

Executive Summary

1.1 Introduction

This Application for Certification (AFC) for the Vernon Power Plant (VPP) project has been prepared by the City of Vernon (City or Vernon) in accordance with the California Energy Commission's (CEC) Power Plant Site Certification Regulations (August 2000). This Executive Summary provides an overview of the Project in accordance with Appendix B, Section (a) of the regulations.

This AFC has been prepared in accordance with CEC guidelines and provides:

- A detailed description of the proposed Project
- An assessment of the Project's likely impact on the existing environment
- Measures proposed by the City to mitigate potential Project impacts to ensure that environmental issues are properly and responsibly addressed
- A discussion of compliance with applicable laws, ordinances, regulations, and standards (LORS)

1.2 Project Overview

The City of Vernon proposes to develop a natural-gas-fired generating facility in the south-central portion of the City (see Figure 1.2-1, figures are located at the end of the section) in Los Angeles County (County), California. The proposed VPP will be a fast-start high-efficiency, combined-cycle facility that will be integrated into the City's plans to reposition its generation asset portfolio to 100 percent local generation and to assist the State of California (State) in developing increased local generation projects.

VPP will consist of the following components:

- A 914-megawatt (MW) net (at 65 degrees Fahrenheit [°F] with duct burners and evaporative cooling) combined-cycle generating facility configured using three natural-gas-fired combustion turbine generators (CTGs) and one steam turbine generator (STG).
- A 230-kilovolt (kV) switchyard using gas-insulated switchgear (GIS).
- A new 230-kV transmission line to connect the plant to Southern California Edison's (SCE) Laguna Bell Substation. Two transmission line routes are being considered: the River Route is 4.8 miles long and the Randolph Route is 4.4 miles long.
- Approximately 2,300 feet of new 24-inch-diameter natural gas pipeline.
- Approximately 2,400 feet of new sanitary sewer line.

- VPP will use recycled water supplied by Central Basin Municipal Water District (CBMWD) and delivered to the plant site.
- VPP will use City-supplied potable water by connecting to two existing water mains, one in Boyle Avenue and one in Fruitland Avenue.

Figure 1.2-2 shows the Project location. The plant site would occupy 13.7 acres at the corner of Boyle and Fruitland avenues. Immediately south of the plant site is a 13.3-acre property that would be available for equipment laydown and construction parking during the plant's construction. After construction, the 13.3 acres would be available for future use or development, as determined by the City of Vernon.

The generating facility will consist of three CTGs equipped with ultra low NO_x combustors; three heat recovery steam generators (HRSGs) with duct burners; one condensing STG; a deaerating surface condenser; a 14-cell mechanical-draft cooling tower; and associated support equipment providing a total nominal generating capacity of 914 MW net (at average annual ambient conditions of 65°F and 60 percent relative humidity, [RH]) and a gross output of 943 MW. The combustion turbines will be Siemens SGT6-5000F (formally Siemens Westinghouse 501F) units. The project will include an electric auxiliary boiler, but will not include a standby generator or black start capability. A schematic arrangement of the overall site plan and a general arrangement drawing are presented in Figures 1.2-3 and 1.2-4, respectively.

The electrical transmission interconnections will link VPP to the power grid by connecting the plant switchyard to the SCE Laguna Bell Substation. Two transmission line options are being considered. The length of the transmission line would be 4.4 or 4.8 miles depending on the option.

Natural gas for the facility will be delivered to the site by the City via approximately 2,300 feet of new 24-inch pipeline that will connect to Southern California Gas' (SoCalGas') existing gas transmission pipeline (Line 765) at the intersection of East 50th Street and South Downey Road (Figure 1.2-2).

Recycled water for process and cooling water, equipment wash water, and other industrial purposes will be provided by the Central Basin Municipal Water District (CBMWD) through a 16-inch carbon steel (or if using high density polyethylene [HDPE], a 20-inch) water line connecting to its recycled water line in Boyle Avenue, adjacent to the plant site. The recycled water supply will be pumped to a 2-million-gallon recycled water storage tank.

Potable water for drinking, safety showers, fire protection, service water, and sanitary uses will be served from the City's potable water system through two 10-inch pipelines connecting to the City's water mains. One would connect in Boyle Avenue and one in Fruitland Avenue. The project will also use potable water as an emergency water supply, should the recycled water supply be disrupted for longer than 8 hours.

A new 2,400-foot-long, 18-inch-diameter sanitary sewer line would exit the plant site from the southeast corner, follow the east edge of the parcel and along the railroad right-of-way to Alcoa Avenue, turning south on Alcoa Avenue the line would be 21 inches in diameter to the point where it connects to the Sanitation Districts of Los Angeles County's (LACSD) 24-inch line at Alcoa and Slauson avenues.

Figure 1.2-5 shows the proposed routes for the sewer line, gas line, and the two transmission line options.

1.2.1 Project Objectives

The City's project objectives are described in more detail in this AFC. Some of Vernon's basic Project objectives include the following:

- To safely construct and operate a nominal 914-MW (net), natural-gas-fired, combined-cycle generating facility within the City of Vernon.
- To assist the City in repositioning its generation asset portfolio to 100 percent local generation.
- To assist the State of California (State) in developing increased local generation projects, thus reducing dependence on imported power by providing reliable power supply to the California Independent System Operator (CAISO) grid.

1.2.2 Project Site Selection

The City's approach to Project site selection focused on identifying potential project sites that satisfy its basic project objectives and have a low potential for environmental impacts. The City also gave consideration to sites located within both the City limits and near existing infrastructure. The proposed Project site is consistent with these site selection criteria and was based, in part, on the following key selection criteria:

- **Proximity to infrastructure** – The site needs to be located in close proximity to high voltage transmission lines, a high-pressure major gas transmission system, and potential water source(s).
- **Environmental viability** – The site should have few or no environmentally sensitive areas and should allow development with minimal environmental impacts.
- **Minimal impact on surrounding community** – The site should enable the development of a power plant with minimal negative impact on the surrounding community.
- **Economically feasible** – The site should be located on property currently owned by the City with sufficient right-of-ways for linear alignments should offsite construction be needed.
- **Compliance with LORS** – The site should provide opportunity for compliance with all laws, ordinances, regulations, and standards (LORS).
- **Size** – The site should be of sufficient land area (about 13 acres or larger)
- **Support Areas** – The site should have construction laydown and parking areas within 0.25 mile of the site.

1.3 Facility Location

The project is located at the southeast corner of Boyle and Fruitland avenues, in the City of Vernon, Los Angeles County, California (Figure 1.2-3). The site address is: 3200 Fruitland Avenue, Vernon, California 90058. The site is part of a 27-acre parcel in Township 2 South, Range 13 West, San Antonio Spanish Land Grant, in Los Angeles County. It is comprised of the following APN numbers: 6310-008-0012 (Parcel 7); 0013 (Parcel 8); 0010 and 0011 (Parcel 6). The Project site will occupy approximately 13.7 acres in the northern portion of the 27-acre parcel, leaving the southern 13.3 acres available for temporary equipment laydown and construction parking.

Presently, the site is occupied by a large manufacturing building and parking lot. Under a purchase agreement between the City of Vernon and the property owner, the property owner will be responsible for removing all existing buildings and structures (with the exception of the existing perimeter concrete wall). There is no known contamination on the 13.7-acre VPP site. However, if contamination is found during the demolition process, the owner would be responsible for remediating the site to industrial standards before transferring control to the City. Prior to accepting title to the parcel, the City will receive a Certificate of Closure from the City of Vernon Environmental Health Department (EHD) evidencing that the site has been appropriately remediated. Demolition of the existing structures and remediation of any contamination would occur prior to transfer of the site to the City, regardless of the City's reuse of the property. A simulation of the site prior to construction (i.e., once the site has been cleared and rough graded) is presented as Figure 1.2-6. An "artist's rendering" of the plant and transmission lines after construction is presented as Figure 1.2-7.

The VPP site is located in the south-central portion of the City, approximately 5 miles south of downtown Los Angeles. Four major transportation corridors – Interstate highways 110, 10, 5, and 710 – serve Vernon. Interstate 110 is oriented north-south approximately 3.4 miles from the western boundary of the City of Vernon. Interstate 110 intersects Interstate 10 approximately 2.6 miles northwest of Vernon. Interstate 10 and Highway 60 are oriented east-west, and are situated approximately 0.6 mile north of Vernon. Interstate 5 is situated approximately 0.6 mile north of Vernon. Interstate 710 is a north-south route located east of the City of Vernon. There is considerable industrial and commercial development along Interstate highways 110, 10, 5, and 710. Several railroad lines and spurs are located throughout the area. The predominant uses in the vicinity are mainly industrial, with some residential, and commercial.

Parcel numbers and the names of the landowners within 1,000 feet of the plant site and within 500 feet of the centerline of the linear corridors are included in Appendix 1A.

1.4 Project Schedule

Actual construction would take place over approximately 24 months, from third quarter 2007 to the second quarter 2009. Plant testing and startup are planned to commence in the second quarter 2009 with commercial operation to begin the third quarter 2009.

1.5 Project Ownership

The power plant (including the underlying parcel) and sewer line will be owned by the City of Vernon. The transmission lines will be owned by the City of Vernon. The connection to the potable water and recycled water lines will be owned by the City of Vernon. SoCalGas owns the gas transmission line (Line 765), which will provide gas transportation delivery to a city gate meter. The city gate meter and its line extension and the tap to Line 765 will be installed, owned, and operated by SoCalGas. The extension beyond the city gate meter to VPP site will be constructed and owned by the City.

The initial capital cost of the project is estimated to be \$450 million to \$475 million. Of this, materials and supplies are estimated at approximately \$100 million. The estimated value of materials and supplies that will be purchased locally (within Los Angeles County) during construction is between \$5 million and \$10 million.

1.6 Project Alternatives

The CEC conducts its review of alternatives to satisfy the Warren-Alquist Act and the California Environmental Quality Act (CEQA). Appendix B(f)(1) of the CEC Guidelines requires a discussion of the range of reasonable alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. To enable this review, the criteria and objectives that led to the selection of the site and design features of the proposed VPP Project are provided, along with a detailed discussion of the range of alternatives considered (see Section 9.0, Alternatives).

A “No Project” alternative was considered and rejected as inconsistent with the City’s objectives, which include the need to develop additional reliable in-City generation sources. In addition, the “No Project” alternative could result in greater fuel consumption and air pollution in the state because generation from older, less-efficient plants with higher air emissions would not be replaced by generation from cleaner, more-efficient plants, such as VPP.

Other possible alternative sites in the general vicinity of the proposed site were reviewed and found to be no more acceptable than the proposed site. Alternative routes for the natural gas line and sewer line were not developed because of the shortness of their length (i.e., less than 0.5 mile) and access to recycled water and domestic water is available in streets adjacent to the project site.

Two viable routes were considered for connecting the plant to SCE’s transmission system at its Laguna Bell Substation in the City of Commerce: the River Route and the Randolph Route. The River Route exits the power plant site to the east, crosses Alcoa Avenue, and approaches the Los Angeles Department of Water and Power (LADWP) right-of-way. It continues by crossing the LADWP right-of-way and turning north on an easement on the east side of the LADWP right-of-way. It then proceeds east between the south side of the Leonis Substation and the north side of a City of Vernon Fire Station to the west side of Downey Road. On the west side of Downey Road, it heads north to District Boulevard and proceeds east where it follows the Los Angeles River south to Randolph Street. On

Randolph Street the line turns east to Laguna Bell Substation. This option is about 4.8 miles long. The Randolph Route also exits the site on the east and crosses to the east side of Alcoa Avenue. It heads south on Alcoa Avenue to Randolph Street, then heads east along Randolph Street to the Laguna Bell Substation. This route is about 4.4 miles long.

Several alternative generating technologies were reviewed in a process that led to the selection of a modern, proven, combustion turbine combined-cycle arrangement for VPP using natural gas for fuel. The alternative technologies included conventional oil- and natural-gas-fired plants, simple-cycle combustion turbines, biomass-fired plants, waste-to-energy plants, solar plants, wind-generation plants, and others. None of these technologies are feasible alternatives to the combined-cycle technology selected for VPP. A complete discussion of project alternatives is presented in Section 9.0 and Subsection 5.3 (for transmission alternatives).

1.7 Environmental Considerations

Sixteen areas of possible environmental impact from the proposed project were investigated. Detailed descriptions and analyses of these areas are presented in Subsections 8.1 through 8.16 of this AFC. With the implementation of reasonable and feasible mitigation measures, there will be no significant environmental effects. The potential effects of these areas are summarized briefly in this section.

1.7.1 Air Quality

The site is located in an area designated as nonattainment for State and federal ozone, carbon monoxide (for federal standards only), and fine particulate matter (PM₁₀) ambient air quality standards. Although the area is currently designated as nonattainment for federal carbon monoxide (CO), the South Coast Air Quality Management District (SCAQMD) has initiated a request to have the U.S. Environmental Protection Agency (USEPA) redesignate the Basin as CO Attainment.

An assessment of the impact to air quality was performed using detailed air dispersion modeling. The air impacts from the Project will be mitigated by the advanced nature of the combustion turbine emission control technology. Emission reduction credits (ERCs) will be obtained to offset increases in emissions of volatile organic compounds (VOCs), oxides of nitrogen (NO_x) (through use of Reclaim Trading Credits), CO, sulfur oxides (SO_x), and PM₁₀. The use of advanced combustion control technology, post-combustion pollution control systems, and offsetting the increase in emissions will result in the Project having no significant adverse impacts on air quality.

1.7.2 Biological Resources

The Project site is located in an industrial area of Los Angeles County. The concrete-lined channel of the Los Angeles River lies approximately 0.75 mile to the north of the proposed site. Man-made structures within the project impact area and adjacent communities include roadways, levees, residential areas, and various infrastructure support features. Compared to vegetated habitats, these developed areas support a low diversity of wildlife.

Preliminary surveys, habitat evaluations, and aerial photographs suggest that the site is not located in a sensitive area. The majority of land use within the one-mile radius of the power plant is used for industrial purposes and has been completely developed. The highly developed nature of the habitat within the project vicinity would not support special-status species except for occasional foraging or other transient uses by migratory species. Based on a review of the California Natural Diversity Data Base (CNDDDB), there are no special-status species within a one-mile radius of the power plant site, or within 1,000 feet on either side of the natural gas, sewer, and transmission line routes. In addition, based on a review of the area surrounding the power plant, there is no native habitat that would support special-status species within this one-mile radius. No special-status species were observed during the biological survey.

1.7.3 Cultural Resources

Surveys of the proposed power plant location and appurtenant linear facilities were conducted. The surveyed area is located in a heavily commercial and industrial area. The power plant location is currently entirely covered by asphalt and concrete parking areas and an existing warehouse-type structure. The linear natural gas supply, sewer, and double-circuit 230-kV transmission line routes are located mainly within existing disturbed city streets, or asphalted parking areas. No natural ground or vegetation was visible within the power plant site, and very little was visible along the linear facilities routes. The area that was visible was primarily along the existing LADWP right-of-way.

Given the amount of previous ground disturbance in the area for buildings, utilities, and other infrastructure, it is likely that any sensitive resources in the area would have already been disturbed or destroyed. The archaeological sensitivity of the power plant location and linear facility routes are considered low.

1.7.4 Land Use

The Project site is located in the City of Vernon, in Los Angeles County, California. Land uses to the north, south, west, and east of the VPP site are industrial. There are no schools, day-care facilities, convalescent centers, and hospitals in the immediate vicinity of the project site. However, there are 4 residences, which are owned by the City, located approximately 1,000 feet to the east of the plant on Fruitland Avenue.

The City of Vernon General Plan is the planning document applicable to this site, the gas and sewer lines and the portion of the transmission lines within the City limits. The City General Plan land use designation for the project site is General Industrial. A power plant cited in this location would be consistent with this land use designation. The proposed power plant would also be consistent with the City Zoning Ordinance land use designation and the General Plan policies for the City of Vernon.

Various segments of the two transmission line routes being considered are zoned for industrial, residential, and commercial. The natural gas, potable and recycled water, and sewer line are all designated in the General Plan and Zoning Ordinance as industrial use.

The transmission line routes would be installed within an industrial area in the City of Vernon and most of the routes outside the City would be along existing power line corridors, so the new transmission line would be compatible with existing land uses.

It is anticipated that the proposed project would not contribute to a significant impact on land use in the project vicinity. Therefore, the proposed project would not result in a significant cumulative land use impact.

1.7.5 Noise

Construction will occur during a 24-month period. General construction noise levels projected at 1,500 feet from the plant site are estimated to be between 48 and 59 dBA. These results are conservative since the only attenuating mechanism considered was divergence of the sound waves in open air. Shielding effects of intervening structures were not included in the calculations. The construction noise may be audible at the nearest residences but is not anticipated to exceed current exposure levels and the noisiest construction activities (such as pile driving or steam blows) will be confined to the daytime hours.

Ambient noise measurements were conducted to determine the L_{90} (the noise level that is exceeded during 90 percent of the measurement period) nighttime noise level at the nearest residence (i.e., sensitive receptor). Noise modeling was used to determine the contribution to the nighttime ambient levels the plant would make during operation. Operational noise from the VPP is predicted not to exceed 59 dBA at R5, the residential noise monitoring location closest to the site. This would result in a project-only CNEL of 66 dBA, 2 dBA greater than the existing CNEL of 64 dBA and below City LORS of 70 dBA CNEL. During the nighttime hours, a project level of 59 dBA is 7 dBA greater than the average nighttime L_{90} and 6 dBA greater than the average nighttime L_{50} . While these levels exceed the CEC's 5-dBA threshold for a potential noise impact suggesting further analysis is warranted, they result in less than a 10-dBA increase. Such an increase should be considered acceptable given compliance with the City LORS, the industrial nature of the city, limited number of affected residences and the fact that the residences are owned by the City.

1.7.6 Public Health

Potential impacts associated with emissions of chemical substances of potential concern into the air from the proposed facility were addressed in a health risk assessment. Health risks potentially associated with the estimated concentrations of chemical substances in ambient air were characterized in terms of excess lifetime cancer risks (for substances listed by the California Office of Environmental Health and Hazard Assessment [OEHHA] as cancer causing) or comparison with reference exposure levels for noncancer health effects (for substances listed by OEHHA as non-cancer causing).

SCAQMD's CEQA guidelines define significance thresholds for cancer health impacts as equal to or greater than 10×10^{-6} (10 in a million) for the Maximum Exposed Individual (MEI) cancer risk. The guidelines define significance thresholds for the non-cancer health effects as a project-wide MEI hazard index equal to or greater than 1.

The MEI resident potential maximum excess life time cancer risk was estimated to be 0.57 in a million, and the MEI worker lifetime cancer risk was estimated to be 0.49 in a million. Excess lifetime cancer risks less than 10×10^{-6} (10 in a million) are unlikely to represent public health impacts that require additional air pollution control applied to facility emissions. The maximum hazard indices for acute and chronic non-carcinogenic substances were estimated to be 0.054 and 0.0222, respectively.

Based on the results of this risk assessment, no significant public health impacts would be expected from potential emissions of chemical substances into the air from the proposed facility.

1.7.7 Worker Health and Safety

During the construction of the project, workers will be exposed to construction hazards, and during plant operation, operators will be exposed to plant operation safety hazards. To evaluate these hazards and control measures, a hazard analysis was performed. The analysis identifies the hazards anticipated during construction and operation, and indicates which safety programs should be developed and implemented to mitigate and appropriately manage those hazards. Programs are overall plans that set forth the method or methods that will be followed to achieve particular health and safety objectives. For example, the Fire Protection and Prevention Program will describe procedures to protect against and prevent fires. Each program or plan will contain training requirements that are translated into detailed training courses. Upon completion of construction and commencement of operations at VPP, the construction health and safety program will transition into an operations-oriented program reflecting safety hazards and the controls necessary during operation. As a consequence of the development and implementation of these plans and programs, workplace accidents would be minimized in both severity and frequency so that there would not be a significant impact to worker health and safety from the construction and operation of VPP.

1.7.8 Socioeconomics

Total construction personnel requirements for both the plant and linear facilities will be an average of 266 workers per month for 24 months, with a peak total work force of 499 during month 16. This translates into 532 person-years or 6,387 person-months. The peak construction workforce for the plant is estimated to be 470 workers in months 15 and 16, and the peak construction work force for the linear facilities will reach 29 during month 16. The construction payroll is estimated at \$85.2 million. The estimated indirect and induced employment within Los Angeles County would be 157 and 223 jobs, respectively. Indirect and induced income impacts are estimated at \$5,902,460 and \$9,170,000, respectively. The total local sales tax expected to be generated during construction is \$412,500 to \$825,500 (i.e., 8.25 percent of local sales). During construction, there would be no impacts to population, housing, schools, or public services and utilities.

The VPP will be operated by 20 full-time employees. Estimated indirect and induced employment within Los Angeles County would be 31 and 20 permanent jobs, respectively. VPP will bring \$1.4 million in operational payroll to the region. During operations, additional sales tax revenues of approximately \$660,000 will be obtained. During operation, there would be no impacts to population, housing, schools, or public services and utilities. Therefore, VPP would have a benefit to the local economy.

Potential Environmental Justice impacts were also analyzed in accordance with Executive Order (EO) 12898 (see Appendix 8.8A). As reported in the series of environmental analyses prepared for this Project, and further confirmed through discussions with the environmental professionals who prepared those sections, no significant adverse impacts are expected as a result of this project after proposed mitigation measures are implemented. Consequently, none of the impacts of this project can be described as high and adverse in the context of

EO 12898. As there are no high and adverse impacts expected as a result of this project, this analysis concludes that no high and adverse human health or environmental effects of this project are expected to fall disproportionately on minority or low-income populations. The VPP project can, therefore, be considered to be consistent with the policy established in EO 12898.

1.7.9 Agriculture and Soils

Based on review of aerial photographs, field surveys, and documentation from a nearby project, there are no active commercial agricultural uses within or immediately surrounding the proposed VPP site; however, there are limited agricultural uses within the LADWP transmission line corridor. There are no important farmlands mapped within a mile of the proposed project area. The proposed sewer, gas, and electrical corridors will follow existing roadway or railroad rights-of-way through urban areas, and the recycled and potable water supply pipelines will be connected adjacent to the VPP site. Only one 300-foot segment of the transmission line along the River Route could potentially impact agricultural production within the LADWP right-of-way. Most of the area will be avoided or spanned so that impacts to agricultural production is minimized.

The soils found in the VPP site, laydown area, and along the linear features are nearly level (or very slightly sloped). Construction activities can potentially impact soil resources by increasing soil erosion and soil compaction. However, best management practices (BMPs) will be used to minimize erosion at the site during construction. Post construction erosion will be negligible due to the presence of impervious services and gravel that will cover the pervious services. Therefore, the project will not cause adverse impacts to agricultural production or soil loss.

1.7.10 Traffic and Transportation

During the peak construction period, the Project is expected to generate approximately 434 daily construction worker round trips. To analyze the worst-case scenario, a focused assessment of the impacts on the surrounding roadways – an Intersection Capacity Utilization (ICU) analysis – was conducted for the 12 intersections that would be most directly affected by project construction traffic. The findings are that all intersections except Atlantic Boulevard/Bandini Boulevard are presently operating at an acceptable LOS during the morning and afternoon peak hours. In general, the findings are that the construction of the VPP will not result in intersections ICUs that are significantly greater than those for the existing typical morning and afternoon peak hours for the street system. Therefore, the construction of the VPP is not expected to have significant impacts on roadway intersections, in most cases.

1.7.11 Visual Resources

The landscape surrounding the Project is comprised almost exclusively of major industrial facilities. The site itself is flat and open, and contains no features considered to be scenic resources. Several of the industrial facilities throughout the area are tall rectangular buildings that generally block views toward the plant site. The VPP features would include three HRSGs that are 160 feet long, 48 feet wide, 95 feet high. The HRSG stacks would be 180 feet tall and 20 feet in diameter. The 14-cell cooling tower structure would be 385 feet

long, 104 feet wide, 58 feet high. VPP would have an orderly appearance, would be painted using a neutral color scheme designed to break up its mass and relate it to its backdrop. , The existing 8-foot tall concrete wall would remain along Boyle and Fruitland avenues (with an 8-foot-high chain-link fence surrounding the remainder of the plant perimeter.

There are few residences in the City and most of them are owned by the City for use by employees. In the view toward the site that was evaluated, the effect of the VPP on the overall character of the view would be extremely limited. The overall level of visual quality of the view from Key Observation Point 1 (KOP-1) would remain about the same. The presence of the project features would not affect the vividness of the view, would have no effect on the overall intactness of the view, and would have no effect on the visual unity of the composition of the landscape. The lighting associated with the project would be limited, and would not pose a hazard or adversely affect day or nighttime views toward the site. The project is in general conformance with all LORS related to visual resources in the City plans and zoning ordinance provisions that pertain to this area.

1.7.12 Hazardous Materials Handling

Hazardous materials to be used during construction and operation were evaluated for hazardous characteristics. Hazardous materials to be used during construction of the project (and its associated linear facilities) will include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. The quantities of hazardous materials that will be onsite during construction are small, relative to the quantities used during operation. Several hazardous materials, including two regulated substances (aqueous ammonia and hydrogen), will be stored at the generating site during operation. Only aqueous ammonia will be stored in amounts above the threshold quantity during the operations phase and a Risk Management Plan (RMP) will be prepared consistent with the California's Accidental Release Prevention Program requirements. Sufficient monitoring will be performed during the construction and operation phases to ensure that the proposed mitigation measures are satisfied and that they are effective in mitigating any potential environmental effects.

An offsite consequence analysis was performed to assess the risk to humans from the plant if a spill or rupture of the aqueous ammonia storage tank or truck delivery tank were to occur. Based on this conservative modeling analysis, the worst-case accident is not expected to result in an offsite ammonia concentration greater than 75 parts per million (ppm). Since the general public will not be exposed to ammonia concentrations above 75 ppm during a worst-case release scenario, its onsite storage will not pose a significant risk to the public.

1.7.13 Waste Management

During construction, the primary waste generated will be solid nonhazardous waste. However, some nonhazardous liquid waste and hazardous waste (solid and liquid) will also be generated. Most of the hazardous wastes will be generated at the plant site, but a minimal quantity of hazardous waste will be generated during construction of the project linears. The types of waste and their estimated quantities are described in the Waste Management subsection. The primary waste generated during the operation phase will be nonhazardous wastewater. Other nonhazardous solid waste will also be generated, as well as varying quantities of liquid and solid hazardous waste. Handling and mitigation of these wastes is also described in the Waste Management subsection.

The handling and management of waste generated by the project will follow the hierarchical approach of source reduction, recycling, treatment, and disposal. The first priority will be to reduce the quantity of waste generated through pollution prevention methods (e.g., high-efficiency cleaning methods). The next level of waste management will involve the reuse or recycling of wastes (e.g., used oil recycling). For wastes that cannot be recycled, treatment will be used, if possible, to make the waste nonhazardous (e.g., neutralization). Finally, offsite disposal will be used to dispose of residual wastes that cannot be reused, recycled, or treated.

1.7.14 Water Resources

The Project will use recycled water for the majority of its water needs. It is estimated that 6,266 acre feet of recycled water per year will be required. Use of recycled water conserves higher quality groundwater for potable water and other critical uses. The use of a zero-liquid discharge system was considered. However, use of such technology is unnecessary for the VPP project because wastewater discharges will be relatively clean compared to effluent standards, and such discharges are considered assets by the wastewater service provider (Sanitation Districts of Los Angeles County) because of their ability to dilute other wastewater streams.

Potable water will be supplied to the site by the City of Vernon. It will be used for domestic purposes and as an emergency water supply for the Project. Cooling tower blowdown and wastewater from miscellaneous plant uses will be collected and discharged to the City of Vernon sanitary sewer facilities, which will tie into the Sanitation Districts of Los Angeles County (LACSD) facilities via a regional trunk sewer line.

Proposed mitigation measures are prescribed by stormwater and erosion control management programs mandated under National Pollutant Discharge Elimination System (NPDES) permits applicable to construction and industrial discharges and programs implementing the regional public storm drain permit. These programs have been in place for a number of years and have specific technical standards applicable to water quality controls implemented to meet permit requirements. Under the General NPDES Permit for Construction, for example, various specific measures are prescribed, and a program of monitoring is required. Compliance with these programs should ensure that all residual impacts associated with the proposed project are mitigated to a level of less than significant.

1.7.15 Geologic Hazards and Resources

Numerous active and potentially active faults considered capable of generating earthquakes have caused and will continue to cause seismic shaking at the site. Over 30 faults have been documented within a 62-mile (100-kilometer) radius of the site. Ground shaking presents the most significant geologic hazard to the proposed power plant and linear facilities. Liquefaction may also impact linear facilities as a result of ground shaking. The VPP generating facility and linear facilities will need to be designed and constructed to withstand strong earthquake shaking as specified in the 2001 California Building Code for Seismic Zone 4—in accordance with City of Vernon and Los Angeles County requirements. Proposed mitigation measures will be implemented in the design of the facilities to reduce to acceptable levels the risk associated with these hazards.

1.7.16 Paleontological Resources

Paleontological resources (fossils) are the remains or traces of prehistoric animals and plants. The literature review, archival searches, and field survey conducted for this inventory documented only one previously recorded fossil site as occurring within 3 miles of the project site at depths of up to 37 feet. In addition, a number of previously recorded fossil sites have been documented in this portion of the Los Angeles Basin in proximity to the Los Angeles River, but more than 3 miles from the VPP. The occurrence of fossil sites near the project site and within similar geologic environments as the project site suggests a potential for additional scientifically important fossil remains to be encountered by earthmoving activities during project construction. It is in the vicinity of the Los Angeles River where the potential of encountering fine-grained fluvial facies of high paleontologic potential is likely, *when* these activities extend to a depth sufficient to encounter undisturbed sediment. Within 4 feet of the surface there is no more than a low potential for these activities to encounter paleontologic remains, and the scientific value of these remains would likely be negligible due to the disturbed nature of the sediment. Therefore, excavations within 4 feet of the surface would affect sediment that has been previously disturbed and, therefore, is of low paleontologic sensitivity.

Mitigation measures proposed by the City to reduce or mitigate potential project-related adverse impacts to significant paleontological resources are described in the Paleontological Resources subsection. No impact to paleontological resources would occur as a consequence of operation, so no mitigation is proposed for the operational phase of the project.

1.8 Key Benefits

1.8.1 Environmental

VPP will employ advanced, high-efficiency combustion turbine technology and selective catalytic reduction (SCR) to minimize emissions from the facility. It should be noted that an oxidation catalyst system will be operational to reduce carbon monoxide emissions whenever the combustion turbines would be in operation. Using natural gas for fuel, VPP will be among the cleanest facilities of comparable size in the nation. Project emissions will be as much as 85 percent lower than those for existing older generating facilities. VPP will also obtain emission offsets to more than compensate for its air emissions.

VPP will also minimize freshwater use. Recycled water from the CBMWD will be used for plant cooling and process water needs. The plant will also reduce the amount of stormwater run-off that occurs during major storm events.

1.8.2 Employment

The Project will provide for a peak of approximately 499 construction jobs, with an average of almost 266 construction jobs, over the 24-month period. In addition, it will provide approximately 20 full-time, living-wage jobs throughout the life of the plant.

1.8.3 Energy Efficiency

VPP will be an efficient, environmentally-responsible source of economic and reliable energy to meet the energy demands of the City of Vernon and assist the State in developing

increased local generation projects. VPP will help ensure reliable, clean, low-cost electricity in the future to maintain the City's industrial base and also supply power to southern California.

1.9 Persons Who Prepared the AFC

Persons with primary responsibility for the preparation of each section of this AFC are listed in Appendix 1B.

1.10 Laws, Ordinances, Regulations, and Standards (LORS)

Each section addresses the relevant LORS and addresses compliance with them.

1.11 Permitting Requirements

Each section provides a list of applicable federal, state, and local permits that would be required by each jurisdiction for the project.

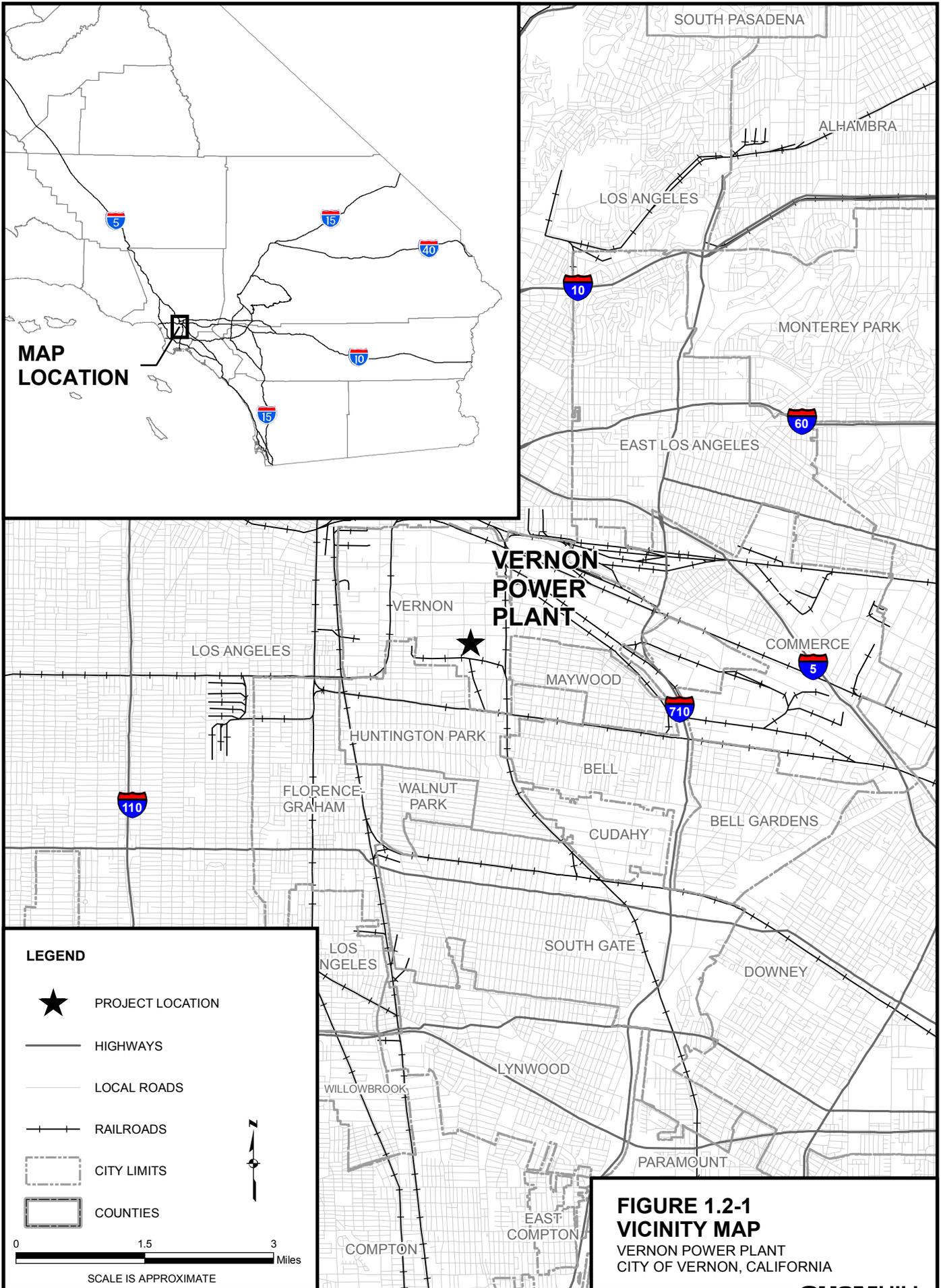
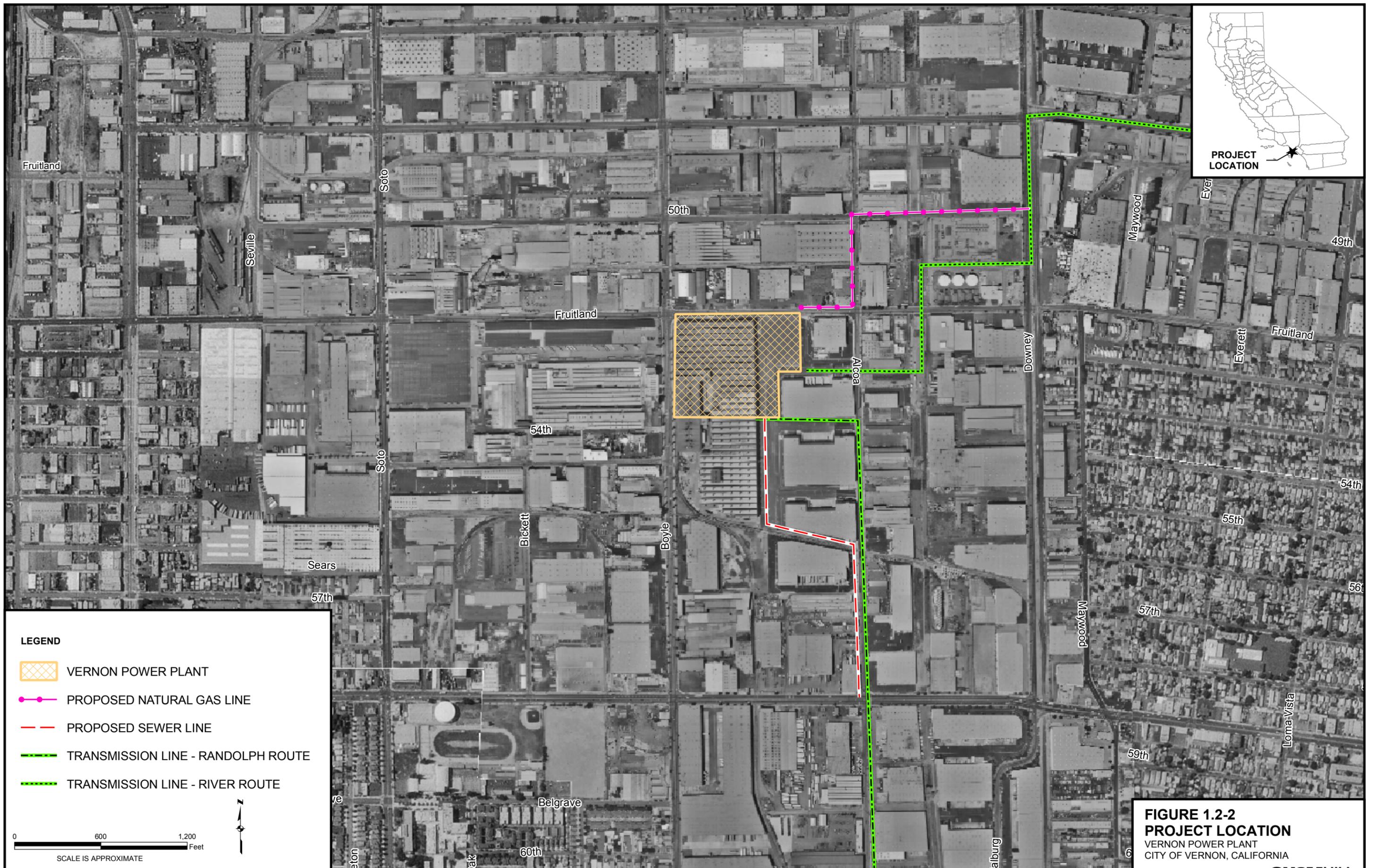
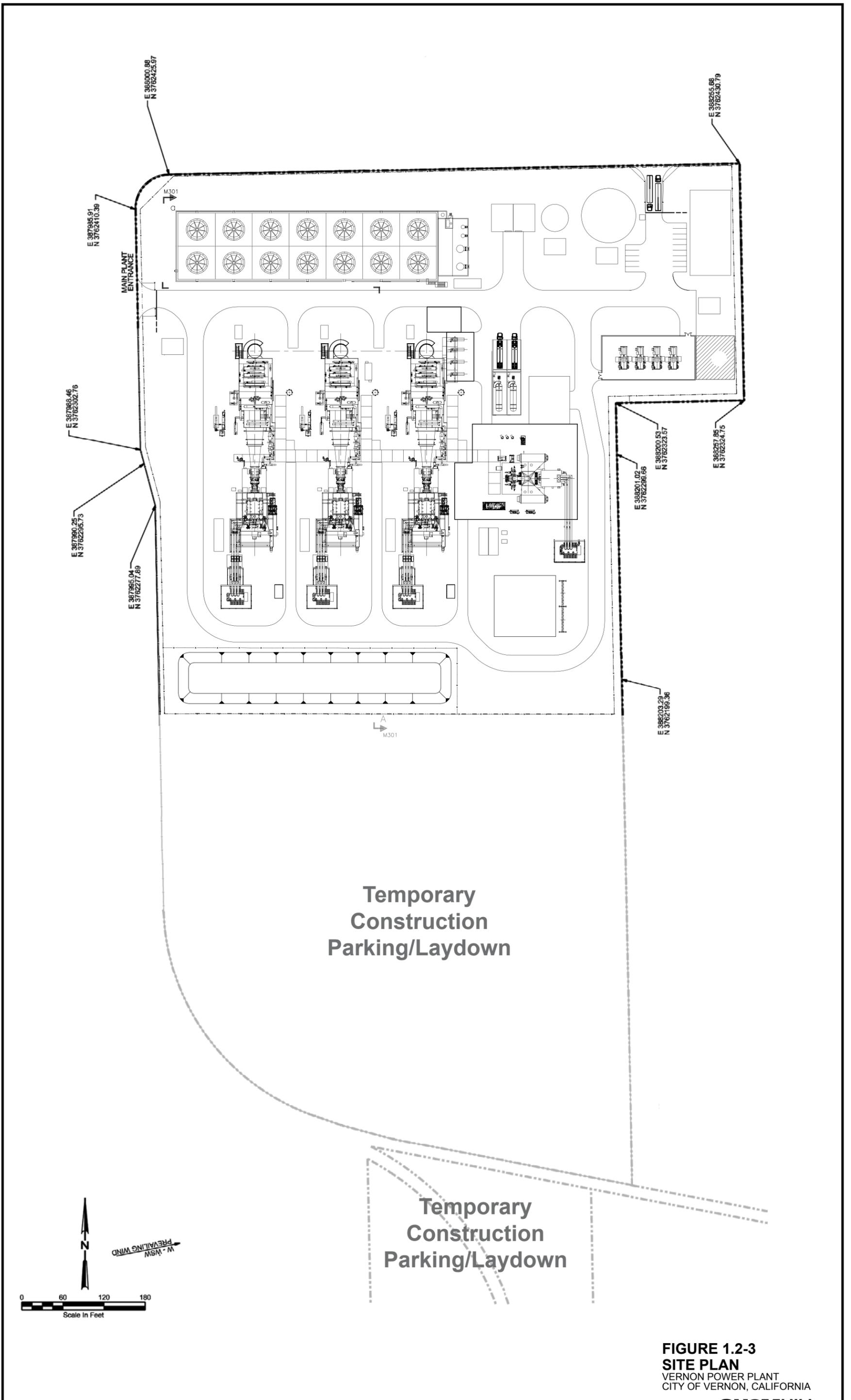


FIGURE 1.2-1
VICINITY MAP
 VERNON POWER PLANT
 CITY OF VERNON, CALIFORNIA





Temporary
Construction
Parking/Laydown

Temporary
Construction
Parking/Laydown

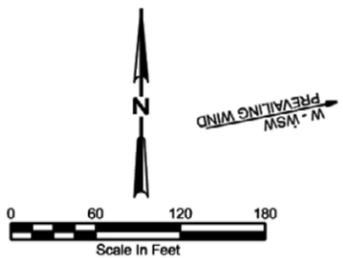
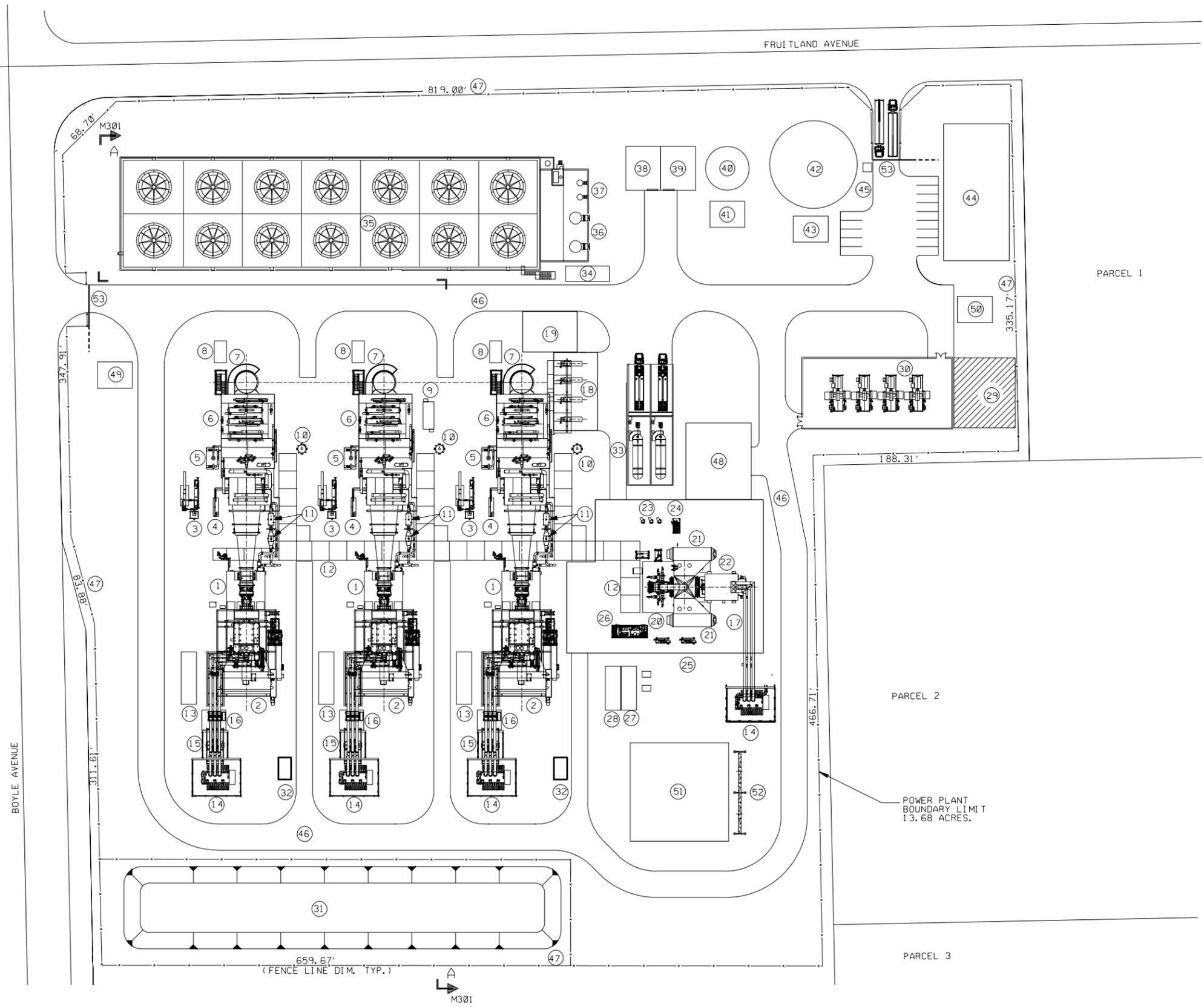


FIGURE 1.2-3
SITE PLAN
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA



- LEGEND**
- 1 GAS TURBINE ENCLOSURE
 - 2 TURBINE AIR INLET FILTER
 - 3 FUEL GAS PREHEATER
 - 4 DUCT FIRING SKID
 - 5 SCR SKID
 - 6 HEAT RECOVERY STEAM GENERATOR
 - 7 HRSG STACK
 - 8 CONTINUOUS EMISSIONS MONITORING
 - 9 HRSG POWER CONTROL CENTER
 - 10 BOILER BLOW DOWN TANK
 - 11 ROTOR AIR COOLER
 - 12 PIPE RACK
 - 13 MV SWITCHGEAR
 - 14 GENERATOR STEP UP TRANSFORMER
 - 15 AUXILIARY TRANSFORMER
 - 16 GENERATOR CIRCUIT BREAKER
 - 17 ISOPHASE BUS DUCT
 - 18 BOILER FEED WATER PUMPS
 - 19 AUXILIARY BOILER
 - 20 STEAM TURBINE WITH ENCLOSURE
 - 21 SURFACE CONDENSER
 - 22 GENERATOR
 - 23 CONDENSATE PUMPS
 - 24 GLAND SEALING SYSTEM
 - 25 VACUUM PUMPS
 - 26 LUBE OIL SKID
 - 27 STEAM TURBINE POWER CONTROL CENTER
 - 28 BALANCE OF PLANT POWER CONTROL CENTER
 - 29 GAS METERING AREA (BY OTHERS)
 - 30 GAS COMPRESSORS
 - 31 DETENTION BASIN
 - 32 OIL WATER SEPARATOR (BURIED)
 - 33 19% AQUEOUS AMMONIA UNLOADING/STORAGE AREA
 - 34 COOLING TOWER POWER CONTROL CENTER
 - 35 COOLING TOWER
 - 36 CIRCULATING WATER PUMP
 - 37 AUXILIARY COOLING WATER PUMPS
 - 38 CT CHEMICAL STORAGE AREA
 - 39 DEMIN. PLANT
 - 40 DEMIN. WATER STORAGE TANK
 - 41 DEMIN. WATER FORWARDING PUMPS
 - 42 RECYCLED WATER STORAGE TANK
 - 43 RECYCLED WATER FORWARDING PUMPS
 - 44 ADMIN./CONTROL RM./WAREHOUSE BUILDING
 - 45 GATE & GUARDHOUSE
 - 46 ROADS
 - 47 FENCE
 - 48 CONDENSATE POLISHING AREA
 - 49 DIESEL ENGINE DRIVEN FIRE PUMP ENCLOSURE (INCLUDES DIESEL FUEL OIL TANK)
 - 50 MOTOR DRIVEN FIRE PUMP ENCLOSURE
 - 51 GIS BUILDING
 - 52 DEAD END STRUCTURE
 - 53 SLIDE GATE

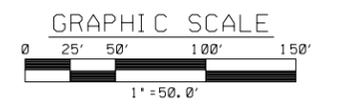


FIGURE 1.2-4
GENERAL ARRANGEMENT DRAWING
 VERNON POWER PLANT
 CITY OF VERNON, CALIFORNIA

Source: Burns and Roe, Dwg. No. M300, Rev. H1.



PROJECT LOCATION

- LEGEND**
- VERNON POWER PLANT
 - LAGUNA BELL SUBSTATION
 - PROPOSED NATURAL GAS LINE
 - PROPOSED SEWER LINE
 - TRANSMISSION LINE - RANDOLPH ROUTE
 - TRANSMISSION LINE - RIVER ROUTE

0 1,500 3,000 Feet
SCALE IS APPROXIMATE

FIGURE 1.2-5
VPP SITE AND LINEAR
FACILITIES LOCATION MAP
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA



Proposed Site

Temporary
Construction
Parking/Laydown

**FIGURE 1.2-6
APPEARANCE OF SITE
BEFORE CONSTRUCTION**

VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA





FIGURE 1.2-7
APPEARANCE OF SITE
AFTER CONSTRUCTION
VERNON POWER PLANT
CITY OF VERNON, CALIFORNIA
CH2MHILL