).

Demolition of existing buildings to make way for new buildings will also include removal of surrounding existing improvements within the limits of grading for each of the building projects (see project sites in figure 2). The demolition scope will also include relocation of major underground utility services (water,



*This page intentionally left blank*

### **3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES**

This section describes the existing baseline conditions of the environment affected by the project alternatives and the likely consequences the project alternatives would have on this environment.

#### **3.1 Local Environmental Setting**

The VA Medical Center in Long Beach is located on an approximately 100-acre parcel within the city of Long Beach, California. The VAMC campus is bounded by East State University Drive, East 7<sup>th</sup> Street, West Campus Drive, and North Bellflower Boulevard to the north, south, east, and west, respectively. The campus is relatively flat and occupied by multiple buildings (some which contain basements) ranging from one to 12 stories in height, access roads, and parking areas. The site for the proposed MHOP and MHIP buildings is located along the central western perimeter of the campus adjacent to Bellflower Boulevard. The proposed parking structure will be built on existing parking lot in the north-central part of the campus; the Co-Gen plant will be located near to the existing power plant. Elevations at the site of these buildings range between 72 and 78 feet above mean seal level (AMSL). The site for the proposed CLC is located along the central eastern perimeter of the campus adjacent to West Campus Drive. Elevations at the site of the CLC range between 72 and 81 feet AMSL (Geosyntec 2010).

The Medical Center is in an urban setting, bordered on the east and north by the California State University Long Beach campus, and to the south and west by residential and commercial properties. The Medical Center campus includes a number of medical and support facilities, access roads, and parking lots, as well as areas of open green space, playing fields, and gardens (figure 2). The extant Mental Health and Community Living Center (Nursing Home) buildings are surrounded by quality vegetation indicative of Southern California and by large, stately trees that have been carefully cultivated and maintained over the years (HOK 2014). The landscape features are an integral part of the “healing environment” provided to the Medical Center residents. The VA has recently constructed several new buildings on the campus (separate from this project) south of, and adjacent to, the proposed MH and CLC sites.

The adjacent California State University Long Beach campus shares many environmental characteristics with the VA Medical Center and has a related land use history. The University recently prepared a Final Environmental Impact Report (FEIR) for their Campus Master Plan Update (HDR 2008). This study, done to comply with the California Environmental Quality Act (CEQA), was used to support the initial screening of likely environmental effects of the proposed VAMC Long Beach project.

#### **3.2 Resources Analyzed**

An initial screening process was used to determine which environmental resources were likely to be significantly adversely impacted by the Proposed Action Alternative. Because the project is specifically designed to produce certain environmental benefits (e.g., aesthetic architecture, reduction of seismic hazard) and to avoid or mitigate others (e.g., reduce energy and water use, increase material recycling), some environmental resources were dismissed from further discussion. In other cases, environmental

resources were dismissed from further analysis if they were unlikely to be significantly impacted by the proposed project. The remaining resources were analyzed further to assess the likely impacts of the Proposed Action Alternative and to determine what measures should be taken to mitigate adverse impacts.

Impact Intensity is a measure of the severity of an impact, and is used here to determine the relative significance of the impact for the purpose of screening. The intensity of an impact may be:

- Negligible, when the impact is localized and not measurable or at the lowest level of detection;
- Minor, when the impact is localized and slight but detectable;
- Moderate, when the impact is readily apparent and appreciable; or
- Major, when the impact is severe and highly noticeable.

Table 1 indicates which resources were dismissed or retained for analysis, and the rationale for doing so.

**Table 1 Environmental Attributes Assessed in the EA**

Resource	Dis-missed?	Rationale
Aesthetics	Yes	The three new buildings, parking structure, and Co-Gen plant proposed at the project sites have been designed to complement the aesthetic qualities of the medical facilities and enhance the healing environment. The landscaping, open space, and ground amenities design will contribute to this objective (HOK 2014). Consequently, the potential adverse impact of the proposed new construction is considered negligible.
Air Quality	No	Construction at the project sites will create dust, smoke, and engine emissions. During demolition and construction, asbestos may be released into the atmosphere. Appropriate VA, Environmental Protection Agency (USEPA), OSHA, and other regulatory guidance will be followed during construction. As part of the VA Sustainable Design and Energy Reduction requirements and LEED criteria, the new buildings will be designed to allow for long-term reductions in energy use and air emissions (HOK 2014). The installation of a new Co-Gen plant to replace older equipment will require additional analysis and permitting (Geosyntec 2015). Construction of the new facilities will cause a temporary, minor negative impact to local air quality.
Community Services	Yes	As part of the LEED sustainable sites criteria, this project will enhance community connectivity through architectural and landscape design, encourage alternative transportation, and improve walk-ability of the pedestrian paths. These features will have a beneficial, long-term effect on Medical Center campus (HOK 2014). During demolition and construction of the new facilities, the project may have a short-term, negligible impact on some community services.
Cultural Resources	No	The presence of previously recorded prehistoric archaeological sites on the adjacent California State University Long Beach campus suggests a potential for buried prehistoric archaeological resources within the VAMC Long Beach project area (Smallwood et al. 2011). Eight historic-period buildings within the VAMC Long Beach project area were identified and recorded. The buildings were evaluated using National Register of Historic Places (NRHP) eligibility criteria, and all 8 buildings were evaluated as not eligible for the NRHP; 2 other buildings were previously determined not eligible. A subsequent study by Furniss and Gust (2014) reported similar findings and concurred with Smallwood et al. (2011) that the VAMC Long Beach campus does not qualify as a National Register District. (SWCA 2015). Potential impacts to cultural resources by excavation are moderate but will be mitigated by archaeological monitoring, preservation of artifacts, and publication of findings. See Cultural Resources Section for details.

Resource	Dis-missed?	Rationale
Economic Activity	Yes	The project construction phase will have a short-term beneficial effect by providing additional jobs and purchase of goods in the area. The possible addition of medical staff associated with the new facilities would cause a beneficial, long-term increase in the number of jobs at the Medical Center (HOK 2014). Potential negative impacts to the local economic activity are considered negligible.
Environmental Justice	Yes	Medical Center residents and staff comprise a broad range of economic and ethnic groups. The Medical Center is bordered to the north and east by the California State University Long Beach, and to the south and west by neighborhoods having median incomes greater than \$70,000 per year (Esri 2014). Low-income or minority populations will not be disproportionately effected by this project, and the potential negative impact is negligible.
Floodplains, Wetlands, Coastal Zone, Etc.	Yes	The Medical Center (inclusive of the project sites) is outside of the FEMA-designated 100-year and 500-year floodplains (FEMA 2008, City of Long Beach 2014a), and is not regulated under Executive Order 11988 - Floodplain Management. The Medical Center is also not in a Coastal Zone Management area (City of Long Beach 2014b). No wetlands occur on the project site. The project will have a negligible negative impact on other watershed or water resources. Refer to the Hydrology, Water Quality category for additional discussion.
Geology and Soils	Yes	A geotechnical study done for this project (Geosyntec 2010, 2014) indicates that the subsurface conditions at the building sites include thin surficial fill over late Pleistocene deposits (marine terrace cover and sand). The Medical Center is situated within a seismically-active region and will likely experience moderate to severe ground shaking in response to a large magnitude earthquake. Since a primary purpose of this project is to replace seismically deficient buildings with those that meet VA seismic design requirements, the project will help mitigate local geologic hazards, and provide long-term safety and sustainability benefits to the facility. Potential negative impacts to local geology and soils are negligible.
Hydrology And Water Quality	No	During demolition and construction phases, runoff from the project sites could contribute silt and pollutants to the storm drain system. This temporary, short-term impact will be prevented by application of construction Best Management Practices (BMPs) and careful monitoring of the construction contractors. As part of the VA sustainable design and LEED requirements, improved stormwater management and stormwater design, water efficient landscaping, and water use reduction will be an integral part of the project (HOK 2014). The overall potential negative impact of this project on to water resources is considered minor and mitigatable.
Land Use	Yes	The Medical Center is bordered on the east and north by the California State University Long Beach campus, and on the south and west by commercial and residential property. This project proposes to replace existing buildings with new buildings that will be consistent with current land use. The new buildings and associated ground improvements will have a long-term beneficial impact on local land use (HOK 2014). Any potential negative impacts to land use are considered negligible.
Noise	No	This project will cause a short-term increase in noise during the demolition / construction phases that may have an adverse impact on Medical Center residents and workers, and neighboring communities. As this is a medical facility, extra noise control practices will be required during construction. The new buildings will incorporate noise reduction features that will have a long-term benefit to occupants (HOK 2014). The project will have a temporary, minor negative impact on this resource.
Potential For Generating Substantial Controversy	Yes	Other than the potential negative impact to buried cultural resources (addressed in the Cultural Resources section), there are no other known or anticipated issues likely to generate substantial controversy among Medical Center stakeholders, regulatory agencies, or the general public. The likelihood of the project generating substantial controversy is negligible.

Resource	Dis-missed?	Rationale
Resident Population	Yes	The replacement of the MH and CLC facilities is anticipated to result in a minor increase in the number of beds during the next 25 years; from 194 beds in 2012 to 207 beds in 2031, for a cumulative increase of 5 percent (VA 2014b). The number of ambulatory mental health stops during this period is expected to increase by only 3.5 percent. Similarly, the number of residents and attending staff will not grow significantly as a result of this project. The application of VA sustainable design and LEED design features into the new buildings will mitigate any negative impacts of the increased resident population, and will provide the residents with the long-term benefit of improved indoor and outdoor environmental quality (HOK 2014). Any potential negative impacts to the resident are considered negligible.
Solid/Hazardous Waste	No	During demolition and construction, hazardous waste including paint, solvents, and residues in exhaust systems, asbestos-containing material (ACM), and other debris will be generated (AEC 2015a-j). The potential short-term adverse impact will be avoided and mitigating through close adherence to federal, state, and local regulations, and incorporated into construction contracts. VA sustainable design and LEED design features are incorporated in the new building construction and operation, increasing the amount of recycled and bio-based content, and increasing the salvage and recycling of building materials and demolition debris. The project will therefore have a beneficial effect on long-term solid/hazardous waste management at the Medical Center (HOK 2014). Likely negative impacts caused by the generation of solid and hazardous waste will be temporary, minor, and will be mitigated by appropriate handling and disposal procedures.
Transportation And Parking	No	During demolition and construction there will be a temporary, short-term alteration in facility access roads and reduction in parking. These adverse impacts will be mitigated by implementation of a traffic management plan prior to demolition / construction. The completed project will improve traffic and parking conditions creating a long-term benefit to the Medical Center commuters and visitors (Choate 2014, HOK 2014, Crain & Associates 2014). The likely negative impacts of this project on transportation and parking are considered temporary and minor, and will be mitigated by implementation of a traffic / parking management plan.
Utilities	Yes	The proposed new buildings will be constructed to VA sustainable design and LEED design criteria that require increased efficiency in heat generation, air conditioning, lighting, and water systems over existing facilities. The more efficient utilities will reduce energy and water, and result in a long-term benefit to the Medical Center (HOK 2014). The potential negative impact of this project on utilities is considered negligible. See the Hydrology and Water Quality section concerning stormwater utilities.
Vegetation and Wildlife	Yes	The Medical Center is a fully developed facility where native habitats have been replaced by urban landscaping used by urban wildlife. During the demolition/ construction phases, there will be a temporary removal of trees from the project sites. However, the project will mitigate the loss of individual trees by planting new mature trees and by the establishment of healing gardens that will increase floral diversity and encourage wildlife use of the area (HOK 2014). The potential negative impact of this project on vegetation and wildlife resources is considered negligible.
US Environmental Regulations	No	The VA will be in compliance with all applicable environmental regulations regarding this project from design, through construction, and operational phases. Contract provisions will call for regulatory compliance during construction/demolition. The VAMC will use its Green Environmental Management System (GEMS) program to ensure regulatory compliance during operation; potential negative impacts of this project on regulatory compliance will be negligible.

Resource	Dis-missed?	Rationale
Cumulative Effects	No	The VA has planned several other demolition/construction projects for the VAMC Long Beach campus, in addition this proposed project. These future projects will replace or upgrade existing infrastructure in order to meet new health and safety standards, improve energy efficiency, and enhance the healing environment. The new projects will be consistent with the current land use and developed nature of the Medical Center. Smallwood et al. (2011) and Furniss and Gust (2014) determined that the buildings to be demolished were not eligible for NRHP designation. The primary concern for future development is potential harm to possible prehistoric archaeological sites within the construction footprints. The potential negative cumulative impact of this project is minor and mitigatable.

### 3.3 Air Quality

The VAMC Long Beach campus is within the South Coast Air Basin (Basin). In the recent CSULB Master Plan FEIR, HDR (2008) reported that, because of the unique geography and meteorology of the Basin, ozone (O<sub>3</sub>) levels were some of the highest in the country and are expected to continue to violate the federal and state ambient air quality standards even with the implementation of vigorous control measures. Similarly, levels of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>, defined as particulate matter less than or equal to 10 and 2.5 microns in diameter, respectively) are found to exceed federal and state standards, although carbon monoxide (CO) levels are currently within attainment. Basin-wide air quality conditions are described in detail in the South Coast Air Quality Management District (SCAQMD) online air quality analysis guidelines: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>).

Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter (µg/m<sup>3</sup>). A significant aspect is a pollutant's concentration in comparison to a national and/or state ambient air quality standard which represents the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety. The national standards, established by the US Environmental Protection Agency (USEPA), are termed the National Ambient Air Quality Standards (NAAQS). The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded. State standards, established by the California Air Resources Board (CARB), are termed the California Ambient Air Quality Standards (CAAQS).

The main pollutants of concern considered in this air quality analysis include volatile organic compounds (VOC), O<sub>3</sub> (not directly emitted but formed in the atmosphere), CO, nitrogen oxides (NO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>. Although VOC or NO<sub>x</sub> (other than nitrogen dioxide) have no established ambient standards, they are important as precursors to O<sub>3</sub> formation. The region of influence (ROI) for this air quality analysis is the entire Long Beach area.

### 3.3.1 Existing Condition

The following discussions provide information on the applicable regulatory conditions to the Proposed Action Alternative and are focused on air quality issues associated with construction and operation of the Co-Gen Plant. Mobile sources (i.e., automobiles) are not anticipated to change significantly from current conditions and were not included in this evaluation.

#### Ambient Air Quality

The USEPA designates areas of the US in terms of having air quality better (attainment) or worse than (nonattainment) the NAAQS. An area generally is in nonattainment for a pollutant if its NAAQS has been exceeded more than once per year. Former nonattainment areas that have attained the NAAQS are designated as maintenance areas. In addition to the US standards, California has adopted state-specific ambient air quality standards. Table 2 presents the federal and state ambient air quality standards and the attainment status of criteria pollutants in the South Coast Air Basin.

#### Federal Requirements

The federal Clean Air Act (CAA) of 1969 and its subsequent amendments establish air quality regulations and the NAAQS and delegate the enforcement of these standards to the states. The CAA Amendments of 1990 established new federal nonattainment classifications, new emission control requirements, and new compliance dates for nonattainment areas. The requirements and compliance dates are based on the severity of the nonattainment classification.

The General Conformity Rule (40 CFR 51.850-860 and 40 CFR 93.150-160) requires any federal agency responsible for an action in a nonattainment or maintenance area to determine that the action conforms to the applicable the California State Implementation Plan (SIP). Under existing federal guidelines, the action proponent must establish that the Proposed Action Alternative will not: 1) cause or contribute to any new air quality standard violation; 2) increase the frequency or severity of any existing standard violation; or 3) delay the timely attainment of any standard, interim emission reduction, or other milestone (USEPA 2010).

**Table 2 Federal and State Ambient Air Quality Standards and Attainment Status Designation for South Coast Air Quality Basin**

Pollutant	Federal Standard	Federal Attainment Status	California Standard	California Attainment Status
O <sub>3</sub>	0.075 ppm 8-hour average	Extreme Non-attainment	0.09 ppm 1-hour average 0.07 ppm 8-hour average	Non-attainment
PM <sub>10</sub>	150 µg/m <sup>3</sup> 24-hour average	Attainment	50 µg/m <sup>3</sup> 24-hour average 20 µg/m <sup>3</sup> annual average	Non-attainment
PM <sub>2.5</sub>	12 µg/m <sup>3</sup> primary annual average 15 µg/m <sup>3</sup> secondary annual average 35 µg/m <sup>3</sup> 24-hour average	Moderate Non-attainment	12 µg/m <sup>3</sup> annual average	Non-attainment
CO	9 ppm 8-hour average 35 ppm 1-hour average	Attainment	20 ppm 1-hour average 9 ppm 8-hour average	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	100 ppb 1-hour average 53 ppb annual average	Attainment	0.18 ppm 1-hour 0.030 annual average	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	75 ppb 1-hour average 0.5 ppm 3-hour average	Attainment	0.25 ppm 1-hour average 0.04 ppm 24-hour average	Attainment
Lead	0.15 µg/m <sup>3</sup> rolling 3-month average	Non-attainment	1.5 µg/m <sup>3</sup> 30-day average	Attainment

Notes: ppm = parts per million  
ppb = parts per billion  
µg/m<sup>3</sup> = micrograms per cubic meter

Sources:

Federal standards retrieved from [www.epa.gov/air/criteria.html](http://www.epa.gov/air/criteria.html) and federal designations retrieved from [www.epa.gov/airquality/greenbook/anc12.html](http://www.epa.gov/airquality/greenbook/anc12.html), last updated 2 July 2014.

California standards retrieved from [www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm](http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm) and area designations retrieved from [www.arb.ca.gov/desig/adm/adm.htm](http://www.arb.ca.gov/desig/adm/adm.htm), last updated 22 August 2014.

The emission thresholds that trigger requirements for a conformity analysis are called *de minimis* levels. *De minimis* levels (in tons per year) vary by pollutant and are also subject to the severity of the nonattainment status. Actions would conform to a SIP if their annual direct and indirect emissions remain less than the applicable *de minimis* thresholds. The rule allows for approximately 30 exemptions that are assumed to conform to an applicable SIP. Emissions of attainment pollutants are exempt from conformity analyses. The applicable *de minimis* levels for the project area are listed in table 3.

**Table 3 *De minimis* Thresholds**

<b>Pollutant</b>	<b>Current Project Area Nonattainment Classification</b>	<b><i>De minimis</i> Threshold (tons/year)</b>
Oxides of Nitrogen (O <sub>3</sub> precursor)	Severe (O <sub>3</sub> )	10
VOC (O <sub>3</sub> precursor)	Severe (O <sub>3</sub> )	10
PM <sub>2.5</sub>	Nonattainment	100
Carbon Monoxide (CO)	Maintenance	100
Lead	Nonattainment	25

Source: <http://epa.gov/airquality/genconform/deminimis.html>

Compliance is presumed if the net increase in direct and indirect emissions from a federal action would be less than the relevant *de minimis* level. However, if the increase in emissions for a nonattainment pollutant exceeds *de minimis* levels, a formal conformity determination process must be implemented. If emissions exceed their respective *de minimis* levels, further analysis of the emissions and their consequences would be performed to assess whether there is a likelihood of a significant impact to air quality.

#### State Requirements

The CARB enforces air pollution regulations and sets guidelines to attain and maintain the NAAQS and CAAQS within the state of California; these guidelines are found in the SIP.

The California CAA of 1988, as amended in 1992, outlines a program to attain the CAAQS for O<sub>3</sub>, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter, and CO by the earliest practical date. Since the CAAQS are more stringent than the NAAQS (except for lead), emissions reductions beyond what would be required to show attainment for the NAAQS would be needed to show compliance with the CAAQS. CARB delegates the authority to regulate stationary source emissions to local air quality management districts. The CARB requires these agencies to develop their own strategies for achieving compliance with the NAAQS and CAAQS, but maintains regulatory authority over these strategies, and mobile source emissions throughout the state.

#### Local Requirements

The South Coast Air Quality Management District is the local agency responsible for enforcement of air quality regulations in the project region. SCAQMD is responsible for air pollution control in Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. SCAQMD conducts air quality planning activities and adopts and enforces local rules to reduce emissions from various sources and activities including industrial processes and the use of paints, solvents, and consumer products. SCAQMD also has authority to enforce federal regulations such as the New Source Performance Standards under 40 CFR Part 60. Permitting and enforcement programs administered by the SCAQMD ensure that federal and local rules are followed.

SCAQMD also acts as either a lead agency or a commenting agency under CEQA. To assist in the preparation of air quality analyses, SCAQMD has established mass daily “significance thresholds” for

criteria air pollutants shown in table 4 that can be used to evaluate the significance of the air quality impact from a proposed action.

**Table 4 SCAQMD Air Quality Significance Thresholds**

Pollutant	Construction Mass Daily Emission Rate (pounds per day)	Operation Mass Daily Emission Rate (pounds per day)
NO <sub>x</sub>	100	55
VOC	75	55
PM <sub>10</sub>	150	150
PM <sub>2.5</sub>	55	55
SO <sub>x</sub>	150	150
CO	550	550
Lead	3	3

Source: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>

In addition to the significance thresholds, SCAQMD has also developed “Localized Significance Thresholds”. In order to evaluate localized significant, SCAQMD developed mass-rate look-up tables for each source receptor area. These thresholds were developed to evaluate localized ambient air quality impacts. The thresholds applicable to the Proposed Action Alternative (in the South Coastal Los Angeles County Receptor Area) are summarized in table 5.

**Table 5 SCAQMD Localized Significance Thresholds**

Pollutant	Threshold Emission Rate (pounds/day)
<b>Construction</b>	
NO <sub>x</sub>	123
CO	1530
PM <sub>10</sub>	14
PM <sub>2.5</sub>	8
<b>Operation</b>	
NO <sub>x</sub>	123
CO	1530
PM <sub>10</sub>	4
PM <sub>2.5</sub>	2

Source: Localized Significance Thresholds Appendix C, Table C-2 available at:

[www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds#appc](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds#appc)

### Greenhouse Gas Emissions

Greenhouse gases (GHG) trap heat in the atmosphere, and these emissions occur from natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth's temperature. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. Global climate change is predicted to produce negative economic and social consequences across the globe.

Recent observed changes due to global climate change include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (Intergovernmental Panel on Climate Change 2007). Predictions of long-term environmental impacts due to global climate change include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack. In California, predictions of these effects include exacerbation of air quality problems, a reduction in municipal water supply from the Sierra snowpack, a rise in sea level that would displace coastal businesses and residences, damage to marine and terrestrial ecosystems, and an increase in the incidence of infectious diseases, asthma, and other human health problems (California Environmental Protection Agency 2006).

The most common GHG emitted from natural processes and human activities include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). Examples of GHG created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO<sub>2</sub>, which has a value of one. For example, CH<sub>4</sub> has a GWP of 21, which means that it has a global warming effect 21 times greater than CO<sub>2</sub> on an equal-mass basis. Total GHG emissions from a source are often reported as a CO<sub>2</sub> equivalent (CO<sub>2</sub>e). The CO<sub>2</sub>e is calculated by multiplying the emission of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHG, expressed as CO<sub>2</sub>e.

Federal agencies address emissions of GHG on a national scale by reductions mandated in federal laws and Executive Orders, most recently, Executive Order 13423 that affects federal agencies. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

SCAQMD has not established a final GHG significance threshold for use in evaluating GHG emission rates. They have, however published an interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans (SCAQMD 2008). The Tier 3 screening level presented in this interim guidance is 10,000 metric tons (11,023 tons) of CO<sub>2</sub> equivalent emissions.

### **3.3.2 Proposed Action Alternative**

Implementation of the Proposed Action Alternative would result in air emissions associated with construction of the MH and CLC buildings, and associated with facility operations. Air quality impacts

from proposed construction activities would occur from combustion emissions from fossil fuel-powered equipment and fugitive dust emissions (PM<sub>10</sub>) during construction activities (including demolition of existing pavement and buildings to accommodate the parking structure and MH and CLC buildings). Table 6 provides the Proposed Action Alternative annual construction emission rate estimate and table 7 provides the daily construction emission rate estimate from the CalEEMod Model ([www.caleemod.com](http://www.caleemod.com)), including threshold levels for comparison purposes. Annual and daily construction emission rates were estimated to be less than the *de minimis* and significance thresholds, respectively. The CalEEMod emissions estimating methodology used to quantify construction emissions are provided in a separate air quality analysis report (Geosyntec 2015).

**Table 6 Proposed Action Alternative Annual Construction Emission Estimates**

Year of Construction	Emissions (tons/year)					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2015	0.215	2.34	1.81	2.27e-3	0.42	0.25
2016	0.678	5.83	5.47	8.69e-3	0.86	0.52
2017	1.09	3.28	3.42	6.23e-3	0.40	0.23
2018	0.64	0.033	0.06	1.3e-4	9.39e-3	4.19e-3
<i>Federal de minimis Emission Thresholds</i>	10	10	100	Not Applicable	Not Applicable	100
<i>Above de minimis?</i>	No	No	No	No	No	No

**Table 7 Proposed Action Alternative Daily Construction Emission Estimates**

Year of Construction	Emissions (pounds/day)					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
2015	5.34	59.43	44.51	0.068	9.98	6.77
2016	6.56	74.91	50.43	0.073	9.84	6.63
2017	43.06	32.96	37.37	0.073	4.74	2.54
2018	43.00	2.19	4.15	9.06e-3	0.64	0.28
<i>SCAQMD Significance Thresholds</i>	75	100	550	150	150	55
<i>Above Significance Threshold?</i>	No	No	No	No	No	No
<i>SCAQMD Localized Significance Thresholds</i>	NA	123	1530	NA	14	8
<i>Above Localized Significance Threshold?</i>	NA	No	No	No	No	No

Operational emissions associated with operation of the MH and CLC facilities were estimated using the CalEEMod Model and USEPA emission methodologies for the Co-Gen plant. The CalEEMod Model includes calculations of emissions from area sources such as landscaping and consumer products use, emissions from energy use, and vehicular emissions. In addition, emissions from the Co-Gen plant were estimated using the SCAQMD NO<sub>x</sub> performance requirement for new Co-Gen plants and USEPA emission factors. Tables 8 and 9 present a summary of the annual and daily operational emissions estimates, respectively. Threshold values are provided for comparison purposes. With mitigation measures, all emission rates are estimated to be less than the federal *de minimis* and SCAQMD significance thresholds. Construction emissions are estimated to be below the SCAQMD localized significance thresholds. Operational emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are above the localized significance thresholds due to emissions from the proposed Co-Gen plant. Regional emissions resulting from installation of the Co-Gen plant will be reduced due to the higher efficiency of cogenerated power. Localized emissions from the Co-Gen plant will be mitigated in accordance with the requirements of the air quality permitting process and resulting permit conditions. Excluding mobile source and Co-Gen plant emissions, the emission rates are below the localized significance thresholds. The CalEEMod emissions estimating methodology used to quantify construction emissions are provided in a separate air quality analysis report (Geosyntec 2015).

**Table 8 Proposed Action Alternative Annual Operational Emission Estimates**

Source	Emissions, tons/year					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Sources	2.08	0.014	1.25	7.00E-05	6.82E-03	6.82E-03
Energy Use	0.039	0.35	0.27	2.10E-03	0.027	0.027
Mobile Sources	2.07	6.21	23.6	0.063	4.34	1.22
Co-Gen Plant	0.44	3.08	17.18	0.12	1.38	1.38
<b>Total</b>	4.6	9.7	42.3	0.2	5.8	2.6
<i>Federal de minimis Emission Thresholds</i>	10	10	100	Not Applicable	Not Applicable	100
<i>Above de minimis?</i>	No	No	No	No	No	No

**Table 9 Proposed Action Alternative Daily Operational Emission Estimates**

Source	Emissions, pounds per day					
	VOCs	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Sources	11.47	0.116	10	5.30E-04	0.055	0.055
Energy Use	0.211	1.9	1.47	0.011	0.146	0.15
Mobile Sources	14.31	39.07	159.6	0.44	29.68	8.32

Co-Gen Plant	2.41	12.67	94.17	0.67	7.58	7.58
<b>Total</b>	<b>28.40</b>	<b>53.75</b>	<b>265.24</b>	<b>1.12</b>	<b>37.46</b>	<b>16.10</b>
<i>SCAQMD Significance Thresholds</i>	55	55	550	150	150	55
<i>Above Significance Threshold?</i>	No	No	No	No	No	No
<i>SCAQMD Localized Significance Thresholds</i>	NA	123	1530	NA	4	2
<i>Above Localized Significance Threshold?</i>	No	No	No	NA	Yes	Yes

As presented in table 10, annual emissions of GHG were estimated for construction and operational aspects of the Proposed Action Alternative using the CalEEMod emission estimation program. GHG emission rates are estimated to be below the significance threshold for GHG.

**Table 10 Proposed Action Alternative Annual GHG Emission Estimates**

<b>GHG Emission Estimate (metric tons per year)</b>	
<b>Construction Emission Estimate</b>	
2015	213
2016	756
2017	526
2018	9.98
<b>Operational Emission Estimate</b>	
Area	2.07
Energy	1,172
Mobile	4,674
Waste	831
Water	122
<b>Total</b>	<b>6,801</b>
<i>SCAQMD GHG Significance Threshold</i>	10,000
<i>Above Significance Threshold?</i>	No

### 3.3.3 No Action Alternative

Under the No Action Alternative, MH and CLC facilities, the parking structure, and Co-Gen plant would not be constructed. Implementation of the No Action Alternative would result in no change to the ambient air quality or climate. Construction and operations associated with the Proposed Action

Alternative would not occur. Ambient air quality would remain unchanged when compared to existing conditions.

### **3.4 Cultural Resources**

#### **3.4.1 Existing Condition**

A Phase I archaeological survey and Phase II historic building evaluation were completed for the project by ECORP Consulting, Inc. in 2011 (Smallwood et al. 2011) and a supplemental evaluation of historic properties was conducted by Cogstone Resource Management Inc. in 2014 (Furnis and Gust 2014; Cogstone study). The ECORP study included a record search, Native American outreach, and a field survey within the MH and CLC portion of the area of potential effect (APE). The Cogstone study included review and summary of existing documents, recordation and evaluation of historic-age buildings not previously recorded or evaluated, and facilitation of Native American consultation. The work was carried out as part of a larger compliance program under Section 106 of the National Historic Preservation Act (NHPA), as required for federal undertakings (federally funded projects) that have the potential to affect historic properties. For the purposes of Section 106, the undertaking has been defined to encompass 11 project elements involving construction and demolition on the VAMC Long Beach campus; as such, the APE for the study included the entire VAMC Long Beach campus. The current project corresponds to the following two project elements (per Cogstone report designations): Project I (MH buildings, Co-Gen Plant, and parking structure) and Project J (CLC). Although the Co-Gen plant is discussed as part of Project I within the Cogstone report, the current site for its construction is within the eastern part of the Project K footprint. Similarly, the proposed parking structure in Project I will be located outside the Project I footprint, as described in the Cogstone report.

The Cogstone study relied upon record search results from four previous studies (Duke and Marvin 2003; Michael Brandman Associates 2006a, 2006b; Smallwood et al. 2011). The most recent record search, conducted at the South Central Coastal Information Center in April 2010 (Smallwood et al. 2011), found that 50 previous cultural resource studies had been conducted within 1 mile of that report's project location (which corresponds to the locations of the proposed MH and CLC buildings). In addition, the results showed that a total of 43 cultural resources had been recorded previously within 1 mile of that report's project area; of these, 39 are prehistoric archaeological sites. One prehistoric archaeological site (CA-LAN-234/235) has been mapped previously within the VAMC Long Beach campus as part of the NRHP-listed Puvungna Village Indian Sites District. Puvungna was a Gabrielino village that was occupied from before initial contact with Europeans through the Mission period. In addition to its function as a prominent settlement, Puvungna was associated with deities and events sacred to the Gabrielino, and consequently served as an important ceremonial center (Altschul 1994, Dixon 1973).

The Cogstone study identified 26 buildings or structures on the VAMC Long Beach campus that are historic in age. Of these, seven had been determined not eligible for the National Register of Historic Places previously, with concurrence by the State Historic Preservation Officer (SHPO) (Duke and Marvin 2003; Michael Brandman Associates 2006a, 2006b; SHPO 2013). Six additional buildings had been recorded and recommended not eligible for inclusion in the NRHP by Smallwood and others (2011). Following a review of the existing documentation, a field investigation was conducted by Cogstone to

record and evaluate 13 additional buildings and structures. These 13 additional buildings were all recommended not eligible for inclusion in the NRHP. Cogstone also considered and dismissed the potential for a historic district on the campus. In sum, all 26 campus buildings and structures that are historic in age have been determined not eligible for inclusion in the NRHP, either individually or as a district, and SHPO concurred with this determination in a letter dated November 17, 2014.

The Cogstone study relied upon the results of the April 2010 field survey by ECORP (Smallwood et al. 2011), which found that no ungraded or unlandscaped areas were present within that report's project area (which corresponds to the location of the proposed MH and CLC buildings), and as a result, archaeological survey could not be conducted. The location of the Co-Gen site and the proposed parking structure were not addressed by the ECORP study and, although mentioned in the Cogstone report, the proposed locations of these two features are now outside the Project I footprint.

A search of the Sacred Lands File (SLF) was conducted by the Native American Heritage Commission (NAHC) in 2010 (Smallwood et al. 2011). The SLF search indicated the presence of cultural resources of importance to Native Americans in the project vicinity. Letters were sent to the nine Native American contacts listed by the NAHC. One response was received, which requested Native American monitoring during construction. In May 2014, VALBHS initiated consultation under Section 106 with seven Native American groups or individuals (Furnis and Gust 2014). Subsequently, three additional groups or individuals requested to be included and were also invited to consult. The Native American consulting parties who commented, requested full-time archaeological and Native American monitoring of all subsurface excavations. In addition, given the possibility of encountering human remains at the project site, VALBHS is developing a Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action (POA), in consultation with the Native American interested parties.

### **3.4.2 Proposed Action Alternative**

Implementation of the Proposed Action Alternative, including the demolition of several existing buildings, would not negatively affect any NRHP-eligible structures, buildings or historic districts. There is, however, the possibility of damaging buried prehistoric resources which are part of the NRHP-listed resource, the Puvungna Indian Village Sites. Subsurface testing to confirm the presence of archaeological materials within the proposed project footprint has not yet been conducted, but based on the results of previous surface survey and augering (Leonard 1974), VALBHS assumes the presence of archaeological materials associated with the village below the surface throughout the campus (Furnis and Gust 2014). As such, the proposed project, which would entail subsurface excavations ranging from 3 to 20 feet below the surface, would have an adverse effect on the Puvungna Indian Village, a historic property. SHPO concurred with this finding as part of the Section 106 consultation process in a letter dated November 17, 2014.

The VA is continuing Section 106 consultation to mitigate adverse effects to this historic property through a Memorandum of Agreement (MOA) that would include stipulations to ensure an appropriate level of archaeological documentation, which would occur prior to construction. Mitigation of adverse effects would be accomplished by archaeological documentation and/or in-place preservation (where feasible), followed by publication of the results to the scientific community and the public. In

consultation with SHPO and interested Native American parties, the VA is also developing a Historic Properties Treatment Plan that will establish a research design and methodology for further archaeological investigation, and a NAGPRA POA to establish conditions and directions for the treatment of Native American human remains, associated funerary objects, sacred objects, and objects of cultural patrimony, should they be recovered during construction projects on the VAMC Long Beach facility.

### **3.4.3 No Action Alternative**

Under the No Action Alternative, the buildings' scheduled demolition would not be completed at this time but could be for future projects as they are not eligible for protection under the NHPA. Under this alternative, there would be no ground disturbing activities on the site as the proposed project would not be constructed. Thus, there would be no direct or indirect impacts to archaeological resources and there would be no adverse effect under Section 106.

## **3.5 Hydrology and Water Quality**

Section 402(p) of the federal Clean Water Act (CWA), as amended, requires National Pollutant Discharge Elimination System (NPDES) permits for storm discharges to waters of the United States. The USEPA promulgated 40 CFR Part 122.26 which establishes requirements for storm water discharges under the NPDES program. The California State Water Resources Control Board (SWRCB) maintains the NPDES general permit for storm water discharges from small municipal separate storm sewer systems (MS4s) under Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004 (SWRCB 2013).

The VAMC Long Beach campus is listed as a "non-traditional" MS4 and is eligible for coverage under the SWRCB general permit. Under this permit, the VA will develop, implement, and enforce a program to prevent construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The VA will obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Prior to commencement of the project, the VA will file a Notice of Intent (NOI) in the Storm Water Multiple Application and Report Tracking System (SMARTS). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

In accordance with the Construction General Permit, the VA and its contractor will develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will contain site maps which show the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP will list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP will contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

Section 438 of the Energy Independence and Security Act of 2007 (EISA) requires sponsors of development or redevelopment projects involving federal facilities to use site planning, design,

construction, and maintenance strategies to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow (USEPA 2009). The design of the new VAMC facilities provides an opportunity for the VA to improve storm runoff through a combination of rain gardens, infiltration planters, porous pavements, green roofs, rainwater harvesting, and other sustainable design features.

### **3.5.1 Existing Condition**

The VAMC Long Beach facility obtains its potable water supply from the Long Beach Water Department (LBWD). According to the LBWD, the VAMC Long Beach was ranked the LBWD's ninth largest customer in terms of water sales during the fiscal year ending September, 2012 (City of Long Beach 2012). During that year, the Medical Center purchased 90,954,000 gallons (279 acre feet) from the Department (about 0.5% of total water sales). The LBWD also provides sanitary sewer and storm drain collection for the Medical Center.

Storm water runoff from the Medical Center enters one of two drainage basins within the City: the northern three quarters of the Medical Center drain into Bouton Creek (tributary to the San Gabriel River) while the southern quarter drains into Alamitos Bay (Kinnetic Laboratories, Inc. 2007). Both the San Gabriel River and Alamitos Bay are identified as impaired waters under CWA Section 303(d) standards (LARWQCB 2010).

The Medical Center uses a significant amount of its water supply to irrigate campus landscape. Much of this water infiltrates into vegetated area and does not contribute to runoff. Infiltrated water in excess of the soil water holding capacity drains to the groundwater table; about 70 feet below ground surface (Geosyntec 2010).

### **3.5.2 Proposed Action Alternative**

A key design feature of the Proposed Action Alternative is the increase in water use efficiency to meet VA sustainability and LEED requirements. The installation of water efficient landscaping is expected to reduce water use by 50 percent. In addition, improvements will be made to stormwater management and stormwater design features to reduce the potential water quality impacts to the storm drain system. The new water management features will ensure the project complies with Section 438 of the EISA. The proposed improvements to water use and water quality will provide a long-term beneficial effect to the Medical Center.

During demolition and construction, surface vegetation will be removed and soils exposed to potential erosion. Any potential sedimentation would be short-term and would not likely cause adverse impacts to downstream water quality. Also during construction, construction vehicle traffic would increase the likelihood for release of vehicle operating fluids (e.g., oil, diesel, gasoline, antifreeze) and maintenance materials. To mitigate potential impacts to water resources, Best Management Practices such as the installation of silt fence, would be employed. The VAMC and construction contractors will comply with conditions under SWRCB Water Quality Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002 (SWRCB 2014). Construction contractors will also be required to apply VA CFM Temporary

Environmental Control (MF04 Section 01 57 19) to control and mitigate for potential effects of storm runoff and sedimentation (VA 2014c).

### **3.5.3 No Action Alternative**

Implementation of the No Action alternative would result in no change to the hydrology and water quality at the project sites. Construction of the new facilities as part of the Proposed Action Alternative would not occur and no reduction in water use would be realized.

## **3.6 Noise**

Noise, or unwanted sound, was originally managed at the federal level by the Noise Control Act (NCA) of 1972, which was administered by the USEPA. Under this Act, Congress tasked the USEPA with determining the extent and effects of different qualities and quantities of noise and defining acceptable levels of noise toward public health and safety. Since 1982, the responsibility of noise abatement and control has been delegated to State and local governments, but the noise levels and exposure recommendations developed by the USEPA under the Noise Control Act are still relevant (HDR 2009).

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. USEPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 decibels DNL are “normally unacceptable” for noise-sensitive land uses such as residences, schools, or hospitals (HDR 2009).

### **3.6.1 Existing Condition**

Operational noise levels at the VA Medical Center are managed to be appropriate to the hospital and convalescent purposes of the facilities. Ongoing construction at the Medical Center has likely brought a short-term increase to the amount of noise at the facility, mitigated as much as practicable. Noise levels measurements were made at the nearby CSULB campus as part of the Master Plan FEIR (HDR 2008). The monitors found that traffic on local streets was the major source of noise in the area. Measurements from several off-campus locations in nearby residential areas showed existing noise levels ranging from 53.4 – 61.5 dB(A). Within campus, noise levels ranged from 50.4 to 70.3 dB(A) (HDR 2008). Similar noise levels would be expected at the VA Medical Center.

### **3.6.2 Proposed Action Alternative**

A key design criterion for the Proposed Action Alternative is the control of interior and exterior noise so as to enhance the healing environment. The acoustic features of the new buildings will create a long-term benefit to the residents and workers at the facility. Because there will not be a significant change in the Medical Center residents or workforce (VA 2014b), no long-term increase in traffic-related noise is anticipated on the interior road network or parking areas.

Demolition, excavation, and construction activities will create a temporary, short-term increase in noise within the vicinity of the project. Ambient noise levels associated with construction activities at the site will be minimized by application of the VA CFM standard Temporary Environmental Controls specifications (MF04 Section 01 57 19), which limit the maximum permissible noise levels to 75 dB(A) at 50 feet from most earthmoving or material handling equipment (VA 2014c). The construction contract specifications will also limit the hours of operation for construction equipment.

### **3.6.3 No Action Alternative**

Implementation of the No Action alternative would result in no change to the noise levels on the Medical Center or nearby communities. VA Medical Center residents and staff would not benefit from the acoustical improvements designed into the new buildings.

## **3.7 Solid and Hazardous Wastes**

The California Department of Resources Recycling and Recovery (CalRecycle) administers programs formerly managed by the State's Integrated Waste Management Board and Division of Recycling (CalRecycle 2010). CalRecycle oversees regulations and permit requirements related to solid waste disposal and management. The California Department of Toxic Substances Control (DTSC; DTSC 2014) implements California's hazardous waste management program and enforces the hazardous waste management rules. Hazardous waste activities must comply with regulations found in Title 22 of the California Code of Regulation, as well as all applicable federal regulations under 40 CFR 260-268, 273, and 279 and 29 CFR 1910. Asbestos and lead-based paint are considered to be a hazardous material, and the removal of such materials is subject to the regulations of OSHA, USEPA, and the CFR.

### **3.7.1 Existing Condition**

The Medical Center currently produces various solid and hazardous wastes related to its everyday operation and maintenance activities. These are managed under existing permits and protocols. Waste generated by ongoing construction activities at the Medical Center are managed according to specific construction permits and BMPs.

### **3.7.2 Proposed Action Alternative**

Implementation of the Proposed Action Alternative would result in a short-term increase of solid and hazardous wastes generated by the Medical Center. The demolition of old buildings will generate asbestos, lead-based paint, and other hazardous materials, as well as tons of solid waste debris (see hazard materials reports; AEC 2015a-j). Potential adverse impacts of this waste generation would be avoided, minimized, or mitigated by application of the VA CFM construction specifications, including Temporary Environmental Controls (01 57 19), Construction Waste Management (Section 01 74 19), and Asbestos Abatement for Total Demolition Projects (02 82 13.41) (VA 2014c).

The project is also designed to specifically increase the recycled content of the building material and to use innovative methods to reduce construction waste (HOK 2014).

### **3.7.3 No Action Alternative**

Under the No Action Alternative, the VA Medical Center would continue its current operations and would generate the same types and quantities of hazardous and non-hazardous wastes. Wastes would continue to be collected and transported for off-site disposal or recycling in accordance with federal, state, and local regulations. No changes in existing waste streams or adverse effects would occur. Because no buildings would be demolished or constructed under the No Action Alternative, there would be no additional solid and hazardous waste generated by these activities.

## **3.8 Transportation and Parking**

Transportation and parking are important aspects of the safe and efficient operation of the Medical Center. Ingress and egress to the public road system and the internal road and parking network affect emergency response, security, facility maintenance, and the movement of patients, residents, staff, and visitors within the campus.

### **3.8.1 Existing Condition**

The Medical Center campus is accessible off of two major thoroughfares: East 7<sup>th</sup> Street and North Bellflower Boulevard. Public transportation is available along these two corridors. Parking spaces near the medical facilities are limited but several large parking lots are provided in the central and northern portions of the campus.

A preliminary parking and traffic study by Crain & Associates (2014) found that the current campus-wide parking capacity was approximately 2,545 striped parking spaces at the time of the survey. Based on the VA Parking Demand Model used in the study, the report estimated an additional 653 spaces would be required to accommodate parking demand 5 years in the future (this includes a 10 percent capacity cushion).

Under exiting conditions, Crain and Associates (2014) reported that all but one intersection was currently operating at a level of service (LOS) of D or better. During peak morning hour, the intersection of Palm Road and Pine road operates at LOS F. (In this traffic service scale, LOS “A” is best; LOS “F” is worst).

### **3.8.2 Proposed Action Alternative**

The Proposed Action Alternative would result in the construction of a new parking structure creating 488 parking spaces, although about a third of these would simply replace existing surface spaces lost with construction of the parking structure. Another proposed VAMC Long Beach project (identified as “Project E” in Section 3.10, below), which is not part of this Proposed Action Alternative, will add another 400+ “new” parking spaces to the campus (it will be constructed on old golf course). The proposed new parking structure will contribute one-half or more of the 653 new parking spaces needed to meet future capacity.

HOK (2014) identified some possible improvements to the campus road system to include vehicular services access, parking, and pedestrian circulation, all acting as a precursor to the more detailed work

to be done in the later phases of the design. These improvements will provide clarity in vehicular circulation, wayfinding for staff and visitors, and aid in the separation of emergency vehicles from service vehicles and regular traffic.

Crain and Associates (2014) predicted that implementation of the Proposed Action Alternative will contribute to improvements to the overall traffic flow in to, out of, and within the VAMC campus. Street and intersection improvements resulting from the cumulative proposed projects described in Section 3.10, below, would upgrade campus-wide LOS significantly.

Several existing facilities will require demolition as part of the current project, including buildings, access roads, parking lots, utilities, hardscape, and landscape. The demolition and construction activities will result in a temporary, short-term loss of parking, internal roadways, and street access. A traffic and parking plan will be developed by the construction contractor to minimize potential interruptions to the Medical Center activities.

The construction and demolition activities associated with the Proposed Action Alternative would result in short-term loss of parking and road access. To mitigate for the temporary loss of parking and closing of internal roads, the VA and its contractor will develop and implement a Traffic and Parking Plan to reroute traffic and provide alternative parking during demolition and construction. Consequently, the project will likely have a temporary, minor negative impact on traffic and parking at the VAMC during construction.

### **3.8.3 No Action Alternative**

Under the No Action Alternative, the new MH or CLC buildings, the new parking structure, and the Co-Gen plant would not be constructed. The MH and CLC functions would continue to use the seismically deficient buildings, and parking and traffic flow would eventually be inadequate to meet future resident, visitor, and staffing needs. Consequently, the Medical Center's mission needs would not be met by this alternative.

## **3.9 US Environmental Regulations**

The VA NEPA Interim Guidance for Projects (VA 2010) provides guidance on compliance with key environmental requirements and pertinent legal authorities under NEPA. Table 11 lists these key legal authorities and the project's compliance status. The project is anticipated to comply with all applicable legal requirements.

**Table 11 Project Compliance with Federal Legal Authorities**

FI	Requires Further Investigation
MR	Mitigation Required, Non Compliance Anticipated
CA	Compliance Anticipated
NA	Not Applicable
CA	Executive Order 12898 – Environmental Justice
CA	Executive Order 13423 –Strengthening Federal Environmental, Energy, and Transportation Management
CA	Executive Order 13514 – Federal Leadership in Environmental, Energy, and Economic Performance
CA	Executive Order 11988 – Floodplain Management
CA	Executive Order 11990 –Protection of Wetlands
CA	National Environmental Policy Act (NEPA)
CA	National Historic Preservation Act (NHPA)
CA	Clean Air Act (CAA)
CA	Safe Drinking Water Act (SDWA)
CA	Clean Water Act (CWA)
CA	Coastal Zone Management Act (CZMA)
CA	Energy Independence and Security Act of 2007 (EISA)
CA	Endangered Species Act (ESA)
CA	Executive Order 13175 - Indian Tribes
NA	Farmland Protection Policy Act (FPPA)
CA	The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (past actions)
CA	Resource Conservation and Recovery Act (RCRA) (ongoing operations)
CA	Emergency Planning and Right to Know Act (EPCRA)
NA	Marine Mammal Protection Act (MMPA)
CA	Migratory Bird Treaty Act (MBTA)
CA	Native American Graves Protection and Repatriation Act (NAGPRA)
CA	Noise Control Act (NCA)
CA	Oil Pollution Act (OPA)
CA	Spill Prevention, Control and Countermeasure Plans (SPCC)
CA	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
CA	Federal Environmental Pesticide Act (FEPCA)
NA	Food Quality Protection Act (FQPA)
NA	Federal Food, Drug and Cosmetic Act (FFDCA)
CA	Safe Drinking Water Act (SDWA)
CA	Toxic Substances Control Act (TSCA)
NA	Wild and Scenic Rivers Act

### 3.10 Cumulative Impact

The Council on Environmental Quality defines a cumulative impact as that impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7) (HDR 2009). In accordance with NEPA and to the extent reasonable and practical, this EA considered the combined effect of the Proposed Action and other actions occurring or proposed in the project area. In assessing cumulative effects to the environment, this EA considers key factors such as the incremental effects on natural resources, effects on traffic and parking, and any growth-inducing effects of the Proposed Action. The analysis also considers changes to the area resulting from cumulative effects from projects planned in close proximity of the Medical Center campus.

State and city lists of ongoing and upcoming development projects (requiring environmental analysis) in the vicinity were reviewed (City of Long Beach 2014c, OPR 2014) and no projects were identified that were close enough to have a significant interaction with the VAMC Long Beach project. Much of the surrounding area (residential and commercial property) is fully built-out and unlikely to experience new development in the foreseeable future. Similarly, the adjacent California State University Long Beach is largely fully developed without major new construction planned near the VAMC Long Beach campus (HDR 2008). The CSULB master plan, utility master plan, and landscape master plan maintain current land use and operations, and are compatible with the VAMC Long Beach land use (CSULB 2014).

Cogstone evaluated 11 upcoming projects the VA plans for the Medical Center, including the MH and CLC construction projects, for potential effects on cultural and historic resources (Furniss and Gust 2014). Brief descriptions of these projects are given in table 12, below.

**Table 12. VA Planned Projects for the Long Beach Medical Center**

<b>Cogstone Project Reference</b>	<b>Project Description</b>
Project A - New group house – Fisher House	Construct the 10,000 SF, two-story tall Fisher House and new dedicated parking lot with 20 spaces within an existing, large parking lot. Maximum depth of excavation will be 3 feet for foundations and up to 20 feet for utilities.
Project B - Replacement of water distribution system	Install a new 10-inch water main routed from west campus to east campus on existing parking lots, on streets, and within lawn areas. Maximum depth of excavation will be approximately 8 feet.
Project C - New security barrier	Construct new 8-foot tall, open, wrought iron fence along the entire north and south property lines. Maximum depth of excavation will be approximately 5 feet.
Project D - Demolition of golf shack	Demolish Building 94, a wood-frame structure from 1944. Demolition requires full foundation removal and safe-end of abandoned sewer line. Maximum depth of excavation will be approximately 15 feet.

<b>Cogstone Project Reference</b>	<b>Project Description</b>
Project E - New parking lot on old golf course	Construct a new surface parking lot atop the existing golf course grounds to provide 400 + parking spaces. The project will include building of curbs, gutters, a storm drain, and installation of lighting. It may require removal of many mature trees. Maximum depth of excavation is eight feet for proper compaction base and lighting standards and up to 15 feet for utilities.
Project F - Replace emergency generator	Install a replacement emergency generator at Building 125 (water pump house) constructed in 1967. The new generator is to replace the existing generator in the building, now in poor condition. Project requires raising the building's roof by 72 inches and will include exterior generator pad, underground fuel piping, and electrical lines. Maximum depth of excavation is approximately 10 feet.
Project G - Back-up oxygen system	Install new Oxygen Tank farm and route new piping from north campus tank farm to south campus. Building 43 (pump house) will be demolished as part of this project; already determined not eligible to the NRHP in 2013. This project will disturb existing roadways, parking lots, sidewalk, lawn, and concrete slabs. Maximum depth of excavation for tanks will be approximately 10 feet and for piping 5 feet.
Project H - Seismic upgrade, various Buildings	Demolish historic-era, Building 8 (not eligible for NRHP as of 2006) of three-stories plus basement, backfill basement level 15-feet below finished grade, and reroute 20-inch Chilled Water Lines. Maximum depth of excavation will be approximately 15 feet.
Project I - New Mental Health facility*	Install two new Mental Health Buildings, a new 300 space parking structure and new Energy Center; demolish buildings T162 and 4; re-route Pine Road. Maximum depth of excavation approximately 20 feet for utilities.
Project J - New Community Living Center*	Construct new Community Living Center; demolish Buildings 3, 11, 40, 47, 89, 90, 92, 123, 128, and 133; re-route East Road. Maximum depth of excavation will be approximately 20 feet for utilities.
Project K - Install emergency management generator, Phase 2	This project installs a new generator with a new 60,000 gallon underground fuel tank and associated fuel piping. Maximum depth of excavation for tank is 14 feet and piping is 6 feet. This generator will be housed in Building 5B constructed in 2012.

\* Current Proposed Project

The VA has planned several other construction / demolition projects for the VAMC Long Beach campus, in addition this proposed project (Proposed Action Alternative). These future projects will replace or upgrade existing infrastructure in order to meet new health and safety standards, improve energy efficiency, and enhance the healing environment. The new projects will be consistent with the current land use and developed nature of the Medical Center.

All of the proposed projects have the potential to cause temporary, short-term negative impacts on air quality, hydrology and water quality, noise, hazardous waste generation, and transportation and parking during the demolition and construction phases. These potential impacts will be avoided or mitigated by strict implementation of the VA construction specifications (VA 2014c). Long-term benefits to the local environment will accrue through the more efficient use of space, energy, and water resources at the Medical Center.

Because no NRHP-eligible buildings will be demolished, there will be no cumulative negative impact to historic resources; however, the extensive excavation of the property (by implementation of the proposed projects) does potentially endanger buried prehistoric and cultural resources, including the NRHP-listed resource, the Puvungna Indian Village Sites. To the extent that this project contributes to cumulative impacts to archaeological resources, the VA will mitigate these impacts by continuing consultation with SHPO, including developing and implementing a Memorandum of Agreement, Historic Properties Treatment Plan, and NAGPRA Plan of Action.

*This page intentionally left blank*

## 4 PUBLIC INVOLVEMENT

A Notice of Availability (NOA) will be published in the Press-Telegram (Long Beach) and/or the Los Angeles Times, both newspapers with wide-ranging circulation in the Long Beach area. The NOA will serve to inform the public that this EA is available for review and that the VA expects the EA to result in a FONSI. Copies of the EA will be available for thirty (30) days at the VAMC Long Beach for public review and an electronic version of the document will be posted on a VA website. The NOA and draft EA will be transmitted directly to agencies and jurisdictions that may have an interest in the project, including the US Fish and Wildlife Service; California Coastal Commission; California Department of Transportation; South Coast Air Quality Management District; California State University Long Beach; Port of Long Beach; and City of Long Beach. Paper copies of the draft EA will be available for review at local libraries and at the VA Medical Center; an electronic version of the document will be posted on the Medical Center website ([www.longbeach.va.gov](http://www.longbeach.va.gov)).

All public comments received will be addressed and included in the final EA and FONSI.

*This page intentionally left blank*

## 5 MITIGATION

The following mitigation measures would be implemented to avoid, reduce, and mitigate for potential environmental impacts caused by construction of the new MH and CLC buildings, Co-Gen plant, and parking structure, and demolition of existing buildings and infrastructure. These are in addition to mitigation measures listed in the VA CFM MF04 construction specifications (VA 2014c).

### Air Quality

- VA CFM MF04 specifications to mitigate construction and demolition impacts, SECTION 01 57 19, E - Protection of Air Resources, shall be applied.
- Water active grading sites a minimum of 3 times daily.
- Cover loads or use a minimum of 2 feet of freeboard in trucks transporting loose construction materials.
- Reduce speeds on unpaved surfaces to 15 mph or less.
- Promptly remove spilled or tracked dirt or other materials from paved streets at construction site entrances.
- The construction contractor shall apply water every 4 hours to the area within 100 feet of a structure being demolished, to reduce vehicle trackout.
- A gravel apron, 25 feet long by road width, shall be used to reduce mud/dirt trackout from unpaved truck exit routes.
- Dust suppressants (e.g., polymer emulsion) shall be applied to disturbed areas upon completion of demolition.
- Water shall be applied to disturbed soils after demolition is completed or at the end of each day of cleanup.
- Demolition activities shall be prohibited when wind speeds exceed 25 mph.
- A minimum soil moisture content of 12 percent for earthmoving by use of a moveable sprinkler system or a water truck shall be required. Moisture content can be verified by lab sample or moisture probe.
- Ground cover in disturbed areas shall be replaced as quickly as possible.
- Architectural coatings that meet SCAQMD Rule 1113, 50 grams VOC per liter for flat and non-flat coatings shall be used.
- Energy efficient lighting systems shall be installed.

### Hydrology and Water Quality

- VA CFM MF04 specifications to mitigate construction impacts, SECTION 01 57 19, C - Protection of Water Resources, shall be applied.
- The project contractor shall preserve existing vegetation as feasible.
- Temporary erosion control measures shall be applied as required by the California Storm Water Quality Association (CASQA) Construction BMPs Manual, Permits, and associated permits.
- During the rainy season (October through April), additional erosion control BMPs (e.g., fiber rolls, straw bale barriers, gravel bag berms) shall be applied at regular intervals to mitigate any impacts resulting from storm-created runoff.
- Areas that are non-active shall be stabilized with vegetation, erosion control blankets and flood control (see following) within 14 days of cessation of construction activities.
- Erosion control measures shall be applied in concentrated flow paths. These measures may include all or some of the following: erosion control blankets, check dams, erosion control seeding, earthen dikes and drainage swales, velocity dissipation devices, slope drains, etc., as required during construction, particularly during the rainy season.
- Physical or vegetative erosion control BMPs (not simply standby BMP measures) shall be installed as soon as grading and/or excavation is completed for any portion of the site during the rainy and non-rainy season.
- Sufficient erosion control measures shall be maintained on site to allow implementation in conformance with Permit requirements as specifically listed in the Storm Water Pollution Prevention Plan (SWPPP).

### Noise

- VA CFM MF04 specifications to mitigate construction impacts: SECTION 01 57 19, F -Reduction of Noise, shall be applied.
- Muffled construction equipment shall be used wherever possible.
- The contractor shall ensure that each piece of operating equipment is in good working condition and that noise suppression features, such as engine mufflers and enclosures are working and fitted properly.
- The contractor shall locate noisy construction equipment as far as possible from residential areas.
- Construction hours shall be consistent with the City of Long Beach regulations to between 7 a.m. and 7 p.m. on weekdays and between 9 a.m. and 6 p.m. on Saturdays. No construction shall take place on Sundays or federal holidays.
- If a sustained high-noise construction activity takes place within 100 feet from noise sensitive uses on campus, measures shall be taken to limit the amount of noise affecting the sensitive receptor.

**Solid and Hazardous Waste**

- VA CFM MF04 specifications to mitigate construction impacts, SECTION 01 57 19, B - Protection of Land Resources and SECTION 01 74 19 – Construction Waste Management, shall be applied.
- The contractor shall comply with SCAQMD Rule 1403 (Asbestos Emissions from Renovation/ Demolition Activities) and other pertinent regulations when working on structures containing asbestos, lead, or other toxic materials.
- Demolition and construction inert materials, including vegetative matter, asphalt, concrete, and other recyclable materials shall be recycled to the extent feasible.
- Demolition materials that contain hazardous substances shall be disposed of at certified disposal facilities in strict compliance with all applicable regulations.

**Transportation and Parking**

- The VA will develop a Traffic and Parking Plan to be implemented during the various phases of demolition and construction on campus. The plan will re-route traffic around affected areas and provide commuting and parking alternatives for staff and visitors.
- A flag person shall be employed as needed to direct traffic when heavy construction vehicles enter the Medical Center campus from main access roads.
- Construction trucks shall avoid travel on residential areas or CSULB roads to access the Medical Center campus. Construction-related truck traffic shall be scheduled to avoid peak travel time on the adjacent thoroughfares, as feasible. The construction contractor shall provide a copy of the Traffic Control Plan to the local traffic authority for review prior to construction.
- If major pedestrian or bicycle routes on the Medical Center campus are temporarily blocked by construction activities, alternate routes around construction areas shall be provided, to the extent feasible. These alternate routes shall be posted on campus for the duration of construction.
- If any bus stop or other transit facility on campus is obstructed by construction activity, the Medical Center, in cooperation with the transit service providers, shall temporarily relocate such transit facility on campus as appropriate.

**Cultural Resources**

- The VA will continue Section 106 consultation to mitigate adverse effects to the historic property, the Puvungna Indian Village Sites, through an MOA that would include stipulations to ensure an appropriate level of archaeological documentation, which would occur prior to construction. The stipulations within the MOA will be followed during archaeological testing (including testing designed to identify the presence or absence of archaeological resources, as well as integrity and significance of any of those resources if present, if significant resources are present data recovery may be the appropriate mitigation for project impacts to this resource) and subsequent construction.
- Should significant resources be encountered during archaeological testing (as described above) or subsequent construction, archaeological documentation and/or in-place preservation (where feasible) would be implemented, followed by publication of the results to the scientific community and the public.

- In consultation with SHPO and interested Native American parties, the VA will also develop a Historic Properties Treatment Plan (HPTP) that will establish a research design and methodology for archaeological investigation. The HPTP will be followed during archaeological testing and subsequent construction.
- The VA will develop a NAGPRA POA to establish conditions and directions for the treatment of Native American human remains, associated funerary objects, sacred objects, and objects of cultural patrimony, which will be followed, should they be encountered during construction projects on the VAMC Long Beach facility.

## 6 CONCLUSIONS

The proposed replacement of the existing Mental Health and Community Living Center buildings with new buildings that meet current VA sustainability design standards, and the addition of new parking structure and Co-Gen plant, are not expected to result in significant adverse impacts to the human environment. The improvements in energy and water use efficiencies, the enhancement of indoor environmental quality, improvements in material and waste management, and the creation of a more favorable healing environment for the residents will have a long-term benefit to the residents and workers in these new facilities.

The major impact of the project will be the short-term and temporary adverse effects caused by the demolition and construction activities. The potential adverse impacts to air quality, water quality, noise, solid and hazardous wastes, and transportation and parking, will be largely avoided or minimized by strict adherence and monitoring of the VA's MF04 construction standards for temporary environmental controls, demolition, and waste management, and application of standard construction Best Management Practices (as listed in Section 5, above).

This EA concludes a Finding of No Significant Impact is appropriate, and that an Environmental Impact Statement (EIS) is not required

*This page intentionally left blank*

## 7 LIST OF PREPARERS

### NEPA and Specialist Consultants:

#### GeomorphIS, LLC

- Bruce F. Goff, PhD (PhD Watershed Science), Principal NEPA Planner
- Eileen D. Goff, GISP (MA Geography), Principal Geographer/GIS Specialist
- Randy Harris, RG, CHG, CEM (BS Geology), Senior Geologist

#### Geosyntec Consultants

- Steven M. Fitzwilliam, PE, GE (MS Geotechnical Engineering), Senior Geotechnical Engineer
- Jennifer L. Nevius, PE, GE (MS Civil Engineering), Project Engineer / Geotechnical Engineer
- Suzanne Kennedy, (BS Chemical Engineering), Senior Engineer / Air Quality Specialist

#### Advantage Environmental Consultants, LLC

- Daniel A. Weis, REHS (MS Public/Environmental Health), Asbestos / Lead-based Paint Specialist
- John Payne, Certified Asbestos Consultant (CAC), Asbestos / Lead-based Paint Inspector

#### SWCA Environmental Consultants

- Sara Dietler (B.A. Anthropology), Senior Project Archaeologist
- Heather Gibson, PhD (PhD Anthropology), Archaeologist / Principal Investigator
- John Dietler, PhD (PhD Anthropology), Archaeological Principal Investigator

### Persons Consulted:

#### VA Construction and Facilities Management, Region West

- Larry Villaluna, Project Manager
- Nelson Cancio, Environmental Engineer

#### VA Long Beach Healthcare System

- James M. Bachman, Industrial Hygienist
- Michael R. Duncan, Facilities Engineer
- Alice Martinez, MS-HCA, FACHE, Strategic / Facility Planner
- Christopher M. Rhea, MHA, CLSSGB, Assistant Strategic / Facility Planner
- Jason Thompson, Environmental Protection Specialist

**Hellmuth, Obata + Kassabaum, Inc. (HOK)**

- William Craig, AIA, ASHE, LEED AP BD+C, Senior Project Manager
- Mara Baum, AIA LEED Fellow, Sustainable Design Lead
- Hugh Nathanson, LEED GA, Project Manager
- Jamila Valero, AIA, LEED® AP BD+C, Senior Project Coordinator

**M-E Engineers, Inc.**

- Kenneth Ong, LEED AP, Sr. Associate
- Laura Marchand, LEED AP, Electrical Engineer

**KPF Consulting Engineers**

- Mark Nadel, PE, Project Manager

**RBF Consulting**

- Jim Sinnema, PE, Project Manager

**Choate Parking Consultants, Inc.**

- Charina Qunito, LEED AP BD+C
- Fernando J Sánchez, PCC, DBIA, LEED AP BD+C

## 8 REFERENCES CITED

- AEC. 2015a. Hazardous building material survey, Building 3 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015b. Hazardous building material survey, Building 4 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015c. Hazardous building material survey, Building 11 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015d. Hazardous building material survey, Building 40 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015e. Hazardous building material survey, Building 47 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015f. Hazardous building material survey, Building 89 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015g. Hazardous building material survey, Building 90 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015h. Hazardous building material survey, Building 92 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015i. Hazardous building material survey, Building 123 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- AEC. 2015j. Hazardous building material survey, Building 162 – VA Medical Center Long Beach. Prepared by Advantage Environmental Consultants, LLC, under contract to GeomorphIS, LLC, for HOK and Department of Veterans Affairs. VA Contract No. VA101CFM-P-0043/ Mod P00001. January 2015.
- Altschul, J. 1994. Puvunga: A Review of the Ethnohistoric, Archaeological and Ethnographic Issues Surrounding a Gabrielino Rancheria near Alamitos Bay, Los Angeles County, California. On file, South Central Coastal Information Center.
- ARB. 2014. Air Resources Board. California Air Basin Map. Available at: <http://www.arb.ca.gov/ei/maps/statemap/abmap.htm> (accessed 11/19/2014).

California Environmental Protection Agency. 2006. Climate Action Team Report to Governor Schwarzenegger and the California Legislature. March 2006. Available at: [http://www.climatechange.ca.gov/climate\\_action\\_team/reports/2006report/2006-04-03\\_FINAL\\_CAT\\_REPORT.PDF](http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF) (accessed 2/14/2015).

California State Historic Preservation Office (SHPO). 2003. Historic Resource Inventory for 150929, the VA Hospital at 5901 E. 7th St., Long Beach, CA. Determined 6Y (not eligible for the National Register) by SHPO on 10/8/2003. On file, South Central Coast Information Center, California State University Fullerton.

California State Historic Preservation Office (SHPO). 2013. Letter from SHPO to Mike Duncan, VALBHS, re: Section 106 consultation for backup oxygen system installation and pump house (Building 43) and water filter demolition, Long Beach VA, Los Angeles County. Rely in Reference to VA\_2013\_0320\_001, April 03, 2013.

CalRecycle. 2014. California Department of Resources Recycling and Recovery (CalRecycle) website. Available at: <http://www.calrecycle.ca.gov/> (accessed 11/19/2014).

Choate. 2014. VA Long Beach Healthcare System Medical Center, parking deck, design development 2 (Draft). Prepared by Choate Parking Consultants, Inc. for HOK. December 23, 2014.

City of Long Beach. 2008. Comprehensive annual financial report of the Long Beach Water Department for fiscal years ended September 30, 2008 and 2007. Prepared by the Finance Division of the Finance Division of the Business Bureau, City of Long Beach, California. Available at: [http://www.lbwater.org/sites/default/files/file\\_attach/pdf/LBWDCAFRFY2008-FINAL.pdf](http://www.lbwater.org/sites/default/files/file_attach/pdf/LBWDCAFRFY2008-FINAL.pdf) (accessed 11/19/2014).

City of Long Beach. 2012. Comprehensive annual financial report of the Long Beach Water Department for fiscal year ended September 30, 2012. Prepared by the Finance Division of the Finance Division of the Business Bureau, City of Long Beach, California. Available at: [http://www.lbwater.org/sites/default/files/file\\_attach/pdf/financial\\_rpt12.pdf](http://www.lbwater.org/sites/default/files/file_attach/pdf/financial_rpt12.pdf) (accessed 11/19/2014).

City of Long Beach. 2014a. City of Long Beach, Federal Emergency Management Agency (FEMA) Flood Zones map. Available at: <http://www.lbds.info/civica/filebank/blobdload.asp?BlobID=2549> (accessed 11/19/2014).

City of Long Beach. 2014b. City of Long Beach Planning Department. Maps & Demographics. Coastal Zone map. Available at: <http://www.lbds.info/civica/filebank/blobdload.asp?BlobID=2555> (accessed 11/19/2014).

City of Long Beach. 2014c. City of Long Beach Planning Department. Environmental Reports. Available at: [http://www.lbds.info/planning/environmental\\_planning/environmental\\_reports.asp](http://www.lbds.info/planning/environmental_planning/environmental_reports.asp) (accessed 11/19/2014).

Crain & Associates. 2014. United States Department of Veteran Affairs, Long Beach Healthcare System, Parking and Traffic Report (DRAFT). Prepared for VA Long Beach Healthcare System by Crain & Associate, December 2014.

CSULB. 2014. California State University Long Beach, Physical Planning & Facilities Management. Campus Master Plan, Utility Master Plan, and Landscape Master Plan. Available at: <http://daf.csulb.edu/offices/ppfm/> (accessed 11/19/2014).

Dixon, Keith. 1973. National Register of Historic Places Inventory, Nomination Form for the Puvunga Indian Village Sites and LAN-234/235, LAN-306. On file, South Central Coast Information Center, California State University Fullerton.

DTSC. 2014. California Department of Toxic Substances Control (DTSC) website. Available at: <http://www.dtsc.ca.gov/> (accessed 11/19/2014).

Duke, Curt and Judith Marvin. 2003. Cultural Resources Assessment: Cingular Wireless Facility No. Sm 118-03, Long Beach, Los Angeles County, California. Prepared by LSA Associates, Inc. Report number LA-8489 on file at the South Central Coastal Information Center, California State University, Fullerton.

Esri. 2014. ArcGIS Online data: 2013. USA Median Household Income. Available at: <http://geomorphis.maps.arcgis.com/home/content.html> (accessed 11/19/2014).

FEMA. 2008. Flood Insurance Rate Map (FIRM), Los Angeles County, California and Incorporated Areas. Panel 1988F, Long Beach California. Map Number 06037C1988F, Effective Date September 26, 2008. Federal Emergency Management Agency (FEMA) Digital Flood Map Product. Available at: <https://msc.fema.gov/portal/search?AddressQuery=long%20beach%20california> (accessed 11/19/2014).

Furniss, Lynn and Sherri Gust. 2014. Historic properties evaluation for eleven proposed projects at the Veteran Affairs Long Beach Healthcare System, Long Beach, Los Angeles County, California (Draft). Prepared by Cogstone Resource Management, Inc., VA262-14-Q-0657. October 2014.

Geosyntec. 2010. Geotechnical investigation, Mental Health Buildings and Community Living Center, Veterans Affairs Medical Center, Long Beach, California. Prepared by Geosyntec Consultants for GeomorphIS, LLC and HOK. October 29, 2010.

Geosyntec. 2014. Updated site-specific ground-response evaluation, Mental Health Buildings and Community Living Center, Veterans Affairs Medical Center, Long Beach, California. Prepared by Geosyntec Consultants for GeomorphIS, LLC and HOK. October 29, 2010, Revised December 11, 2014.

Geosyntec. 2015. Letter Report: Air Pollutant Emission Estimates, Department of Veteran Affairs, Medical Center Long Beach, Seismic Corrections, Mental Health and, Community Living Center. Prepared by Geosyntec for GeomorphIS, LLC, 13 February 2015.

GLHN. 2008. Constructability assessment, seismic corrections Bldgs. 128/133. Project 600-405, VAMC Long Beach, CA. Draft Report prepared by GLHN Architects & Engineers, Inc. for the VA Office of Facilities Construction & Management. July 28, 2008.

HDR. 2008. Final Environmental impact report, campus master plan update, California State University, Long Beach. State Clearinghouse No. 2007061092. Prepared for the Trustees of the California State University by HDR Engineering, Inc., May 2008.

HDR. 2009. Environmental assessment for the polytrauma expansion and cares supported bed tower upgrades. James A. Haley Veterans Hospital, Tampa, Florida. Department of Veteran Affairs Project No. 673-900. August 2009.

HOK. 2014. Design Development 2. Architectural/Engineering Executive Summary. Seismic Correction – Mental Health and Community Living Center. VA Medical Center Long Beach. Submitted by HOK to VA, August 20, 2010. Revised for Mental Health Inpatient Building DD2 Only, November 14, 2014.

Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007. Available at: [www.ipcc.ch/publications\\_and\\_data/publications\\_and\\_data\\_reports.shtml](http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml) (accessed 2/14/2015).

Kinnetic Laboratories, Inc. 2007. City of Long Beach Storm Water Monitoring Report 2006-2007. NPDES Permit No. CAS0040003 (CI 8052), July, 2007.

LARWQCB. 2010. Los Angeles Regional Water Quality Control Board. 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report). Available at: [http://www.swrcb.ca.gov/losangeles/water\\_issues/programs/303d\\_list.shtml](http://www.swrcb.ca.gov/losangeles/water_issues/programs/303d_list.shtml) (accessed 11/19/2014).

Leonard, N. Nelson III. 1974. A Reconnaissance and Evaluation of the Archaeological Resources of the Veterans Administration Hospital, Long Beach, California. On file, South Central Coastal Information Center.

Michael Brandman Associates (MBA). 2006a. Historic Architectural Survey Report, Long Beach VA Hospital Seismic Corrections Project, Long Beach, Los Angeles County, California, Prepared for GLHN Architects & Engineers, Tucson, AZ by Michael Brandman Associates, San Ramon, CA, Report number LA-9839 on file at the South Central Coastal Information Center, California State University, Fullerton.

Michael Brandman Associates (MBA). 2006b. Phase I Cultural Resources Assessment Long Beach VA Hospital Seismic Corrections Project, Long Beach, Los Angeles County, California, Prepared for GLHN Architects & Engineers, Tucson, AZ by Michael Brandman Associates, San Ramon, CA. Report number LA-9840 on file at the South Central Coastal Information Center, California State University, Fullerton.

OPR. 2014. State of California, Governor's Office of Planning and Research. CEQAnet Database. Available at: <http://www.ceqanet.ca.gov/> (accessed 11/19/2014).

SCAQMD. 2014. South Coast Air Quality Management District website. Available at: <http://www.aqmd.gov/> (accessed 11/19/2014).

Smallwood, Josh, Cary D. Cotterman, and Roger D. Mason. 2011. Phase I archaeological survey and phase II historic building evaluations for the Seismic Corrections, Mental Health and Community Living Center Project, Depart of Veterans Affairs Medical Center, Long Beach, Los Angeles County, California. Prepared by ECORP Consulting, Inc. under contract with GeomorphIS, LLC and HOK, VA101CFM-P0043. Revised September 2011.

SWCA. 2015. Letter Report: Cultural Resources Section for Environmental Assessment, VA Medical Center Long Beach. Prepared by SWCA Environmental Consultants for GeomorphIS, LLC, 13 February 2015.

SWRCB. 2013. Water Quality Order No. 2013-0001-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004, Waste Discharge Requirements (WDRS) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (General Permit). California State Water Resources Control Board. Feb 5, 2013.

SWRCB. 2014. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES NO. CAS000002. California State Water Resources Control Board. Sep. 2, 2014. Available at: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/docs/constpermits/wqo2009\\_0009\\_dwq.pdf](http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo2009_0009_dwq.pdf) (accessed 3/19/2015).

USEPA 2009. Technical guidance on implementing the stormwater runoff requirements for federal projects under Section 438 of the Energy Independence and Security Act. US Environmental Protection Agency, Office of Water (4503T), Washington, DC. EPA 841-B-09-001. December 2009. Available at: [http://www.epa.gov/oaintrnt/documents/epa\\_swm\\_guidance.pdf](http://www.epa.gov/oaintrnt/documents/epa_swm_guidance.pdf) (accessed 11/19/2014).

USEPA. 2010. Revisions to the General Conformity Regulations. Final Rule. March 24. EPA-HQ-OAR-2006-0669; FRL-9131-7; RIN 2060-AH93.

USGBC. 2014. US Green Building Council website. Available at: <http://www.usgbc.org/DisplayPage.aspx?CategoryId=19> (accessed 11/19/2014).

VA. 1998. Environmental compliance manual. Office of Facilities Management. Prepared by the Landscape Architect Professional Group, August 1995, Updated March 1998 & July 1998.

VA. 2010. NEPA interim guidance for projects. Office of Construction and Facilities Management (OOCFM), Washington, DC. PG-18-17 (rev.). September 30, 2010. Available at: <http://www.cfm.va.gov/til/etc/NEPAGuidance.pdf> (accessed 10/19/2014).

VA. 2014a. Department of Veteran Affairs (VA) Long Beach, Healthcare System (VALBHS) website. Available at: <http://www.longbeach.va.gov/> (accessed 11/19/2014).

VA. 2014b. Department of Veterans Affairs, FY 2015 Budget Submission, Volume IV: Construction, Long Range Capital Plan and Appendix. Available at: <http://216.128.241.210/dataset/fy-2015-budget-submission-volume-iv/resource/18d26448-7e8a-48d7-8a76-3f51851a2db1> (accessed 2/2/2015).

VA. 2014c. Department of Veteran Affairs, Office of Construction and Facilities Management. TIL - Master Construction Specifications. Available at: <http://www.cfm.va.gov/til/spec.asp> (accessed 11/19/2014).

*This page intentionally left blank*

## 9 LIST OF ACRONYMS AND ABBREVIATIONS

<b>Acronym / Abbreviation</b>	<b>Term</b>
ACM	Asbestos Containing Material
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
BMP	Best Management Practice
CAA	Clean Air Act (federal)
CAAQS	California Ambient Air Quality Standards
CalRecycle	California Department of Resources Recycling and Recovery
CARB	California Air Resources Board
CASQA	California Storm Water Quality Association
CEQ	Council on Environmental Quality (federal)
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (federal)
CFM	VA Office of Construction and Facilities Management
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
CHP	Combined Heat and Power
CLC	Community Living Center
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	CO <sub>2</sub> equivalent
Co-Gen	Co-Generation
CSULB	California State University Long Beach
CWA	Clean Water Act (federal)
CZMA	Coastal Zone Management Act (federal)
dB(A)	Decibel, A-weighting. A frequency weighting that relates to the response of the human ear
DNL	Day-Night Average Sound Level
DoD	Department of Defense (federal)
DoD ATSB	Department of Defense Minimum Anti-Terrorism Standards for Buildings
DTSC	California Department of Toxic Substances Control
EA	Environmental Assessment
EHR	Exceptionally High Risk
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007 (federal)
EO	Executive Order (federal)
EPAct	Energy Policy Act (federal)
EPCRA	Emergency Planning and Right to Know Act (federal)
ESA	Endangered Species Act (federal)

<b>Acronym / Abbreviation</b>	<b>Term</b>
Esri	Environmental Systems Research Institute
FEIR	Final Environmental Impact Report (California CEQA)
FEMA	Federal Emergency Management Agency (federal)
FEPCA	Federal Environmental Pesticide Act (federal)
FFDCA	Federal Food, Drug and Cosmetic Act (federal)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act (federal)
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act (federal)
FQPA	Food Quality Protection Act (federal)
FR	Federal Register (federal)
FY	fiscal year
GBSF	gross building square footage
GEMS	Green Environmental Management System (VA facility)
GHG	greenhouse gas
GWP	global warming potential
HPTP	Historic Properties Treatment Plan
LBWD	Long Beach Water Department
LEED	Leadership in Energy and Environmental Design
LOS	Level of Service (traffic)
MH	Mental Health
MHIP	Mental Health Inpatient
MHOP	Mental Health Outpatient
MMPA	Marine Mammal Protection Act (federal)
MOA	Memorandum of Agreement
MS4	Municipal Separate Storm Sewer Systems
NAAQS	National Ambient Air Quality Standards (federal)
NAGPRA	Native American Graves Protection and Repatriation Act (federal)
NAHC	Native American Heritage Commission
NCA	Noise Control Act (federal)
NEPA	National Environmental Policy Act (federal)
NHPA	National Historic Preservation Act (federal)
N <sub>2</sub> O	nitrous oxide
NO <sub>2</sub>	nitrogen dioxide
NOA	Notice of Availability
NOI	Notice of Intent (to prepare an EIS)
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System (federal)
NRHP	National Register of Historic Places (federal)
O <sub>3</sub>	ozone
OPA	Oil Pollution Act (federal)
OSHA	Occupational and Safety Hazards Act (federal)

<b>Acronym / Abbreviation</b>	<b>Term</b>
PM <sub>10</sub>	particulate matter less than or equal to 10 micrometers in aerodynamic size
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 micrometers in aerodynamic size
POA	Plan of Action
ppb	parts per billion
ppm	parts per million
PSDM-MC	Physical Security Design Manual for Mission Critical Facilities
PSDM-LS	Physical Security Design Manual for Life-Safety Protected
RCRA	Resource Conservation and Recovery Act (federal)
RMW	regulated medical waste
ROI	region of influence
SCAQMD	South Coast Air Quality Management District (California)
SDWA	Safe Drinking Water Act (federal)
SF	square feet
SHPO	State Historic Preservation Officer (California)
SIP	State Implementation Plan (California)
SLF	Sacred Lands File
SO <sub>2</sub>	sulfur dioxide
SPCC	Spill Prevention, Control and Countermeasure Plans (federal)
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resource Control Board
TRICARE	a health care program of the United States Department of Defense Military Health System
TSCA	Toxic Substances Control Act (federal)
UFC	Unified Facilities Criteria
USEPA	United States Environmental Protection Agency
USGBC	US Green Building Council
VA	Department of Veterans Affairs
VALBHS	VA Long Beach Healthcare System
VAMC	Veterans Affairs Medical Center
VOC	volatile organic compounds

*This page intentionally left blank*

## **Appendix A Native American Tribes Correspondence**

Correspondence with Native American Tribes is included in these referenced reports:

Smallwood et al. 2011. Phase I archaeological survey and phase II historic building evaluations for the Seismic Corrections, Mental Health and Community Living Center Project, Department of Veterans Affairs Medical Center, Long Beach, Los Angeles County, California. Prepared by ECORP Consulting, Inc. under contract with GeomorphIS, LLC and HOK, VA101CFM-P0043. Revised September 2011.

Furniss, Lynn and Sherri Gust. 2014. Historic properties evaluation for eleven proposed projects at the Veteran Affairs Long Beach Healthcare System, Long Beach, Los Angeles County, California (Draft). Prepared by Cogstone Resource Management, Inc., VA262-14-Q-0657. October 2014.

*This page intentionally left blank*

## **Appendix B Agency Correspondence**

(To be added with Final EA)

*This page intentionally left blank*

## **Appendix C List of Environmental Permits / Modifications Required**

1. Water Quality Order No. 2013-0001-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004, Waste Discharge Requirements (WDRS) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (General Permit). California State Water Resources Control Board (SWRCB). Feb 5, 2013. Annual Reports through SMARTS System.
2. SQAMD Facility ID No. 013990, Facility Permit to Operate (Title V Air Permit). South Coast Air Quality Management District. September 08, 2010. Five year renewal and annual emission report due March.
3. Industrial Wastewater Discharge Permit No. 2925 R-1, Account Number 1573366. County Sanitation Districts of Los Angeles County. December 31, 2001. Sampling of COD and SS and quarterly payments.
4. Certified Unified Program Agency CUPA Permit, Account Number HC00000695. The CUPA grants the following Authorizations to the following authorizations: 1. Hazmat/Disco: Y 2. Tiered Permit: N 3. SPCC: N 4. Haz Waste Gen Y 5. CALARP: N 6. Hazmat/Uniform Fire Code: Y 7. UST# of Tanks: 16. City of Long Beach, California November 29, 2014. Annual Fee
5. Registration Medical Waste, Account Number H100002992. The City authorizes the operation as small quantity generator. City of Long Beach, California April 29, 2014. Annual Fee.

### **Additional Environmental Fee Accounts:**

6. Hazardous Waste Generator Fee for EPA ID Number CAD980694574, Account 36-021898. State of California Board of Equalization, January 1, 2015. Annual Fee
7. Electronic Verification Request System for EPA ID Number CAD980694574, VQ Number 201417633. Department of Toxic Substances Control. Annual Questionnaire and fee. November 20, 2014.

*This page intentionally left blank*