SECTION 1.0

Executive Summary

1.1 Project Overview

MMC Energy, Incorporated (MMC) proposes to construct, own, and operate an electrical generating plant in Chula Vista, San Diego County, California. The Chula Vista Energy Upgrade Project (CVEUP) would be a natural gas-fired, simple-cycle electrical generating facility rated at a nominal generating capacity of 100 megawatts (MW). The CVEUP would substantially increase the efficiency of energy generated on site while adding approximately 48 MW of generation capacity. The CVEUP is proposed for a 3.8-acre site at 3497 Main Street, Chula Vista, California. A portion of this project site is currently occupied by MMC's Chula Vista Power Plant, a nominal 44.5-MW simple-cycle peaking power plant using Pratt & Whitney FT8 Twinpac™ technology. The proposed project includes the decommissioning, dismantling, and removal of the existing power plant, and construction of the new 100-MW facility on a currently unoccupied portion of the existing parcel. Surrounding land uses currently include warehousing and manufacturing, regional park, and residential.

Property taxes generated by the CVEUP site would increase substantially due to the increased value of the new equipment proposed as part of the CVEUP. In addition, the CVEUP would help to further the redevelopment goals of the Southwest Redevelopment Area by ensuring that the industrial use on site remains viable, and complementing ongoing industrial and commercial development in the area while minimizing impacts to the neighboring community.

1.1.1 Project Objectives

The CVEUP would provide needed peak electric generation capacity with improved efficiency. San Diego Gas and Electric Company (SDG&E) recently circulated a Request For Offers (RFO) indicating that additional peak electric generation capacity is needed in the vicinity. Peaking capacity is needed to respond to the local demand for electricity that increases typically in the afternoons of summer days or to support steep increases in power demands as larger units start up. A facility that provides peaking capacity must be able to be up and running at baseload within 10 minutes to meet California Independent System Operator (CAISO) requirements. As a peaking facility, the CVEUP would not run continuously, but instead would start, run for as many hours as necessary, and then shut down. The CVEUP is designed to reliably provide this type of fast-start capability. The CVEUP also includes "black start" capability as required by the RFO from SDG&E. Black start capability allows the CVEUP to start up when the power grid is down and support re-energizing the power grid.

In addition, the CAISO has identified a local reliability area that includes the cities of Chula Vista and San Diego, where power generation is needed to support local demand for electricity. Thus, the CVEUP would help to meet identified local generation needs. Of equal or greater importance, however, is the CVEUP's ability to produce electricity more

efficiently than the current plant and thereby further the statewide goals of limiting the environmental effects of power generation.

Still another objective of CVEUP is to upgrade and improve the existing facility. The new project will fulfill the final project objective of reusing existing infrastructure, such as the existing transmission interconnection, water supply, and gas supply.

A parcel map of the CVEUP site is attached as Appendix 1A. A list of the property owners located within 1,000 feet of the power plant site is attached as Appendix 1B.

Figure 1.1-1 is an architectural rendering of the project. Figure 1.1-2 shows the location of the project within the San Diego region. Figure 1.1-3 shows the site location. The project is a 100-MW nominal, natural gas-fired, simple-cycle generating plant and will have the following design features:

- Two General Electric (GE) Energy LM6000 combustion turbine-generators (CTGs) and associated support equipment.
- Selective catalytic reduction (SCR) pollution and carbon monoxide catalyst air emissions control systems and water-injected or Dry Low NO_x (DLN) combustors.
- An onsite connection to an existing 69-kilovolt (kV) transmission line that connects with SDG&E's Otay Substation, which is located 1,020 feet to the north on Main Street in Chula Vista. The new project will reuse the existing onsite switchyard location and will connect with the existing take-off structure.
- An onsite connection to an existing 8-inch-diameter high pressure natural gas pipeline that runs in a utility easement adjacent to the project parcel.
- An onsite connection to the Sweetwater Authority's existing 4-inch-diameter water supply pipeline.
- An onsite connection to an 8-inch-diameter sanitary sewer line, which is located in a utility easement within the project parcel.

1.1.2 Project Operation

As a peaking power plant, the CVEUP would operate during times of very high electrical load or when baseload plants are not operating, or during emergency conditions. As stated previously, the facility is designed to come on line quickly to provide needed load and electrical reliability support. Although the facility will be licensed and permitted to operate up to 4,000 hours per year (46 percent of the time), as a peaking power plant its actual capacity factor will be much less than this. Consistent with most peakers, the CVEUP could be expected to operate about 5 to 10 percent of the available hours. A California Energy Commission (CEC) Staff analysis, for example, showed that, in 2004, 19 simple-cycle peaking plants in California with a gross generating capacity of 50 MW or more operated an average of 6.2 percent of the time (range 0.3 to 31.9 percent) (Table 1.1-1). This is equivalent to 543 hours per year. Only 4 of these 19 plants operated more than 10 percent of the time (CEC, 2006).

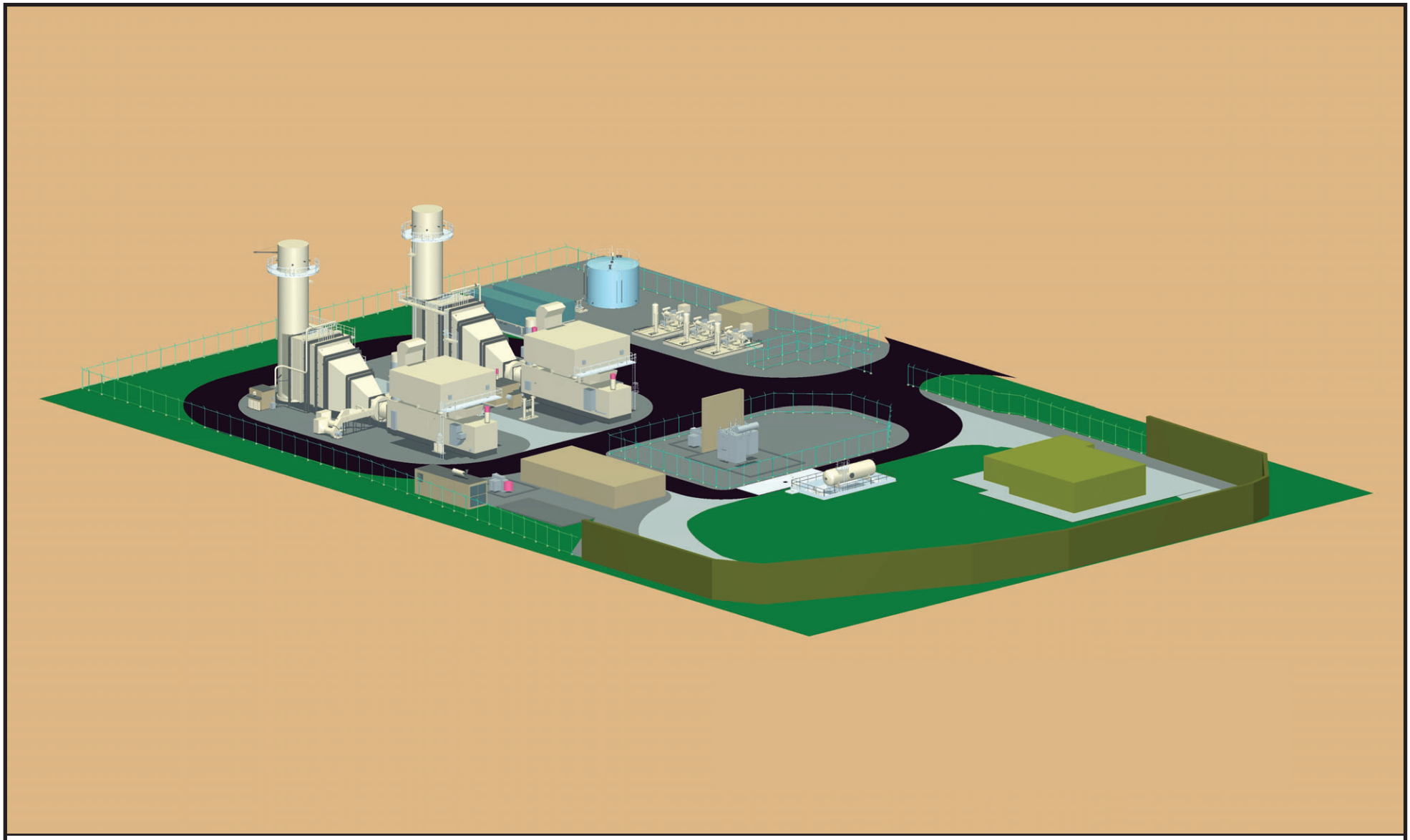

FIGURE 1.1-1
ARCHITECTURAL RENDERING (OBLIQUE AERIAL VIEW OF PROJECT SIMULATION)
CHULA VISTA ENERGY UPGRADE PROJECT
CITY OF CHULA VISTA, CALIFORNIA

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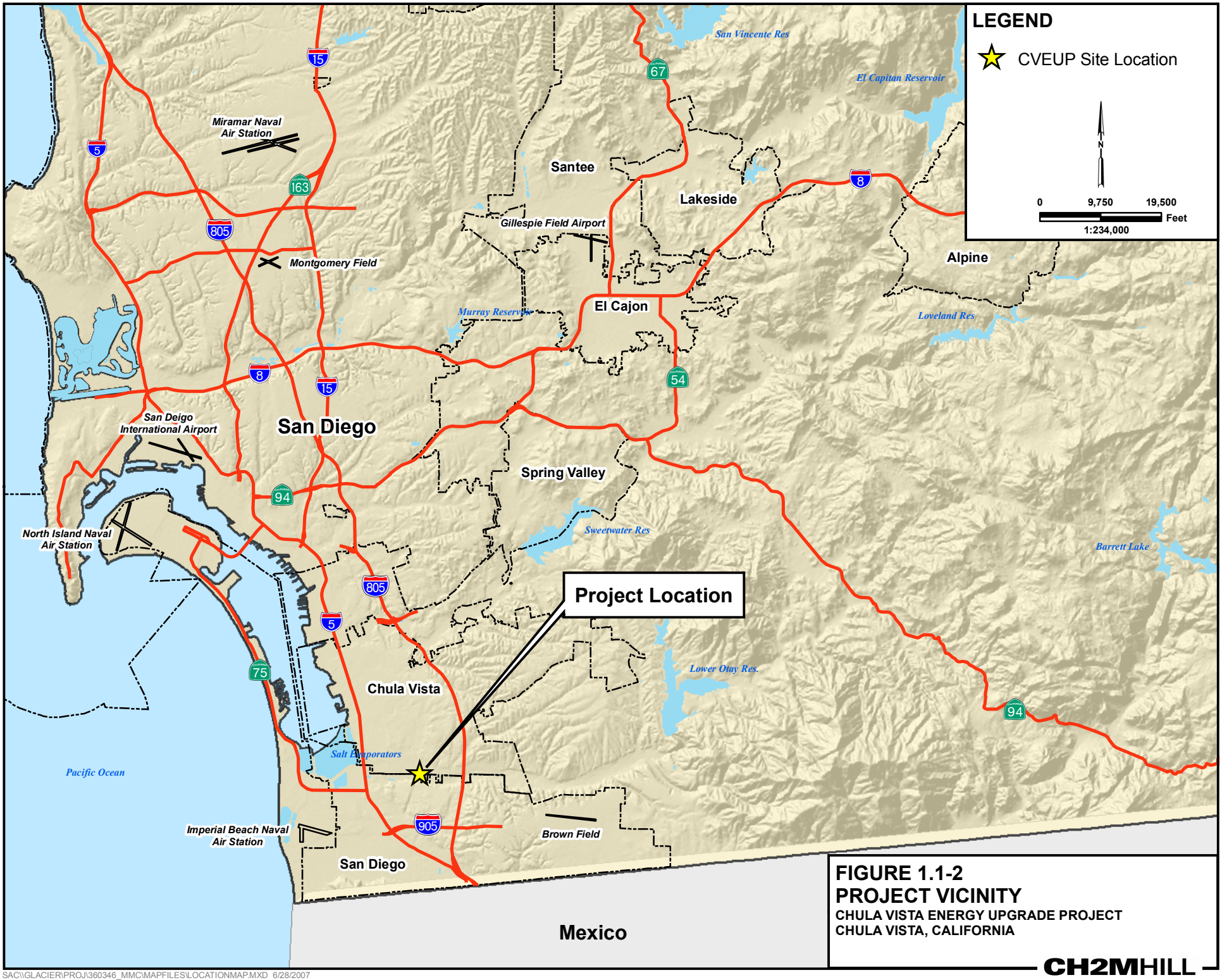

FIGURE 1.1-2
PROJECT VICINITY
CHULA VISTA ENERGY UPGRADE PROJECT
CHULA VISTA, CALIFORNIA

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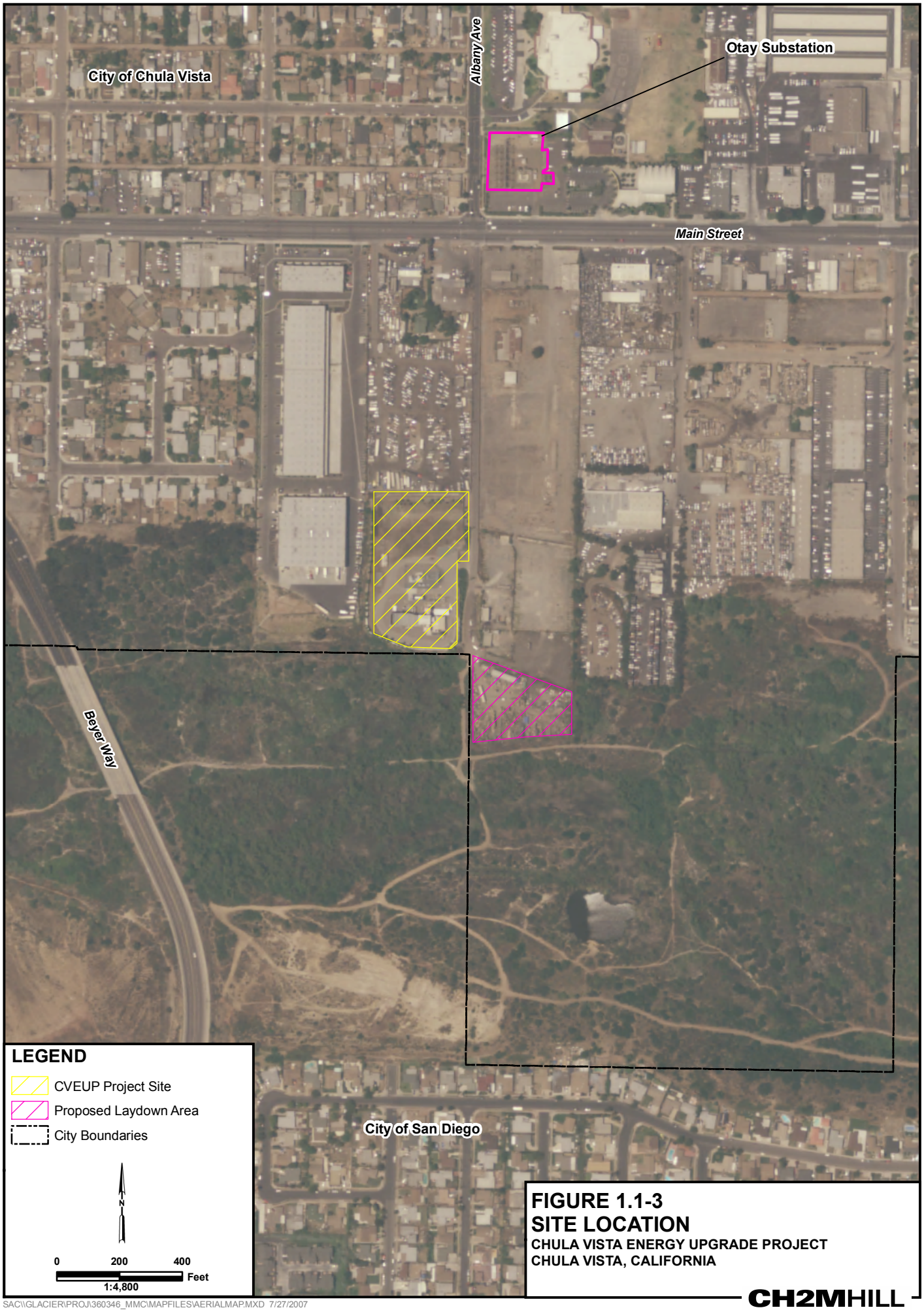

FIGURE 1.1-3
SITE LOCATION
CHULA VISTA ENERGY UPGRADE PROJECT
CHULA VISTA, CALIFORNIA

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TABLE 1.1-1
2004 Capacity Factors of California Simple-Cycle Peaking Plants Greater than or Equal to 50 MW *

Facility Name	Generating Capacity (MW)	Hours of Operation	Capacity Factor (pct)
Harbor (City of Los Angeles)	282	1,266	14.5
Oakland Power Plant	224	95	1.1
Los Esteros Critical Energy Fac.	180	1,498	17.1
Tracy Peaker	169	67	0.8
Potrero Power	156	306	3.5
Indigo Energy Facility	150	505	5.8
Gilroy Peaker	135	521	5.9
Larkspur Energy Facility	100	373	4.3
Henrietta Peaker	98	112	1.3
Hanford Energy Park Peaker	92	105	1.2
Pittsburg Power Plant	74	2,794	31.9
Lake (City of Burbank)	70	636	7.3
Agua Mansa Power Plant	61	401	4.6
Roseville (NCPA)	50	22	0.3
Panoche Peaker	50	41	0.5
Almond Power Plant (TID)	50	1,110	12.7
Vaca-Dixon No. 1	50	93	1.1
Panoche No. 2	50	90	1.0
Border	50	194	2.2
Average	110	538	6.2

* Cogeneration plants are excluded because their capacity factors may be more dependent on steam host demand than on electrical demand.

Source: CEC, 2006

1.2 Project Ownership

MMC will own the CVEUP. MMC is a North American energy acquisition company, which primarily acquires and operates power generation and associated energy infrastructure assets. The company currently owns power generation assets in Southern California and is pursuing an aggressive portfolio acquisition and growth strategy targeting power generation facilities and energy infrastructure assets primarily in California, Texas, Mid-Atlantic, and the Northeastern United States.

1.3 Project Schedule

MMC is filing this Application for Certification (AFC) under the CEC's 12-month licensing process. Assuming the project receives a license by October 2008, construction of the CVEUP will begin in the fall of 2008. Pre-operational testing of the power plant will begin in the summer of 2009, and full-scale commercial operation is expected to commence by fall of 2009.

1.4 Project Alternatives

A "no project" alternative was considered and rejected. The no project alternative fails to meet the basic project objectives of the CVEUP as described in this AFC. For example, the no project alternative is inconsistent with one of the primary objectives of MMC's program to provide electrical power to support reliable supply and provide peaking power in the San Diego area. In addition, the no project alternative could result in greater fuel consumption and air pollution in the state; because older, less efficient plants with higher air emissions would continue to generate power instead of being replaced with cleaner, more efficient plants, such as the CVEUP. Also, during limited availability of in-state generated electricity, imported electrical energy has proven to be expensive and is not always available.

In addition to the no project alternative, CVEUP has analyzed two possible alternative power plant sites. Each of these sites was rejected as infeasible because each fails to meet most of the CVEUP's basic objectives, fails to avoid or minimize potentially significant environmental effects, and/or includes the potential for the alternative itself to result in one or more significant environmental impacts. A complete discussion of project alternatives, including the no project alternative is presented in Section 6.0.

Alternative routings for the project's linear appurtenances were not considered because connections to natural gas, sanitary sewer and water, and the transmission system are within the project parcel.

Several alternative generating technologies were reviewed in a process that resulted in the selection of a state-of-the-art, natural gas-fired combustion turbine power plant for the CVEUP. The alternative technologies included conventional oil and natural gas-fired plants, combined-cycle combustion turbines, biomass-fired plants, waste-to-energy plants, solar plants, wind generation plants, and others. None of these technologies was considered better than or equal to the GE Energy LM6000 technology selected for the CVEUP in meeting the project goals.

1.5 Environmental Considerations

Pursuant to the requirements set forth in existing environmental laws and the CEC's regulations, sixteen areas of possible environmental impact from the proposed project were investigated. Detailed descriptions and analyses of these areas are presented in Sections 5.1 through 5.16 of the AFC. As discussed in detail in this AFC, with the implementation of the proposed mitigation measures and the anticipated Conditions of Certification, there will be no significant unmitigated environmental impacts associated with the construction and operation of the CVEUP. This Executive Summary highlights findings related to five subject areas that have historically been of interest in CEC proceedings: air quality, biological resources, noise, visual resources, and water resources.

1.5.1 Air Quality

The CVEUP site is located in a State of California and federal Ambient Air Quality Standards non-attainment area for ozone and for particulate matter with a diameter less than 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$). The area is attainment for carbon monoxide,

oxides of nitrogen, and sulfur dioxide. An assessment of the impact to air quality was performed using air dispersion modeling and the impacts were all less than the California Ambient Air Quality Standards. The potential air quality impacts from the CVEUP will be mitigated by the installation and operation of Best Available Control Technology (BACT) for the combustion turbines and support equipment. The project will also result in the decommissioning and shutdown of the existing Chula Vista Power Plant, which uses older and less effective technologies for controlling air emissions. As a result, the new plant will emit significantly fewer air emissions on an hourly and annual basis for most pollutants. The project will have no significant adverse impact on air quality or public health. See Section 5.1 for a detailed analysis of air quality and Section 5.9 for public health.

In August 2006, the California legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California resource agencies to establish a comprehensive program of regulatory and market mechanisms to achieve reductions in greenhouse gas emissions. The CVEUP helps to meet the goal of minimizing greenhouse gas emissions by providing electrical reliability and load support near the load source, reducing the need to generate additional power at long distances from the load and import this power with transmission efficiency losses. Transmission losses equate to the need to generate additional amounts of power to move that power from outside of the load center into the load center. By locating power plants near the load, total emissions of carbon dioxide are reduced, thereby decreasing the global warming impacts of electric generation. Furthermore, CVEUP improves the efficiency of the existing facility. Improved efficiency means reduced emissions per unit of electricity generated. CVEUP is one way to reduce the overall greenhouse gas footprint of the electricity provided to serve Chula Vista and San Diego.

1.5.2 Biological Resources

The CVEUP will be located within the boundaries of the existing Chula Vista Power Plant site. The project site does not contain any habitat for sensitive plant or wildlife species and would not cause an adverse impact to sensitive biological resources. Biological resources near the project include the Otay River Preserve (Preserve), a Multiple Species Conservation Program (MSCP) open space and natural preserve area. Several sensitive species have the potential to occur in the Preserve's riparian habitat. These include Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Dendroica petechia brewsteri*), yellow-breasted chat (*Icteria virens*), southwestern willow flycatcher (*Empidonax traillii extimus*), and least Bell's vireo (*Vireo bellii pusillus*). These species are Covered Species in the MSCP and two of the five riparian bird species are federally listed; the southwestern willow-flycatcher is federally listed as endangered and the least Bell's vireo is federally and state listed as endangered.

The project will have no direct effect on wildlife habitat in the preserve. The project will avoid indirect effects of construction and operation noise on nesting birds by implementing several mitigation measures. These include pre-construction surveys to determine whether or not listed birds are nesting within 500 feet of the project boundary. The project will implement construction noise mitigation measures or avoid construction work in the nesting season as necessary if nesting birds are present. The existing project's 18-foot-high sound wall will also mitigate potential noise impacts and maintain project operational noise below the 60 decibels, A-weighted (dBA) guideline for nesting birds.

1.5.3 Noise

The City of Chula Vista maintains a nighttime noise standard for residential areas of 45 dBA for stationary noise sources. The Applicant conducted 25-hour ambient noise monitoring at the project site and also prepared a noise generation model for the CVEUP. The modeling shows that noise attributable to the project at the nearest residential receptor, to the west of the project, would be approximately 45 dBA, meeting the City's standards. Nighttime operation of CVEUP, while it may occur, will be relatively rare. As a peaking power facility, the project's annual capacity factor will range between 5 to 30 percent, and the most common times of operation will be afternoons during hot weather episodes when the Municipal Code limit is 55 dBA and background noise levels are higher.

1.5.4 Visual Resources

The most prominent visual features of the CVEUP will be the stacks, at 70 feet. Analysis of simulated views of the project from sensitive viewing positions (key observation points) shows that the project would not cause adverse visual impacts. Ratings of existing visual or scenic quality from residential key observation points range from low to moderate. Viewer sensitivity at these points is rated as high. The project is not located in a scenic or protected viewshed. Although the project will be seen by viewers leaving or entering residential areas, it is not prominently visible and it will not significantly degrade the scenic quality of the existing viewshed. Section 5.13 contains a detailed discussion of the visual resources assessment.

1.5.5 Water Resources

The water to be used for inlet fogging and as process makeup for the power cycle systems will be supplied by the Sweetwater Authority and treated onsite. Total water use would be about 116 gallons per minute (gpm) (average daily use), or about 4.2 million gallons per year (12.0 acre-feet), assuming 600 hours per year of operation, which would be average for this type of peaking plant. Process water discharge will average 0.1 gpm (3,600 gallons per year, average operation of 600 hours per year). Stormwater runoff from the project site during construction and operation will be carefully controlled in accordance with an engineered drainage system, oil-water separators, and standard Best Management Practices. The project would not have an adverse effect on the availability or quality of water resources. Section 5.15 contains a detailed analysis of water resources.

1.6 Key Benefits

1.6.1 Environmental

The CVEUP will use advanced, high-efficiency, combustion turbine technology and SCR to minimize emissions from the facility. Oxides of nitrogen emissions (a precursor to ozone formation) produced by the CVEUP will be at least 90 percent less per megawatt than those produced by many older, existing power plants. In addition to the significant reduction of emissions, the CVEUP operating efficiency will be such that the plant will consume less fuel than older plants of similar size. In addition, the CVEUP will replace the existing Chula Vista Power Plant, which is much less efficient and emits much higher concentrations of air pollutants.

1.6.2 Employment and Economic Benefits

The project will provide for a peak of approximately 160 construction jobs over an 8-month period. In addition to the direct employment benefit, the CVEUP plant will require and use the services of local or regional firms for major maintenance and overhauls, plant supplies, and other support services throughout the life of the facility.

CVEUP is expected to bring increased property tax revenue to the City of Chula Vista. Assuming a capital cost of $80 million, CVEUP will generate about $855,424 in property taxes annually. Since the CVEUP is in a redevelopment area, some or most of the property taxes that are collected will go to the Redevelopment Agency. Based on the community redevelopment assessed values for the Merged Chula Vista Redevelopment Project Area (formerly the Southwest Redevelopment Project), the distribution of the property taxes from the CVEUP would include about $157,800 to the City of Chula Vista and $471,050 to the Redevelopment Agency.

1.6.3 Energy Efficiency

The CVEUP will be an efficient, environmentally responsible source of economic and reliable electrical energy to serve the growing energy demands of Southern California. The project will represent a substantial increase in operating efficiency, compared with the existing plant.

1.7 Community Involvement

MMC has conducted a public outreach program to inform civic leaders and community groups about the project. The following is a list of civic leaders and public officials and community groups who have been briefed about the project.

Public Officials Briefings:

- Congressman Bob Filner, 51st District
- Senator Denise Ducheny, 40th District
- Assemblywoman Mary Salas, 79th District
- Assemblywoman Shirley Horton, 78th District
- Supervisor Greg Cox, County of San Diego
- Councilman Ben Hueso, City of San Diego
- Mayor Cheryl Cox, City of Chula Vista
- Councilman Steve Castaneda, City of Chula Vista
- Councilman John McCann, City of Chula Vista
- Councilman Rudy Ramirez, City of Chula Vista
- Councilman Jerry Rindone, City of Chula Vista
- Doug Paul, Chula Vista Redevelopment Corporation
- Sal Salas, Chula Vista Redevelopment Corporation

Community Organization Meeting Presentations:

- Crossroads II
- South County EDC

CEO/Executive Director Project Briefings:

- Chula Vista Chamber of Commerce
- Chula Vista Redevelopment Advisory Committee
- Environmental Health Coalition
- Northwest Civic Association
- Otay Valley Regional Park Task Force
- Pacific Southwest Association of Realtors
- South Bay Forum
- Southwest Civic Association
- Third Avenue Business Association

1.8 Persons Who Prepared the AFC

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

1.9 References

California Energy Commission (CEC), 2006. Errata to the Presiding Member's Proposed Decision, Application for Certification for the Pastoria Energy Facility 160 MW Expansion (05-AFC-1). November 16