



# 600-MW Morro Bay Battery Energy Storage System Project

## Historical Resource Evaluation

*prepared for*

**City of Morro Bay**  
Department of Community Development  
595 Harbor Street  
Morro Bay, California 93442

*prepared by*

**Rincon Consultants, Inc.**  
1530 Monterey Street, Suite D  
San Luis Obispo, California 93401

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**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

[rinconconsultants.com](http://rinconconsultants.com)

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Williams, James, JulieAnn Murphy, Steven Treffers, and Shannon Carmack

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# Executive Summary

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The City of Morro Bay (City) retained Rincon Consultants Inc. (Rincon) to conduct a Historical Resources Evaluation (HRE) for the 600-MW Morro Bay Battery Energy Storage System Project in Morro Bay, San Luis Obispo County, California. Totalling approximately 95 acres, the Power Plant property encompasses two Assessor's Parcel Numbers (APNs) on the north and south of side of Embarcadero Road (APN 066-331-046 and 066-461-016). The project involves three components: (1) construction and operation of a 600 megawatt (MW) Battery Energy Storage System (BESS) on a 24-acre portion of the Project Site, (2) demolition and removal of the existing power plant building and stacks, and (3) adoption of a Master Plan that would change the land use designation of the BESS Site from Visitor Serving Commercial to General (Light) Industrial. The project is subject to the California Environmental Quality Act (CEQA). The City of Morro Bay is the lead agency under CEQA.

This assessment included a pedestrian survey of the Power Plant property, background and archival research, and the preparation of this report to summarize the results of these activities. The built environment survey identified one built environment resource on the Power Plant property that is more than 45 years old– the Morro Bay Power Plant. The Morro Bay Power Plant proper is located entirely within the Project Site. The Power Plant property includes the cooling water intake greenhouse across Embarcadero. Additionally, there is an associated electrical switchyard located on the parcel immediately adjacent to the east (APN 066-331-036) and a cooling water discharge structure on unparcelled land owned by the City of Morro Bay on Morro Bay Beach that were included in the survey for their historic association with the Power Plant, though both features are outside the Power Plant property. The Power Plant property, switchyard, and cooling water discharge structure are referred to collectively as the "Study Area" in this report.

The Morro Bay Power Plant was recorded and evaluated for listing in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). It was recommended eligible for the NRHP and CRHR and local designation and is a historical resource pursuant to CEQA. Therefore, the demolition of the power plant building and stacks would result in a substantial adverse change to a historical resource. As a result, the following mitigation measures have been recommended: Building Recordation and Interpretive Display. No other feasible mitigation measures are available to further reduce the impact. Though the proposed mitigation measures described above would reduce the impacts of the proposed demolition of the Morro Bay Power Plant building and boiler stacks to the extent feasible, the impact would remain significant and unavoidable.

# 1 Introduction

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This Historical Resources Evaluation (HRE) documents the results of the study and tasks conducted by Rincon, which included background and archival research as well as a field survey of the Study Area and associated properties and structures. This study does not address the potential for the project to impact archaeological resources, which has been reviewed in a separate study prepared by Padre Associates, Inc. in July 2021. This study has been completed pursuant to the requirements of the California Environmental Quality Act (CEQA) related to the evaluation of historical resources. The City is the lead agency under CEQA.

## 1.1 Project Site

The 43-acre Project Site is located on a portion of the 95-acre Morro Bay Power Plant property (Power Plant property) (Assessor's Parcel Numbers [APNs] 066-331-046 and 066-461-016) at 1290 Embarcadero south of State Route 1 (SR 1)/Cabrillo Highway and north of Embarcadero in the City of Morro Bay (Figure 1). Specifically, the project encompasses portions of Section(s) 25 of Township 29 South, Range 10 East on the *Morro Bay South, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 2).

The Morro Bay Power Plant began operating in 1955, but has been idle since its retirement in 2014. The Power Plant property currently contains the idled power plant building and smokestacks (stacks), Lila Keiser Park, and facilities operated by Pacific Wildlife Care and Marine Mammal Center. The Power Plant property is surrounded by Pacific Gas and Electric (PG&E) property (switchyards) and State Route 1 (SR 1) to the northeast; the Embarcadero, commercial uses and a marina to the southwest; Morro Creek, a recreational vehicle (RV) park, and temporary lodging facilities (hotel and motel) to the north; and Coleman Park, the Morro Bay harbor walk, and dune habitat associated with Morro Rock beach to the west.

The site of the proposed project (Project Site) covers approximately 43 acres of the 95-acre Power Plant property.<sup>1</sup> The Project Site includes approximately 24 acres located immediately north of the inactive power plant building in the northwestern portion of the property. This area is currently vacant but was previously developed with above-ground fuel oil storage tanks. In addition, the Project Site includes approximately 19 acres in the southwestern area of the site that includes the inactive power plant building and three (3) inactive stacks immediately southwest of the power plant building. The Project Site also includes the approximately 2.75-acre driveway that connects the power plant building to Quintana Road.

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<sup>1</sup> Following are definitions for several key terms used in this Project Description:

**Power Plant Property** refers to the approximately 95-acre Morro Bay Power Plant property. Refer to Figure 2.

**Project Site** refers to the portions of the Power Plant property that would be used for the proposed project. The Project Site covers approximately 43 acres of the 95-acre Power Plant property. Refer to Figure 2.

**BESS Site** refers to the portions of the Project Site used for construction and operation of the Battery Energy Storage System (BESS) and supporting facilities such as Gen-tie lines and access roads. The BESS Site includes approximately 24 acres of the 43-acre Project Site. Refer to Figure 3.

**Demolition Site** refers to the portions of the Project Site used for remediation and demolition of the idled power plant building and stacks. The Demolition Site includes the remaining 19 acres of the 43-acre Project Site. Refer to Figure 4.

Figure 1 Regional Location



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★ Project Location

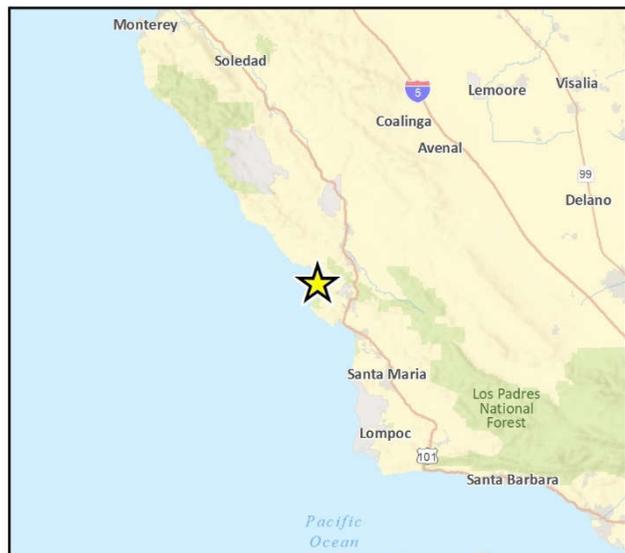


Fig 2-1 Regional Location

Figure 2 Parcel and Project Site Location



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Additional data provided by Vistra, 2022.

Fig. 2 Parcel and Project Site Location

## 1.2 Project Description

The following project description has been adapted from information provided by the City of Morro Bay. The proposed project has three components: (1) construction and operation of a 600-MW Battery Energy Storage System (BESS), (2) demolition and removal of the existing power plant building and stacks, and (3) adoption of a Master Plan that would change the land use designation of the BESS Site from Visitor Serving Commercial to General (Light) Industrial.

### 1.2.1 Construction and Operation of the BESS

Of the 43 acres included in the Project Site, approximately 24 acres (BESS Site) would be used for construction and operation of the BESS. The BESS would provide power to utility customers by interconnecting to the existing PG&E switchyard located east of the Power Plant property and Project Site. The BESS would operate year-round to store and discharge electricity to support demand on the power grid and improve grid reliability.

The proposed BESS includes three enclosed buildings with fire protection systems to house the batteries. Each building would contain approximately 2,400 battery racks and be surrounded by approximately 60 Power Conversion Systems (PCSs) composed of inverters and transformers to convert the direct current to alternating current. The PCSs would be located on concrete pads outside the buildings. The BESS would also include three substations with transformers, a transmission line (Gen-tie) connecting to the existing deadend structures on the southwestern side of the existing PG&E switchyard (the final structures before the connection with the substation), water supply system improvements, and internal access roads. The battery energy storage, PCSs, and substation components are each further described below. Figure 3 presents the proposed locations of these facilities on the approximately 24-acre BESS Site.

#### **Battery Energy Storage**

The BESS would be installed in three (3) two-story buildings. Each building would be approximately 350 feet by 260 feet, for a total building area of 91,000 square feet (sf). The buildings would be 30 feet in height. Additional equipment installed on the roof of the buildings may extend up to an additional 2-6 feet in height; this equipment would be screened from views using either mesh or slatted screens. The building exteriors would be steel frame with pre-cast concrete sides. Heating, ventilation, and air conditioning (HVAC) units would be either side- or roof-mounted.

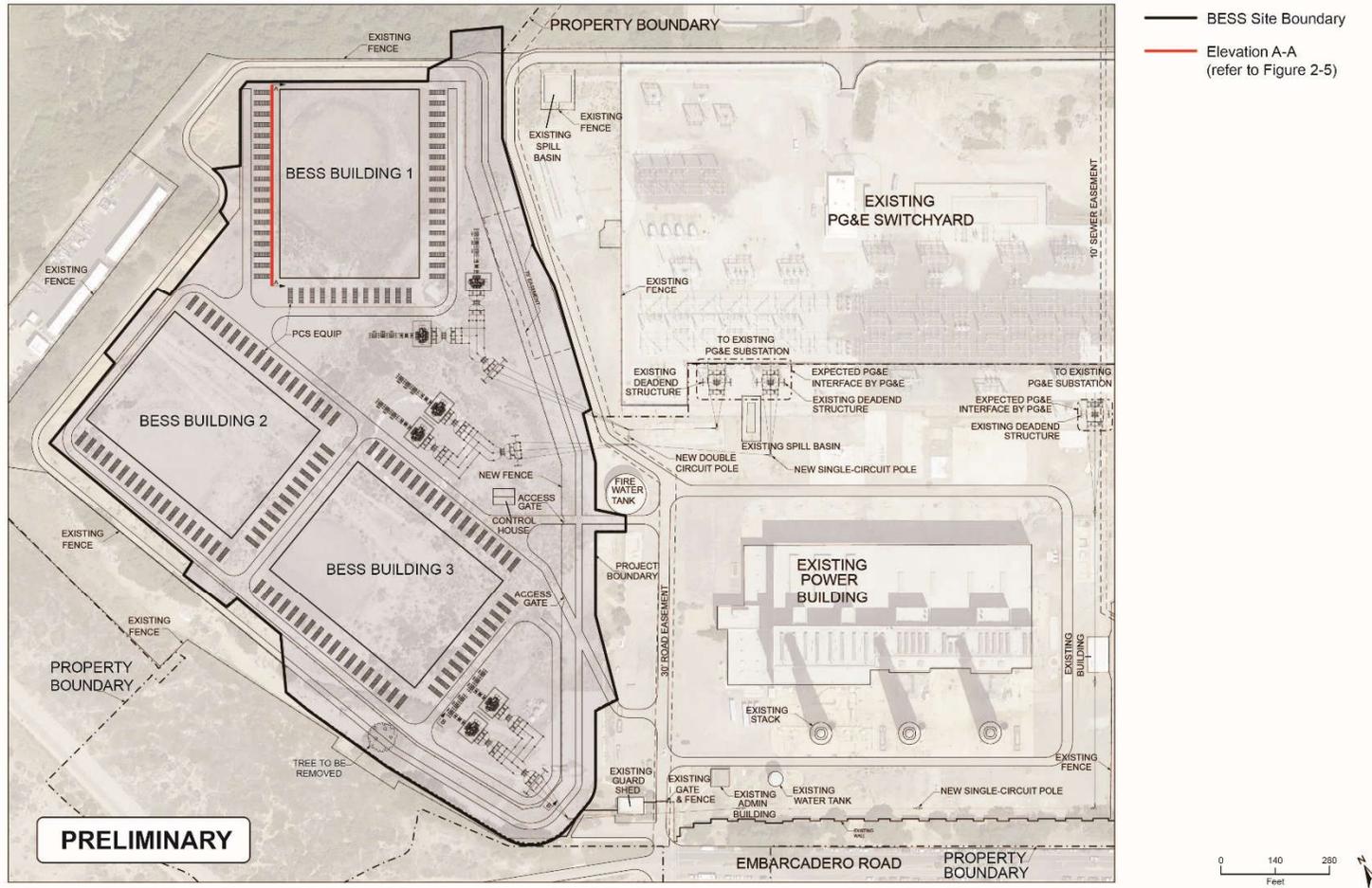
#### **Power Conversion Systems**

The PCSs would be located adjacent to each building and installed on the pavement or gravel pads. Underground conduits buried three to five feet in depth would connect the PCSs to the batteries in the buildings. Each building would be surrounded by approximately 60 PCS units. Each PCS would be approximately 10 feet by 30 feet, with a height of approximately 15 feet.

#### **Substations**

The BESS would include three substations located outside the buildings. Each BESS substation would have a transmission Gen-tie line to connect to the existing PG&E substation. The dimensions of each substation would be approximately 218 feet by 228 feet and approximately 30 feet tall. Drilled pilings to a maximum depth of 75 feet would be used to support the concrete pad for the

**Figure 3 Proposed BESS Location**



transformers. One control house would be required for the three substations. The control house would be 30 feet by 40 feet in area for a total area of 1,200 square feet, and 15 feet in height.

### **Connection to the PG&E Switchyard**

The three proposed substations would connect to the existing, adjacent PG&E switchyard. Approximately nine new transmission line poles (one 230-kilovolt [kV] double circuit transmission line pole and eight 230-kV single circuit transmission line poles) with a maximum height of 105 feet would be required for connection to PG&E existing 95-foot dead-end structures (the final structures before the connection with the substation).

### **Operation and Maintenance Building**

The existing administration building located south of the southernmost battery storage building and just inside the Morro Bay Power Plant property front gate along Embarcadero would be retained and renovated and upgraded to serve as the BESS's operation and maintenance (O&M) building. No exterior modifications are planned for this building.

### **Fencing and Landscaping**

The Project will install new fencing, alter existing landscaping, and construct new internal paths and roads. An approximately six-foot-high fence (topped with one-foot of three-strand barbed wire) would surround the area containing the buildings, PCSs, and substations, including the substation control house. Security cameras would be located at key locations. Six Monterey Cypress trees would be removed for access west of proposed southernmost building and associated substation. The trees would be replaced per the City's code. The replaced trees, in addition to trees located outside of the BESS Site but on the Power Plant property, would provide visual screening. The open areas surrounding the buildings would include access roads and paths. All other surfaces would be rock.

### **Off-Site Frontage and Infrastructure Improvements**

As part of the proposed project, frontage improvements would include a 10-foot sidewalk or 12-foot multi-use path, storm drainage, and street trees along the Project Site frontage with Embarcadero pursuant to the Morro Bay Public Works Department requirements. Any work within the City right-of-way (ROW) would comply with the requirements of the City's encroachment permit.

## **1.2.2 Demolition and Remediation of Existing Power Plant Building and Stacks**

Prior to the demolition of the existing power plant building and stacks, environmental remediation would occur. Significant environmental remediation was completed at the time the Power Plant closed in February 2014. This included the removal of all oils and flammable materials. The equipment housed inside the Morro Bay Power Plant structure still contains some regulated materials such as mercury switches, lighting devices, and asbestos. Prior to commencement of structural demolition, all remaining regulated materials would be removed and disposed of off-site in compliance with California and federal regulations.

Following construction of the BESS, the existing power plant building and stacks would be remediated and demolished. Remediation and demolition would commence within six months of

completion of the BESS. Of the 43 acres included in the Project Site, approximately 19 acres (Demolition Site) would be used for remediation and demolition of the power plant building and stacks. Figure 4 shows the approximate limits of the demolition activities. Environmental remediation and demolition would include the removal of equipment, removal of remaining regulated materials, dismantling of plant facilities and infrastructure, salvage and recycling of remaining equipment, waste management transport and disposal and backfill of below grade voids. Remediation and demolition are anticipated to take up to two years to complete.

Most of the outbuildings and transformers at the Power Plant property were removed in 2014. Several transformers and circuit breakers remain on the Power Plant property and are planned to be removed under a separate minor amendment application filed by the property owner. A detached garage and water tank near the main plant entrance would also be demolished. This work would be accomplished using cranes, torches, and shearing machines. All materials would be hauled to a qualified recycler or disposal facility.

### 1.2.3 Master Plan for Redevelopment of the Power Plant Property

The proposed project also includes a Master Plan that would amend the General Plan and Local Coastal Program Land Use Plan land use designation on the BESS Site from Visitor Serving Commercial to General (Light) Industrial. The proposed Master Plan would not modify the existing land use designation on the remainder of the Power Plant property, retaining the Visitor Serving Commercial designation and Mixed-Use Residential Overlay recently implemented through Plan Morro Bay.

## 1.3 Personnel

Architectural Historian JulieAnn Murphy, MSHP, performed day-to-day project management and co-authored this report. Architectural Historian James Williams, MA, conducted archival and background research, conducted the built environment field survey, and served as primary author of this report. Rincon Senior Architectural Historian Steven Treffers, MHP, provided management oversight for this historical resource evaluation. Geographic Information Systems Analyst Allysen Valencia prepared the figures found in this report. Principal Shannon Carmack reviewed this report for quality control. Mr. Treffers, Ms. Murphy, Mr. Williams, and Ms. Carmack meet the Secretary of the Interior's Professional Qualifications Standards for history and architectural history (36 CFR Part 61).

Figure 4 Proposed Demolition Area



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19-08915 MB, MB BESS EIR  
Fig 2-8 Demolition Area

## 2 Regulatory Setting

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This section includes a discussion of the applicable state and local laws, ordinances, regulations, and standards governing cultural resources, which must be adhered to before and during implementation of the project.

### 2.1 California Environmental Quality Act

California Public Resources Code (PRC) Section 21804.1 requires lead agencies determine if a project could have a significant impact on historical or unique archaeological resources. As defined in PRC Section 21084.1, a historical resource is a resource listed in, or determined eligible for listing in, the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources or identified in a historical resources survey pursuant to PRC Section 5024.1(g), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. PRC Section 21084.1 also states resources meeting the above criteria are presumed to be historically or cultural significant unless the preponderance of evidence demonstrates otherwise. Resources listed in the National Register of Historic Places (NRHP) are automatically listed in the CRHR and are, therefore, historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of the precontact or historic periods.

CEQA Guidelines Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify as a historical resource, it may meet the definition of a “unique archaeological resource” as identified in PRC Section 21083.2. PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: 1) it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information, 2) has a special and particular quality such as being the oldest of its type or the best available example of its type, or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological resource does not qualify as a historical or unique archaeological resource, the impacts of a project on those resources will be less than significant and need not be considered further (CEQA Guidelines Section 15064.5[c][4]). CEQA Guidelines Section 15064.5 also provides guidance for addressing the potential presence of human remains, including those discovered during the implementation of a project.

According to CEQA, an impact that results in a substantial adverse change in the significance of a historical resource is considered a significant impact on the environment. A substantial adverse change could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (CEQA Guidelines Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register (CEQA Guidelines Section 15064.5[b][2][A]).

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a][b]).

Section 15126.4 of the CEQA Guidelines stipulates an EIR shall describe feasible measures to minimize significant adverse impacts. In addition to being fully enforceable, mitigation measures must be completed within a defined time period and be roughly proportional to the impacts of the project. Generally, a project which is found to comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (the Standards) is considered to be mitigated below a level of significance (CEQA Guidelines Section 15126.4 [b][1]). For historical resources of an archaeological nature, lead agencies should also seek to avoid damaging effects where feasible. Preservation in place is the preferred manner to mitigate impacts to archaeological sites; however, data recovery through excavation may be the only option in certain instances (CEQA Guidelines Section 15126.4[b][3]).

### 2.1.1 National Register of Historic Places

Although the project does not have a federal nexus, properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is therefore presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation's official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American, state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

- Criterion A:** Is associated with events that have made a significant contribution to the broad patterns of our history
- Criterion B:** Is associated with the lives of persons significant in our past
- Criterion C:** Embodies the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- Criterion D:** Has yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined as follows:

- Location:** The place where the historic property was constructed or the place where the historic event occurred
- Design:** The combination of elements that create the form, plan, space, structure, and style of a property
- Setting:** The physical environment of a historic property

- Materials:** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property
- Workmanship:** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory
- Feeling:** A property's expression of the aesthetic or historic sense of a particular period of time
- Association:** The direct link between an important historic event or person and a historic property

Certain properties are generally considered ineligible for listing in the NRHP, including cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions, relocated structures, or commemorative properties. Additionally, a property must be at least 50 years of age to be eligible for listing in the NRHP. The National Park Service states that 50 years is the general estimate of the time needed to develop the necessary historical perspective to evaluate significance (National Park Service 1997:41). Properties which are less than 50 years must be determined to have "exceptional importance" to be considered eligible for NRHP listing.

## 2.1.2 California Register of Historical Resources

The CRHR was established in 1992 and codified by PRC Sections 5024.1 and 4852. The CRHR is an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (Public Resources Code, 5024.1(a)). The criteria for eligibility for the CRHR are consistent with the NRHP criteria but have been modified for state use in order to include a range of historical resources that better reflect the history of California (Public Resources Code, 5024.1(b)). Unlike the NRHP however, the CRHR does not have a defined age threshold for eligibility; rather, a resource may be eligible for the CRHR if it can be demonstrated sufficient time has passed to understand its historical or architectural significance (California Office of Historic Preservation 2006). Furthermore, resources may still be eligible for listing in the CRHR even if they do not retain sufficient integrity for NRHP eligibility (California Office of Historic Preservation 2006). Generally, the California Office of Historic Preservation recommends resources over 45 years of age be recorded and evaluated for historical resources eligibility (California Office of Historic Preservation 1995:2).

A property is eligible for listing in the CRHR if it meets one of more of the following criteria:

- Criterion 1:** Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- Criterion 2:** Is associated with the lives of persons important to our past
- Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- Criterion 4:** Has yielded, or may be likely to yield, information important in prehistory or history

## 2.2 Local Regulations

### 2.2.1 City of Morro Bay General Plan

Although the City of Morro does not have a historic preservation ordinance with criteria for local designation, the General Plan/Local Coastal Program Coastal Land Use Plan, which was adopted in 2021, includes goals, policies, and implementing actions relating to cultural resources (City of Morro Bay 2021). These include:

#### Goals

Goal C-2 – Cultural and historic resources are identified for protection and showcased as a vital part of Morro Bay history.

#### Policies

- C-2.1 Historic and Cultural Resources Strategy. Develop a plan to address historic and cultural resource issues in Morro Bay, which may include conducting and updating inventories, exploring certification options, and developing context statements. POLICY
- C-2.2 Interagency Cooperation. Work with the Historical Society of Morro Bay and other local groups on historic preservation objectives.
- C-2.3 Protection of Cultural Resources. Ensure the protection of historic, cultural, and archaeological resources during development, construction, and other similar activities. Development shall avoid, to the maximum extent feasible, adversely impacting historic, cultural, and/or archaeological resources, and shall include adequate BMPs to address any such resources that may be identified during construction, including avoidance, minimization, and mitigation measures sufficient to allow documentation, preservation, and other forms of mitigation. If the resource(s) in question are of Native American origin, develop avoidance or minimization measures in consultation with appropriate Native American tribe(s).
- C-2.4 Cultural Resources Overlay. Develop a cultural resources overlay to protect cultural, archaeological, and paleontological resources in Morro Bay.

#### Implementing Actions

- C-1 Become a Certified Local Government (CLG) by developing a historic preservation ordinance, establishing a historic preservation committee, and maintaining a system to regularly update cultural resources.
- C-2 Conduct inventories of historic and cultural resources in Morro Bay. Update these inventories as needed to ensure up-to-date information.
- C-3 Establish a local register that mimics requirements of the California Register of Historic Resources and the National Register of Historic Places, but focuses on locally important historic themes, such as Morro Bay's legacy as a fishing village.
- C-4 Identify historical themes and develop a historic context statement that is used to identify significant historical themes within a community that are often represented in the built environment, such as houses and infrastructure.

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- C-5        Require all discretionary proposals within the cultural resources overlay to consider the potential to disturb cultural resources. If preliminary reconnaissance suggests that cultural resources may exist, a Phase I cultural resources study shall be performed by a qualified professional meeting the Secretary of the Interior's Professional Qualification Standard for archaeology and/or architectural history, as appropriate. A Phase I cultural resources study shall include a pedestrian survey of the project site and sufficient background research and field sampling to determine whether subsurface prehistoric or historic remains may be present. Archival research should include a records search at the Central Coast Information Center and a Sacred Lands File search with the Native American Heritage Commission. Where identified or potential resources are of Native American origin, the appropriate Native American tribe(s) will participate with the qualified professional. The technical report documenting the study shall include recommendations to avoid or, if avoidance is not feasible, reduce impacts to cultural resources.

## 3 Cultural Setting

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This section provides background information pertaining to the cultural context of the project site. Specifically, it provides an overview of regional post-contact history. This background information describes the distribution and type of cultural resources documented within the vicinity of the project site to inform the cultural resources assessment and the context within which resources have been evaluated.

### 3.1 Historic Setting

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican-American War, signals the beginning of the American Period when California became a territory of the United States.

#### 3.1.1 Spanish Period (1769-1822)

Spanish explorers made sailing expeditions along the coast of California between the mid-1500s and mid-1700s. Juan Rodríguez Cabrillo in 1542 led the first European expedition to observe what was known by the Spanish as Alta (upper) California. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). The Spanish crown laid claim to Alta California based on the surveys conducted by Cabrillo and Vizcaíno (Bancroft 1885; Gumprecht 1999). Cabrillo sighted Morro Rock during his expedition, and the feature remained a landmark used by navigators for centuries to come (Hoover et al. 2002).

By the 18th century, Spain developed a three-pronged approach to secure its hold on the territory and counter against other foreign explorers. The Spanish established military forts known as presidios, as well as missions and pueblos (towns) throughout Alta California. The 1769 overland expedition by Captain Gaspár de Portolá marks the beginning of California's Historic period, occurring just after the King of Spain installed the Franciscan Order to direct religious and colonization matters in assigned territories of the Americas. Portolá established the Presidio of San Diego as the first Spanish settlement in Alta California in 1769. His expedition passed through what is now Morro Bay, naming both Morro Rock and nearby Canada de los Osos (Graffy 2010; Hoover et al. 2002). Franciscan Father Junípero Serra also founded Mission San Diego de Alcalá that same year in 1769, the first of the 21 missions that would be established in Alta California by the Spanish and the Franciscan Order between 1769 and 1823 (Graffy 2010). In 1772, Serra established Mission San Luis Obispo de Tolosa in present-day San Luis Obispo, approximately 12 miles southeast of Morro Bay.

The mission and presidio relied on Chumash labor; eventually, the majority of the native population lived at the mission complex (Cole 1999). Construction of missions and associated presidios was a major emphasis during the Spanish Period in California to integrate the Native American population

into Christianity and communal enterprise. Incentives were also provided to bring settlers to pueblos or towns; just three pueblos were established during the Spanish Period, only two of which were successful and remain as California cities (San José and Los Angeles).

Spain began making land grants in 1784, typically to retiring soldiers, although the grantees were only permitted to inhabit and work the land. The land titles technically remained property of the Spanish king (Livingston 1914).

### 3.1.2 Mexican Period (1822-1848)

Several factors kept growth within Alta California to a minimum, including the threat of foreign invasion, political dissatisfaction, and unrest among the indigenous population. After more than a decade of intermittent rebellion and warfare, New Spain won independence from Spain in 1821. In 1822, the Mexican legislative body in California ended isolationist policies designed to protect the Spanish monopoly on trade, and decreed California ports open to foreign merchants (Gutierrez and Orsi 1998).

Extensive land grants were established in the interior during the Mexican Period, in part to increase the population inland from the more settled coastal areas where the Spanish had first concentrated their colonization efforts. The secularization of the missions following Mexico's independence from Spain resulted in the subdivision of former mission lands and establishment of many additional ranchos. Commonly, former soldiers and well-connected Mexican families were the recipients of these land grants, which now included the title to the land (Graffy 2010). In 1840, the Mexican government granted to settler Vincent Cané (alternatively, Canet) Rancho San Bernardo, a large tract between San Bernardo and Morro creeks, encompassing much of what is now the city of Morro of Bay (Hoover et al. 2002).

During the supremacy of the ranchos (1834–1848), landowners largely focused on the cattle industry and devoted large tracts to grazing. Cattle hides became a primary southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of nonnative inhabitants increased during this period because of the influx of explorers, trappers, and ranchers associated with the land grants. The rising California population contributed to the introduction and rise of diseases foreign to the Native American population, who had no associated immunities.

### 3.1.3 American Period (1848- Present)

The United States went to war with Mexico in 1846. During the first year of the war, John C. Fremont traveled from Monterey to Los Angeles with reinforcements for Commodore Stockton, and evaded Californian soldiers in Santa Barbara's Gaviota Pass by taking the route over the San Marcos grade instead (Kyle 2002). The war ended in 1848 with the Treaty of Guadalupe Hidalgo, ushering California into its American Period.

California officially became a state with the Compromise of 1850, which also designated Utah and New Mexico (with present-day Arizona) as US territories (Waugh 2003). Horticulture and livestock, based primarily on cattle as the currency and staple of the rancho system, continued to dominate the southern California economy through 1850s. The discovery of gold in the northern part of the state led to the Gold Rush beginning in 1848, and with the influx of people seeking gold, cattle were no longer desired mainly for their hides but also as a source of meat and other goods. During the

1850s cattle boom, rancho vaqueros drove large herds from southern to northern California to feed that region's burgeoning mining and commercial boom.

A severe drought in the 1860s decimated cattle herds and drastically affected rancheros' source of income. In addition, property boundaries that were loosely established during the Mexican era led to disputes with new incoming settlers, problems with squatters, and lawsuits. Rancheros often were encumbered by debt and the cost of legal fees to defend their property. As a result, much of the rancho lands were sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944).

### 3.1.4 Local History

Early American-period development of what is now Morro Bay was principally agricultural. The San Luis Obispo County Board of Supervisors established Morro Township in 1870. That same year, Franklin Riley constructed the settlement's embarcadero along the shore of Morro Bay. Riley's dock primarily served dairy farmers shipping their produce to market (Historical Society of Morro Bay [HSMB] 2022; Rossell and Peterson 2001). Alongside shipping and agriculture, fishing emerged as an important facet of the local economy. A post office was soon established, with Ezra Stocking appointed as its first postmaster. Stocking and his brother, J.C. Stocking, soon founded the community's first general store. Morro Bay's population grew to around 250 by 1874, and the following year developer C.H. Phillips subdivided the nearby Rancho Morro y Cayucos for residential uses. By the early 1880s, there were three schools serving the community. In 1889, growth was such that the town of El Moro was platted along the bay (HSMB 2022).

In the early twentieth century, tourism and recreation made up a growing segment of the local economy. Construction of the state highway through the region began in 1920, improving access to the region. Five years later, the E.G. Lewis Company built the Morro Beach Inn, a no-longer-extant hotel also known as the Cloisters. In 1928, the first nine holes of what is now Morro Bay Golf Course were completed. In 1934, the state acquired land adjacent to the golf course for development of Morro Bay State Park and Campground, and in 1936, the golf course was redesigned as a project of the Works Project Administration (HSMB 2022).

Other public works of the Great Depression and World War II were more prosaic. In 1933, the WPA filled the north channel of the bay and constructed a causeway between the waterfront and Morro Rock using materials excavated from the east face of the rock. Improvements to the causeway completed in the 1940s, resulted in the existing pedestrian and vehicle access route. In the early years of World War II, the United States Navy Twelfth District developed lands along the bayfront, including the site of Morro Bay Power Plant, as an Inshore Patrol Base for training related to amphibious operations. While the installation is no longer present, existing improvements to the bay, including the T-Pier and a portion of the north breakwater, remain as testament to the scale of the Navy's short-lived involvement in Morro Bay (HSMB 2022; Rossell and Peterson 2001).

In the years following World War II, Morro Bay grew significantly, supported by an expanding tourist economy. As recorded in the 1950 census, 200 of the 800 residences south of Morro Bay Boulevard were vacation homes with no permanent residents. In spite of this, the community grew quickly in the 1950s, fueled by land sales in new subdivisions, such as Serrano Heights. Between 1950 and 1960, Morro Bay's population more than doubled from 1,700 to 3,700. In a sign of the importance of tourism to the town, local leaders stopped a proposal to develop a six-acre lumber yard on the embarcadero. Instead, locals preferred the area to be reserved for tourism-related uses. Morro Bay voters approved incorporation in 1964 (HSMB 2022).

Morro Bay's growth slowed after the 1960s but reached a population of about 10,000 in 2000. Tourism and commercial fishing remain anchors of the local economy.

### 3.1.5 Thermolectric Generation in California

In the 1920s, technical breakthroughs related to the production of wet gas allowed for the development of California's first thermolectric, or steam power, electric generating plants. In the early twentieth century, wet gas, a byproduct of oil production, was first recognized as a fuel and was used in Southern California electricity generation. In 1927, Southern California Edison opened the state's first high-pressure, high-temperature turbine plant in Long Beach. Additional new plants were soon completed, included two Pacific Gas & Electric (PG&E) constructed in San Francisco in 1930. In all, between 1924 and 1930, the steam power output of California plants increased by 145 percent from 407,000 kW to more than 1 million kW. Before the end of the 1930s, PG&E had constructed three additional steam plants in the San Francisco Bay Area.

Despite this rapid expansion in thermolectric capacity, California's use of steam power remained low relative to much of the rest of the United States until the period immediately following World War II. Through the war's end, as much as 90 percent of electricity consumed in the state was generated by hydroelectric plants. California's relatively high reliance on hydroelectric production was due primarily to constraints on access to suitable fuels for steam generation; specifically, shipping coal to the state was too expensive, and the local oil industry was not sufficiently established to support widespread use of steam plants. By the 1940s, however, multiple factors converged to convince utilities of the growing practicality and profitability of steam power. A major issue favoring steam power was that the reliability of hydroelectric power was undermined by a series of pronounced droughts which reduced hydroelectric capacity. This compounded the more general inherent complications of hydroelectric generation, namely, the cost of design and construction, difficulty of navigating legal issues pertaining to land and water rights, and the considerable expense of operating and maintaining the plants. Further, just as the limitations and obstacles associated with hydroelectric power were becoming more evident, the state faced increased power needs associated with the production World War II-era war material. These factors and the fact that steam plants could be built near population centers ultimately tipped the balance in favor of steam power just as the state reached an era of pronounced expansion and unprecedented prosperity.

Following World War II, new steam plant development increased dramatically to meet the needs of the booming postwar economy. By 1945, 50 percent of all power generated in the United States was reliant on steam turbines. For the next 25 years, the construction of steam plants accelerated, especially in the western United States. By the early 1960s, steam power, whether fired by oil or gas, accounted for 73 percent of all electricity produced in the California, up from 15 percent in 1945. The output of individual plants also increased. Whereas a typical large plant at the turn of the century might have a capacity of 55 MW, the larger plants of the mid-1960s peaked at a capacity around 1,000 MW. In addition to gains due to scale, technological advancements introduced between 1950 and 1970, including developments in the design of boilers, boiler feed pumps, turbines, generators, condensers, automatic controls, fuel handling systems, and features regulating operating temperatures and pressures, led to new efficiencies in electrical generation.

The rate of improvement to steam power generation peaked around the 1970s. Gains slowed, in part, because "fundamental thresholds for further efficiency could not be crossed" with available technologies and materials. However, social and political factors also contributed. Just as the energy

industry found itself unable to continue to deliver electricity at the low prices to which ratepayers had grown accustomed, factors such as the 1970s oil embargo, fluctuations in financial markets, high rates of inflation, and increasingly restrictive environmental and market regulations added a new set of hurdles to utilities (Rossell and Peterson 2001).

## 4 Methods

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This section presents the methods for each task completed during the preparation of this study.

### 4.1 Background and Archival Research

Rincon completed background and archival research in support of this study throughout May through July 2022. A variety of primary and secondary source materials were consulted. Sources included, but were not limited to, historical maps, aerial photographs, and written histories of the area. The following sources were utilized to develop an understanding of the project site and its context:

- San Luis Obispo County Assessor's Office
- Historical aerial photographs accessed via NETR Online
- Historical aerial photographs accessed via University of California, Santa Barbara Library FrameFinder
- Historical U.S. Geological Survey topographic maps
- *Morro Bay Power Plant Project Historic Property Evaluation* (Rossell and Peterson 2001)
- Historical newspaper clippings obtained from Newspapers.com, ProQuest Historical Newspapers.com, and the California Digital Newspaper Collection
- Other sources as cited in Section 7 *References*

### 4.2 Field Survey

Architectural Historian James Williams conducted a built environment survey of the Power Plant property, comprised of the 95-acre Morro Bay Power Plant property, on June 9, 2022. In addition to the Power Plant property, field work also included visual observation of an electrical switchyard located on the parcel immediately adjacent to the east (APN 066-331-036) and a cooling water discharge structure on unparcelled land on Morro Bay Beach, both of which are outside the boundary of the Power Plant property and the proposed Project Site, but which were historically associated with the development and operation of the Morro Bay Power Plant, all of which make up the "Study Area" described in this report. The built environment resources within the Study Area, including component buildings, structures, and landscape elements, were visually inspected. Pursuant to California Office of Historic Preservation (OHP) Guidelines (California OHP 1995:2), because the property is over 45 years of age, it was evaluated for inclusion in the NRHP and CRHR and recorded on California Department of Parks (DPR) 523 series forms. Overall condition and integrity of the resource was documented and assessed. Site characteristics and conditions were documented using notes and digital photographs which are maintained at the Rincon San Luis Obispo office.

## 5 Findings

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### 5.1 Previous Historical Documentation

The Morro Bay Power Plant was recorded as part of the Historic American Engineering Record (HAER). The HAER includes architectural and engineering plans, but did not include an evaluation of the Morro Bay Power Plant for its potential eligibility for listing as a historical resource (CalPoly Kennedy Library HAER CA-358).

In June 2001, a Historic Property Evaluation was completed by E.G. Rossell and Kirk Peterson for Duke Energy North America, who owned and operated the site at that time. That evaluation found that the Power Plant was eligible for listing in the NRHP and the CRHR under Criterion C/3 for its innovative engineering design and architecture. That evaluation also found that it was eligible for listing under NRHP Criterion G and CRHR's special consideration for historic resources achieving significance within the past 50 years, since the property had not reached the 50-year threshold at the time of evaluation.

In March 2022, Archaeological Research prepared an addendum to a 1999 Cultural Resources Evaluation. That addendum concluded that no structures existed within the Morro Bay Power Plant area prior to the construction of the existing plant, but did not include a detailed description or evaluation of the Power Plant for its potential eligibility for listing as a historical resource.

### 5.2 Aerial Imagery and Historical Topographic Maps Review

Rincon completed a review of historical topographic maps and aerial imagery to ascertain the development history of the project site. Historical topographic maps from 1897 to 1930 depict the project site as undeveloped near what was, by 1930, the northwest edge of development in Morro Bay (NETR Online 2022; USGS 2022). The 1937 and 1943 edition of *Cayucos, California* USGS map shows the Project Site was undeveloped, but at least one building and a dirt road on the northern part of the Power Plant property. The oldest available aerial photograph, taken in 1943, shows the Power Plant property occupied by buildings and other development presumed to have been associated with the U.S. Navy Inshore Patrol Base. Buildings are grouped in two small clusters along a simple internal road system, while what appears to be an above-ground tank is located west of the present site of the existing power plant building (UCSB 1949). By the time the next available photograph was taken in 1956, the west portions of the Power Plant and switchyard, in addition to a no-longer extant tank farm, were constructed on the former sites of several buildings depicted in the 1949 photograph. Four buildings depicted in the 1949 photograph remain on the east side of the property. By 1963, the power plant and switchyard were expanded to the east and no buildings evident in the 1949 photograph remained on the property (NETR Online 2022). Around this time construction had begun on a fifth tank east of the original tank farm. The fifth tank was complete by 1972, when the next available photograph was taken. That same photograph shows some development in what is now Lila Keiser Park, at the north end of the Power Plant property (UCSB 1972). However, a comparison of photographs shows the park was not completed until sometime between 1972 and 1982. Aside from the addition of minor structures and outbuildings, development on the Power Plant property remained essentially unchanged until sometime between

2010 and 2012, when the tanks making up the tank farm were demolished. Imagery from 2018 depicts the Project Site in its current condition (UCSB 1972; NETR Online 2022).

## 5.3 Survey Results

### 5.3.1 Built Environment Resources

The following section summarizes the results of all background research and fieldwork as they pertain to built environment resources that may qualify as historical resources. The field work and background research resulted in the identification of one historic-age property on the Power Plant property, Morro Bay Power Plant at 1290 Embarcadero (APN 066-331-046). The Power Plant property is located entirely within the Project Site; however, the functionally-related cooling water intake greenhouse is on a parcel directly south across Embarcadero (APN 066-461-016). Both the Power Plant and cooling water intake greenhouse are on the Power Plant property. Additionally, there is an associated electrical switchyard located on the parcel immediately adjacent to the east (APN 066-331-036) and a cooling water discharge structure on unparcelled land on Morro Bay Beach that were included in the survey due to their historic association with the Morro Bay Power Plant, though both features are outside the Power Plant property and under separate ownership, they are included as part of the Study Area. There are also three facilities unrelated to the Power Plant that are on the Power Plant property: Lila Keiser Park and a Morro Bay Harbor facility at the northern end and a wildlife care center just east of the generating plant. Two features of the Power Plant, the marine fueling facility with associated subterranean and remnant underwater pipelines and an off-site tank farm, were not observed or recorded as part of this study. The Study Area, which is comprised of the Power Plant property, the electrical switchyard, and a cooling water discharge, was recorded and evaluated for historical resources eligibility on DPR series forms, which are included in Appendix A and summarized below.

### **Morro Bay Power Plant**

#### *Physical Description*

The Study Area, which is comprised of the Power Plant property, the electrical switchyard, and a cooling water discharge, measure over 100 acres altogether. The Power Plant property (APNs 066-331-046 and 066-461-016) and substation parcel (APN 066-331-036) are adjacent to one another and by far make up the majority of the Study Area. This section of the Study Area is bounded on the south and west by Embarcadero and Scott Street, on the east by Quintana Road and State Route 1, and on the north by Atascadero Road and private property fronting the same street. The intake parcel is discontinuous from the other parcels and is directly across Embarcadero to the south of the Power Plant main gate and fronts Morro Bay Harbor to the south. As noted above, the cooling water discharge structure is located on unparcelled land on Morro Rock Beach. Buildings and structures used historically for the generation and distribution of electricity are clustered in the south and central portions of the Study Area. Areas to the north and southeast, while included within the power plant property, are either undeveloped or developed for public and private institutional uses, including a City of Morro Bay Harbor Department facility, Lila Keiser Park, and the Pacific Wildlife Care Rehabilitation Center.

Three sections of the Power Plant property are undeveloped. Notably, Morro Creek runs in the area roughly between the former tank farm and Lila Keiser Park. In addition, an area on the west side of

the Power Plant property is occupied by sandy terrain, while the area southeast of the generating plant and substation is a lightly wooded hillside.

The existing Power Plant is comprised of several major, intact, character-defining elements including the generating plant building, the office/warehouse/machine shop, the boiler stacks, and the No. 1 firehouse, described in detail below (Figure 5).

## **PRIMARY FEATURES OF MORRO BAY POWER PLANT WITHIN PROJECT SITE BOUNDARY**

### **1. Generating Plant Building**

The generating plant building is a multi-volume steel-framed structure with a flat, stepped roof, rectangular plan, and is clad with large expanses of aluminum siding (Figure 6). The building is organized in three sections from east to west. Organized by function, the bay on the north housed the turbines; the middle bay was the firing bay; and the southern bay housed the boilers.

The building's tallest portion, comprising the south elevation, reaches the equivalent of nine stories and fronts the Embarcadero and Morro Bay. The elevation is largely obscured by the three stacks and is largely devoid of ornamentation or openings with the exception of few vent openings. Ducts project from the elevation to the stacks and there are service bays at-grade between the stacks, providing access within.

The north elevation's first floor has a precast concrete exterior and includes two loading entries and two recessed areas with footings where transformers, since removed, once sat, and extended beyond the building. Similar to the south elevation, the floors above, clad in aluminum siding, are generally devoid of openings and include some small louvered vents at the west end. At the east end and west ends, transformer coils hang from anchors above the area where the transformers once extended. The elevation includes former vent pipes that connect to tanks on concrete footings below. This portion of the building's roofline terminates well below the south elevation and is topped with four penthouse structures that enclosed the boilers within. The two western penthouses are narrow, while the eastern penthouses are wider. The structures have flat roofs and are clad in the same aluminum siding described on other elevations, with decorative seams at each of the building.

The building's east and west elevations are largely identical and comprise the short side of the building. The elevations are clad in the same aluminum siding described above and generally devoid of any openings or ornamentation. The east elevation includes one delivery entry with a roll-up door and one man-door entry. The tallest portion of the elevation, made up of the end of the south elevation, includes a central panel with horizontal aluminum seam details that begin above the first floor level and continue to the roofline. The west elevation is similar except that a portion of the elevation is obscured by the adjacent Office/Warehouse/Machine Shop, described in more detail below.

**Figure 5 Morro Bay Power Plant Property Map**



Imagery provided by Microsoft Bing and its licensors © 2022.

© King of Existing Maps

**Figure 6 Overview of Generating Plant, North and West Elevation, Facing Southeast**

## 2. Office/Warehouse/Machine Shop

The building containing the office, warehouse, and machine shop adjoins the west side of the generating plant but is structurally independent (Figure 7). It is comparatively low in profile, ranging from one to three stories, with a generally horizontal emphasis. In addition to its smaller scale, its Industrial Modernist-style with International design elements differentiates it from the power generating building. The building is organized as three distinct spaces, with the office, warehouse, and machine shop differing somewhat in scale and design. The building has a steel-frame structure, with elements of its structural system visible in the form of vertical I-beams exposed at the base of the office. Facing materials here include corrugated metal panels, terrazzo veneer, and enamel-coated metal panels. Located on the west elevation, the main entrance is on the office's ground level and features recessed, automatically sliding, glazed metal double door (Figure 8). The doorway is flanked by sidelights and topped with a full-width transom light, all fixed metal-sash. The entrance opens to a simple concrete and brick plaza that is lined with low concrete planters and a broad brick platform with a metal flagpole (Figure 9). Additional entrances, accessing the warehouse and office, include solid and glazed metal single and double doors and two warehouse bays with metal roll-up doors. North- and south-facing windows punctuate all three floors and include broad ribbons consisting of large fixed and smaller awning-type sashes. In some locations, the sashes are evidently replacements. A large focal window faces the south, directly above the main entrance.

**Figure 7 Overview of Office/Warehouse/Machine Shop, South and West Elevations, Facing Northeast**



**Figure 8 Main Entrance to Office, West Elevation, Facing East**



**Figure 9 Office Plaza, Facing Northeast**

### 3. Boiler Stacks

Three reinforced-concrete boiler stacks are placed at even intervals in front (south) of the power plant building (Figure 10). When the Power Plant was in operation, the stacks expelled flue gas produced by the burning of fuel. The westernmost stack dates the Power Plant's original construction and historically served Units 1 and 2. With an overall height of 450 feet, the stack is 42 feet 8 inches in diameter at the base, and tapers to a diameter of 17 feet, six inches at the top. Its interior is brick-lined. The stacks for Units 3 and 4 are of equal height, but measure at 45 feet, 5 ½ inches across the base, and taper to 15 feet, 2 inches at the top (Figure 11). They are steel- and fiberglass-lined. Large steel-framed apertures allow for the connection of steel gas ducts from the south side of the generating plant (Figure 12). The stack for Units 1 and 2 differs from its counterparts in that the duct connections are on the east and west sides, rather than the north, and have had the ducts removed. Steel ladders ascend the stacks' exteriors.

**Figure 10** Boiler Stacks, Facing North from Morro Bay Harbor



**Figure 11** Boiler Stacks, Facing West from East Side of Generating Plant



**Figure 12 Gas Duct Adjoining Unit 4 Boiler Stack, Facing West**

#### **4. No. 1 Firehouse**

The No. 1 Firehouse is a one-story utilitarian building located southwest of the generating plant, near the main Embarcadero gate (Figure 13). It is rectangular in plan with a concrete foundation, flat roof, and standing-seam metal cladding. Fronting an internal roadway, the entrances are on the north elevation and include two central vehicle bays with roll-up metal doors flanked by standard entries with glazed metal doors. Above each standard doorway is a metal louvered vent. Windows are visible on the east elevation where there is a ribbon of one-over-four windows, which may each contain an awning-type pane, but are otherwise fixed. Windows on the opposing elevation are covered with non-original metal paneling.

**Figure 13 No. 1 Firehouse, North and East Elevations, Facing West**



## **SECONDARY FEATURES OF MORRO BAY POWER PLANT WITHIN PROJECT SITE BOUNDARY**

In addition to the major components, the Morro Bay Power Plant also includes several associated secondary utilitarian features including some that were added to the site after its initial construction and expansion from 1955 to 1963 or those that have since been removed and now only include remnants. They include the former tank farm, the displacement oil tank, the sump water tanks, standpipe, retaining basin, and a number of other additional minor features.

### **5a. Gatehouse**

Located immediately west of the main gate off Embarcadero and integrated into the adjacent security wall, the gatehouse, constructed in 1975, is a one-story office building exhibiting no discernible architectural style (Figure 14). The building is rectangular in plan, sits on a concrete foundation, and is topped with flat roof with rolled composition cladding a hipped visor. Its structural system is sheathed in stucco. The publicly accessible south-facing entrance fronts Embarcadero and consists of a commercial-type glazed metal door flanked by large, vertically oriented lights. Entrances on the north and west elevations face the interior of the property.

### **5b. Former Tank Farm**

Located at the northwest corner of the power plant complex, the former tank farm, constructed in 1953-1955 and expanded in about 1975, consists of the foundations of five demolished above-ground oil storage tanks protected by an earthen and concrete levee. Site constraints prevented the observation of the interior of the area and much of the levee (Figure 15). As a result, the following description is based on a combination of on-site visual observation and a review of satellite imagery.

The earthen levee encloses all or most of the tank farm area, which has a rough L plan. Although the tanks were demolished in 2011 following the Power Plant's conversion to all natural gas fueling in the 1990s, impressions of the circular, approximately 180-foot-diameter footprints of individual tanks remain. Based on visual observation, the levee is trapezoidal and stands an estimated ten feet. Concrete-framed portals open on the east side of the structure, where pipelines formerly connected the tank farm to facilities outside the levee.

### **5c. Displacement Oil Tank**

Situated immediately east of the former tank farm, with which it was historically associated, the displacement oil tank, constructed in about 1975, is a cylindrical, welded-metal tank. It sits on a slightly raised foundation and measures an estimated 75 feet in diameter and 30 feet in height. A full-height metal ladder and various appurtenances are visible on the south side of the structure (Figure 16).

### **5d. Sump Water Tanks**

West of the generating plant and adjacent to the east side of the former tank farm, three above-ground storage tanks are clustered with associated appurtenances. "Sump Water Tank" is painted on the exterior of two of the tanks (Figure 17). Although the tanks share similar designs, two are slightly larger than the third. Each is cylindrical with an ellipsoid top. The exterior of each is concrete or a similar material, though it is unclear whether that reflects their structure, or they are only coated in the material. Heavy steel piping emerges from the sides of the tanks and is routed to an area at the rear (west) of the tanks. Features on the west side of the tanks were not visible during the field survey due to site constraints.

### **5e. Retaining Basin**

The retaining basin, added to the Power Plant property in about 1975, is located immediately east of the generating plant building and south of the substation. It is a rectangular-plan, below-grade artificial basin measuring 200 feet long, 125 feet wide, and approximately six feet deep (Figure 18). The basin's walls are sloped and its floor roughly flat. It is segmented into three parts and lined in plastic. Steel pipelines connect the basin and generating plant, part of which are routed through a trench under the adjacent internal roadway and concealed by concrete coated metal panels.

### **Additional Minor Features**

The power plant also includes several additional minor features located in areas immediately adjacent to the generating plant building. Generally, these include external mechanical equipment, tanks, tank and building foundations, trenches, and basins. One concentration occurs south of the generating plant building, immediately north of the wall that fronts Embarcadero. Included in this area are a large cylindrical above-ground storage tank, apparent circuit boxes, and apparent manual valve control features. East and north of the generating plant there are concrete building and storage tank foundations and trenches of unknown functions. A number of concrete pads are located in the area between the generating plant and switchyard.

**Figure 14 Gatehouse, South Elevation, Facing North**



**Figure 15 Southeast Side of Tank Farm Levee, Facing Northwest**



**Figure 16 Displacement Oil Tank, Facing North**



**Figure 17 Sump Water Tanks, Facing West**



**Figure 18 Retaining Basin, Facing East**



#### **FEATURES OF MORRO BAY POWER PLANT OUTSIDE PROJECT SITE BOUNDARY**

As described above, the Morro Bay Power Plant includes several associated features that relate to the Power Plant’s historic operation that are outside the Project Site, but are on the Power Plant property. They include the cooling intake screenhouse and the standpipe, as described in more detail below.

##### **6a. Cooling Water Intake Screenhouse**

The cooling water intake screenhouse is situated off the main Power Plant location, perched partially over Morro Bay Harbor (Figure 19). Constructed in two phases between 1954 and circa 1963, it is a two-story building constructed in the Industrial Modernist style with elements of International style architecture. The building is rectangular in plan and supported by a concrete foundation. Concealed by a straight parapet, its roof is flat and clad in rolled composition material. Wall cladding is generally characterized by standing-seam metal on the upper portions and concrete veneer in square panels below. On the street-facing north elevation, a section of the concrete-cladding extends upward to the parapet. Entrances are located on all sides of the building and include standard-size entry doors and loading bays with metal roll-up doors. A second-story entrance accesses a metal-rail balcony. All but the east elevation is windowless; it is penetrated by a ribbon of metal-sash awning-type windows. Additional features include a concrete supporting structure with a central channel fronting the harbor, concrete deck, and above the deck, a metal-beam feature suggestive of a wall-mounted gantry crane.

### 6b. Standpipe

Located approximately 950 feet east of the generating plant, the standpipe is a cylindrical, sheet-metal-clad water tank. A review of aerial imagery suggests the structure has an octagonal concrete foundation and is in an area enclosed with a chain-link fence (Figure 20). The standpipe's location is near the east corner of the property at the top of the ridge overlooking the power plant and substation.

**Figure 19 Cooling Water Intake Screenhouse, South and East Elevations, Facing Northwest**



**Figure 20 Standpipe Viewed from Scott Street, Facing Northwest**



### **FEATURES OF MORRO BAY POWER PLANT OUTSIDE THE POWER PLANT PROPERTY**

As described above, there are features of the Morro Bay Power Plant that are associated with its historic development and operation that are now outside the Power Plant property. They include the switchyard (APN 066-331-036) and the cooling water discharge outlet on an unparcelled piece of land on the Morro Bay beach, described in more detail below.

#### **7a. Switchyard**

The open-air switchyard, first constructed in 1953, occupies a separate 27-acre parcel immediately north of the generating plant building. Although it is no longer run in conjunction with Morro Bay Power Plant, PG&E operates the facility as an electrical substation. The Power Plant consists of three ranks of transformers aligned east to west, a control building, and other electrical equipment that step down voltage electricity coming in on the transmission lines, to a much lower voltage suitable to distribute (Figure 21).

#### **7b. Cooling Water Discharge Outlet**

The cooling water discharge outlet, constructed in 1953, is located offsite, immediately northeast of the base of Morro Rock. Connected to Morro Bay Power Plant by two 3,000-foot-long tunnels, the outlet conveys water used in power plant operations into the Pacific Ocean. The exposed outlet feature is constructed of reinforced concrete with two portals separated by wingwall. Water flows from the outlet through a 225-foot-long, riprap-lined channel. The outlet and channel area is delineated by a chain-link fence, separating the feature from the adjacent public parking lot (Figure 22).

**Figure 21 Overview of Switchyard, Facing Northwest**



**Figure 22 Overview of Cooling Water Discharge Outlet and Channel, Facing South**



### **FEATURES NOT ASSOCIATED WITH MORRO BAY POWER PLANT OPERATION**

The Power Plant property, in addition to being the site of the Morro Bay Power Plant, has a number of buildings and features not associated or functionally related with the historical development or operation of the power plant. They include the Lila Keiser Park, the Pacific Wildlife Care Rehabilitation Center, and the Harbor Department Boat House Facility, described in more detail below.

#### **8a. Lila Keiser Park**

Lila Keiser Park, dedicated in 1971, is a public park operated by the City of Morro Bay, located at the far northern end of the Power Plant property (Figure 23). The park centers on a pair of baseball diamonds, playground, and picnic area. There are two permanent buildings on the property, a combination restroom-snack bar and an announcers booth. Both buildings are of simple, concrete-block construction and lack the hallmarks of any architectural style. The park occupies generally level terrain, with most areas outside the ball fields, playground, and picnic area occupied by a paved parking lot. Morro Creek forms a natural boundary between the park and power plant; the distinction between the properties is enhanced with fencing and landscaping along the south boundary, in addition to a separate park entrance from Atascadero Road.

#### **8b. Pacific Wildlife Care Rehabilitation Center**

Pacific Wildlife Care Rehabilitation Center is a private animal care facility located on the east side of the Power Plant property (Figure 24). Added in 2005, the facility is accessible only from within the power plant property, but is delineated by a chain-gate and fencing on all sides. The facility consists of two portable buildings and several open-frame structures. The portable buildings are both one story in height, culminate in low-pitched gabled or shed roofs, and are clad in T1-11 siding. Windows

are one-over-one metal sashes. Outside the footprints of buildings and structures, the facility is mostly unpaved.

**Figure 23 Baseball Diamond and Announcers Booth at Lila Keiser Park, Facing West**



**Figure 24 Overview of Pacific Wildlife Care Rehabilitation Center, Facing Northeast**



### 8c. Harbor Department Boat House Facility

The Harbor Department Boat House, constructed in about 1985, is a public institutional property located at the northwest corner of the Power Plant property (Figure 25). Added to the Power Plant property by 1994, it consists of four metal-clad buildings situated in a narrow, rectangular area fenced off from the power plant and a neighboring property. At the far west end is a prefabricated building with the appearance of a Butler building. As such, it has a gabled roof, standing-seam metal roof and wall cladding, and a gable-end vehicle bay accessed via a metal roll-up door. Further east are a relatively small shed and two long, narrow storage buildings with multiple vehicle bays. Due to limited access, further details were observed.

**Figure 25 Butler-Type Building at Harbor Department Boat House Facility, North and West Elevations, Facing East**



#### *Property History*

The Study Area containing Morro Bay Power Plant remained vacant until 1941. By November of that year, the United States Navy acquired the land to establish a base. In the weeks just prior to the December 7, 1941, attack on Pearl Harbor, Navy crews began construction of what would become the Morro Bay Naval Station. Construction work on the Power Plant included the clearing of trees from the site and construction of several buildings. Off-site development focused primarily on harbor improvements, such as the deepening of the channel, construction of a jetty and piers, improvements to the Embarcadero, but also included construction of a new waterworks for the community of Morro Bay. On February 4, 1944, the installation was reorganized as the U.S. Naval Amphibious Training Base. Over 45,000 soldiers passed through the facility, receiving training in amphibious landings, troop and equipment transport, and conventional warfare. The base was decommissioned October 31, 1945, and 175 landing craft and a number of personnel were transferred to other military facilities. The property was soon transferred to the State of California in

1945 and to the County of San Luis Obispo that same year (Anonymous n.d.; Old Morro Bay 2022; Rossell and Peterson 2001).

Historical aerial photographs of the property show that, as late as 1949, there were two clusters of buildings located at the south end of the property, near the Embarcadero. While one building cluster was removed prior to the completion of the power plant, the other cluster remained until the early 1960s (UCSB 1949, 1959; NETROnline 1963). Research for this study found no evidence that any building or structure associated with the naval installation remains on the Study Area.

PG&E began planning for the construction of the Morro Bay Power Plant by the 1950s. It was intended to help satisfy the growing demand for electricity amid California's post-World War II-era development boom and coincided with a dramatic expansion of steam generating plants throughout the United States. The most pressing need the Morro Bay Power Plant would fill was accelerating demand for power to operate the San Joaquin Valley's growing number of agricultural irrigation pumps. Morro Bay was chosen as the Power Plant site due to its location at the mid-point of California's coastline. This situation was beneficial due to the affordable fuel costs in the area, its proximity to the target region (chosen to minimize transmission loss), and the availability of cooling water from the bay. Although the Power Plant was conceived as a facility containing as many as eight steam-turbine generating units, only Units No. 1 and No. 2 were planned for the Power Plant's first iteration. PG&E hired the San Francisco-based Bechtel Corporation to design the engineered elements of the Power Plant and architect William Gladstone Merchant, also of San Francisco, for architectural elements (Rossell and Peterson 2001; HCSLOC 2020).

Bechtel began construction of Units No. 1 and No. 2 in 1953 (Figure 26). At the time, it was the largest construction project in the county since the erection of Hearst Castle (Middlecamp 2021). As many as 700 workers took part in the effort, which required the displacement of thousands of cubic yards of soil and the importation of large quantities of steel and mechanical components. The heaviest imported component was as the 244-ton generator stator, which crews carefully trucked to the site along SR-1 from the nearest rail connection at Camp San Luis Obispo, ten miles to the north.

Bechtel, the firm responsible for building the subject plant had a significant role in the expansion of steam generating plants in the United States. The firm was responsible for the construction of several plants in California and other western and midwestern states in the 1950s: Contra Costa, Pittsburgh, El Segundo, Long Beach, Eureka, as well as Salt Lake City and Price, Utah, Phoenix, Arizona, and Joppa, Illinois. This push was instrumental in the growth of the firm and its prominent international standing.

**Figure 26** Morro Bay Power Plant Under Construction, 1954

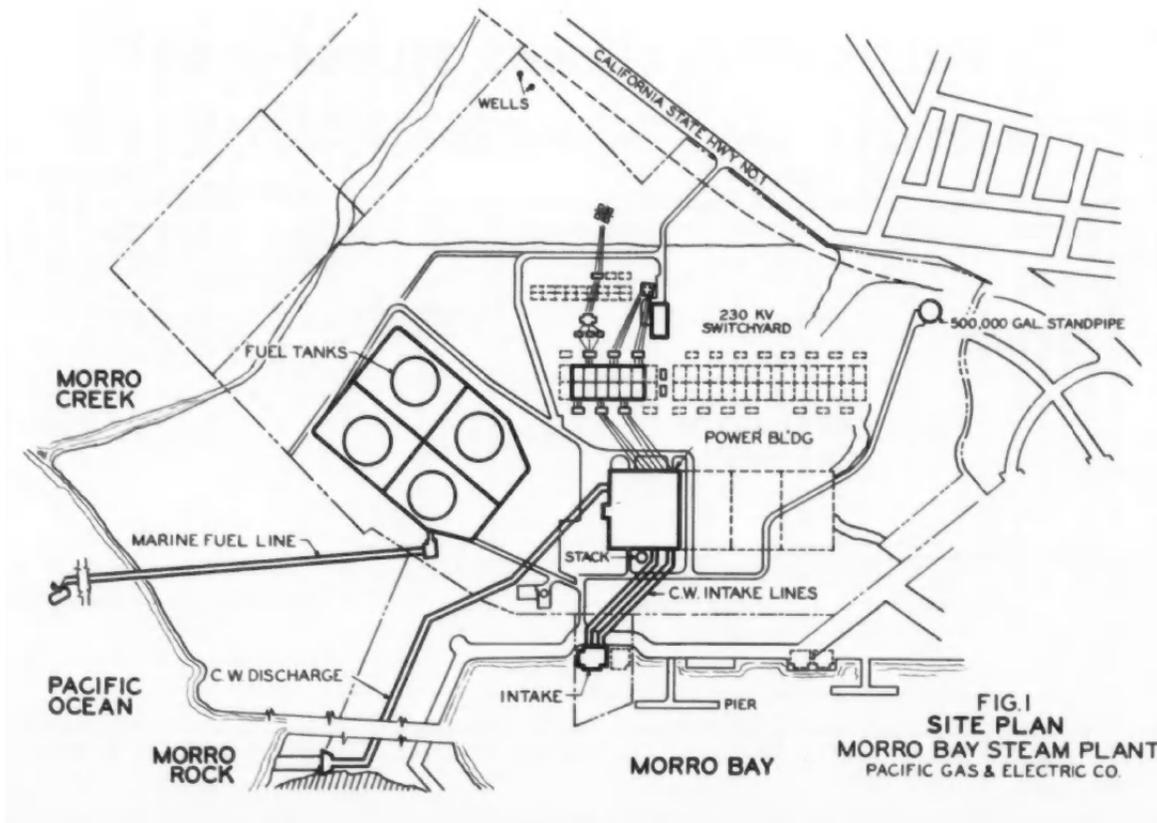


Source: San Luis Obispo Tribune, 2021

As the Power Plant neared completion, authors J. George Thon and Gordon L. Coltrin profiled the facility in a 1955 issue of the *Society of American Engineers Proceedings*. As summarized below, the issue highlighted several innovative features of the Power Plant, including its marine refueling system, fuel oil tank farm (no longer extant), saltwater evaporators, cooling water intake and discharge systems, original boiler stack, and turbine foundations (Figure 27).

Construction of the offshore fueling system proved a technical and logistical feat. The system consisted of a “marine anchorage,” offshore pipeline (about 4,500 feet), onshore pipeline (about 1,250 feet), and a tank farm consisting of 168,000 barrel tanks. The system’s design allowed an input of 8,000 barrels per hour. The anchorage included five 10-ton permanent anchors, each attached to a mooring buoy. There was a hose to connect to the oil tanker and pump fuel into the system. As described by Thon and Coltrin, “[t]he installation of the marine fuel line was quite spectacular from the standpoint of coordination between land and sea construction forces.” Segments of pipeline were assembled on the beach pulled into the surf by a winch operated from a barge offshore. As coordinated by land and sea crews by a combination of radio and hand signals, after a segment of pipeline was pulled into the water to a certain length, a new segment was welded onto the onshore end, and the process repeated to assemble the entire length of the marine pipeline. Overall, the installation was accomplished in 15 hours and 30 minutes (Thon and Coltrin 1955).

Figure 27 Diagram Depicting First Stage of Development, Published 1955



Source: Thon and Coltrin, 1955

Prior to construction of the tank farm, the site was occupied by sand dune reaching 30 feet in elevation above the generating plant site, conditions susceptible to erosion. To erect the protective dikes, the area was cleared of sand, and then rebuilt in compacted layers. Ice plant was planted along the embankments to prevent erosion and misters installed along the tops of dikes to disperse sufficient water to ensure the soil would cohere (Thon and Coltrin 1955).

Thon and Coltrin also highlighted the Power Plant's innovative use of seawater evaporators to provide the boilers and other elements with distilled fresh water. Engineers determined each of the Power Plant's generating units would require 80 gallons per minute of fresh water, the largest quantities of which would go to boiler makeup and pump lubrication. Although several direct sources of fresh water were studied, engineers ultimately settled on sea water evaporators to purify water pulled from Morro Bay Harbor. Although use of seawater evaporators was common on seagoing ships, it was believed that installation of evaporators at Morro Bay Power Plant, as adapted by PG&E supervising mechanical engineer Albert W. Bruce, would be the first use of such technology in a terrestrial industrial setting (Thon and Coltrin 1955). The triple-effect evaporators installed at the Power Plant were designed to purify 50 gallons of water per minute to provide boiler makeup and "utility water," by subjecting water from the bay to three cycles of evaporation, which separated (and collecting) relatively pure water condensate from the brine, which was discharged into the ocean (Thon and Coltrin 1955).

Incorporation of seawater evaporator technology into Morro Bay Power Plant's design set a precedent for modern power plants. By 1974, the inclusion of such evaporators was *de rigueur* for

American steam generating facilities. Among the technology's main benefits, it circumvented the traditional reliance of fresh water sources, allowing planners greater discretion in the siting of plants (Rossell and Peterson 2001; *Electrical West* 1968).

As reported by Thon and Coltrin, project geologists determined the land on which the Power Plant was built, including the layer of soils introduced as fill by Navy engineers in the 1940s, was highly subject to subsidence, or the gradual sinking or settling of land. To minimize the compression of the land on which the generating units were built, a concrete mat foundation (rather than piles) was selected as a means of distributing the Power Plant's weight and thereby reducing the anticipated compression of soils. There were other advantages to the mat foundation, including that it would allow for construction of a basement, in which condensers and other equipment could be stationed; reduce construction time relative to that of a pile-based superstructure; and added further to the time savings by allowing the installation of some mechanical services in the basement concurrent with the construction effort (Thon and Coltrin 1955).

In addition to the subsidence issues, the size and speed of modern turbine generators, such as those installed for Units 1 and 2, required careful design of the concrete pedestal foundations on which the machinery was to be installed in order to withstand the dynamic loads produced by the generators (Thon and Coltrin 1955).

The stack was constructed to discharge flue gas generated by burning fuel oil. The 14-foot nine-inch interior diameter of the upper opening was designed to allow for a pressurized, "jet-like" effect that would discharge of gases "an appreciable distance above the stack, adding to its effective height." The stack and its pile foundation were engineered to satisfy the most up-to-date seismic standards for structures of its type (Thon and Coltrin 1955).

In addition to Morro Bay Power Plant's many technical highlights, a key architectural feature of its design was the aluminum sheathing that enveloped the generating facility, cladding that was unusual in steam plant design and applied primarily for aesthetic reasons. As Rossell and Peterson explain, however, the design was emblematic of reigning Modernist architectural approaches:

Aluminum was a signature material reflecting the modern age and being particularly appropriate for an industrial building due to its being an industrial material and its clear lines reflecting machine precision. The 1950 Johnsonville, Tennessee TVA steam-electric plant was featured as one of twelve industrial buildings sheathed in the material for Reynolds Aluminum two volume set of 1956 entitled *Aluminum in Architecture*. But numerous signature buildings of the age were similarly designed and decorated such as Equitable Savings and Loan, Pietro Belluschi, Portland, Oregon, 1948; the Illinois Institute of Technology, Mies van der Rohe, Chicago, 1940; Lake Shore Apartments, Mies van der Rohe, Chicago, 1952; General Motors Technical Center, Eero Saarinen, Detroit, MI, 1951-5; and the Alcoa Building, Harrison and Abramovitz, Pittsburgh, PA, 1953. Phillip Johnson commented that there was "nothing [that] can equal aluminum for extrusion" and that "there is a sharpness and a definition which, added to the lightness of the natural material, makes it perfectly natural for the outside of buildings."

Aside from its aesthetic implications, the Power Plant's aluminum shell bore many practical benefits. Aluminum is a relatively lightweight material, and its use in construction may have reduced shipping and labor costs, in addition to reducing the load on the building's structural system. The material is also relatively resistant to corrosion, a particularly important consideration, given Morro Bay's coastal location. That the material is heat-reflective may have been a factor in light of California's relatively warm and sunny climate. Additionally, aluminum does not produce sparks when struck, an

important characteristic in a setting where high volumes of gas are being used (Rossell and Peterson 2001).

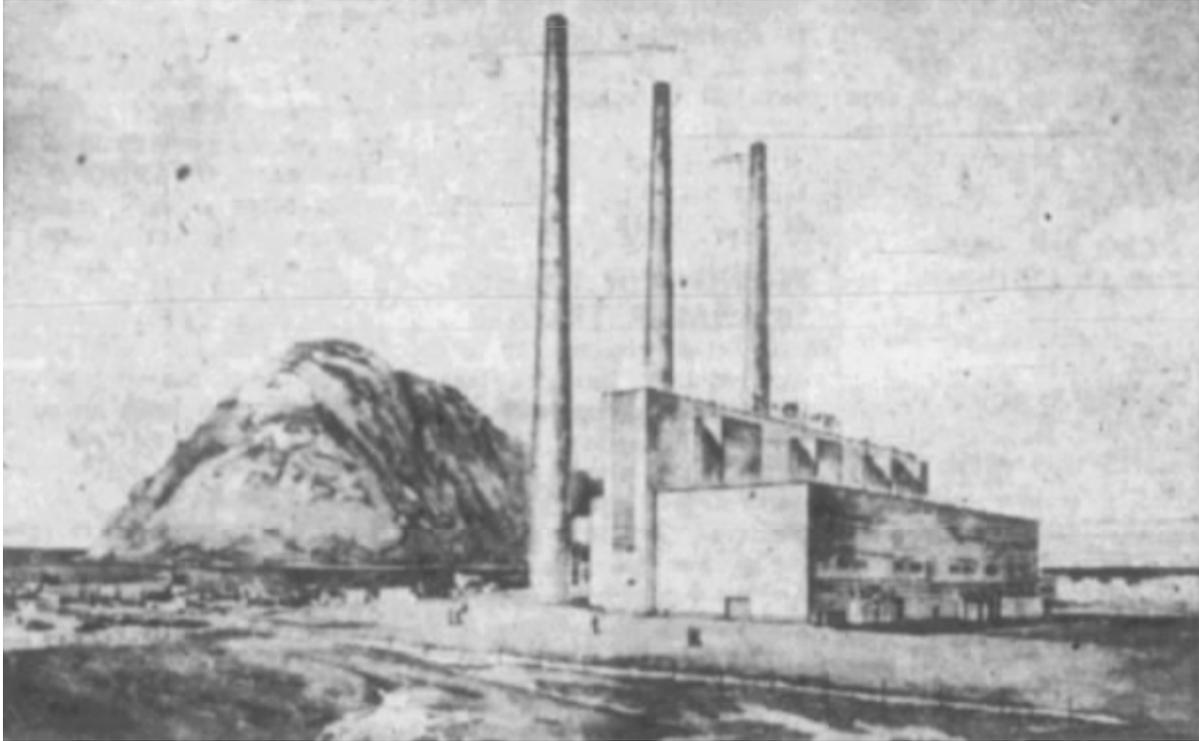
Morro Bay Power Plant was completed in July 1955 as the sixteenth steam plant in PG&E's system. A symbol of the Power Plant's regional importance, the *San Luis Obispo Telegram-Tribune* published an eight-page special section on the facility's opening on July 7, 1955. The section's glowing coverage mostly detailed the construction effort and the workings of various mechanical components of the Power Plant (*San Luis Obispo Telegram-Tribune* 7/7/1955). At the time of its completion, the \$44 million plant centered on the two original generating units, one of the existing boiler stacks, the International Style combined office/warehouse/machine shop, the cooling water intake facility (though it was then about half its current size), a four-tank fuel oil tank farm, cooling water discharge outlet adjacent to Morro Rock, offshore fueling connection and pipeline, the western portion of the existing switchyard, and other minor features (Figure 27). In its early years, there was a large neon sign reading "PG&E" on the Power Plant's roof (no longer extant), and the stack was illuminated at night with flood lights (Rossell and Peterson 2001; Thon and Coltrin 1955).

The Power Plant's importance locally was soon realized. For one, it was instantly identified as an important man-made landmark and counterpoint to nearby Morro Rock (Rossell and Peterson 2001). However, the Power Plant's significance extended beyond aesthetics. At least one report has observed that "tax dollars from the Power Plant gave stability to the San Luis Coastal School District and provided a base for Morro Bay to become a city" (Kmetz 2014).

In 1960, PG&E president N.R. Sutherland announced plans to double the Power Plant's size (Figure 28). Although early news media coverage reported the utility's plans for only one additional 330,000-kW generating unit, it was eventually revealed PG&E intended to build two units of the same capacity. As part of the expansion, PG&E would also add to the on-site switchyard and construct a new 220-kV transmission line between the switchyard and the San Joaquin Valley. Costs were estimated at \$40 million per unit, with labor needs projected as high as 400 individuals (*The Californian* 4/20/1960; *Fresno Bee* 4/20/1960; *San Luis Obispo Tribune* 12/24/1960). Once completed, Units 3 and 4 would triple the Power Plant's original capacity, bringing its generating power to 990,000 kW, or as one report put it "enough electricity to supply two cities the size of San Francisco" (*Santa Maria Times* 1/27/1961). At this capacity, the Power Plant would be the second most powerful in PG&E's system, ranking behind only the company's Pittsburg facility in Contra Costa County. Initially, PG&E was identified as the designer and builder, but it was revealed in December 1960 that PG&E hired Oakland-based construction firm Johnson Drake and Piper, Inc. to handle excavation and foundation construction for the power plant expansion. Under the construction contract, excavation would be 17 feet deep to accommodate an "underground water conduit, piling, basement work, and pedestals for two cross-compound turbine generators" (*San Luis Obispo Tribune* 12/24/1960).

Units 3 and 4 were completed in 1962 and 1963, respectively. The additions included new turbines, two additional concrete boiler stacks, and the expansion of the generating plant building to its current footprint (Rossell and Peterson 2001). A review of historical aerial photographs shows the switchyard was expanded by 1963. It is presumed the expansion of the cooling water intake greenhouse circa the 1960s was undertaken as a part of this expansion (NETROnline 1956, 1963). Based on a review of historical aerial and site photographs, additions to the generating plant and cooling water intake greenhouse were compatible in style and materials with the original buildings.

**Figure 28 Rendering of Morro Bay Power Plant with Planned Units 3 and 4, 1961**



Source: Santa Maria Times, 1961

By the 1970s, PG&E began leasing or selling areas on the perimeter of the property to the City for use as a public park, RV camping facility, storage for fishing gear. Increasingly, sensibilities and regulations concerning environmental impacts made it infeasible for PG&E to develop these areas for plant expansions. Opposition on environmental grounds may have caused the utility to abandoned plans for the development of two new above-ground storage tanks, one proposed immediately north of Morro Creek (MBPP Ad Hoc Committee 2007; PG&E 1973). As part of the civic development of the Power Plant property, Lila Keiser Park was developed at the north end of the Power Plant property and dedicated in June 1971 (MBPP Ad Hoc Committee 2007; *San Luis Obispo Tribune* 6/19/1971). Other non-utility developments included a recreational vehicle campground and storage for fishing gear (MBPP Ad Hoc Committee 2007).

Over the Morro Bay Power Plant's first 40 years of operation, it used oil and natural gas alternately as fuel. In 1996, PG&E abandoned oil fueling at the property and transitioned the Power Plant to solely natural gas fueling. The above-ground storage tanks at the on-site oil-fuel tank farm were apparently made obsolete by this decision and were eventually demolished (Rossell and Peterson 2001; NETROnline 2010-2012).

In November 1997, following the deregulation of the State's utilities, PG&E sold the majority of the property to Duke Energy as part of California's state requirement to break up monopoly power generation (Middlecamp 6/19/2021). In 2006 Duke Energy sold the plant to LS Power. In 2007 LS Power merged its assets with Dynegy Inc. Between 2010 and 2012, the above-ground storage tanks of the tank farm were razed, leaving the protective embankments in place. The Power Plant closed in February 2014. Dynegy cited environmental regulations that would have required updating the filtering technology for its ocean water cooling system as the deciding factor in closing the Power Plant, whose operation was significantly scaled back in the years preceding (Wilson 7/29/2014).

**600-MW Morro Bay Battery Energy Storage System Project**

Vistra Corporation merged with Dynegy in 2018 and continues to own the Power Plant today. An overview of the Power Plant’s development history is outlined below in Table 1.

**Table 1 Morro Bay Power Plant Construction History**

Date	Description of Work	Architect/ Contractor	Property Owner	Notes
1953-1955	First phase of plant construction	William Gladstone Merchant (architect); Bechtel Corporation (builder)	PG&E	This initial phase of construction included generating Units 1 and 2, the west boiler stack, office/warehouse/machine shop, tank farm, marine fueling system, west end of the cooling water intake screenhouse, cooling water discharge tunnel and outlet, and west side of the switchyard, among other minor features.
1961-1963	Plant expansion	PG&E (engineer and builder); Johnson Drake and Piper, Inc. (builder)	PG&E	Plant expansion included construction of generating Units 3 and 4, including related changes to the generating plant building; expansion of the switchyard; and, likely, the east addition to the cooling water intake screenhouse.
1971	Construction of Lila Keiser Park	Unknown	PG&E	N/A
Ca. 1975	Construction of displacement oil tank; expansion of tank farm; expansion of switchyard; construction of gate house	Unknown	PG&E	N/A
Ca. 1985	Construction of Harbor Boat House Facility	Unknown	PG&E	N/A
2005	Construction of Pacific Wildlife Care and Marine Mammal Center	Unknown	Various	N/A
Ca. 2012	Demolition of tank farm tanks	Unknown	Dynegy	N/A

Sources: Rossell and Peterson 2001; NETROnline 2022; *San Luis Obispo Tribune* 1971

**Industrial Modernist/International Style Architecture**

In 1932, historian Henry Russell Hitchcock and architect Philip Johnson prepared an exhibit and companion book at the Museum of Modern Art in New York, chronicling contemporary European architecture, like the works of Walter Gropius at the Bauhaus School in Germany. Other early influences of the style included Mies van der Rohe in Germany, Le Corbusier in France, JJP Oud in the Netherlands, and Marcel Breuer in Hungary. The “International Style” exhibit coined the style name and introduced the radical buildings to an American audience. They laid out three key design principles of the style: thin planes that create the building form (as opposed to a solid mass),

regularity in the façade (as opposed to building symmetry), and no applied ornament (Chicago Architecture Center).

The International Style was characterized by austere aesthetic and unornamented surfaces indicative of the Machine Age. Architects working in the style embraced modular design, expressed structural systems and material palettes, and methods of prefabrication as they developed an idiom that shunned past traditions and championed functionality, rationality, and economy (Survey LA). Beginning in the years before World War II, the International Style took on a life of its own in the post-World War II period. As a result of the war, conventional methods of industrial production were augmented with new techniques aimed at producing products cheaply and en masse. Relatively new products like plastics and aluminum were incorporated into production whenever possible. At the same time, the Corporate/Industrial International Style came of age, using materials like aluminum to reflect a strong visual connotation with modernity, technology, and progress. Phillip Johnson commented that there was “nothing [that] can equal aluminum for extrusion” further explaining “there is a sharpness and a definition which, added to the lightness of the natural material, makes it perfectly natural for the outside of buildings”. Flush with cash, corporations in postwar America invested heavily in the construction of new headquarters and operational facilities. Many of these buildings assumed a distinctive architectural vocabulary that “showcased their forward-looking attitudes and futuristic products by virtue of cutting edge innovations in modern architecture (Survey LA).

### **William Gladstone Merchant**

William Gladstone Merchant (1889-1962) was born in California in 1889 and was educated at the Wilmerding School of Industrial Arts in San Francisco. He graduated in 1909 and supplemented his education with private classes in engineering in 1912. Merchant worked briefly for John Galen Howard in 1909. Between 1909 and 1911, Merchant worked in the offices of Charles Wittlesay and William Woollett. From 1911 to 1914, Merchant worked for Bernard Maybeck, famed architect of the Arts and Crafts Movement, on the Palace of Fine Arts for the Panama Pacific International Exposition in San Francisco in 1915. Merchant was also the designer in charge of exhibits at the Palace of Fine Arts. Merchant obtained his architectural license in 1918 and worked in the office of George W. Kelham until 1928. Merchant then spent a year traveling in Europe in 1929 and returned to San Francisco to open his own practice in 1930 (Online Archive of California 2003; Healdsburg Tribune 03/01/1962).

Between 1932 and 1939, Merchant was the consulting architect for the San Francisco Recreation Commission. In this position, he worked as architect for the development and reconstruction of 28 San Francisco playgrounds. During this time (1935-1937) Merchant also worked on a number of residences with the firm Maybeck and White. From 1935-1939, Merchant served on the Architectural Commission for the Golden Gate International Exposition. For the Exposition, Merchant designed the Pacific House, the Temples of the East, the California Recreation Building, the Redwood Empire Building in association with Bernard Maybeck, as well as several other small buildings (Online Archive of California 2003; Healdsburg Tribune 03/01/1962).

Beginning in 1943, Merchant served as the architect for the World Trade Center in San Francisco. Due to lack of funds, Merchant's 1951 plan for a complex of buildings at the foot of Market Street was abandoned. Instead, the World Trade Center was incorporated into the North Wing of the existing Ferry Building. In 1946, Merchant expanded his practice as William G. Merchant & Associates. This firm completed projects for, among others, the Sailors Union of the Pacific, Pacific Gas & Electric, San Francisco State College and continued work for the San Francisco Recreation and

Parks Dept. He designed the Morro Bay Power Plant in 1953. In 1960 the firm was granted the commission to rehabilitate the crumbling Palace of Fine Arts Building, but Merchant passed away just two years into the project in 1962 (Online Archive of California 2003, Healdsburg Tribune 03/01/1962).

### *Historical Evaluation*

Morro Bay Power Plant, inclusive of those elements associated with the development and operation of the Power Plant from 1955 to 1963, is recommended eligible for listing in the NRHP and CRHR, under Criterion C/3. It lacks significance under Criteria A/1 and B/2 and was not assessed for significance under Criterion D/4, which typically does not apply to built environment resources.

Morro Bay Power Plant was constructed as a steam-turbine power generating plant between 1953 and 1955 and expanded with two new generating units between 1961 and 1963. PG&E completed the Power Plant as the sixteenth generating plant in its system and, at the time, the most expensive construction project in San Luis Obispo County history. The Power Plant proved to be a valuable source of jobs, and local tax revenues it generated underwrote the consolidation of a regional school district and incorporation of the City of Morro Bay. Changes in state regulations on utilities led PG&E to sell the Power Plant in the 1990s, after which time the Power Plant's new owners came to regard the facility as obsolete. Following fruitless efforts to construct a new generating facility on the site, Morro Bay Power Plant was permanently shuttered in 2014. Research for this study found no evidence Morro Bay Power Plant was significant in the history of PG&E. It was neither first nor largest of the utility's steam plants and does not singularly represent any event related to the firm. Nor was the Power Plant significant in the wider history of electrical utilities or steam generation of electricity. By all accounts, it was one among many plants constructed during a boom period in steam generating plant construction between the end of World War II and 1970. Although completion of the Power Plant was a financial boon to Morro Bay and San Luis Obispo County, the local events to which the property is most closely linked, the reorganization of the region's schools and incorporation of Morro Bay, reflect the types of events that mark the maturation of communities everywhere and do not meet the significance thresholds for Criteria A/1. No available evidence indicates the Power Plant is significant in the context of any other event important to the history of the city, region, state, or nation (Criterion A/1).

Eligibility criteria for listing in the NRHP and CRHR under Criterion B/2, require a property be associated with the lives of persons significant in our past. Archival research failed to indicate that any individual had a documented association with the Study Area (Criterion B/2).

The Morro Bay Power Plant appears eligible for listing in the NRHP and CRHR under Criterion C/3 for its engineering and architectural merit. The system, designed by engineering firm Bechtel in association with PG&E, was an innovative engineering design. The system design, including the process for converting sea water to freshwater, the impressive steel and brick-lined concrete stacks with an innovative seismic design, the dynamic turbine generator foundations, and the submarine pipeline for the delivery of fuel from ocean tankers represent a significant engineering achievement. Furthermore, the power plant's architectural design, by prominent architect William Gladstone Merchant (1889-1962), is an excellent example of Industrial Modernist architecture with elements of International Style design, most clearly expressed in the generating plant's aluminum cladding. The design is further reflected in the exposed I-beams and aluminum band windows of the office. It is the work of a master and a distinctive example of his work. Under Criterion C/3, Morro Bay Power Plant's period of significance begins in 1955 with the completion of the first iteration of the facility, which included Units 1 and 2 of the generating plant, the office/warehouse/machine shop,

westernmost boiler stack, tank farm, west half of the cooling water intake screenhouse, and west portion of the switchyard, among other features. The period of significance concludes in 1963, when the second phase of construction was completed, including Units 3 and 4 of the generating plant and the center and east boiler stack. The expansions of the cooling water intake screenhouse and switchyard were also executed at this time.

The elements of the Power Plant that are most essential to convey Morro Bay Power Plant's historical significance include components on the Power Plant property and within the Project Site that reflect the excellent expression of the Industrial Modernist architecture inclusive of elements of the International style and/or components integral to the plant's operation in the period between 1955 and 1963. These include the entirety of the generating plant, the office/warehouse/machine shop, all three boiler stacks, and the No. 1 Firehouse. Contributing features outside the Project Site include the cooling water intake screenhouse and the Standpipe. Other elements that appear to be integral to the Morro Bay Power Plant's historical significance but are not on the Power Plant property include the switchyard and cooling water discharge outlet. They were observed and recorded from the right-of-way for this study but may require additional evaluation to confirm eligibility and integrity.

As outlined above, the gatehouse, tank farm, displacement oil tank, sump water tank, retaining basin, and several other minor features, were either developed after 1963 or do not retain sufficient integrity to convey their historic association with the Morro Bay Power Plant, especially evident in the tank farm which was demolished in recent years.

All other elements are not directly associated with the Power Plant or were constructed or substantially altered after the period of significance. Those include the Lila Kaiser Park, the Pacific Wildlife Care Rehabilitation Center, and the City of Morro Bay Harbor Department facility.

The Power Plant has remained largely the same since its 2001 evaluation and possesses sufficient integrity to the period of significance of 1955-1963 to convey its significant historical associations. The Power Plant is in its original location at the edge of the Morro Bay Harbor and adjacent to Morro Rock and retains integrity of location and setting. It retains integrity of design, materials, and workmanship through the retention of its original design as a steam powered power plant, despite the loss of some elements of the Power Plant design, including the removal of fuel tanks in 2011. Its materials and workmanship are further reflected in its intact stacks and aluminum panel building exterior. These elements, when considered together, demonstrate the site's feeling and association as an innovative steam powered power plant exhibiting hallmarks of the International Style architecture. The Morro Bay Power Plant appears eligible for listing the NRHP/CRHR Criterion C/3.

This evaluation did not include an archaeological evaluation, and the property was not assessed for eligibility under Criterion D/4.

## 6 Impacts Analysis and Conclusions

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### 6.1 Significance Thresholds

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form:

- a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?
- b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?
- c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Threshold A broadly refers to historical resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are generally considered under Threshold B. However, because the potential for project impacts to archaeological resources are addressed in a separate study, archaeological impacts are not discussed in the present study.

#### Compliance with the Standards

According to Section 15064.5(b) of the CEQA Guidelines, projects which may cause a substantial adverse change in the significance of a historical resource would result in a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines §15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register (CEQA Guidelines §15064.5[b][2][A]).

For the purposes of CEQA, impacts to a historical resource are considered mitigated below a level of significance when the project conforms to the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (the Standards) (CEQA Guidelines §15126.4 [b][1]). The goal of the Standards serves to preserve the historic materials and distinctive character of a historical resource. Character-defining features are the tangible, visual elements of a building—including its setting, shape, materials, construction, interior spaces, and details—that collectively creates its historic identity and conveys its historic significance.

The Standards establish professional standards and provide advice on the preservation and protection of historic properties and make broad-brush recommendations for maintaining, repairing, replacing historic materials, and designing new additions or making alterations. They cannot be used, in and of themselves, to make essential decisions about which features of a historic property should be saved and which might be changed. Rather, once an appropriate treatment is selected, the Standards provide philosophical consistency to the work. There are Standards for four distinct but interrelated approaches to the treatment of historic properties: preservation, rehabilitation, restoration, and reconstruction.

According to the Standards, rehabilitation is deemed appropriate “when repair and replacement of deteriorated features are necessary, when alterations or additions to the property are planned for a new or continued use, and when its depiction at a particular period of time is not appropriate, rehabilitation may be considered as a treatment.” The following lists the Standards for Rehabilitation:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

## 6.2 Historical Built Environment Resources

The field survey and background research identified one built environment historical resource in the Project Site, Morro Bay Power Plant. As detailed above in *Section 5.1 Previous Historical Documentation*, the resource was previously recommended eligible for the NRHP in 2001. The current study concurs with the 2001 recommendation and further recommends the resource eligible for the CRHR. Therefore, the Power Plant property qualifies as a historical resource as defined by CEQA. The project would result in the demolition of buildings and structures that contribute to Morro Bay Power Plant’s eligibility for the NRHP and CRHR. As such, the project would cause the material impairment of the subject resource, meaning it would alter in an adverse manner

those physical characteristics that convey its historical significance and that justify its inclusion in the NRHP and CRHR. As a result, the project would result in a substantial adverse change to the significance of a historical resource and result in a ***significant impact to historical resources*** pursuant to CEQA.

## 6.2.1 Recommended Mitigation

### **Building Recordation**

Impacts resulting from the proposed demolition of the Morro Bay Power Plant's building and boiler stacks shall be minimized through archival documentation of as-built and as-found condition. Prior to issuance of demolition permits, the lead agency shall ensure that the existing Historic American Engineering Record (HAER) be updated and shall document the buildings and structures proposed for demolition. The Level-III documentation shall be completed to National Park Service (NPS) Heritage Documentation Program-like standards and include high resolution digital photographic recordation, an outline format historic report, and compilation of historic research. The documentation shall be completed by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards for History and/or Architectural History. The documentation shall be offered as donated material by the lead agency to repositories, such as the Historical Society of Morro Bay and the San Luis Obispo County Historical Society, that will make it available for current and future generations. Receiving repositories may specify preferred format, including digital copies, to accommodate their capacity and/or needs. Original archival quality copies of the documentation also shall be submitted to the City of Morro Bay and the Morro Bay Public Library, where it would be available to local researchers. Completion of this mitigation measure shall be monitored and enforced by the City of Morro Bay or designee.

### **Interpretative Display**

Impacts resulting from the partial demolition of the Morro Bay Power Plant shall be minimized through the installation of a high-quality, on-site interpretive display in a publicly-accessible location within the Power Plant property at the applicant's expense to be installed within one year of the removal of the structures proposed for demolition as part of the project. The display shall focus on the Power Plant's history, particularly its engineering features. The content for the interpretive display shall be prepared by a historian, and the interpretive display shall be designed by a professional exhibit designer. Historic information contained in this HRE can serve as the basis for the interpretive display. The goal of the interpretive display will be to educate the public about the Power Plant's historic themes and associations within broader cultural contexts. The content of the display shall be approved by the City of Morro Bay or designee.

## 6.2.2 Significance After Mitigation

Though the proposed mitigation measures described above would reduce the impacts of the partial demolition of the Morro Bay Power Plant to the extent feasible, the impact would remain significant and unavoidable. No other feasible mitigation measures are available to further reduce the identified impact. Because the impact cannot be reduced below a level of significance, a statement of overriding considerations would be required.

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# Appendix A

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California Department of Parks (DPR) 523 Series Forms

Other Listings  
Review Code

Reviewer

Date

Page 1 of 26

\*Resource Name or #: Morro Bay Power Plant

**P1. Other Identifier:**

\*P2. Location:  Not for Publication  Unrestricted

\*a. County: San Luis Obispo

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*b. USGS 7.5' Quad: Morro Bay South and North Date: 1965

T 29S ; R 10E ; Sec 25 ; M.D. B.M.

c. Address: 1290 Embarcadero

City: Morro Bay

Zip: 93442

d. UTM: Zone: ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) APN 066-331-046 and 066-331-036

\*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries) The three parcels making up the study area measure over 100 acres altogether. The Power Plant property (APNs 066-331-046 and 066-461-016) and substation parcel (APN 066-331-036) are adjacent to one another and by far make up the majority of the study area. This section of the study area is bounded on the south and west by Embarcadero and Scott Street, on the east by Quintana Road and State Route 1, and on the north by Atascadero Road and private property fronting the same street. The intake parcel is discontinuous from the other parcels and is directly across Embarcadero to the south of the Power Plant main gate and fronts Morro Bay Harbor to the south. As noted above, the cooling water discharge structure is located on unparcelled land on Morro Rock Beach. Buildings and structures used historically for the generation and distribution of electricity are clustered in the south and central portions of the study area. Areas to the north and southeast, while included within the power plant property, are either undeveloped or developed for public and private institutional uses, including a City of Morro Bay Harbor Department facility, Lila Keiser Park, and the Pacific Wildlife Care Rehabilitation Center.

Three sections of the Power Plant property are undeveloped. Notably, Morro Creek runs in the area roughly between the former tank farm and Lila Keiser Park. In addition, an area on the west side of the Power Plant property is occupied by sandy terrain, while the area southeast of the generating plant and substation is a lightly wooded hillside.

The existing Power Plant is comprised of several major, intact, character-defining elements including the generating plant building, the office/warehouse/machine shop, the boiler stacks, and the No. 1 firehouse, described in detail below. (Continued on Page 4).

\*P3b. Resource Attributes: (List attributes and codes) HP 9 – Public Utility Building; HP-11 – Engineering Structure

\*P4. Resources Present:  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)

View of Morro Bay Power Plant, View South

\*P6. Date Constructed/Age and Sources:  Historic

Prehistoric  Both

1953; 1963, San Luis Obispo County Assessor

\*P7. Owner and Address:

Dynergy Morro Bay LLC

6555 Sierra Dr.

Irving, TX 75039

PG&E (switchyard)

PO Box 7054

San Francisco, CA 94120

\*P8. Recorded by: (Name, affiliation, and address)

JulieAnn Murphy

Rincon Consultants, Inc.

1530 Monterey Street, Ste. D

San Luis Obispo, CA 93401

\*P9. Date Recorded: March 2022

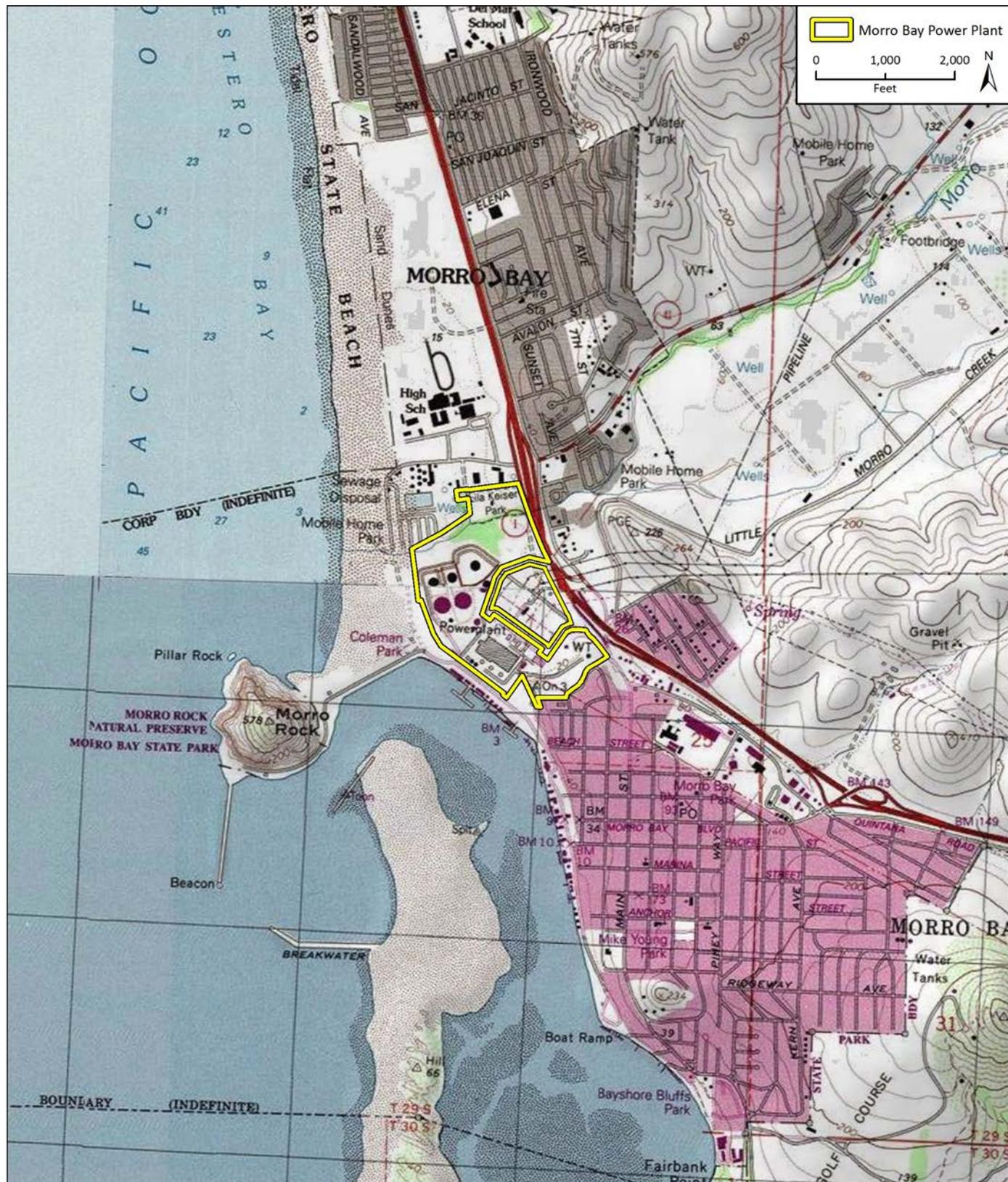
\*P10. Survey Type: (Describe)

Intensive

\*P11. Report Citation: (Cite survey report and other sources, or enter "none.")

Williams, James, Treffers, Steven and Shannon Carmack. 2022 *1290 Embarcadero Road Battery Energy Storage System Project Historical Resource Evaluation, Morro Bay, San Luis Obispo County, California*. Rincon Consultants Project No. 19-08915. Report on file at the Central Coast Information Center, Santa Barbara, California

\*Attachments:  NONE  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Feature Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List):



**BUILDING, STRUCTURE, AND OBJECT RECORD**

\*Resource Name or # (Assigned by recorder) Morro Bay Power Plant

B1. Historic Name: Morro Bay Power Plant  
B2. Common Name: Morro Bay Power Plant  
B3. Original Use: Power Plant

B4. Present Use: Vacant

\*B5. Architectural Style: Mid-Century Modern

\*B6. Construction History: (Construction date, alterations, and date of alterations)

First phase of plant construction, 1953-1955; plant expansion 1961-1963; construction of Lila Keiser Park, 1971; construction of displacement oil tank, expansion of tank farm, expansion of switchyard, construction of gate house, circa 1975; construction of Harbor Boat House Facility, 1985; construction of Pacific Wildlife Care and Marine Mammal Center, 2005; demolition of tank farm tanks, circa 2012.

\*B7. Moved? No Yes Unknown Date:

Original Location:

\*B8. Related Features:

B9a. Architect: William G. Merchant

b. Builder: Bechtel Corporation

\*B10. Significance: Engineering Theme: Industrial Development

Area: Morro Bay

Period of Significance: 1955-1963

Property Type: Applicable Criteria: C/3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Site History

The property containing Morro Bay Power Plant remained vacant until 1941. By November of that year, the United States Navy acquired the land to establish a base. In the weeks just prior to the December 7, 1941, attack on Pearl Harbor, Navy crews began construction of what would become the Morro Bay Naval Station. Construction work on the study area included the clearing of trees from the site and construction of several buildings. Off-site development focused primarily on harbor improvements, such as the deepening of the channel, construction of a jetty and piers, improvements to the embarcadero, but also included construction of a new waterworks for the community of Morro Bay. On February 4, 1944, the installation was reorganized as the U.S. Naval Amphibious Training Base. Over 45,000 soldiers passed through the facility, receiving training in amphibious landings, troop and equipment transport, and conventional warfare. The base was decommissioned October 31, 1945, and 175 landing craft and a number of personnel were transferred to other military facilities. The property was soon transferred to the State of California in 1945 and to the County of San Luis Obispo that same year (Anonymous n.d.; Old Morro Bay 2022; Rossell and Peterson 2001). (Continued on Page 20).

B11. Additional Resource Attributes: (List attributes and codes)

\*B12. References:

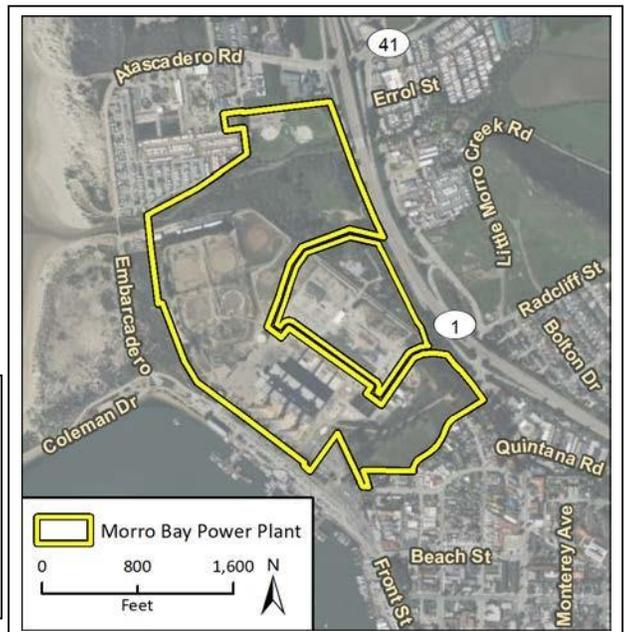
See Page 25-26

B13. Remarks:

\*B14. Evaluator: Rincon Consultants, Inc.

\*Date of Evaluation: March 2022

(This space reserved for official comments.)



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**\*P3a. Description: (Continued from Page 1)**

**Primary Features of Morro Bay Power Plant Within Project Site Boundary**

Generating Plant Building

The generating plant building is a multi-volume steel-framed structure with a flat, stepped roof, rectangular plan, and is clad large expanses of aluminum siding. The building is organized in three sections from east to west. Organized by function, the bay on the north housed the turbines; the middle bay was the firing bay; and the southern bay housed the boilers.

The building's tallest portion, comprising the south elevation, reaches the equivalent of nine stories and fronts the Embarcadero and Morro Bay. The elevation is largely obscured by the three stacks and is largely devoid of ornamentation or openings with the exception of vent openings. Ducts project from the elevation to the stacks and there are service bays at-grade between the stacks, providing access within.

The north elevation's first floor has a precast concrete exterior and includes two loading entries and two recessed areas with footings where transformers, since removed, once sat, and extended beyond the building. Similar to the south elevation, the floors above, clad in aluminum siding, are generally devoid of openings and include some small louvered vents at the west end. At the east end and west ends, transformer coils hang from anchors above the area where the transformers once extended. The elevation includes former vent pipes that connect to tanks on concrete footings below. This portion of the building's roofline terminates well below the south elevation and is topped with four penthouse structures that enclosed the boilers within. The two western penthouses are narrow, while the eastern penthouses are wider. The structures have flat roofs and are clad in the same aluminum siding described on other elevations, with decorative seams at each of the building.

The building's east and west elevations are largely identical and comprise the short side of the building. The elevations are clad in the same aluminum siding described above and generally devoid of any openings or ornamentation. The east elevation includes one delivery entry with a roll-up door and one man-door entry. The tallest portion of the elevation, made up of the end of the south elevation, includes a central panel with horizontal aluminum seam details that begin above the first floor level and continue to the roofline. The west elevation is similar except that a portion of the elevation is obscured by the adjacent Office/Warehouse/Machine Shop, described in more detail below.

**Overview of Generating Plant, North and West Elevation, Facing Southeast**

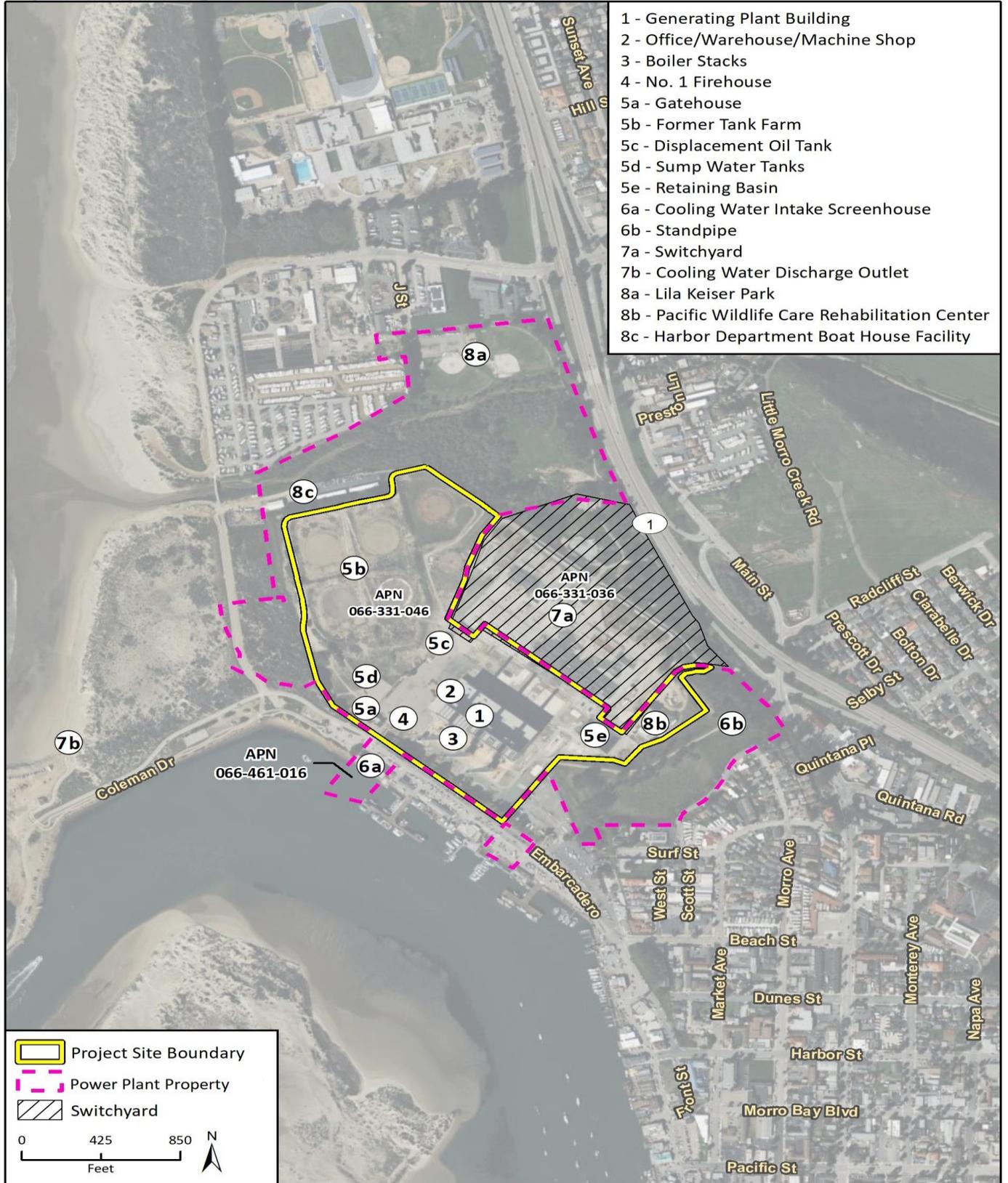


\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**Project Site Map and Legend**



- 1 - Generating Plant Building
- 2 - Office/Warehouse/Machine Shop
- 3 - Boiler Stacks
- 4 - No. 1 Firehouse
- 5a - Gatehouse
- 5b - Former Tank Farm
- 5c - Displacement Oil Tank
- 5d - Sump Water Tanks
- 5e - Retaining Basin
- 6a - Cooling Water Intake Screenhouse
- 6b - Standpipe
- 7a - Switchyard
- 7b - Cooling Water Discharge Outlet
- 8a - Lila Keiser Park
- 8b - Pacific Wildlife Care Rehabilitation Center
- 8c - Harbor Department Boat House Facility

Project Site Boundary  
 Power Plant Property  
 Switchyard

0      425      850  
 Feet      N

Imagery provided by Microsoft Bing and its licensors © 2022.

CRF Fig X Existing Sites Map

\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Office/Warehouse/Machine Shop

The building containing the office, warehouse, and machine shop adjoins the west side of the generating plant but is structurally independent. It is comparatively low in profile, ranging from one to three stories, with a generally horizontal emphasis. In addition to its smaller scale, its Industrial Modernist-style with International design elements differentiates it from the power generating building. The building is organized as three distinct spaces, with the office, warehouse, and machine shop differing somewhat in scale and design. The building has a steel-frame structure, with elements of its structural system visible in the form of vertical I-beams exposed at the base of the office. Facing materials here include corrugated metal panels, terrazzo veneer, and enamel-coated metal panels. Located on the west elevation, the main entrance is on the office's ground level and features recessed, automatically sliding, glazed metal double door. The doorway is flanked by sidelights and topped with a full-width transom light, all fixed metal-sash. The entrance opens to a simple concrete and brick plaza that lined with low concrete planters and a broad brick platform with a metal flagpole. Additional entrances, accessing the warehouse and office, include solid and glazed metal single and double doors and two warehouse bays with metal roll-up doors. North- and south-facing windows punctuate all three floors and include broad ribbons consisting of large fixed and smaller awning-type sashes. In some locations, the sashes are evidently replacements. A large focal window faces the south, directly above the main entrance.

**Overview of Office/Warehouse/Machine Shop, South and West Elevations, Facing Northeast**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Boiler Stacks

Three reinforced-concrete boiler stacks are placed at even intervals in front (south) of the power plant building. When the Power Plant was in operation, the stacks expelled flue gas produced by the burning of fuel. The westernmost stack dates the Power Plant's original construction and historically served Units 1 and 2. With an overall height of 450 feet, the stack is 42 feet 8 inches in diameter at the base, and tapers to a diameter of 17 feet, six inches at the top. Its interior is brick-lined. The stacks for Units 3 and 4 are of equal height, but are measure at 45 feet, 5 ½ inches across the base, and taper to 15 feet, 2 inches at the top. They are steel- and fiberglass-lined. Large steel-framed apertures allow for the connection of steel gas ducts from the south side of the generating plant. The stack for Units 1 and 2 differs from its counterparts in that the duct connections are on the east and west sides, rather than the north, and have had the ducts removed. Steel ladders ascend the stacks' exteriors.

**Boiler Stacks, Facing North from Morro Bay Harbor**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

No. 1 Firehouse

The No. 1 Firehouse is a one-story utilitarian building located southwest of the generating plant, near the main Embarcadero gate. It is rectangular in plan with a concrete foundation, flat roof, and standing-seam metal cladding. Fronting an internal roadway, the entrances are on the north elevation and include two central vehicle bays with roll-up metal doors flanked by standard entries with glazed metal doors. Above each standard doorway is a metal louvered vent. Windows are visible on the east elevation where there is a ribbon of one-over-four windows, which may each contain an awning-type pane, but are otherwise fixed. Windows on the opposing elevation are covered with non-original metal paneling.

**No. 1 Firehouse, North and East Elevations, Facing West**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**\*P3a. Description: (Continued from Page 1)**

**Secondary Features of Morro Bay Power Plant Within Project Site Boundary**

Gatehouse

Located immediately west of the main gate off Embarcadero and integrated into the adjacent security wall, the gatehouse, constructed in 1975, is a one-story office building exhibiting no discernible architectural style. The building is rectangular in plan, sits on a concrete foundation, and is topped with flat roof with rolled composition cladding a hipped visor. Its structural system is sheathed in stucco. The publicly accessible south-facing entrance fronts Embarcadero and consists of a commercial-type glazed metal door flanked by large, vertically oriented lights. Entrances on the north and west elevations face the interior of the property.

**Gatehouse, South Elevation, Facing North**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Former Tank Farm

Located at the northwest corner of the power plant complex, the former tank farm, constructed in 1953-1955 and expanded in about 1975, consists of the foundations of five demolished above-ground oil storage tanks protected by an earthen and concrete levee. Site constraints prevented the observation of the interior of the area and much of the levee. As a result, the following description is based on a combination of on-site visual observation and a review of satellite imagery. The earthen levee encloses all or most of the tank farm area, which has a rough L plan. Although the tanks were demolished in 2011 following the Power Plant's conversion to all natural gas fueling in the 1990s, impressions of the circular, approximately 180-foot-diameter footprints of individual tanks remain. Based on visual observation, the levee is trapezoidal and stands an estimated ten feet. Concrete-framed portals open on the east side of the structure, where pipelines formerly connected the tank farm to facilities outside the levee.

**Southeast Side of Tank Farm Levee, Facing Northwest**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Displacement Oil Tank

Situated immediately east of the former tank farm, with which it was historically associated, the displacement oil tank, constructed in about 1975, is a cylindrical, welded-metal tank. It sits on a slightly raised foundation and measures an estimated 75 feet in diameter and 30 feet in height. A full-height metal ladder and various appurtenances are visible on the south side of the structure.

**Southeast Side of Tank Farm Levee, Facing Northwest**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Sump Water Tanks

West of the generating plant and adjacent to the east side of the former tank farm, three above-ground storage tanks are clustered with associated appurtenances. "Sump Water Tank" is painted on the exterior of two of the tanks. Although the tanks share similar designs, two are slightly larger than the third. Each is cylindrical with an ellipsoid top. The exterior of each is concrete or a similar material, though it is unclear whether that reflects their structure, or they are only coated in the material. Heavy steel piping emerges from the sides of the tanks and is routed to an area at the rear (west) of the tanks. Features on the west side of the tanks were not visible during the field survey due to site constraints.

**Sump Water Tanks, Facing West**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Retaining Basin

The retaining basin, added to the Power Plant property in about 1975, is located immediately west of the generating plant building and south of the substation. It is a rectangular-plan, below-grade artificial basin measuring 200 feet long, 125 feet wide, and approximately six feet deep. The basin's walls are sloped and its floor roughly flat. It is segmented into three parts and lined in plastic. Steel pipelines connect the basin and generating plant, part of which are routed through a trench under the adjacent internal roadway and concealed by concrete coated metal panels.

**Retaining Basin, Facing East**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Additional Minor Features

The power plant also includes several additional minor features are located in areas immediately adjacent to the generating plant building. Generally, these include external mechanical equipment, tanks, tank and building foundations, trenches, and basins. One concentration occurs south of the generating plant building, immediately north of the wall that fronts Embarcadero. Included in this area are a large cylindrical above-ground storage tank, apparent circuit boxes, and apparent manual valve control features East and north of the generating plant there concrete building and storage tank foundations and trenches of unknown functions. A number of concrete pads are located in the area between the generating plant and switchyard.

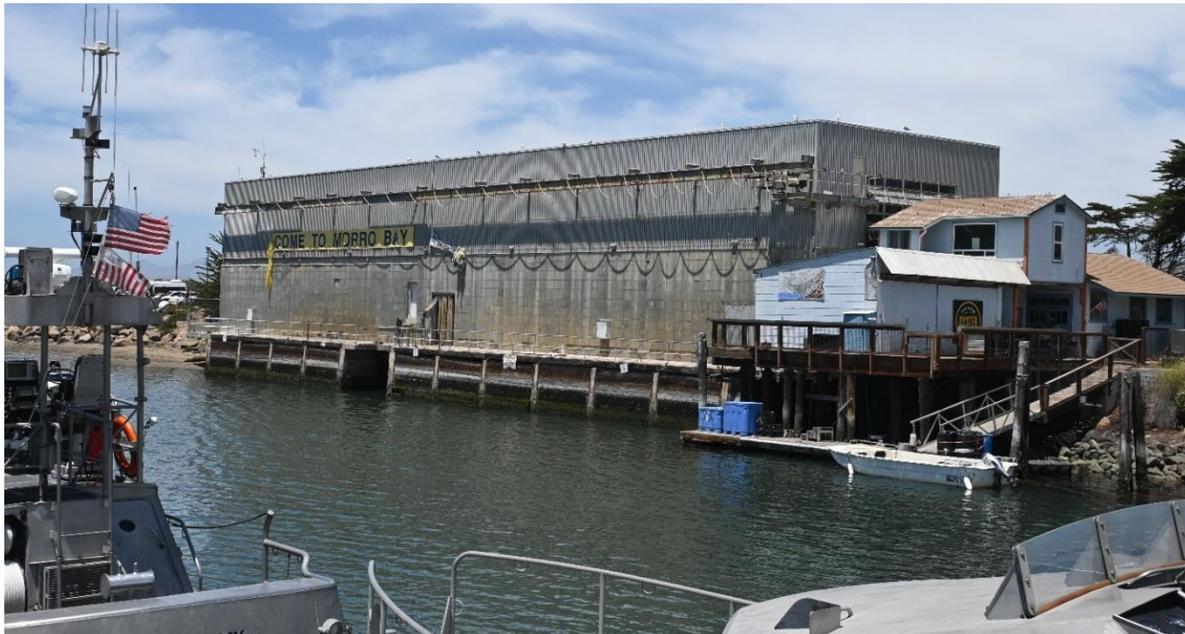
**Features of Morro Bay Power Plant Outside Project Site Boundary**

The Morro Bay Power Plant includes several associated features that relate to the Power Plant's historic operation that are outside the Project Site, but are on the Power Plant property. They include the cooling intake screenhouse and the standpipe, as described in the more detail below.

Cooling Water Intake Screenhouse

The cooling water intake screenhouse is situated off the main site, perched partially over Morro Bay Harbor. Constructed in two phases between 1954 and circa 1963, it is a two-story building constructed in the Industrial Modernist style with elements of International style architecture. The building is rectangular in plan and supported by a concrete foundation. Concealed by a straight parapet, its roof is flat and clad in rolled composition material. Wall cladding is generally characterized by standing-seam metal on the upper portions and concrete veneer in square panels below. On the street-facing north elevation, a section of the concrete-cladding extends upward to the parapet. Entrances are located on all sides of the building and include standard-size entry doors and loading bays with metal roll-up doors. A second-story entrance accesses a metal-rail balcony. All but the east elevation is windowless; it is penetrated by a ribbon of metal-sash awning-type windows. Additional features include a concrete supporting structure with a central channel fronting the harbor, concrete deck, and above the deck, a metal-beam feature suggestive of a wall-mounted gantry crane.

**Cooling Water Intake Screenhouse, South and East Elevations, Facing Northwest**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

Continuation  Update

Standpipe

Located approximately 950 feet east of the generating plant, the standpipe is a cylindrical, sheet-metal-clad water tank. A review of aerial imagery suggests the structure has an octagonal concrete foundation and is in an area enclosed with a chain-link fence. The standpipe's location is near the east corner of the property at the top of the ridge overlooking the power plant and substation.

**Standpipe Viewed from Scott Street, Facing Northwest**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**Features of Morro Bay Power Plant Outside Power Plant Property Boundary**

As described above, there are features of the Morro Bay Power Plant that are associated with its historic development and operation that are now outside the Power Plant property. They include the switchyard (APN 066-331-036) and the cooling water discharge outlet on an unparcelled piece of land on the Morro Bay beach, described in more detail below.

Switchyard

The open-air switchyard, first constructed in 1953, occupies a separate 27-acre parcel immediately north of the generating plant building. Although it is no longer run in conjunction with Morro Bay Power Plant, PG&E operates the facility as an electrical substation. The Power Plant consists of three ranks of transformers aligned east to west, a control building, and other electrical equipment that step down voltage electricity coming in on the transmission lines, to a much lower voltage suitable to distribute.

**Overview of Switchyard, Facing Northwest**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Cooling Water Discharge Outlet

The cooling water discharge outlet, constructed in 1953, is located offsite, immediately northeast of the base of Morro Rock. Connected to Morro Bay Power Plant by two 3,000-foot-long tunnels, the outlet convey water used in power plant operations into the Pacific Ocean. The exposed outlet feature is constructed of reinforced concrete with two portals separated by wingwall. Water flows from the outlet through a 225-foot-long, riprap-lined channel. The outlet and channel area is delineated by a chain-link fence, separating the feature from the adjacent public parking lot.

**Overview of Cooling Water Discharge Outlet and Channel, Facing South**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**Features Not Associated with Morro Bay Power Plant Operation**

The Power Plant property, in addition to being the site of the Morro Bay Power Plant, has a number of buildings and features not associated or functionally related with the historical development or operation of the power plant. They include the Lila Keiser Park, the Pacific Wildlife Care Rehabilitation Center, and the Harbor Department Boat House Facility, described in more detail below.

Lila Keiser Park

Lila Keiser Park, dedicated in 1971, is a public park operated by the City of Morro Bay, located at the far northern end of the Power Plant property. The park centers on a pair of baseball diamonds, playground, and picnic area. There are two permanent buildings on the property, a combination restroom-snack bar and an announcers booth. Both buildings are of simple, concrete-block construction and lack the hallmarks of any architectural style. The park occupies generally level terrain, with most areas outside the ball fields, playground, and picnic area occupied by a paved parking lot. Morro Creek forms a natural boundary between the park and power plant; the distinction between the properties is enhanced with fencing and landscaping along the south boundary, in addition to a separate park entrance from Atascadero Road.

**Baseball Diamond and Announcers Booth at Lila Keiser Park, Facing West**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Pacific Wildlife Care Rehabilitation Center

Pacific Wildlife Care Rehabilitation Center is a private animal care facility located on the east side of the Power Plant property. Added in 2005, the facility is accessible only from within the power plant property, but is delineated by a chain-gate and fencing on all sides. The facility consists of two portable buildings and several open-frame structures. The portable buildings are both one story in height, culminate in low-pitched gabled or sed roofs, and are clad in T1-11 siding. Windows are one-over-one metal sashes. Outside the footprints of buildings and structures, the facility is mostly unpaved.

**Overview of Pacific Wildlife Care Rehabilitation Center, Facing Northeast**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Harbor Department Boat House Facility

The Harbor Department Boat House, constructed in about 1985, is a public institutional property located at the northwest corner of the Power Plant property. Added to the Power Plant property by 1994, it consists of four metal-clad buildings situated in a narrow, rectangular area fenced off from the power plant and a neighboring property. At the far west end is a prefabricated building with the appearance of a Butler building. As such, it has a gabled roof, standing-seam metal roof and wall cladding, and a gable-end vehicle bay accessed via a metal roll-up door. Further east are a relatively small shed and two long, narrow storage buildings with multiple vehicle bays. Due to limited access, further details were observed.

**Butler-Type Building at Harbor Department Boat House Facility, North and West Elevations, Facing East**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

**\*P3a. Site History: (Continued from Page 3)**

Historical aerial photographs of the property show that, as late as 1949, there were two clusters of buildings located at the south end of the property, near the Embarcadero. While one building cluster was removed prior to the completion of the power plant, the other cluster remained until the early 1960s (UCSB 1949, 1959; NETROnline 1963). Research for this study found no evidence that any building or structure associated with the naval installation remains on the study area.

PG&E began planning for the construction of the Morro Bay Power Plant by the 1950s. It was intended to help satisfy the growing demand for electricity amid California's post-World War II-era development boom and coincided with a dramatic expansion of steam generating plants throughout the United States. The most pressing need the Morro Bay Power Plant would fill was accelerating demand for power to operate the San Joaquin Valley's growing number of agricultural irrigation pumps. Morro Bay was chosen as the Power Plant site due to its location at the mid-point of California's coastline. This situation was beneficial due to the affordable fuel costs in the area, its proximity to the target region (chosen to minimize transmission loss), and the availability of cooling water from the bay. Although the Power Plant was conceived as a facility containing as many as eight steam-turbine generating units, only Units No. 1 and No. 2 were planned for the Power Plant's first iteration. PG&E hired the San Francisco-based Bechtel Corporation to design the engineered elements of the Power Plant and architect William Gladstone Merchant, also of San Francisco, for architectural elements (Rossell and Peterson 2001; HCSLOC 2020).

Bechtel began construction of Units No. 1 and No. 2 in 1953. At the time, it was the largest construction project in the county since the erection of Hearst Castle (Middlecamp 2021). As many as 700 workers took part in the effort, which required the displacement of thousands of cubic yards of soil and the importation large quantities of steel and mechanical components. The heaviest imported component was as the 244-ton generator stator, which crews carefully trucked to the site along SR-1 from the nearest rail connection at Camp San Luis Obispo, ten miles to the north.

Bechtel, the firm responsible for building the subject plant had a significant role in the expansion of steam generating plants in the United States. The firm was responsible for the construction of several plants in California and other western and midwestern states in the 1950s: Contra Costa, Pittsburgh, El Segundo, Long Beach, Eureka, as well as Salt Lake City and Price, Utah, Phoenix, Arizona, and Joppa, Illinois. This push was instrumental in the growth of the firm and its prominent international standing.

**Morro Bay Power Plant Under Construction, 1954**



\*Recorded by: JulieAnn Murphy

\*Date: March 2022

Continuation  Update

As the Power Plant neared completion, authors J. George Thon and Gordon L. Coltrin profiled the facility in a 1955 issue of the Society of American Engineers Proceedings. As summarized below, the issue highlighted several innovative features of the Power Plant, including its marine refueling system, fuel oil tank farm (no longer extant), saltwater evaporators, cooling water intake and discharge systems, original boiler stack, and turbine foundations.

Construction of the offshore fueling system proved a technical and logistical feat. The system consisted of a "marine anchorage," offshore pipeline (about 4,500 feet), onshore pipeline (about 1,250 feet), and a tank farm consisting of 168,000 barrel tanks. The system's design allowed an input of 8,000 barrels per hour. The anchorage included five 10-ton permanent anchors, each attached to a mooring buoy. There was a hose to connect to the oil tanker and pump fuel into the system. As described by Thon and Coltrin, "[t]he installation of the marine fuel line was quite spectacular from the standpoint of coordination between land and sea construction forces." Segments of pipeline were assembled on the beach pulled into the surf by a winch operated from a barge offshore. As coordinated by land and sea crews by a combination of radio and hand signals, after a segment of pipeline was pulled into the water to a certain length, a new segment was welded onto the onshore end, and the process repeated to assemble the entire length of the marine pipeline. Overall, the installation was accomplished in 15 hours and 30 minutes (Thon and Coltrin 1955).

Prior to construction, the site was occupied by sand dune reaching 30 feet in elevation above the generating plant site, conditions susceptible to erosion. To erect the protective dikes, the area was cleared of sand, and then rebuilt in compacted layers. Ice plant was planted along the embankments to prevent erosion and misters installed along the tops of dikes to disperse sufficient water to ensure the soil would cohere (Thon and Coltrin 1955).

Thon and Coltrin also highlighted the Power Plant's innovative use of seawater evaporators to provide the boilers and other elements with distilled fresh water. Engineers determined each of the Power Plant's generating units would require 80 gallons per minute of fresh water, the largest quantities of which would go to boiler makeup and pump lubrication. Although several direct sources of fresh water were studied, engineers ultimately settled on sea water evaporators to purify water pulled from Morro Bay Harbor. Although use of seawater evaporators was common on seagoing ships, it was believed that installation of evaporators at Morro Bay Power Plant, as adapted by PG&E supervising mechanical engineer Albert W. Bruce, would be the first use of such technology in a terrestrial industrial setting (Thon and Coltrin 1955). The triple-effect evaporators installed at the Power Plant were designed to purify 50 gallons of water per minute to provide boiler makeup and "utility water," by subjecting water from the bay to three cycles of evaporation, which separated (and collecting) relatively pure water condensate from the brine, which was discharged into the ocean (Thon and Coltrin 1955).

Incorporation of seawater evaporator technology into Morro Bay Power Plant's design set a precedent for modern power plants. By 1974, the inclusion of such evaporators was *de rigueur* for American steam generating facilities. Among the technology's main benefits, it circumvented the traditional reliance of fresh water sources, allowing planners greater discretion in the siting of plants (Rossell and Peterson 2001; *Electrical West* 1968).

As reported by Thon and Coltrin, project geologists determined the land on which the Power Plant was built, including the layer of soils introduced as fill by Navy engineers in the 1940s, was highly subject to subsidence, or the gradual sinking or settling of land. To minimize the compression of the land on which the generating units were built, a concrete mat foundation (rather than piles) was selected as a means of distributing the Power Plant's weight and thereby reducing the anticipated compression of soils. There were other advantages to the mat foundation, including that it would allow for construction of a basement, in which condensers and other equipment could be stationed; reduce construction time relative to that of a pile-based superstructure; and added further to the time savings by allowing the installation of some mechanical services in the basement concurrent with the construction effort (Thon and Coltrin 1955).

In addition to the subsidence issues, the size and speed of modern turbine generators, such as those installed for Units 1 and 2, required careful design of the concrete pedestal foundations on which the machinery was to be installed in order to withstand the dynamic loads produced by the generators (Thon and Coltrin 1955).

The stack was constructed to discharge flue gas generated by burning fuel oil. The 14-foot nine-inch interior diameter of the upper opening was designed to allow for a pressurized, "jet-like" effect that would discharge of gases "an appreciable distance above the stack, adding to its effective height." The stack and its pile foundation were engineered to satisfy the most up-to-date seismic standards for structures of its type (Thon and Coltrin 1955).

In addition, Morro Bay Power Plant's many technical highlights, a key architectural feature of its design was the aluminum sheathing that enveloped the generating facility, cladding that was unusual in steam plant design and applied primarily for aesthetic reasons. As Rossell and Peterson explain, however, the design was emblematic of reigning Modernist architectural approaches.

\*Recorded by: JulieAnn Murphy

\*Date: March 2022

Continuation  Update

"Aluminum was a signature material reflecting the modern age and being particularly appropriate for an industrial building due to its being an industrial material and its clear lines reflecting machine precision. The 1950 Johnsonville, Tennessee TVA steam-electric plant was featured as one of twelve industrial buildings sheathed in the material for Reynolds Aluminum two volume set of 1956 entitled Aluminum in Architecture. But numerous signature building of the age were similarly designed and decorated such as Equitable Savings and Loan, Pietro Belluschi, Portland, Oregon, 1948; the Illinois Institute of Technology, Mies van der Rohe, Chicago, 1940; Lake Shore Apartments, Mies van der Rohe, Chicago, 1952; General Motors Technical Center, Eero Saarinen, Detroit, MI, 1951-5; and the Alcoa Building, Harrison and Abramovitz, Pittsburgh, PA, 1953. Phillip Johnson commented that there was "nothing [that] can equal aluminum for extrusion" and that "there is a sharpness and a definition which, added to the lightness of the natural material, makes it perfectly natural for the outside of buildings"

Aside from its aesthetic implications, the Power Plant's aluminum shell bore many practical benefits. Aluminum is a relatively lightweight material, and its use in construction may have reduced shipping and labor costs, in addition to reducing the load on the building's structural system. The material is also relatively resistant to corrosion, an important consideration, given Morro Bay's coastal location. That the material is heat-reflective may have been a factor in light of California's relatively warm and sunny climate. Additionally, aluminum does not produce sparks when struck, an important characteristic in a setting where high volumes of gas are being used (Rossell and Peterson 2001).

Morro Bay Power Plant was completed in July 1955 as the sixteenth steam plant in PG&E's system. A symbol of the Power Plant's regional importance, the San Luis Obispo Telegram-Tribune published an eight-page special section on the facility's opening on July 7, 1955. The section's glowing coverage mostly detailed the construction effort and the workings of various mechanical components of the Power Plant (San Luis Obispo Telegram-Tribune 7/7/1955). At the time of its completion, the \$44 million plant centered on the two original generating units, one of the existing boiler stacks, the International Style combined office/warehouse/machine shop, the cooling water intake facility (though it was then about half its current size), a four-tank fuel oil tank farm, colling water discharge outlet adjacent to Morro Rock, offshore fueling connection and pipeline, the western portion of the existing switchyard, and other minor feature. In its early years, there was a large neon sign reading "PG&E" on the Power Plant's roof (no longer extant), and the stack was illuminated at night with flood lights (Rossell and Peterson 2001; Thon and Coltrin 1955).

The Power Plant's importance locally was soon realized. For one, it was instantly identified as an important man-made landmark and counterpoint to nearby Morro Rock (Rossell and Peterson 2001). However, the Power Plant's significance extended beyond aesthetics. At least one report has observed that "tax dollars from the Power Plant gave stability to the San Luis Coastal School District and provided a base for Morro Bay to become a city" (Kmetz 2014).

In 1960, PG&E president N.R. Sutherland announced plans to double the Power Plant's size. Although early news media coverage reported the utility's plans for only one additional 330,000-kW generating unit, it was eventually revealed PG&E intended to build two units of the same capacity. As part of the expansion, PG&E would also add to the on-site switchyard and construct a new 220-kV transmission line between the switchyard and the San Joaquin Valley. Costs were estimated at \$40 million per unit, with labor needs projected as high as 400 individuals (*The Californian* 4/20/1960; *Fresno Bee* 4/20/1960; *San Luis Obispo Tribune* 12/24/1960). Once completed, Units 3 and 4 would triple the Power Plant's original capacity, bringing its generating power to 990,000 kW, or as one report put it "enough electricity to supply two cities the size of San Francisco" (*Santa Maria Times* 1/27/1961). At this capacity, the Power Plant would be the second most powerful in PG&E's system, ranking behind only the company's Pittsburg facility in Contra costa County. Initially, PG&E was identified as the designer and builder, but it was revealed in December 1960 that PG&E hired Oakland-based construction firm Johnson Drake and Piper, Inc. to handle excavation and foundation construction for the power plant expansion. Under the construction contract, excavation would be 17 feet deep to accommodate an "underground water conduit, piling, basement work, and pedestals for two cross-compound turbine generators" (San Luis Obispo Tribune 12/24/1960).

Units 3 and 4 were completed in 1962 and 1963, respectively. The additions included new turbines, two additional concrete boiler stacks, and the expansion of the generating plant building to its current footprint (Rossell and Peterson 2001). A review of historical aerial photographs shows the switchyard was expanded by 1963. It is presumed the expansion of the cooling water intake screenhouse circa the 1960s was undertaken as a part of this expansion (NETROnline 1956, 1963). Based on a review of historical aerial and site photographs, additions to the generating plant and colling water intake screenhouse were compatible in style and materials with the original buildings.

By the 1970s, PG&E began leasing or selling areas on the perimeter of the property to the City for use as a public park, RV camping facility, storage for fishing gear. Increasingly, sensibilities and regulations concerning environmental impacts made it infeasible for PG&E to develop these areas for plant expansions. Opposition on environmental grounds may have caused the utility to abandoned plans for the development of two new above-ground storage tanks, one proposed immediately north of Morro Creek (MBPP Ad Hoc Committee 2007; PG&E 1973). As part of the civic development of the plant property, Lila Keiser Park was developed at the north end of the Power Plant property and dedicated in June 1971 (MBPP Ad Hoc Committee 2007; San Luis Obispo Tribune 6/19/1971). Other non-utility developments included a recreational vehicle campground and storage for fishing gear (MBPP Ad Hoc Committee 2007).

\*Recorded by: JulieAnn Murphy

\*Date: March 2022

Continuation  Update

Over the Morro Bay Power Plant's first 40 years of operation, it used oil and natural gas alternately as fuel. In 1996, PG&E abandoned oil fueling at the property and transitioned the Power Plant to solely natural gas fueling. The above-ground storage tanks at the on-site oil-fuel tank farm were apparently made obsolete by this decision and were eventually demolished (Rossell and Peterson 2001; NETROnline 2010-2012).

In November 1997, following the deregulation of the State's utilities, PG&E sold the majority of the property to Duke Energy as part of California's state requirement to break up monopoly power generation (Middlecamp 6/19/2021). In 2006 Duke Energy sold the plan to LS Power. In 2007 LS Power merged its assets with Dynegy Inc. Between 2010 and 2012, the above-ground storage tanks of the tank farm were razed, leaving the protective embankments in place. The Power Plant closed in February 2014 because of environmental regulations that would have required updating the filtering technology for its ocean water cooling system (Wilson 7/29/2014). Vistra Corporation merged with Dynegy in 2018 and continues to own the Power Plant today.

#### William Gladstone Merchant

William Gladstone Merchant (1889-1962) was born in California in 1889 and was educated at the Wilmerding School of Industrial Arts in San Francisco. He graduated in 1909 and supplemented his education with private classes in engineering in 1912. Merchant worked briefly for John Galen Howard in 1909. Between 1909 and 1911, Merchant worked in the offices of Charles Wittlesay and William Woollett. From 1911 to 1914, Merchant worked for Bernard Maybeck, famed architect of the Arts and Crafts Movement, on the Palace of Fine Arts for the Panama Pacific International Exposition in San Francisco in 1915. Merchant was also the designer in charge of exhibits at the Palace of Fine Arts. Merchant obtained his architectural license in 1918 and worked in the office of George W. Kelham until 1928. Merchant then spent a year traveling in Europe in 1929 and returned to San Francisco to open his own practice in 1930 (Online Archive of California 2003; Healdsburg Tribune 03/01/1962).

Between 1932 and 1939, Merchant was the consulting architect for the San Francisco Recreation Commission. In this position, he worked as architect for the development and reconstruction of 28 San Francisco playgrounds. During this time (1935-1937) Merchant also worked on a number of residences with the firm Maybeck and White. From 1935-1939, Merchant served on the Architectural Commission for the Golden Gate International Exposition. For the Exposition, Merchant designed the Pacific House, the Temples of the East, the California Recreation Building, the Redwood Empire Building in association with Bernard Maybeck, as well as several other small buildings (Online Archive of California 2003; Healdsburg Tribune 03/01/1962).

Beginning in 1943, Merchant served as the architect for the World Trade Center in San Francisco. Due to lack of funds, Merchant's 1951 plan for a complex of buildings at the foot of Market Street was abandoned. Instead, the World Trade Center was incorporated into the North Wing of the existing Ferry Building. In 1946, Merchant expanded his practice as William G. Merchant & Associates. This firm completed projects for, among others, the Sailors Union of the Pacific, Pacific Gas & Electric, San Francisco State College and continued work for the San Francisco Recreation and Parks Dept. He designed the Morro Bay Power Plant in 1953. In 1960 the firm was granted the commission to rehabilitate the crumbling Palace of Fine Arts Building, but Merchant passed away just two years into the project in 1962 (Online Archive of California 2003, Healdsburg Tribune 03/01/1962).

#### Historical Evaluation:

Morro Bay Power Plant, inclusive of those elements associated with the development and operation of the Power Plant from 1955 to 1963, is recommended eligible for listing in the NRHP and CRHR, under Criterion C/3. It lacks significance under Criteria A/1 and B/2 and was not assessed for significance under Criterion D/4, which typically does not apply to built environment resources.

Morro Bay Power Plant was constructed as a steam-turbine power generating plant between 1953 and 1955 and expanded with two new generating units between 1961 and 1963. PG&E completed the Power Plant as the sixteenth generating plant in its system and, at the time, the most expensive construction project in San Luis Obispo County history. The Power Plant proved to be a valuable source of jobs, and local tax revenues it generated underwrote the consolidation of a regional school district and incorporation of the City of Morro Bay. Changes in state regulations on utilities led PG&E to sell the Power Plant in the 1990s, after which time the Power Plant's new owners came to regard the facility as obsolete. Following fruitless efforts to construct a new generating facility on the site, Morro Bay Power Plant was permanently shuttered in 2014. Research for this study found no evidence Morro Bay Power Plant was significant in the history of PG&E. It was neither first nor largest of the utility's steam plants and does not singularly represent any event related to the firm. Nor was the Power Plant significant in the wider history of electrical utilities or steam generation of electricity. By all accounts, it was one among many plants constructed during a boom period in steam generating plant construction between the end of World War II and 1970. Although completion of the Power Plant was a financial boon to Morro Bay and San Luis Obispo County, the local events to which the property is most closely linked, the reorganization of the region's schools and incorporation of Morro Bay, reflect the types of events that mark the maturation of communities everywhere and do not meet the significance thresholds for Criteria A/1. No available evidence indicates the Power Plant is significant in the context of any other event important to the history of the City, region, State, or nation (Criterion A/1).

\*Recorded by: JulieAnn Murphy

\*Date: March 2022

■ Continuation □ Update

Eligibility criteria for listing in the NRHP and CRHR under Criterion B/2, require a property be associated with the lives of persons significant in our past. Archival research failed to indicate that any individual had a documented association with the study area (Criterion B/2).

The Morro Bay Power Plant appears eligible for listing in the NRHP and CRHR under Criterion C/3 for its engineering and architectural merit. The system, designed by engineering firm Bechtel in association with PG&E, was an innovative engineering design. The system design, including the process for converting sea water to freshwater, the impressive steel and brick-lined concrete stacks with an innovative seismic design, the dynamic turbine generator foundations, and the submarine pipeline for the delivery of fuel from ocean tankers represent a significant engineering achievement. Furthermore, the power plant's architectural design, by prominent architect William Gladstone Merchant (1889-1962), is an excellent example of Industrial Modernist architecture with elements of International Style design, most clearly expressed in the generating plant's aluminum cladding. The design is further reflected in the exposed I-beams and aluminum band windows of the office. It is the work of a master and a distinctive example of his work. Under Criterion C/3, Morro Bay Power Plant's period of significance begins in 1955 with the completion of the first iteration of the facility, which included Units 1 and 2 of the generating plant, the office/warehouse/machine shop, westernmost boiler stack, tank farm, west half of the cooling water intake screenhouse, and west portion of the switchyard, among other features. The period of significance concludes in 1963, when the second phase of construction was completed, including Units 3 and 4 of the generating plant and the center and east boiler stack. The expansions of the cooling water intake screenhouse and switchyard were also executed at this time.

The elements of the Power Plant that are most essential to convey Morro Bay Power Plant's historical significance include components on the Power Plant property and within the Project Site that reflect the excellent expression of the Industrial Modernist architecture inclusive of elements of the International style and/or components integral to the plant's operation in the period between 1955 and 1963. These include the entirety of the generating plant, the office/warehouse/machine shop, all three boiler stacks, and the No. 1 Firehouse. Contributing features outside the Project Site include the cooling water intake screenhouse Screenhouse and the Standpipe. Other elements that appear to be integral the Morro Bay Power Plant's historical significance, but are not on the Power Plant property include the switchyard and cooling water discharge outlet. They were observed and recorded from the right-of-way for this study, but may require additional evaluation to confirm eligibility and integrity.

As outlined above, the gatehouse, tank farm, displacement oil tank, sump water tank, retaining basin, and several other minor features, were either developed after 1963 or do not retain sufficient integrity to convey their historic association with the Morro Bay Power Plant, especially evident in the tank farm which was demolished in recent years.

All other elements are not directly associated with the power plant, or were constructed or substantially altered after the period of significance. Those include the Lila Kaiser Park, the Pacific Wildlife Care Rehabilitation Center, and the City of Morro Bay Harbor Department facility.

The Power Plant has remained largely the same since its 2001 evaluation and possesses sufficient integrity to the period of significance of 1955-1963 to convey its significant historical associations. The Power Plant is in its original location at the edge of the Morro Bay Harbor and adjacent to Morro Rock and retains integrity of location and setting. It retains integrity of design, materials, and workmanship through the retention of its original design as a steam powered power plant, despite the loss of some elements of the Power Plant design, including the removal of fuel tanks in 2011. Its materials and workmanship are further reflected in its intact stacks and aluminum panel building exterior. These elements, when considered together, demonstrate the site's feeling and association as an innovative steam powered power plant exhibiting hallmarks of the International Style architecture. The Morro Bay Power Plant appears eligible for listing the NRHP/CRHR Criterion C/3.

This evaluation did not include an archaeological evaluation, the property was not assessed for eligibility under Criterion D/4.

**\*B12. References (continued):**

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\*Date: March 2022

■ Continuation  Update

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