Historical Resource Evaluation of the Herndon Substation, Fresno County, California

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ABSTRACT

Pacific Gas and Electric Company (PG&E) propose to demolish the Control Building at its Herndon Substation in northwest Fresno. A permit for demolition must be approved by the City of Fresno, and therefore a historical evaluation of the property is required. The Control Building was an integral operating element of the larger substation built in 1931. The facility was home to innovative technology and symbolized the merger between two of California's largest power companies.

At the request of PG&E, Applied EarthWorks, Inc. (Æ) evaluated the significance and integrity of the Herndon Substation and assessed its eligibility for inclusion in the California Register of Historical Resources and the City of Fresno Local Register of Historic Resources. Æ found that the substation is associated with the merger of PG&E and the San Joaquin Light and Power Corporation, and that it played an important role in the economic and social growth of the region in the period 1931–1941. Because of its association with these important events, the substation is significant under California Register Criterion 1 and Local Register Criterion i.

In addition, Æ found that the Herndon Substation is significant under California Register Criterion 3 and Local Register Criterion iii because of the distinctive state-of-the-art technology installed and maintained at the substation during its period of significance. Despite its significant historical associations and distinctive technological characteristics, however, the Herndon Substation does not retain sufficient integrity to qualify for the California Register or Local Register. The massive transformers, crane and crane building, water and oil tanks, and all other original electrical equipment have been removed during facility upgrades through the years. Due to the removal of the original equipment, addition and replacement of power lines and control mechanisms, and the overall changes in design and configuration, the substation has lost integrity and no longer has the ability to convey its important historical associations or technological characteristics.

Æ also evaluated the original Control Building at the substation individually because of its age and architectural characteristics. Like the larger substation, the 1931 Control Building is associated with significant historical events. However, the two-story Art Deco–style building displays simple character-defining features commonly seen throughout Fresno County, is not associated with important individuals, and does not embody the distinctive characteristics of early 1930s Art Deco construction, nor represent the work of a master, nor possess high artistic values. Neither does it have potential to yield important new information not available from documentary sources. Thus, the Control Building is not significant under any of the criteria.

Because the 1931 Control Building is the only remaining element of the original substation, the surrounding electrical systems for which the building existed are no longer present, and the original control equipment housed inside the building has been removed, the structure lacks physical context and suffers from the same loss of integrity that afflicts the larger substation site. It cannot individually convey is significant historical associations, and thus it is Æ's judgment that the 1931 Control Building is not individually eligible for the state or local register.

CONTENTS

FIGURES

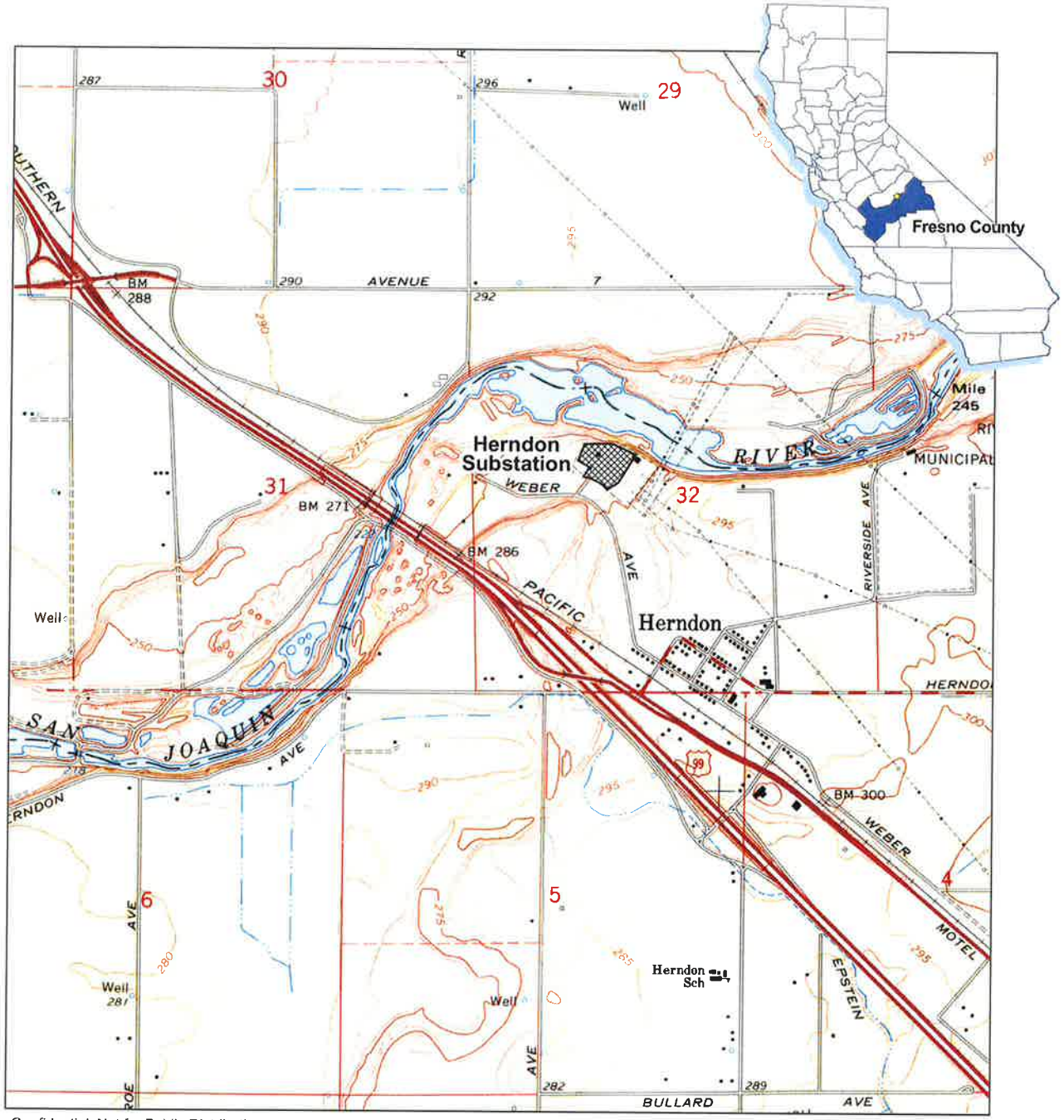
FIGURES (continued)

1
INTRODUCTION

Pacific Gas and Electric Company (PG&E) proposes to demolish the control building (Figure 1-1) at its Herndon Substation in northwest Fresno, California. As the building is located within the City boundaries, PG&E must obtain a permit from the City for the proposed demolition. The City of Fresno Historic Preservation Ordinance specifies procedures to be followed when the city receives an application for a demolition permit for a building greater than 50 years old that may qualify as a historic resource. To meet City requirements as well as provisions of the California Environmental Quality Act (CEQA), PG&E retained Applied EarthWorks, Inc. (Æ) to complete a historical evaluation of the Herndon Substation. Æ evaluated the substation as a single unified site because the individual buildings, structures, and other features are linked functionally and historically, functioned together within a relatively restricted time frame, and reflect the single historical theme of hydroelectric power transmission and distribution during the first half of the twentieth century. Because of its age and architectural qualities, Æ also evaluated the Control Building individually.

Figure 1-1 **Control Building at the Herndon Substation, view to the northeast (Applied EarthWorks, August 2008).**

PG&E owns the acreage upon which the Herndon Substation stands. This power-conducting substation is northwest of the community of Herndon within Fresno County (Figure 1-2). The site lies along the San Joaquin River northeast of the Union Pacific (formerly the Southern Pacific) Railroad and Highway 99 (Figure 1-3). Built in 1931 to connect the electric systems of PG&E and the San Joaquin Light and Power Corporation (SJL&P), this substation solidified the merger of two great California energy providers. All that remains of the original facility is the Control Building. The current configuration of the substations is shown in Figure 1-4.



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Prepared by Applied EarthWorks, Inc.

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Fresno North, CA
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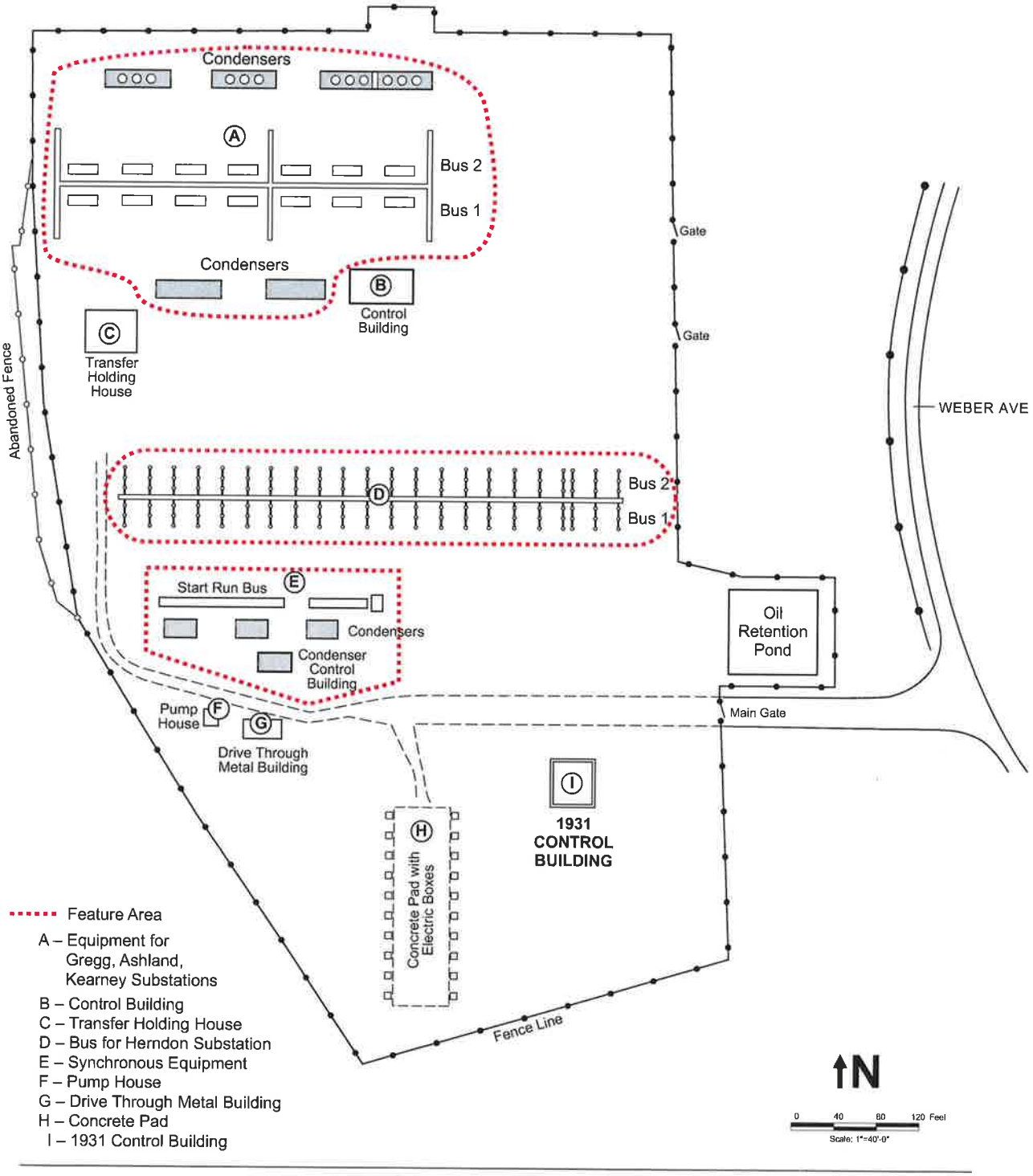
Figure 1-2 Location of Herndon Substation in Fresno, California.

Figure 1-3 Herndon Substation study area.



Map Source: PG&E General Arrangement Map #469102, Date 8/15/2005

Figure 1-4 Current configuration of the Herndon Substation.

2
RESEARCH METHODS

Applied EarthWorks, Inc. (Æ) carried out three basic tasks to complete the documentation and historical evaluation of the Herndon Substation and its Control Building. First, Æ performed site-specific research on the history of the substation and more general research on regional electric production and distribution. Then Æ's architectural historian visited the substation to describe and document its various features. Finally, Æ applied the significance criteria and standards of integrity of the California Register of Historical Resources and the City's Local Register of Historic Resources, within the historical context defined through the background research, to evaluate the significance and integrity of features within the substation. Each of these steps is described in greater detail below.

2.1 BACKGROUND RESEARCH

Background archival research had two goals: (1) to gather as much specific data as possible about the history and operation of the Herndon Substation and (2) to collect sufficient general information to construct a historical context for the evaluation of the substation and Control Building. On July 9 and 10, 2008, Æ architectural historian Aubrie Morlet visited the PG&E Records Department in Brisbane, California, to review company files on the Herndon Substation. Other information sources included the California Room of the Fresno County Library; the Woodward Special Collections and the Map Room at the Henry Madden Library, California State University, Fresno; and Æ's own in-house library. Historical documents were also obtained from Internet sources such as the online archives of the Huntington Lake Big Creek Historical Conservancy (huntingtonhistorical.org) and PG&E's Web site (PG&E.com).

Charles M. Coleman's *Centennial Story of P.G. and E. in California* (1952) presents a thorough history of PG&E and SJL&P that provided much of the contextual information about the development of energy in California and the Central Valley. In addition, *Fresno County, The Pioneer Years* (Clough and Secrest 1984) and articles from the *Fresno Morning Republican* furnished information on the town of Herndon, of which little is known. Much of the site-specific data about the Herndon Substation—including maps, correspondences, and other documents—was found in the PG&E archives in Brisbane, California. Articles from the *Fresno Bee* (1923a, 1923b, 1927, 1929a, 1929b, 1929c, 1929d, 1930a, 1930b, 1931, 1935, 1939, 1962a, 1962b, 1964a, 1964b, 1965, 1967, 1970) were also very helpful in piecing together the history of energy development in Fresno County and the social atmosphere surrounding its growth.

2.2 DOCUMENTATION

On August 1, 2008, Morlet visited the study area to document the substation on a California Department of Parks and Recreation Primary Record (DPR 523A) and Building, Structure, and Object Record (DPR 523B). These forms describe the substation features and summarize its significance. Photographs were taken with an Olympus Stylus 410 digital camera. Completed forms and photograph records are provided in Appendix A of this report.

2.3 EVALUATION

Aubrie Morlet evaluated the substation as a whole and the Control Building individually for historical significance by applying the criteria of the California Register with reference to the context presented in Chapter 3. Whereas the criteria provide the general standards of significance, the context delineates the specific themes (i.e., currents within the flow of history) to which a resource may be related. Significance is based on how well the subject resource represents one or more of these themes based on its specific history and the people associated with the resource, as well as its inherent qualities (i.e., architecture and potential to yield information about the past).

To be considered a good representative of a particular theme, a resource not only must possess significant qualities but also must retain integrity—it must preserve the character of its original form. The seven aspects of integrity are location, setting, feeling, association, workmanship, materials, and design (see Section 5.1). All of these factors were considered during evaluation.

Additionally, the substation and Control Building were evaluated for eligibility to the City of Fresno's Local Register of Historic Resources. The City's Historic Preservation Ordinance was approved by the City Council in 1979 as Article 4, Section 13 of the Fresno Municipal Code. Section 13-406, Designation Criteria, were used to evaluate local significance.

3
CONTEXT

3.1 THE COMMUNITY OF HERNDON

The small community of Herndon (originally named Sycamore) got its start in 1868 when an adventurous young Charles E. Striven recovered a ferry scow washed down the San Joaquin River. He decided to travel a little farther downstream and establish his own ferry service near the main road in Fresno. Not longer after, he married Mary Parker, daughter of a local store owner, and settled on the south side of the San Joaquin River. Besides running a ferry service, the couple built a trading post to provide supplies for the travelers. When the Southern Pacific Railroad (now Union Pacific) reached the San Joaquin River in 1872, a wooden bridge was constructed for the trains; the stop on the south side of the river was named Herndon after the local section boss. This stop enticed new residents, and the community began to grow. In the early 1880s, Striven and other members of the community created the Lorena School District, named after Striven's daughter, the first child born in Sycamore (Winchell 1927). In 1884 a wooden bridge was built to carry the road across the San Joaquin River and, as a result, the ferry service went out of business.

The 1880s was a time of growth for the community of Sycamore. By 1886, the town had a new school house, a general store, a hotel, a feed stable, a slaughterhouse, a blacksmith shop, and a saloon (*Fresno Republican* 1886). Just a year later, "Lots in Sycamore have doubled in value on account of the branch road the Southern Pacific is to build" (*Daily Republican* 1887). Soon after these reports, requests from the community were answered and a post office was established in Sycamore with Charles E. Striven named as postmaster. The post office name was quickly changed to Herndon to match the railroad stop, and the community would soon follow suit. The last of the old names disappeared when the Lorena School District board voted in September 1918 to change its name to the Herndon School District (*Fresno Morning Republican* 1918).

The community of Herndon continued to prosper until a highway project diverted traffic away from the area in 1929. A new concrete bridge was built on the west side of the Southern Pacific Railroad tracks, separating the community of Herndon from the flow of traffic (Thorburn 1925). As a result, community growth came to a standstill. The Herndon Substation was constructed in 1931 but it did not affect the economy of the community. Today, the area around the community of Herndon contains many homes and industrial businesses.

3.2 SAN JOAQUIN LIGHT AND POWER

SJL&P provided electricity to seven San Joaquin Valley counties, including Fresno, Kings, Kern, Madera, Merced, and Tulare counties (San Joaquin Light and Power Corporation 1923). SJL&P also supplied the electrical current distributed by the Midland Counties Public Service Corporation in Monterey, San Luis Obispo, and Santa Barbara counties. SJL&P had its beginnings on April 2, 1895 as the San Joaquin Electric Company when company co-owner and design engineer John S. Eastwood built Powerhouse No. 1 on the San Joaquin River 37 miles

east of Fresno. The San Joaquin Electric Company was able to successfully transfer power via transmission lines (Rehart 2000). As a result, the City of Fresno awarded the company a contract on March 7, 1896 to light 100 or more incandescent lights on the streets of Fresno (Clough and Secrest 1984:321). However, due to the mismanagement of contracts, San Joaquin Electric Company declared bankruptcy in 1899.

William C. Kerchoff and A. C. Balch purchased the company in 1902. They also owned other smaller utilities such as the Fresno City Water Company and Fresno City Railway. These companies combined were renamed the San Joaquin Power Company, and Albert G. Wishon was named manager. The Fresno City Railway, powered by the San Joaquin Power Company, changed its name to the Fresno Traction Company in 1903 and was sold to the Southern Pacific Railroad over a period of several years, finalizing in 1936.

The San Joaquin Power Company was renamed and incorporated as the San Joaquin Light and Power Company on May 13, 1905 (Clough 1986:248). It was to play an important role in supplying electricity to Fresno and the rest of the San Joaquin Valley, where large areas were being farmed and towns were being established and growing in response to the booming agricultural industry. The same transmission lines that brought electricity to the towns also provided energy for agricultural irrigation pumps. SJL&P played a crucial role in the growth of the San Joaquin Valley as the leading agricultural force in California. By 1920, SJL&P was an established and significant public utility, with 11 powerhouses and a vast array of transmission lines throughout the valley (Coleman 1952:199). In 1930, SJL&P merged with Great Western Power Company, and both became part of PG&E. The SJL&P name and identity finally merged completely into PG&E in 1938.

3.3 PACIFIC GAS AND ELECTRIC COMPANY

PG&E was already a major provider of power to Northern California by the time that it purchased controlling stock in SJL&P. Incorporated on October 10, 1905 and consolidated with California Gas and Electric Corporation and San Francisco Gas and Electric Company in 1906, PG&E provided service to more than 15 counties. At the end of 1927, almost a million customers and 46 of 58 California counties were purchasing PG&E's energy (Coleman 1952:280). The acquisition of SJL&P and the California branch of Great Western Power Company in 1930 solidified PG&E's jurisdiction. With the deal, PG&E acquired 14 hydroelectric power plants as well as gas and electric customers from more than 10 counties.

During the Depression years, all construction projects not deemed essential were cancelled or delayed except for the development of natural gas. In 1926 natural gas was discovered in the Kettleman Hills and at Buttonwillow. A pipeline was constructed to distribute the new, cheaper product to PG&E customers. The long pipeline began in Buttonwillow and traveled through the Kettleman Hills, Panoche Pass, and Tres Pinos before ending at the Milpitas distribution site. From Milpitas, pipelines extended to San Francisco, Oakland/Richmond, Tracy/Livermore, Stockton/Lodi, and Sacramento. The first natural gas residential service occurred in August 1929 in San Francisco. PG&E installed new valves on all appliances to enable its customers to switch from manufactured gas to natural gas. Manufactured gas plants were on the way out. A few were left in operation to meet emergency needs, while a few others continued to operate in areas that

were too far from the natural gas lines. By 1932 natural gas was delivered to more customers than were serviced by the manufactured gas plants (Coleman 1952:302–304).

In addition to PG&E gas development in the 1930s, these years were also a time of change in leadership. Three board directors passed away in 1935 and another in 1937. In 1935, James B. Black took over as PG&E's president; he was the first man to hold the position that was a Californian, an engineer, and a man that knew every part of the PG&E system (Coleman 1952:312). Foresight would lead Black to begin energy development prior to the United States officially entering World War II. Design plans for several new steam plants and three new hydro powerhouse projects were begun in 1938.

During World War II, the nation demanded more energy for manufacturing and PG&E answered. Three steam plants in the San Francisco Bay were constructed in 1940–1942. Power plants were completed on the Yuba River and Bear River in 1942 and 1943. Governor Earl Warren spoke at the formal dedication of the Pit 5 Powerhouse on the Pit River, completed in 1944 (Coleman 1952:317–318). Transmission lines were extended and transformers were upgraded to handle the increased voltage traveling throughout Northern California. Following World War II, the increased population of California required further upgrades, and a large backlog of necessary projects were begun.

Between 1945 and 1953, PG&E spent over a billion dollars on new construction. California's population in the 1950 Census exceeded 10.5 million and showed no sign of slowing. In 1948 three new hydroelectric power plants were in operation on the Mokelumne River, and two more were constructed on the Feather River by the end of 1950. Postwar years produced a total of 11 new powerhouses and over 58,000 miles of power lines. PG&E doubled its generating capacity in eight short years and employed more than 17,000 Californians (Coleman 1952:332–336). Today, PG&E continues to be a strong corporation and important to the continued success and development of California.

3.4 THE HERNDON SUBSTATION

On November 16, 1930, the *Fresno Bee* reported that construction would begin on the new substation at Herndon that week and an additional $7,392,000 would be spent in the area during the next 20 months. PG&E records show that the Herndon Substation was constructed "to interconnect Pacific Gas and Electric Co. and San Joaquin Light and Power Corporation Systems" (Pacific Gas and Electric Company [PG&E] 1931). This project would bring the two electric systems together, truly making them one. When construction began, this was to be the biggest substation in Fresno County and boasted the largest transformers on the Pacific Coast. The *Fresno Bee* reported that "the transformers required specially constructed railroad cars to bring them to Fresno from the eastern factory where they were built to order." Additionally, "A special steel and concrete building had to be erected to house the seventy-five ton crane, installed merely to handle the transformers during repairs and installation" (Popovich 1931). In addition to the crane house and transformers, a control house and an oil storage house with special oil tanks were constructed on the site. The photograph taken in 1931 to document the completion of the substation (Figure 3-1) is a view from the north side of the San Joaquin River in Madera County and illustrates the layout of the entire substation.

Figure 3-1 **View from the north side of the San Joaquin River in Madera County documenting the completed Herndon Substation in 1931 (photo on file, General Maintenance Orders, PG&E Archives, Brisbane, California).**

When the Herndon Substation project was originally proposed, a steam plant was to be constructed on the site next to the San Joaquin River. The Depression caused PG&E to delay construction of the steam plant and the company completed only the portion of the substation necessary to connect the two power systems. At the end of the decade, the steam plant was again considered, but this time it was the Bureau of Reclamation that would get in the way. Between 1935 and 1945 the Central Valley Water Project constructed 20 dams and reservoirs, 11 power plants, and 500 miles of major canals, providing water and flood protection for several communities in the valley. Construction of the Friant Dam began in 1938 and was completed in 1942. The damming of the San Joaquin River slowed the flow of water, causing PG&E to seek a financial settlement with the Bureau of Reclamation for the loss of value of the Herndon Substation property. In a letter dated December 16, 1941 from the PG&E Engineering Department, W. G. B. Euler explained that the steam plant was no longer possible due to the loss of water from the river. He recommended that the company be compensated for "being required to abandon its proposed river diversion" (PG&E 1941) and consequently losing the opportunity to construct the steam plant. With a steam plant no longer an option, PG&E began to lease large sections of land surrounding the Herndon Substation. The site utilized by PG&E today is a third of its original size.

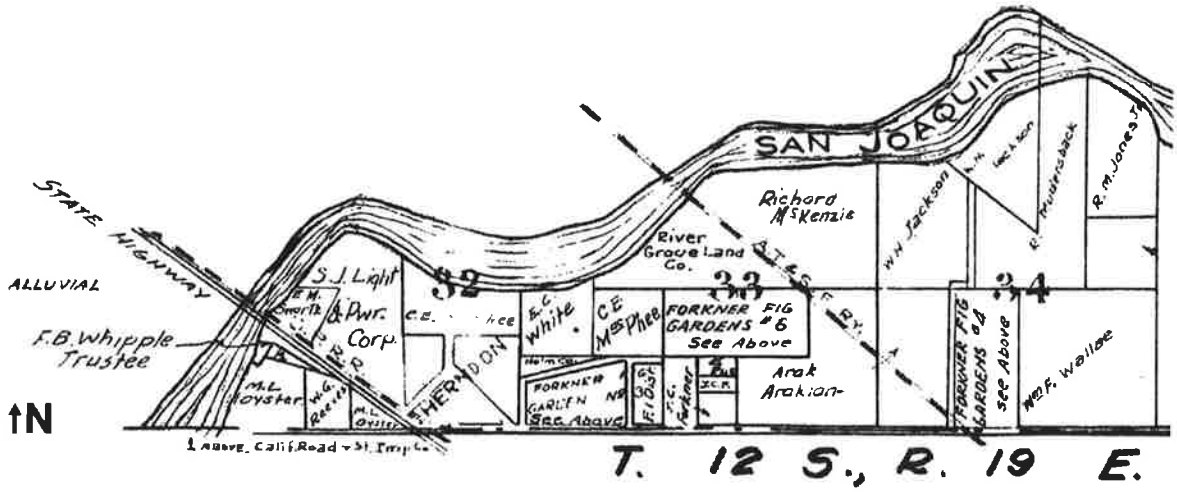


Figure 3-2 **Land holdings of San Joaquin Light and Power at the time the Herndon Substation was completed (Progressive Map Service 1935).**

Between 1941 and 1956, the population in Fresno County doubled and PG&E constructed 11 new substations to keep pace. Since 1941 the Herndon Substation equipment has been repeatedly upgraded and moved around on the site to address increased demands. General Maintenance Orders attest to these changes (PG&E 1943, 1944, 1956). Transformers, condensers, and a new bus were installed to replace older equipment. The new equipment had to first be installed and put into operation in order for the older equipment to be decommissioned and removed. With the removal of older equipment and installation of newer technology, the crane, oil tanks, water tank, and their related housing structures were no longer needed and were subsequently removed. Those actions caused the layout of the substation to change over time, and the areas in which the older equipment once rested are utilized today for various other functions.

In 1956, the *Fresno Bee* reported that three new powerhouses were under construction on the Kings River to increase power production for the Central Valley (Popovich 1956). Once in operation, the mass of electric power coming into the Fresno area was stepped down at the newer substations located on the southeast side of Fresno County. As a result, the Herndon Substation control building was converted to an unmanned station in 1963 and the distribution operations were relocated to the Fresno Service Center on California Avenue (PG&E 1963). All that remains of the 1931 Herndon Substation is the control building. At some point in the last 30 years, the control building has become obsolete.

4
DESCRIPTION OF RESOURCES

Because it is uneconomical to connect electricity consumers directly to a high-voltage main transmission network (unless they use large amounts of energy), the voltage first must be reduced to a value suitable for local distribution. The substation is the functional element of the electrical transmission and distribution system where voltage is converted from high to low (or the reverse) using transformers. A step-up transformer increases the voltage while decreasing the current, while a step-down transformer decreases the voltage while increasing the current for domestic and commercial distribution.

Generally, power enters the substation at a bus, a thick, heavy electrical conductor where multiple devices can be connected to the same power source. The substation may contain one or more power transformers, and also may have switching, protection, and control equipment. In a large substation, circuit breakers and fuses are used to interrupt any short-circuits or overload currents that may occur on the network and to protect branch circuits. A typical substation also contains line termination structures, high and/or low voltage switchgear that allows lines to be connected or isolated for maintenance, surge protection, controls, grounding systems, and metering. Other devices such as capacitors and voltage regulators help control power flow and facilitate interconnection.

Transmission substations can range from simple to complex. A small "switching station" may be little more than a bus plus some circuit breakers. The largest substations can cover a considerable area and may have multiple voltage levels and numerous protection and control devices. Power may flow through several substations between the generating plant and the consumer, and may be changed in voltage in several steps.

The Herndon Substation is on a large tract of land between the San Joaquin River on the north and the community of Herndon to the south. When constructed in 1931, the facility was home to innovative technology which included the largest transformers on the West Coast as well as a crane house, water tower, oil-storage house and associated oil tanks, and other equipment installed to maintain the transformers. The Control Building, a storage warehouse, and a compressor house were also located on the property and assisted in the maintenance and operation of the substation.

When first put into operation, the Herndon Substation received power generated from various locations. Transmission lines owned by PG&E brought power into the substation from northern California, while transmission lines owned by SJL&P brought power primarily from the Kerckhoff Powerhouse on the San Joaquin River. Power from both systems was interconnected and stored at the main bus. The substation transformers and condensers would then step down the electrical current to a value that was usable by residential and commercial businesses or step up the current to enable further long-distance transmission.

As demand increased over the last 78 years, PG&E has continuously upgraded the original equipment and removed older equipment. The equipment is currently arranged in three major loci, each with several distinctive features (labeled Features A thru I on Figure 1-4). With the exception of Feature I, the 1931 Control Building), all other buildings and equipment have been built within the last 50 years.

Electrical equipment at the northern end of the site includes condensers and two buses serving the Gregg Substation in Madera County and the Ashland and Kearney substations in Fresno County. Two small rectangular metal buildings measuring 60 x 30 and 48 x 40 feet house the controls for the storage and transfer of power through these buses and condensers.

Two main buses through which power enters the station are centrally located within the site. A series of conductors and steel towers distribute power to and from the buses. Synchronous equipment including a smaller Start-Run bus, another group of condensers, a 30 x 15 foot metal condenser control building, and a 12 x 15 foot metal pump house are arranged immediately south of the main buses. This grouping also contains a large metal drive-through building with a rectangular footprint. This building is not on the general arrangement map for the Herndon Substation provided by PG&E.

A long concrete pad surrounded by 20 electrical boxes set just above grade marks the southern end of the site. This structure also is not shown on the general arrangement map for the Herndon Substation provided by PG&E.

The remaining feature at the substation (Feature I on Figure 1-4) is the Control Building erected in 1931. Architectural renderings of the Control Building acquired from the PG&E Archives in Brisbane, California (Figure 4-1), show that the interior of the building contains a battery room, equipment room, control panel room, operator's room, and restroom. The Control Building was converted to an unmanned station in 1963 and the working parts inside were gradually removed. All that remains inside today are the metal frames and freestanding support structures that once housed the machinery that controlled the movement of electrical power through the station.

Figure 4-2 illustrates the site following completion of construction in 1931. In this view the south façade of the Control Building is on the far left. Additional historic features can be identified continuing from the left: a small bus, the water tower, large bus and transformers, crane house, oil storage house (directly in front of the crane house) and oil tanks. Figure 4-3 shows the substation site today. The Control Building is again on the left, and all of the older buildings and equipment have been removed. Several newer transformers are southeast of the existing Control Building. The property is surrounded by chain-link fencing, and the grounds are a mixture of open dirt, concrete, and asphalt.

This two-story Art Deco–style structure is the only remaining element of the original substation. It stands on a 40 by 40 foot concrete foundation. The steel and concrete walls are 40 feet high with stepped pilasters on the north, south, and west facades. Fenestration includes symmetrically placed eight-over-eight-light metal casement crank windows with four-light transoms above. The north and west façades display six of these windows, except that the middle window on the first floor of the west façade is replaced with a wooden door (Figure 4-4). The door has four fixed lights on the top half and an eight-light fixed transom above. The entrance is located at the top of a four-step concrete stoop. The south façade displays three of the windows on the second story.

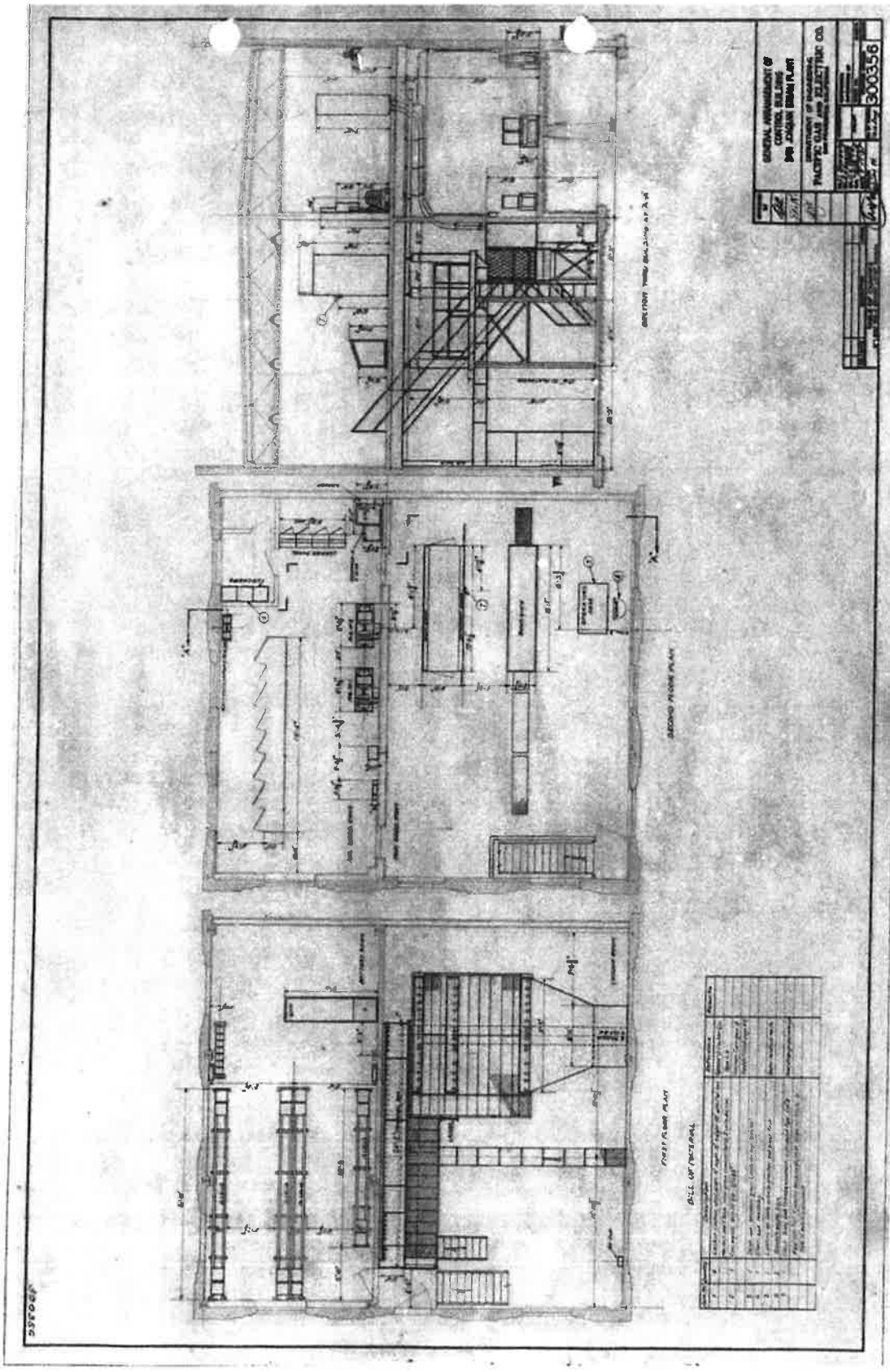


Figure 4-1 Architectural rendering of the Control Building at the Herndon Substation (on file, General Maintenance Orders, PG&E Archives, Brisbane, California).

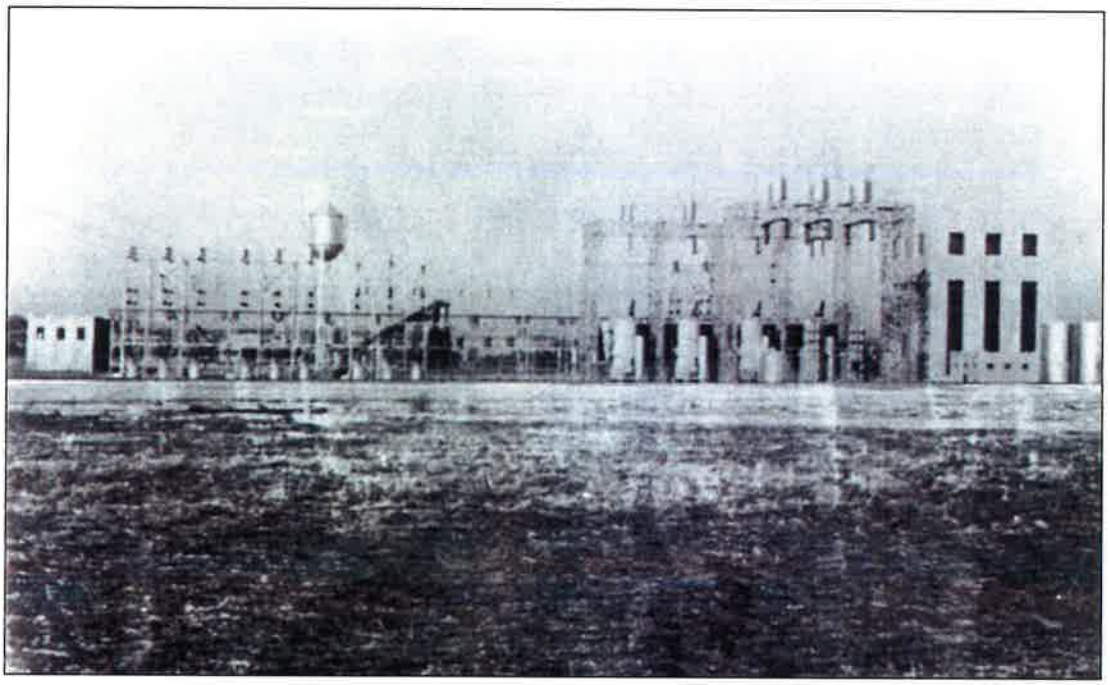


Figure 4-2 South side of the substation in 1931 (on file, General Maintenance Orders 41257, PG&E Archives, Brisbane, California).

Figure 4-3 View from the same angle illustrating the changes at the substation in the last 77 years (Applied EarthWorks, August 2008).

Figure 4-4 West and south façades of the Control Building (Applied EarthWorks, August 2008).

The east façade is covered with flush wood siding and has no fenestration. A linear pattern created in relief above each of the second-story windows and at the top of each pilaster gives the building its Art Deco look. The only additional decoration on this building is the PG&E Herndon Substation sign and single extended arm light, both above the door transom.

5
SIGNIFICANCE EVALUATION

5.1 EVALUATION CRITERIA

This chapter presents Æ's evaluation of the Herndon Substation for eligibility to the California Register of Historical Resources and the City of Fresno's Local Register of Historic Resources. The California Register recognizes five different categories of significant properties: districts, sites, buildings, structures, and objects. For evaluative purposes, the entire substation is considered to be a single unified site because the individual buildings, structures, and other features are linked functionally and historically. Although distributed over a large geographic area, the individual features functioned together within a relatively restricted time frame, reflect a single historical theme, and taken together convey a complete reflection of the local historical environment. Viewing the remains as a single site also allows a better understanding of the site's formation and evolution and the structure of the historical substation. Such an approach is consistent with the general principals of industrial history and archaeology (cf. Basalla 1988; Hardesty 1988, 1990).

Because of its age, architectural characteristics, and proposed demolition, we have also evaluated the Control Building individually.

5.1.1 California Register of Historical Resources Criteria

The substation and Control Building were assessed for eligibility for the California Register. According to the CEQA Guidelines, a resource is eligible for the California Register if it meets the criteria defined in Section 5024.1 of the California Public Resources Code:

> (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
>
> (2) Is associated with the lives of persons important in our past.
>
> (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.
>
> (4) Has yielded, or may be likely to yield, information important in prehistory or history [California Code of Regulations, Title 14, Chapter 3].

The site must also, except in rare circumstance, be 50 years old or older. In addition, the resource must retain enough of its historic character to convey the reason for its significance. This is assessed by examining seven aspects of integrity, which are defined as follows:

> Location is the place where the historic property was constructed or the place where the historic event occurred. . . .

> Design is the combination of elements that create the form, plan, space, structure, and style of a property. . . .
>
> Setting is the physical environment of a historic property. . . .
>
> Materials are 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 is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. . . .
>
> Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. . . .
>
> Association is the direct link between an important historic event or person and a historic property. . . [National Park Service 2002:Part VIII].

"Integrity is based on significance: why, where, and when a property is important" (National Park Service 2002:Part VIII). Only after significance is fully established is the issue of integrity addressed. Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant.

5.1.2 Local Significance Criteria

According to the City of Fresno's Historic Preservation Ordinance, a resource is eligible for the Local Register if it meets the designation criteria defined in Section 13-406 of the Fresno Municipal Code.

> (a) HISTORIC RESOURCES: Any building, structure, object or site may be designated as a Historic Resource if it is found by the Commission and Council to meet the following criteria:
>
> (1) It has been in existence more than fifty years and it possesses integrity of location, design, setting, materials, workmanship, feeling and association, and:
>
> (i) It is associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (ii) It is associated with the lives of persons significant in our past; or
>
> (iii) It embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master, or possesses high artistic values; or
>
> (iv) It has yielded or may be likely to yield, information important in prehistory or history.
>
> (2) It has been in existence less than fifty years, it meets the criteria of subdivision (1) of subsection (a) of this section and is of exceptional importance within the appropriate historical context, local, state or national.

5.2 EVALUATION OF THE HERNDON SUBSTATION

In the following sections we evaluate the Herndon Substation against the four significance criteria of the California Register and the City of Fresno's Local Register. Following the discussion of significance we examine the property's integrity in order to determine eligibility. This evaluation considers all of the buildings and electrical equipment that were associated with the substation at the time of construction and at the present.

5.2.1 Association with Important Historical Events and Trends

To be significant under California Register Criterion 1 and Local Register Criterion i, a resource must be associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. The Herndon Substation was completed in June 1931, a year after the merger of San Joaquin Light and Power Corporation and Pacific Gas and Electric Company. The substation was built specifically to interconnect the two electrical systems; it signifies the end of the regional electric company and the beginning of PG&E's dominance in Northern and Central California. The expenditure of $723,177.00 to build the substation during the Depression years, when all other construction projects not deemed essential were cancelled or delayed, is an indicator of the site's importance to PG&E and to the region in general. During this period, the only other areas of growth for PG&E were in the development of natural gas lines.

The substation's importance also can be seen in the choice of equipment installed on the site. When construction began, it was to be the biggest substation in Fresno County and boasted the largest transformers on the Pacific Coast. The *Fresno Bee* reported that "the transformers required specially constructed railroad cars to bring them to Fresno from the eastern factory where they were built to order." Furthermore, "A special steel and concrete building had to be erected to house the seventy-five ton crane, installed merely to handle the transformers during repairs and installation" (Popovich 1931). In addition to the crane house and transformers, a two-story control building, a large water tower, and an oil-storage house with special oil tanks were constructed on the site. All of this can be seen in its historical setting in Figure 3-1.

At the time of its construction, this new electrical technology was critical to support the growing population and continued growth of agriculture in Fresno County and the rest of the San Joaquin Valley. The larger transformers installed at the site enabled electrical current to travel greater distances and bring energy to outlying communities as these areas developed in response to the booming agricultural industry. The same transmission lines that brought electricity to the cities and towns also provided energy for agricultural irrigation pumps, allowing Fresno County and the San Joaquin Valley to become the most productive agricultural area in California.

Because of its role in the growth of the PG&E system and its critical importance to the growth of the regional agricultural economy and the cities and towns that supported that economy, the Herndon Substation is considered significant under California Register Criterion 1 and Local Register Criterion i. The period of significance is 1931-1941, because this is the time when the two companies were merging and the Herndon Substation played its most important role in the growth of the system and the regional economy. After 1941 other substations began to supplant Herndon, and most of the original equipment was removed or replaced.

5.2.2 Association with Important Individuals

To be significant under California Register Criterion 2 and Local Register Criterion ii, a resource must be associated with the lives of persons significant in our past and/or identified with a person or group that contributed significantly to the culture and development of the city or state. The only known individuals associated with the substation are PG&E engineers, construction supervisors, and various maintenance workers, all of whom had only a limited connection with the facility. While many of these individuals had long careers with PG&E, none were prominent locally or made substantial contributions to the development of PG&E's system. The only possible exception would be the substation's Architect on record, J. P. Jollyman, who was appointed chief of the Division of Hydroelectric and Transmission Engineering in 1920. It can not be determined beyond a doubt that Jollyman actually designed the substation, only that he managed the project's design. However, Jollyman did not complete his important works at the substation, as he did not live or work there. Therefore the Herndon Substation does not appear to be significant under California Register Criterion 2 or Local Register Criterion ii.

5.2.3 Distinctive Design Characteristics or Artistic Value

To be significant under California Register Criterion 3 and Local Register Criterion iii, a resource must embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values. The documentary record is clear in identifying the Herndon Substation as a distinctive example of period electrical transmission and distribution systems exemplifying the leading edge of the technology. As described above, it was the largest substation in the county at the time of its construction and had numerous unique and distinctive electrical components and operating systems including its bus, oversized transformers, a unique crane and crane house to maintain the transformers, as well as specially designed oil tanks and operating controls. Because the Herndon Substation represents this distinctive technology and method of construction and operation, it is significant under California Register Criterion 3 and Local Register Criterion iii.

5.2.4 Potential to Yield Important Information

To be significant under California Register Criterion 4 and Local Register Criterion iv, the site would have to have the potential to yield important information that could not be found in any other source. This criterion is often applied to archaeological sites, but may be applied to structures or industrial facilities if they contain information that would not be available by any means other than studying the structures themselves. As explained above, there is an ample archival record documenting this site. As also discussed above and in Section 5.2.5 below, the original equipment has been removed and the site reconfigured; thus, there is no opportunity to glean important new information about the technology from the site itself. Therefore the Herndon Substation does not appear to be significant under California Register Criterion 4 or Local Register under Criterion iv.

5.2.5 Integrity and Eligibility

To be eligible for the California Register or Local Register, a site must meet the standards of significance *and* possess integrity. To possess integrity, the property must retain the physical

characteristics it had in the past so it can convey its associations with historic themes, persons, designs, or technology. As described above, integrity consists of seven separate aspects: location, design, setting, materials, workmanship, feeling, and association. Setting and location refer to the physical placement of the property and its relation to surrounding natural and cultural features. If these remain unaltered, then the property has integrity. Design refers to the form, structure, and spatial patterning of a property, and reflects cultural, functional, technological, aesthetic, and stylistic concerns. If these are the same as during the period of significance, the property has integrity.

Materials and workmanship are the physical elements making up the property, as well as the skills of the crafters and the quality of work done. The presence or absence of original materials determines the authenticity of the resource, while the workmanship furnishes evidence of the technology and aesthetic principles in use.

Feeling is the quality a historic resource has in evoking the aesthetic or historic sense of a past period of time. To have integrity of feeling, a site's physical characteristics must convey a sense of historical time and place consistent with the site's relevant themes. Association gauges the connection between a historic property and the events or persons for which it is significant. "A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer" (National Park Service 2002:VIII).

Integrity of the Herndon Substation was assessed with reference to the seven aspects of integrity discussed above. For the substation to be eligible for either the California Register or Local Register, the site would need to convey its significance through the features that defined its unique character during its period of significance, 1931-1941. These character defining features would include the original the bus tie, oversized transformers, equipment installed to maintain the transformers such as the crane and crane house, the water tower, the oil-storage house and its associated oil tanks, and other operational controls.

Unfortunately, since World War II almost all of the substation's original electrical equipment and associated support structures have been removed and the site has been reconfigured in keeping with advances in modern electrical transmission technology. All of the features cited in the Fresno Bee as special to this substation are no longer extant. Due to the removal of the original bus, transformers, crane and crane house, water tower, and oil-storage house with special oil tanks; the addition and replacement of power lines and control mechanisms; and the overall changes in design and configuration, the substation has lost integrity of design, materials, and workmanship. Having lost its principal historical elements, the site also no longer has the ability to evoke the aesthetic or historical sense of the past; thus, integrity of feeling is lost as well. Due to the removal of almost all of the character defining features, the substation no longer exemplifies this type, period, and method of construction or possesses the unique technological characteristics that made it significant. Although the site remains in its original location and the local setting and association have changed only minimally from the period of significance, it is not sufficiently intact to convey its important historical association with the merger of PG&E and SJL&P. For these reasons it is Æ's professional judgment that the Herndon Substation is not eligible for the California Register or Local Register under Criterion 1/I or Criterion 3/iii.

5.3 EVALUATION OF THE CONTROL BUILDING

In the following sections we evaluate the 1931 Control Building individually against the four significance criteria of the California Register and the City of Fresno's Local Register. Following the discussion of significance we examine the building's integrity in order to determine its individual eligibility for either register.

5.3.1 Association with Important Historical Events and Trends

The discussion under section 5.2.1 considers the significance of the substation as a whole, including the original Control Building. The Herndon Substation was judged significant under California Register Criterion 1 and Local Register Criterion I because of its association with the merger of PG&E and SJL&P and the role of the substation in the economic and social growth of the region. Individually, the original Control Building shares the same important historical associations and linkages as the overall site. Thus, the Control Building itself is also considered significant under these criteria, and the period of significance remains 1931-1941.

5.3.2 Association with Important Individuals

The discussion under section 5.2.2 considers the association of the substation as a whole, including the original Control Building, with important individuals. The Herndon Substation was not judged significant under California Register Criterion 2 or Local Register Criterion ii because none of the individuals associated directly with the substation or Control Building appear to be historically significant. Individually, the original Control Building shares the same lack of important individual historical associations; thus, the 1931 Control Building does not appear to be significant under California Register Criterion 2 or Local Register Criterion ii.

5.3.3 Distinctive Architecture or Artistic Value

To be significant under California Register Criterion 3 and Local Register Criterion iii, a resource must embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values. Although the 1931 Control Building was built in the Art Deco style at the height of the movement, its character-defining features are common and simplistic compared to other buildings of its style. It is not one of the best examples of Art Deco architecture from the early 1930s to be found locally. Several exceptional Art Deco style buildings are already listed on Fresno's Local Register, including the Bekins Van and Storage building, erected in 1921, the Fresno County Hall of Records building (1935), and the Fresno Memorial Auditorium, also built in 1935. While it is the only Art Deco–style substation remaining in Fresno County, it is not the last of its kind. PG&E has preserved several substations within the system that are listed on both the National Register of Historic Places and the California Register (Lathrop personal communication 2008). The Control Building at the Herndon Substation does not embody the distinctive characteristics of early 1930s Art Deco construction, or represent the work of a master, or possess high artistic values. Therefore, the Control Building does not appear to be individually significant under California Register Criterion 3 or Local Register Criterion iii.

5.3.4 Potential to Yield Important Information

To be significant under California Register Criterion 4 and Local Register Criterion iv, the building would have to have the potential to yield important information that could not be found at any other location. This criterion is often applied to archaeological sites, but may be applied to structures or industrial facilities if they contain information that would not be available by any means other than studying the structures themselves. As explained in Section 5.2.4 above, there are extant architectural renderings of the 1931 Control Building and ample documentation of its construction. The building is very common in construction, materials, and design, and information about such buildings and their construction techniques are readily available from both published and unpublished sources. Therefore the Control Building does not appear to be significant under California Register Criterion 4 or for the Local Register under Criterion iv.

5.3.5 Integrity and Eligibility

The 1931 Control Building is the only remaining element of the original Herndon Substation. The surrounding electrical systems for which the building existed are no longer present, and the original equipment housed inside the building has long since been removed. The structure therefore lacks physical context and suffers from the same loss of integrity that afflicts the larger substation site. As a result it cannot individually convey is significant historical associations, and it is therefore Æ's judgment that the 1931 Control Building is not individually eligible for the California Register or Local Register.

5.4 SUMMARY AND CONCLUSION

At the request of PG&E, Æ Architectural Historian Aubrie Morlet evaluated the significance and integrity of the Herndon Substation and assessed its eligibility for inclusion in the California Register and the Local Register. Æ found that the substation is associated with the merger of PG&E and SJL&P and that it played an important role in the economic and social growth of the region in the period 1931–1941. Because of its association with these important events, the substation is significant under California Register Criterion 1 and Local Register Criterion i.

In addition, Æ found that the Herndon Substation was significant under California Register Criterion 3 and Local Register Criterion iii because of the distinctive state-of-the-art technology installed and maintained at the substation during its period of significance. Despite its significant historical associations and distinctive technological characteristics, however, the Herndon Substation does not retain sufficient integrity to qualify for the California Register or Local Register. The substation has lost integrity of design, materials, and workmanship due to the removal of the original bus, transformers, crane and crane house, water tower, and oil-storage house with special oil tanks; the addition and replacement of power lines and control mechanisms; and the overall changes in design and configuration. Having lost its principal historical elements, the site also no longer has the ability to evoke the aesthetic or historical sense of the past; thus, integrity of feeling also is lost. The site no longer exemplifies this type, period, and method of construction nor possesses the unique technological characteristics that made it significant, and it is not sufficiently intact to convey its important historical association with the merger of PG&E and SJL&P. For these reasons it is Æ's professional judgment that the Herndon Substation is not eligible for the California Register or Local Register.

Æ also evaluated the original Control Building at the substation individually because of its age and architectural characteristics. Like the larger substation, the 1931 Control Building is associated with the merger of PG&E and SJL&P, and it played an important role in the economic and social growth of the region in the period 1931–1941. Because of its association with these important events, the Control Building is individually significant under California Register Criterion 1 and Local Register Criterion i. However, the Control Building is not associated with important individuals and does not embody the distinctive characteristics of early 1930s Art Deco construction, or represent the work of a master, or possess high artistic values. Neither does it have potential to yield important new information not available from documentary sources. Thus, the Control Building is not significant under any of the other criteria.

Because the 1931 Control Building is the only remaining element of the original substation, the surrounding electrical systems for which the building existed are no longer present, and the original control equipment housed inside the building has been removed, the structure lacks physical context and suffers from the same loss of integrity that afflicts the larger substation site. It cannot individually convey is significant historical associations, and thus it is Æ's judgment that the 1931 Control Building is not individually eligible for the California Register or Local Register.

6
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APPENDIX A

Cultural Resource Record Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

 Resource Name or #: Herndon Substation

P1. Other Identifier:

***P2. Location:** **a. County:** Fresno ☐ **Not for Publication** ■ **Unrestricted**
b. USGS 7.5′ Quad: Herndon, CA **Date** 1964 **T:** 12S, **R:** 19E, **Section:** 32
c. Address: 7430 N. Weber Avenue, Fresno, CA 93722
d. UTM: NAD 83, Zone 11; 239302 **mE /** 4081664 **mN**
e. Other Locational Data:

***P3a. Description:** The Herndon Substation is situated on a large tract of land located between the San Joaquin River on the north and the community of Herndon to the south. The substation currently has 9 distinctive features that comprise the facility. These features are labeled Feature A thru I on the attached Sketch Map. The property is surrounded by chain-link fencing, and the grounds are a mixture of open dirt, concrete, and asphalt.

Feature A is the electrical equipment including condensers, bus 1, and bus 2 for the Gregg Substation in Madera County, the Ashland Substation and the Kearney Substation both located in Fresno County.

Feature B is a 60x30 foot metal constructed control building with a rectangular footprint.

Feature C is a 48x40 foot metal constructed transfer holding house with a rectangular footprint.

(Continued on page 2)

***P3b. Resource Attributes:** HP9 Public Utility Building; HP11 Engineering Structures

***P4. Resources Present:** ■ Building ■ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other:

***P5. Photograph:**

***P6. Date Constructed/Age:** 1931
☐ Prehistoric
■ Historic
☐ Both

***P7. Owner and Address:**
Pacific Gas and Electric Co.
1455 E. Shaw Avenue
Fresno, CA 93710

***P8. Recorded By:** Aubrie Morlet
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

***P9. Date Recorded:** 08/01/2008

***P10. Survey Type:**
■ Intensive
☐ Reconnaissance
☐ Other
Describe:

***P11. Report Citation:** Morlet, Aubrie
2010 *Historical Resource Evaluation of the Herndon Substation, Fresno County, California.* Applied EarthWorks, Inc., Fresno, California. Prepared for Pacific Gas and Electric Company, Fresno, California.

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

***P3a. Description (continued from page 1):**

Feature D is the electrical lines and poles that make up bus 1 and bus 2 for the entire Herndon Substation.

Feature E is the synchronous equipment including the start-run bus, condensers, and a 30x15 foot metal constructed control building.

Feature F is a 12x15 foot metal constructed pump house with a rectangular footprint.

Feature G is a large metal constructed drive-through building with a rectangular footprint. (This building is not on the general arrangement map for the Herndon Substation provided by PG&E therefore building dimensions are not available at this time.)

Feature H is a long concrete pad with 20 just above grade electrical boxes surrounding. (This building is not on the general arrangement map for the Herndon Substation provided by PG&E therefore building dimensions are not available at this time.)

Feature I is the two-story Art Deco–style Control Building built in 1931. It rests on a 40 x 40 foot concrete foundation. The steel and concrete walls are 40 feet high with stepped pilasters on the north, south, and west facades. Fenestration includes symmetrically placed 8/8 metal casement crank windows with four-light transoms above. The north and west façades display six of these windows, except that the middle window on the first floor of the west façade is replaced with a wood door. The door has four fixed lights on the top half and an eight-light fixed transom above. The entrance is located at the top of a four-step concrete stoop. The south façade displays three of the windows on the second story, and the east façade is covered with flush wood siding with no fenestration. A linear pattern created in relief above each of the second story windows and at the top of each pilaster gives the building its Art Deco look. The only additional decoration on this building is the PG&E Herndon Substation sign and single extended arm light, both located above the door transom.

The interior of the building contains a battery room, equipment room, control panel room, operator's room, and a restroom. The Control Building was converted to an unmanned station in 1963 and the working parts inside the Control Building were slowly removed. Inside today are the metal framework remains and freestanding support structures that at one time housed the machinery that controlled the movement of the currents.

View looking northeast at west elevation of Feature I, the Control Building (August 2008).

***P5. Photograph (continued):**

North and west elevations of Feature I, the Control Building (August 2008).

South and east elevations of Feature I, the Control Building (August 2008).

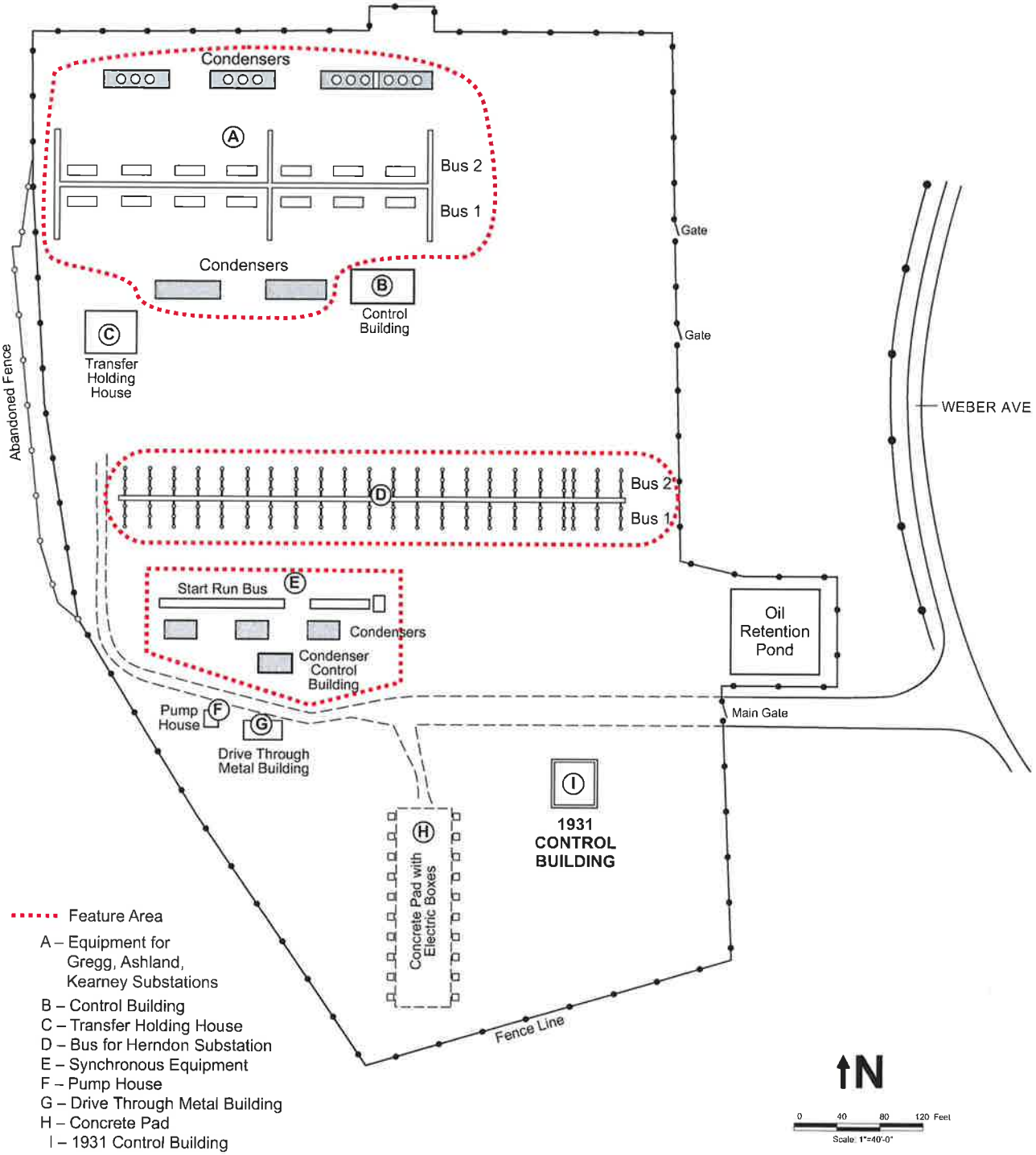
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary #
Trinomial

***Resource Name or #** Herndon Substation

***Drawn by:** L. Meckstroth

Date: Dec. 2008



Map Source: PG&E General Arrangement Map #469102, Date 8/15/2005

B1. Historic Name: Herndon Substation, San Joaquin Light and Power and Corporation

B2. Common Name: Herndon Substation, Pacific Gas and Electric Company

B3. Original Use: Electric Substation **B4. Present Use:** Same

***B5. Architectural Style:** Art Deco

***B6. Construction History (construction date, alterations, and dates of alterations):** The substation was constructed in 1931 by GMO 41256 and 41257. General Maintenance Orders (GMO) from PG&E detail changes made at the substation: in 1943 GMO 72205 reports two new condensers, two new oil circuit breakers, three phase regulating transformers, and other supporting equipment were installed; in 1944 GMO 73591 reports two oil circuit breakers were replaced, five KV breakers were modernized; and in 1956 GMO 135853 reports that a KV twin circuit tower line was installed. New transformers, condensers, and a new bus were installed to replace the older equipment in 1963 under GMO 153148. With the removal of the older equipment and newer technology; the crane, oil tanks, water tank, and their related housing structures were no longer needed and were subsequently removed. The 40x40 control building's interior controls were changed in 1963 to make the station unmanned also under GMO 153148.

***B7. Moved?:** ■ No ☐ Yes ☐ Unknown Date: Original Location:

***B8. Related Features:** Electric Transformers

B9. a. Architect: J. P. Jollyman, Engineer of Electrical Construction
b. Builder: Harold K. Fox, General Construction Engineer

***B10. Significance:** Theme: Corporate Electric Development Area: San Joaquin Division
Period of Significance: 1931–1963 Property Type: Public Utility Building Applicable Criteria:
The Herndon Substation was built specifically to interconnect the two electrical systems of the San Joaquin Light and Power Corporation and the Pacific Gas and Electric Company. The substation's importance can be seen in the choice of equipment installed on the site. When construction began, it was to be the biggest substation in Fresno County and boasted the largest transformers on the Pacific Coast (Popovich 1931).

Following WWII, the increased population of California required further upgrades to existing substations plus the construction of new substations. Between 1941 and 1956, 11 new substations were built in Fresno County, where the population had doubled. In 1956, three new powerhouses were under construction on the Kings River to increase power production for the Central Valley (Popovich 1956). Once in operation, the mass of electric power coming into the Fresno area was stepped down at the newer substations located on the southeast side of Fresno County. The Herndon Substation control building was converted to an unmanned station in 1963.

Since 1941 the Herndon substation equipment has been repeatedly upgraded and moved around on the site to address increased demands. New transformers, condensers, and a new bus were installed to replace the older equipment. With the removal of the older equipment and installation of the newer technology; the crane, oil tanks, water tank, and their related housing structures were no longer needed and were subsequently removed (continued next page).

This space reserved for official comments.

***B10. Significance (continued):** Those actions caused the layout of the substation to change over time. All that remains of the 1931 Herndon Substation is the Control Building. At some point in the last 30 years, the Control Building has become obsolete.

The substation currently has nine important features that comprise the facility. These features are labeled Features A thru I on the Sketch Map (see page 4). Features A thru H are electrical equipment and buildings that do not meet the requisite age in order to require evaluation. The only remaining feature at the substation to exceed 50 years in age is the 1931 Control Building.

The only individuals associated with the substation are PG&E engineers, construction supervisors, and various maintenance workers, all of whom had only a limited connection with the facility. While many of these individuals had long careers with PG&E, none were prominent locally or made substantial contributions to the development of PG&E's system. None of the individuals appear to be historically significant and therefore the Herndon Substation does not appear to be eligible for the CRHR under Criterion B.

While the control building was constructed in the Art Deco style at the height of the movement, its character-defining features are common and simplistic compared to other buildings of its style seen throughout the San Joaquin Valley. While it is the only Art Deco style substation remaining in Fresno County, it is not the last of its kind. PG&E has preserved several substations that are listed on both the National Register of Historic Places and the CRHR, making the Herndon Substation not the last within the system. Although it is certainly a well constructed building, it does not appear to rise to the level of significance that would make it eligible individually to the CRHR under Criterion C.

The building is very common in construction, materials, and design, and information about such buildings and their construction techniques are amply available from both published and unpublished sources. Additionally, as the original equipment has been removed, there is no opportunity to glean important new information about the technology of the site. Therefore the Herndon Substation does not appear to be significant under Criterion D.

Unfortunately, since the end of WWII, almost all of the substation's original equipment has been removed, and the site has been reconfigured in keeping with advances in modern technology. With the removal of the crane house, original transformers, the water tower, and the oil storage house with special oil tanks, the addition and replacement of power lines, and the overall changes in design, the substation has lost integrity of design, setting, materials, and workmanship. Having lost its principal historical elements, the site no longer has the ability to evoke the aesthetic or historical sense of the past; thus, integrity of feeling is lost as well.

The Control Building is the one remaining original element of the substation. Without its associated structures, however, the integrity of its setting, feeling, and association are drastically diminished. Architecturally, the building is not a good representative of the Art Deco style; better examples exist within the PG&E system and in Fresno County. Were the original equipment used to control the substation not altered in 1963, the building might have retained integrity of design, materials, and workmanship. With those alterations, however, the integrity of the building itself is substantially impaired.

Based on its lack of integrity, the Herndon Substation is no longer a good representation of the broad patterns of California's history of electrical development (Criterion A) or the specific technologies of the period of significance (Criterion C). The original Control Building itself is not architecturally significant and cannot individually evoke the feeling and association of the historic substation. For these reasons, neither the Herndon Substation nor the Control Building individually is considered eligible for inclusion in the CRHR.

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

***B12. References:** Pacific Gas and Electric Company, *General Maintenance Orders 41257 and 153148,* on file, Pacific Gas and Electric Company Archives, Brisbane, CA; George Popovich, *The Fresno Bee,* "Innovations in Power Development Seen in New Project at Herndon," May 24, 1931, Section B, Page 1; George Popovich, *The Fresno Bee* "Fresno Expansion Brings Big Jump In Power Use," September 11, 1956, Section A, Page 7.

B13. Remarks:

***B14. Evaluator:** Aubrie Morlet, Architectural Historian
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