Preliminary Evaluation of Building Conditions

Cushman & Adams Street Substations

January 14, 2025

RICHAVEN Architecture & Preservation

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1.2 Executive Summary

Project Description

The City of Tacoma contracted with Otak, Inc. and Richaven Architecture and Preservation to provide a preliminary evaluation of the building conditions with in person observations and digital imagery. As determined through consultation with the Owner, consultants included historic preservation architect. Some research was conducted about the building and past maintenance and improvement projects through files obtained from Pierce County Public Records, City of Tacoma Register of Historic Places, National Register of Historic Places, and architectural drawings from the Cushman Power Project.

Summary of Findings

General Conclusions: Given the age of the buildings, the Cushman and Adams Substations are generally in fair condition. Critical issues observed include significant and ongoing damage to the concrete surfaces, spalling, and cracking. Soiling and water intrusion at the parapets, atmospheric soiling and staining of the concrete exterior due to corrosion on the steel windows. Corroded window frames and sashes on all elevations of the building. Additional important issues to be addressed include sealant failure at penetrations and features. Note that the observations are limited to what was observable from the street level and what could be reached from the adjacent sidewalk. The upper portions of the exterior walls were not able to be accessed. No access was provided to the roof of Cushman Substation or the interior of Adams Substation.

Summary of Deficiencies

The following page shows a summary of the evaluation of each building system observed Cushman and Adams Substations. Please note that summaries shown are an average of the conditions across the entire building. In all systems, there are instances of more and less severe conditions. Richaven recommends prioritizing building systems with an average score of 3 or higher and certain specific deficiencies in lower scored systems.

Recommendations

As a result of the limited access to the building surfaces and sections of the building (noted above and in the Methodology & Limitations section of this report), it is recommended that a complete assessment of the buildings providing access to all exterior wall surfaces and spaces is completed. In addition, immediate attention to some elements is recommended due to the potential for life safety impacts should one of the elements come loose. It is also recommended that attention to exterior envelope issues be addressed as soon as possible to prevent further deterioration of the building.

Respectfully submitted,

Brian D. Rich

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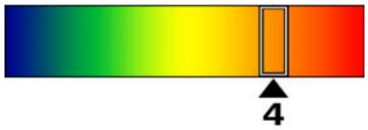
DUNS: 038564728
CAGE Code: 7MPH4

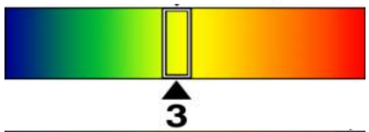
1.2 Executive Summary

Cushman Substation

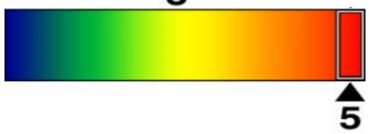
CONCRETE (EXTERIOR)



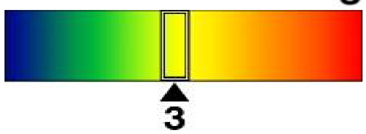
SOILING & STAINING



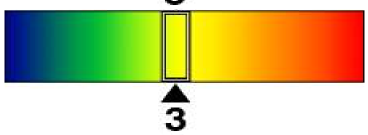
STEEL WINDOWS & LOUVERS



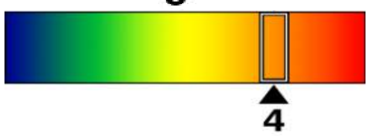
WOOD ENTRY DOORS



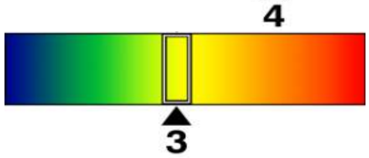
ARCHITECTURAL METALS



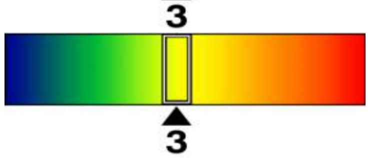
INTERIOR FEATURES



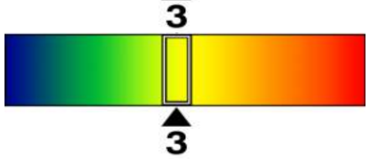
CAST IRON LAMP POSTS



ROOF

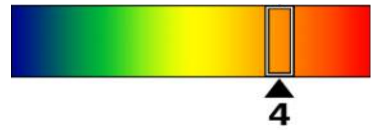


MISCELLANEOUS

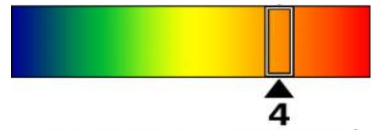


Adams Substation

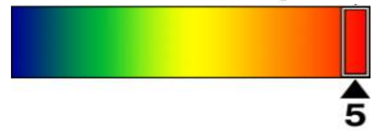
CONCRETE (EXTERIOR)



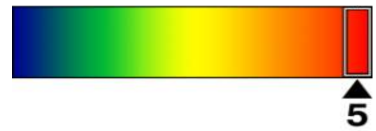
SOILING & STAINING



STEEL WINDOWS & LOUVERS



ARCHITECTURAL METALS



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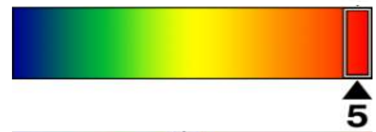

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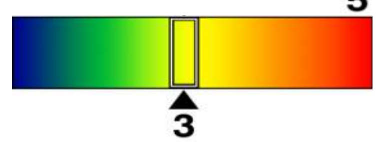


Overall Condition		Feature Priority		Treatment
1 (Excellent)	New or like-new condition; no issues to report; no expected failures	1 (Low)	Not a character defining feature, not important to historic character of buildings	1-5 (> 5 years)
2 (Good)	Good condition; minor defects; superficial wear and tear	2	Character defining feature, attention required	6-10 (3-5 years)
3 (Fair)	Average wear; functional; significant defects requiring maintenance	3 (Medium)	Important character defining feature, attention required	11-15 (1-3 years)
4 (Poor)	Major defects, worn from use; nearing end of expected life cycle; components failing; potential safety concern	4	Significant character defining feature, careful attention required	16-20 (1-2 years)
5 (Critical)	Extremely worn, damaged, or failing; not viable to use; potential safety concern	5 (High)	Extremely important character defining feature, careful attention required	20-25 (< 1 year)
N/A	This issue is not applicable; feature is not present on this building			

Note: Deficiency summaries noted above are average conditions across the entire building. In all systems, there are instances of more and less severe conditions. Richaven recommends prioritizing building systems with an average score of 3 or higher and certain special deficiencies in lower scored systems.

1.3 Methodology & Limitations

Scope and Goals of the Preliminary Evaluation:

Richaven was contracted as a subconsultant to Otak to perform evaluation of existing building conditions of the Cushman and Adams Substations in support of long term planning for the adaptive reuse, maintenance and preservation of the buildings. It is our understanding that renovation projects may be undertaken by either maintenance staff or professional contractors. A brief history of the building has been included to provide context for the structures. This history is excerpted and summarized from the 2014 nomination to the National Register of Historic Places and historic property inventories on WISAARD, which were used to complete the 2017 nomination for the Tacoma Register of Historic Places, as well as other online resources.

Per contract with The City of Tacoma, the following activities were completed: On site observation including detailed photographs, documentation of building materials and assemblies, and markups of owner-provided plans. Additional research included review and summary of online historic documentation, photographs, and owner provided documents including construction drawings for the building.

The evaluation included exterior building assemblies such as cast in place concrete surfaces, steel window systems, cast iron lamp post, architectural metals, etc. Evaluation of other portions of the building, including the interior spaces, structural, and active building systems (mechanical, electrical, and plumbing), were conducted by other team members. Building exteriors were investigated from the ground using telescopes and telephoto camera lenses. No observations from man lifts, swing stages or roped access were performed, therefore close range observation of the upper wall areas was not completed.

On-Site Evaluation Methodology:

The objective of the walk-through survey is to observe, visually, the Property so as to obtain information on material systems and components for the purposes of providing a brief description, identifying physical deficiencies to the extent that they are easily visible and readily accessible. The buildings were visually observed and photographed, accessing as many spaces as possible without interior observation or destructive investigation. Crawl spaces and other confined areas were accessed in a limited manner due to dangerous conditions and inaccessible spaces. Photos were taken with a digital SLR camera. Additional agencies, persons, or authorities having jurisdiction were not interviewed for this evaluation. Detailed review of existing documentation of the existing building was not conducted. Testing of materials and diagnostic non-destructive investigative techniques were not conducted. No access was provided to the roof of Cushman Substation or the interior of Adams Substation.

Documentation Methodology:

The major concerns for the Cushman and Adams Substations are indicated in the attached summary spreadsheet following the Executive Summary and discussed in detail in the detailed discussion for each building. To identify deficiencies, in-person observations and digital images were examined to identify deficiencies, evaluate the severity of the observed deficiencies, and identify areas where further investigation is recommended. The owner-provided historic floor plan drawings were available for reference.

1.3 Methodology & Limitations

Building Photos:

Building photos used in this preliminary evaluation were obtained from on site observations. The photos are limited to parts of the building available to observation and may be incomplete in some locations. The photos are, however, generally sufficient to document the location of building deficiencies. Completion of accurate as-built drawings should be completed of the buildings to accurately locate deteriorated building enclosure components.

Detailed Deficiency Photos:

Detailed photos of selected exterior and/or interior deficiencies were taken to document examples of building deficiencies. Included in the report are selected photos that are representative of the deficiencies observed. Detailed deficiency photos for the exterior are labeled to indicate which elevation, section of elevation, and deficiency observed.

Limitations & Exceptions:

The following statements outline our observations and opinions in relation to the condition of the property as reasonably accessed. This evaluation and report relates only to that which was readily viewable. No warranty of opinion is made on that which was not readily observed. The observers did not enter or inspect areas where safe, unobstructed, and legal access was not available. The extent of accessible areas, as defined by the presence of what is safe and reasonable was determined by the observers, based on the conditions encountered at the time of the site visit. This report is limited to a visual observation which only covered the readily accessible areas of the exterior of each building and site that safe and reasonable access was permitted at the time of site visits.

Detailed observations included limited parts of the interior of the buildings as these areas were not available for access during the contract period. Limited interior observations, based on limited interior photographs, may be noted to confirm observations from the exterior of the building.

The observations and opinions contained in this report are to assist the user of the report in developing a general understanding of the physical condition of the subject buildings. It is not the intent of this evaluation to prepare or provide exact costs, exact quantities, or identify the exact locations of items or systems as a basis for preparing cost estimates.

This preliminary was designed to reduce, but not eliminate the uncertainty regarding the potential for component or system failure, within reasonable limits of time and cost, and no warranty is implied. This evaluation does not constitute a regulatory or code compliance audit of the building systems that may be present at the subject buildings. Testing, measuring, or preparing calculations for any system or component to determine adequacy, capacity, or compliance with any standard is not included in this scope of work and were not performed.

Richaven Architecture & Preservation has no ongoing obligation to obtain and include information that was not reasonably ascertainable, practically reviewable, or provided to Richaven in a reasonable time frame to formulate an opinion and complete the evaluation by the agreed upon due date.

Any fungi or mold reference included in this report does not constitute a professional mold inspection and is not based upon any sampling, testing, and/or abatement. Richaven Architecture & Preservation merely notes the visual presence or absence of fungi or mold while in the course of preparing this report.

1.5 Building Descriptions- Cushman

The site is a rectangular parcel located in Tacoma, WA.

Historic Building Name(s):
- Cushman Substation

Common Name:
- Cushman & Adams Street Substations

Addresses:
- 3713 N 19th St, Tacoma WA, 98406

Location:
- UTM:
- Lat/Long: 47°16'0" N / 122°29'12" W
- Section -Township - Range: T21R02E36

Historic Landmark Designation Listing:

- National Register of Historic Places, 2014
- Tacoma Register of Historic Places, 2017

Assessor's Parcel Number:
- 7475021970

Legal Description:
- 2ND SCHOOL LD ADD B 103 E 170 FT OF N 1/2 & W 150 FT OF N 1/2 & S 1/2 ALLEY VAC NE 36 21 2 ITEM 1 THRU 3

Date of Construction:
- Completed 1926 (per NR Nomination; 1925 per DAHP HPIs)

Original and Prior Uses:
- Electrical generation substation

Present Use:
- Industrial Storage

Original Owner:
- Tacoma City Light

Present Owner:
- Tacoma Power, City of Tacoma

Original Designer:
- Verne Grongwer (Architect / engineer)
- James Parker (Engineer)

Additional Designer(s):
- Alvin F. Darland (Electrical construction)

Original Builder:
- Dougan & Chrisman

Zoning:
- R-2 - Single Family Dwelling District

Property Size:
- Site Area: 83,200 square feet (+/- 1.91 acres)

Building Size:
- Gross Building Area: 10,032 square feet
- Net Building Area:
- Basement Area:
- Height: 3 stories + basement

Characteristics:

Category	Item
Foundation	Concrete - Poured, board form
Form Type	Commercial - Two-Part Vertical Block
Roof Type	Shallow-pitch gable roof
Cladding	Concrete - Poured, board form
Structural System	Reinforced Concrete
Plan	Rectangular
Roof Material	Concrete - Poured
Styles	Late 19th and 20th Century Revivals
Period Style Details	Classical Revival Neoclassical Revival

It is recommended to complete further research on the history of capital improvements to the building in building department archives and elsewhere. Such an understanding is important to knowing what had previously been completed and anticipating potential problems with treatments to be implemented in the future.

1.5 Building Descriptions- Adams

The site is a square parcel located in Tacoma, WA.

Historic Building Name(s):
- Adams Street Substation

Common Name:
- Cushman & Adams Street Substations

Addresses:
- 1920 North Adams St, Tacoma WA, 98406

Location:
- UTM:
- Lat/Long: 47°16’45” N / 122°29’93” W
- Section -Township - Range:: 02-21-36-14

Historic Landmark Designation Listing:

- Tacoma Register of Historic Places, 2017
- National Register of Historic Places, 2019

Assessor’s Parcel Number:
- 7475021883

Legal Description:
- 2ND SCHOOL LD ADD 170 FT OF N 120 FT OF B 102 DC2/12/99JU

Date of Construction:
- 1926 (based on 2019 NR Amendment & historic photo comparison)

Original and Prior Uses:
- Electrical generation substation

Present Use:
- Industrial Storage

Original Owner:
- Tacoma City Light

Present Owner:
- Tacoma Power, City of Tacoma

Original Designer:
- Verne Grongwer (Architect / engineer)

Additional Designer(s):
- Richard T. Nightingale, (Designer)
- Ralph H. Ballock (Designer)

Original Builder:
- Dougan & Chrisman

Zoning:
- DOC1 U/450/U

Property Size:
- Site Area: 20,400 square feet (+/- 0.47 acres)

Building Size:
- Gross Building Area: 1,440 square feet
- Net Building Area:
- Basement Area:
- Height: 2 stories + basement

Characteristics:

Category	Item
Foundation	Concrete - Poured, board form
Form Type	Commercial - Two-Part Vertical Block
Roof Type	Flat with Parapet
Cladding	Concrete - Poured, board form
Structural System	Reinforced Concrete
Plan	Square
Roof Material	Concrete - Poured
Styles	Late 19th and 20th Century Revivals
Period Style Details	Classical Revival Neoclassical Revival

It is recommended to complete further research on the history of capital improvements to the building in building department archives and elsewhere. Such an understanding is important to knowing what had previously been completed and anticipating potential problems with treatments to be implemented in the future.

1.5 Building Descriptions

The Cushman and Adams Substations

According to the 2014 National Register and 2019 National Register amendment to the nomination, both the Cushman and Adams Substations were built in 1926 as separate properties, each with distinguishing features. The following paraphrased excerpts from the 2014 National and 2017 Tacoma Register of Historic Places Nominations describe the Cushman and Adams Substations. From the 2017 Tacoma Register of Historic Places nomination:

> *...The Cushman Substation building is rectangular in plan and three stories tall on basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof with a concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.*
>
> *The main entrance is centrally located on the south façade and is adorned with a monumental distyle temple front. Accessed via concrete stairs that define the stereobate, the pediment, tympanum, and Tuscan columns of the temple-front entryway are unadorned; the fully articulated entablature features the words "Cushman Substation" in the frieze. The tripartite doorway has a single-light wood door accentuated by engaged Tuscan Doric columns, and flanked by twelve-light sidelights of beveled glass with engaged pilasters at the corners. The doorway also features an entablature, with decorative dentils below the frieze. Original metal hardware on the door appears to be intact.*
>
> *The west side is devoid of entrances; other entryways, found on the north and east elevations, are industrial and/or utilitarian. These include the large metal roll-up door on the east elevation, with an inset pedestrian door; the second-floor entrance on the west elevation, accessed via an exterior metal stairway; the ground-floor pedestrian door on the east corner of the north elevation; and the metal roll-up door located in the center bay of the north elevation. With the exception of the main entryway door on the south elevation and the large metal roll-up door on the east elevation, all other doors appear to be modern.*

The most predominant feature of the Cushman Substation is the metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway has been added to one of the window bays.

Original cast-iron light poles flank the stairway to the main entrance. The light poles are also located on the corners of the south elevation, as well as symmetrically arranged on the west elevation, for a total of seven poles currently extant.... ...The light poles originally featured glass globes, though these have been replaced with plastic globes or, in some cases, are missing altogether....

The interior of the Cushman Substation maintains the original massing and form as originally constructed; however, all operating equipment has been removed, and the building is used primarily for storage. The south half of the building is one large open room, three stories tall, historically known as the Condenser Room. This main area once housed the machinery (condensers) necessary for the substation, and still features original details such as sconces with glass globes; gantry crane; engaged pilasters on both the exterior and interior walls; and the exposed, board-formed concrete beams and ceiling that support the roof structure. Some modern lighting has been installed on the ceiling beams. One original metal stair, with industrial "pipe- fitting" style handrails, accesses the second floor from the main room; a second stairwell was historically present, but has been removed....

From the 2014 National Register nomination:

Interior:
The building includes internal divisions that are not visible from the exterior: the building's south end is divided into

1.5 Building Descriptions

two floors, one partially submerged by roughly 5.5 feet (7 feet with the foundation). The building's north end is a single, ground-level story. Metal stairs or ladders provide access between floors. Building plans from 1925 refer to the building's lower story on the south end as the regulator room and upper story as the switch room. The building's northern end, divided into two rooms by a north–south concrete wall, was referred to collectively as the transformer rooms....

...A single, open volume, the regulator room includes a concrete floor and board-formed concrete walls and ceiling (concrete left in its natural state after the removal of board forms). The room is accessed from the primary entry door on the east elevation, which leads to a metal-grate platform and metal ladder against the south wall that provides access down to the floor itself. As of this writing, the room is used for storage. From the interior, it is clear that original doors and steel-framed windows remain in place, although the windows, generally filled with safety glass, are damaged and boarded over. Although the building no longer includes any of the mechanical systems typically found in a substation, steel-doored electrical panels and connectors installed in the ceiling between the two floors remain visible....

These properties and structures collectively occupy an entire city block bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street; and the Adams Street site south of Adams Street between North 21st Street and the mid-block alley to the south.

The following section excerpts and paraphrases the 2017 Tacoma Register of Historic Places nomination for the Adams Substation to summarize the building description:

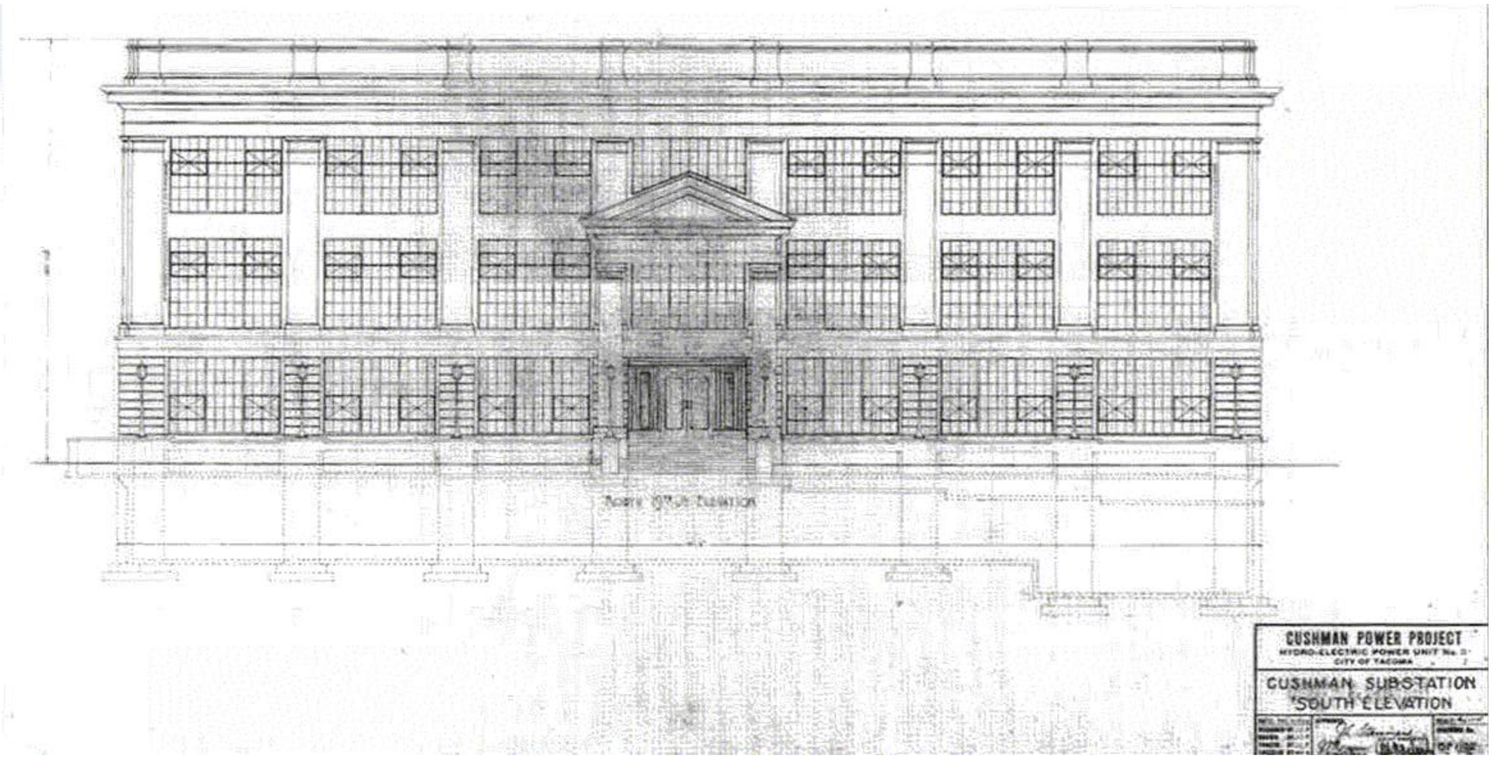
The Adams Street Substation is rectangular in plan, a tall single-story building in height, with a daylight basement and fronts on the Adams Street property line near the southeast corner of the property. Like the Cushman Substation, the building is constructed of reinforced board-formed concrete, which was mixed on-site and poured in place. The building's façade is broken into five bays on the east and west sides, and four bays on the north and south, by pilasters that rise from grade up to the cornice line of the building. A shallow cornice extends around all four sides of the building, presenting a finished appearance on all sides. Above the cornice is a parapet wall with an articulated cap reflecting the pilaster located below. A shallow shed roof sloping to the west is hidden behind the parapet wall. The building is finished to the same level of finish and form on all four sides.

Each of the four facades varies in window and door arrangement and appearance due to the split-level floor lines found within. The main entry door, a two-panel wood door, is located in the southern bay of the Adams Street façade, its threshold a few feet above grade. To the

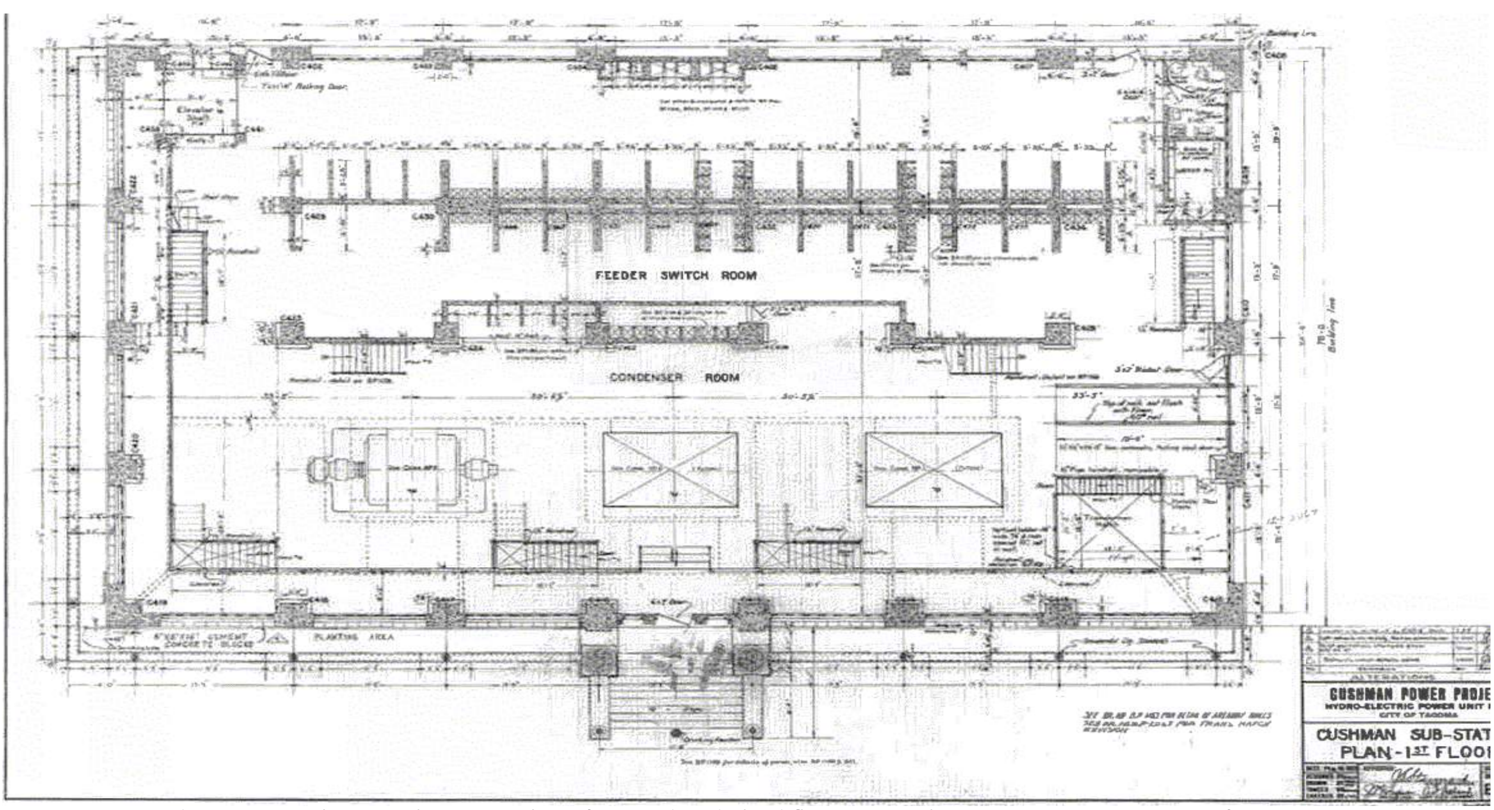
Cushman Substation South facing elevation. Image by Richaven Architecture and Preservation 200224, DJI_0016.JPG *right of the entry door in the next bay is a nine-pane steel window at the upper level with a vertical louver above. All three of the remaining bays to the north have a metal louver in the upper third and are currently boarded off below the louver but once contained a roller grill to access the transformers. The space behind these openings and similar openings on the west side allowed ventilation to the large transformers that occupied the tall single-story space within. The south façade is symmetrical in appearance, with a six-pane steel window on the first floor and a nine-pane window above, in the first and fourth bays. In the two center bays is a short vertical louver low on the wall into the first floor; high on the wall at these two bays are the remnants of the openings by which power entered the building from an adjacent set of poles long gone. A ventilation shaft has been added to the eastern bay covering the windows from grade to the roof. The west side of the building is similar to the east, the Adams Street facade, with three large openings on the northern bays. An entry door with a three light transom is located slightly below grade, accessed by a concrete stair and metal railing to the basement floor below. Above the door is a nine-pane steel window on the upper level with a louver. A similar window is found in the second bay but with a six-pane steel window below on the first floor. The north façade is symmetrical with a pair of two-panel doors with three-pane transom windows above in both of the central bays.*

Refer to the 2014 National Register and 2017 Tacoma Register of Historic Places nominations for additional information.

1.5 Building Descriptions



Design drawings, Cushman Substation, South Elevation, December 1924. Image courtesy of Tacoma power.



Design drawings, Cushman Substation, Plan of Second and Third floor, December 1924. Image courtesy of Tacoma power.

1.6 History and Capital Improvements

The following section includes excerpts from the 2014 National Register of Historic Places nomination:

By 1917, Tacoma was experiencing a population explosion and needed a new source of electric power to meet the increasing demands of domestic labor-saving devices and power-dependent industries. Public Utilities Commissioner Ira S. Davisson and Tacoma City Light reselected the Lake Cushman site for a new hydroelectric complex. The City applied for water rights and reservoir permits in 1919 and began condemnation proceedings the same year for the needed land....

...Bidding for constructing the Cushman Substation was closed in December 1924. Sixteen contractors submitted twenty proposals, with cost estimates ranging from $166,470.80 to $241,656.05. Dougan & Chrisman of Seattle received the lowest bid. It included the construction of the substation building, the tunnels, footings for the exterior switch yard equipment, and the steel structures to support the heavy bus connectors. The firm was officially awarded the contract for the Cushman Substation in January 1925 and began work on the building shortly after that....

...Concrete for the foundations of the Cushman Substation was poured in March of 1925, with deep excavations required to allow for the huge generators the building would house. The roof of the substation was poured in August. By October, the distinctive metal windows were being installed, and much of the heavy electrical equipment had been installed in the adjoining switch yard. In January 1926, "a giant 80-ton condenser" was the first piece of machinery tested at the substation; the success marked that the building and associated transmission lines and operating equipment were to receive power from the Skokomish River....

...The cornice, pilasters, moldings, and structures were all formed and poured in place. The exposed concrete surfaces have a "rubbed finish." This finish consists of rubbing the concrete surfaces with a rough carborundum stone until all film and unevenness disappear. Then painting with neat cement grout and rubbing in with a fine carborundum stone until only enough material is left on the surface to fill all of the voids and produce a smooth sandstone-like appearance....

...By March 1926, there was sufficient water in the Lake Cushman reservoir to begin producing power. The 44- mile-long Transmission Line, extending from the Cushman No. 1 powerhouse to the Cushman Substation in Tacoma, was first energized on March 23, 1926. At the formal dedication held in May, the current from the dam was turned on in Washington, D.C., by President Calvin Coolidge using a key made by Lincoln High School students, which included gold from a Northern Pacific Railroad souvenir spike.25 The Cushman system has provided power for the City of Tacoma ever since.

From its inception in 1893, Tacoma's public utility had sold power for commercial purposes to reduce the cost of residential power and light. The move to promote industrial expansion within the city directly influenced municipal power development. Following the opening of Cushman No. 1 and the Cushman Substation in 1926, several large industrial enterprises located plants in Tacoma. A consequent population boom and the availability of inexpensive electricity also encouraged consumers to purchase electric stoves, refrigerators, washing machines, and smaller appliances. In fact, demand was so great that by 1927, a year after Cushman No. 1 came online, the City Light department was promoting a second dam on the Skokomish River with the dire prediction that, without increased electrical output, Tacoma would "face a power shortage within three years."

In spring 1929, Tacoma City Light began constructing the second power plant on the Skokomish River, 2 miles downstream from the first. With the water discharged from Cushman No. 1, Cushman No. 2 utilized the remaining 480-foot elevation drop to the Hood Canal, a 240-foot-high arch dam, and a 13,000-foot-long tunnel to provide additional power for the city. Construction of Cushman No. 2 began none too soon: extreme drought in the fall of 1929 forced the city to rely partly on supplemental power supplied by the U.S.S. Lexington, which remained anchored in Tacoma harbor from December 18, 1929, through January 16, 1930.

The combined Cushman Nos. 1 and 2 systems were poised to bring 140,000 horsepower to Tacoma - 50,000 from Cushman No. 1 and 90,000 from Cushman No. 2....

1.6 History and Capital Improvements

...By 1947, the City of Tacoma, Department of Public Utilities, Light Division, had begun construction on the Pearl Street Substation in Tacoma; in 1949, the transmission line was rerouted from the Cushman Substation to the Pearl Substation.32 Blueprints for the "Pearl Street Switching Station Control House" are dated June 7, 1949, approved by engineer A. W. Francis. Although the transmission line continues to the Cushman Substation, the historic alignment and terminus of the line have been altered. The Cushman Substation is now a storage building, and all original interior equipment has been removed. The switch yard, located on the Cushman Substation property, is still active, although it contains only modern equipment.

Historically, the substation was an integral part of the Cushman Hydroelectric Project, acting as the terminus for the transmission line and an essential resource directly related to the production and transmission of hydroelectric power to the citizens of Tacoma....

...The building is an excellent example of neoclassical-revival architecture and has seen few alterations (apart from the interior removal of equipment). The building's basic form, massing, scale of the building, both interior, and exterior, are intact....

...The interior of the Cushman substation maintains its original massing and form as initially constructed; however, all operating equipment has been removed, and the building is primarily used for storage. The condenser room still features original details such as sconces with glass globes, a gantry crane, engaged pilasters on interior walls, and the exposed board-formed concrete beams and ceiling that support the structure. Some modern lighting has been installed on the ceiling beams. One original metal stair with industrial pipe-fitting-style handrails accesses the second floor from the main room. A second stairwell was historically present but was removed at one unknown date....

...With the exception of wholesale removal of equipment in the interior, alterations to the Cushman substation have been minor. For example, a door on the second floor of the east elevation was cut into a window; this change utilized the existing window space and, with the exception of removing some window panes, did not require the removal of the building's fabric. Other alterations include the removal of light poles on the exterior of the building. Analysis of historic photos indicates that the substation originally had eight-light poles on the south side and five on both east and west sides....

...The switch yard is located adjacent to the Cushman Substation building, occupying the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. The switch yard was constructed concurrently with the substation, but has been modified over the years as bussing and other equipment was upgraded for efficiency and safety standards. The switch yard is a non-contributing, functionally-related structure to the Cushman Substation nomination.

Refer to the 2017 Tacoma Register of Historic Places nomination form for additional information.

1.7 Historic & Features of Significance

Statement of Significance & Designation Criteria

The following is excerpted from the Statement of Significance of the Cushman and Adams Substations in the 2017 Tacoma Register of Historic Places nomination:

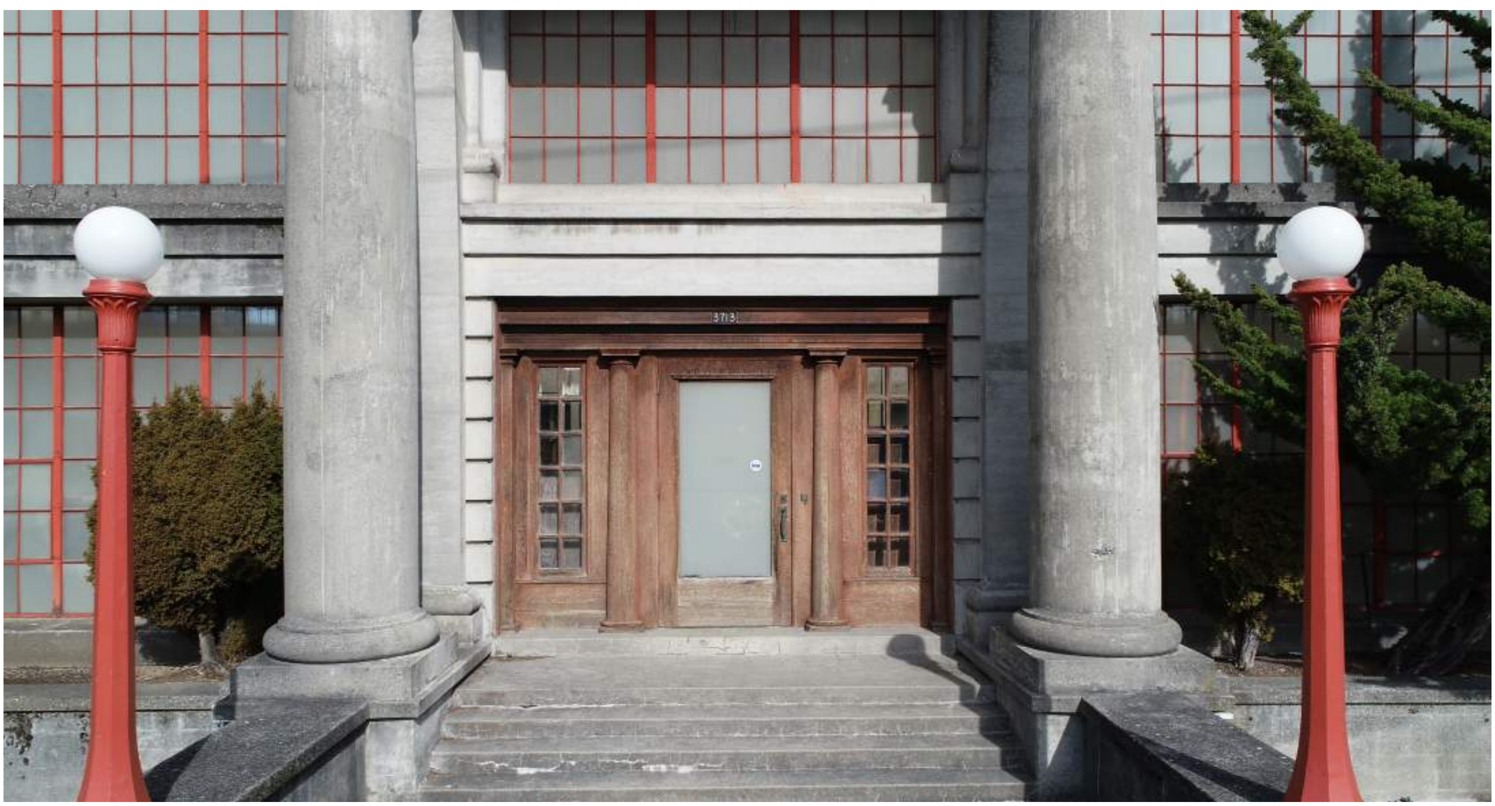
...The Cushman Substation has been listed on the National Register at the local level for significance under Criterion A, associations with broad patterns of history, for the role it played in the growth of the city of Tacoma and the region due to the development of hydroelectric generation and its subsequent effect on the availability of affordable electricity. The Cushman Substation complex has been listed in the Tacoma Register based on these same reasons....

...The Cushman Substation complex is the urban embodiment of the City of Tacoma's achievement in hydroelectric power production via development of the Cushman Hydroelectric Project. The substation housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand and, therefore, made the Cushman Substation one of the most important and influential buildings of its time.

The monumental architectural style reflected this ideology, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system. As such, the building is also eligible for listing in the National Register of Historic Places at the local level for significance under Criterion C, architecture. The Cushman Substation is an excellent example of neoclassical revival style architecture, with which the City of Tacoma built the Cushman Hydroelectric Project facilities in the 1920s....

...The period of significance is 1926 - 1949: the date construction was completed through the date the transmission line was rerouted and the historic terminus altered.

Refer to the 2014 National Register of Historic Places nomination form for additional information.



South facing elevation of the Cushman Substation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0026.JPG

1.7 Historic & Features of Significance

The following is excerpted from the 2014 National Register of Historic Places nomination:

...Although the Adams St. Substation was not included in the original nomination, it is significant as a functionally related unit to the Cushman Substation, as it was also critical to the efficient and economical distribution of electricity. The Adams St. Substation, constructed in the same year as the Cushman Substation and designed by engineers and draftsmen in the City of Tacoma's Light Department, was the first district substation constructed to serve the Cushman Substation. It was the final stop in a long journey between Lake Cushman and the Tacoma City Light customer. Electricity traveled from Lake Cushman to the Cushman Substation and then to the Adams St. Substation, where it was stepped down to a safe and efficient voltage for delivery to local homes and businesses. Access to inexpensive, reliable power was a significant catalyst for Tacoma's twentieth century growth and development. As such, the Adams St. Substation is significant under Criterion A for its association with broad patterns and trends in local history and deserves to be recognized along its neighbor and partner in power distribution, the Cushman Substation.

Although the Adams St. Substation does not possess the high-style architectural character of the Cushman Substation, it was designed to complement the Cushman Substation, featuring similar Classical Revival massing and incorporating many of the same materials as its larger counterpart, including board-formed concrete surfaces, classically defined bays, pilasters, and steel-sash windows. As a functionally related unit to the Cushman Substation, the Adams St. Substation is significant under Criterion C as an example of its type. Like the Cushman Substation, its period of significance dates from its completion in 1926 to the rerouting of the system in 1949....

Refer to 2014 National Register and 2017 Tacoma Register nominations for additional information.

Adams Substation West and South elevations. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S-W DJI_0065JPG

2.0 Preliminary Evaluation Cushman Substation

2.1 Concrete

Cushman Substation Building System Description:

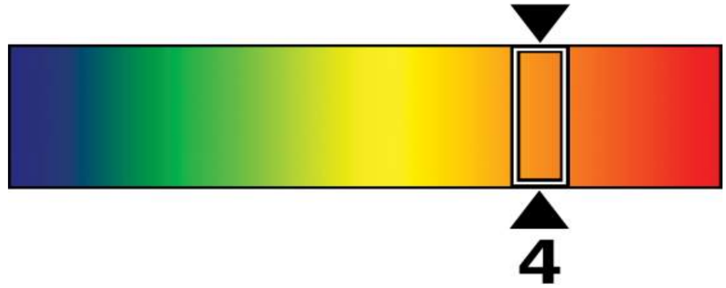
The building system is described, in part, as follows:

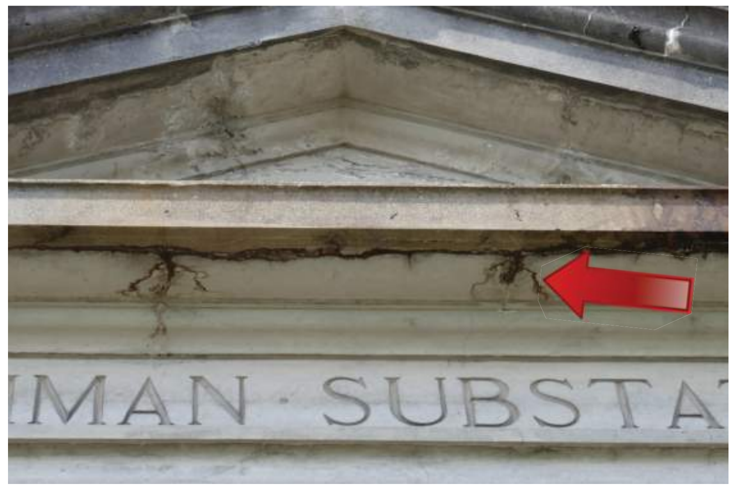
The building is constructed of board-formed poured concrete, including the foundation, walls, roof and exterior cladding. The structural system utilizes cast-in-place reinforced concrete.

Observed Deficiencies:

Generally, there are numerous issues with the concrete on the building. There is evidence of water infiltration in the parapet, cornice, the pedimented entrance in the south elevation, and areas around the window frames. This has resulted in spalling and cracking of the concrete on all elevations of the building. The most common cause of spalling is the corrosion of embedded steel reinforcement bars that have come in contact with water. The reinforcing steel that has been exposed in areas where the concrete has cracked and delaminated from the substrate; contributed to further corrosion of the steel that has stained areas in the concrete immediately around the exposed bars. Additional water-related concrete damage includes efflorescence, visible on all elevations, especially under the cornice and around the parapet.

Reinforcing Steel Components: On all elevations of the building, some corrosion is visible where reinforcing steel components are exposed.





The pediment above the main entrance on the south elevation shows some water damage that resulted in cracking and spalling of the concrete. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000651.JPG

Pediment above the main entrance on the south elevation shows severe spalling, efflorescence, and atmospheric soiling. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-S DJI_00221.PNG

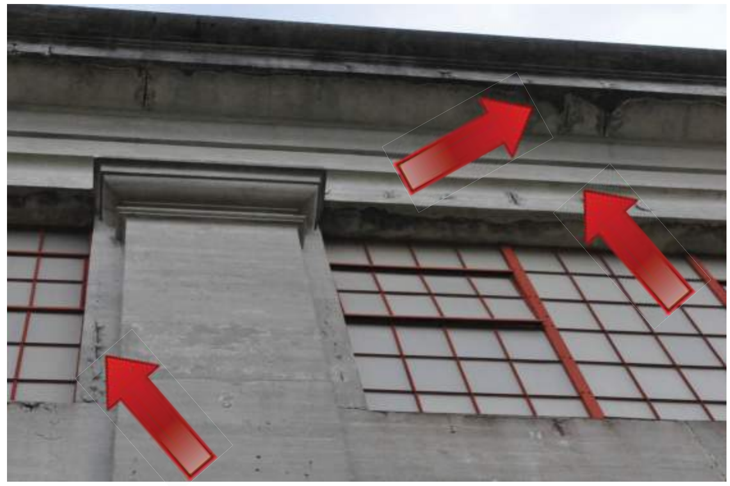
2.1 Concrete

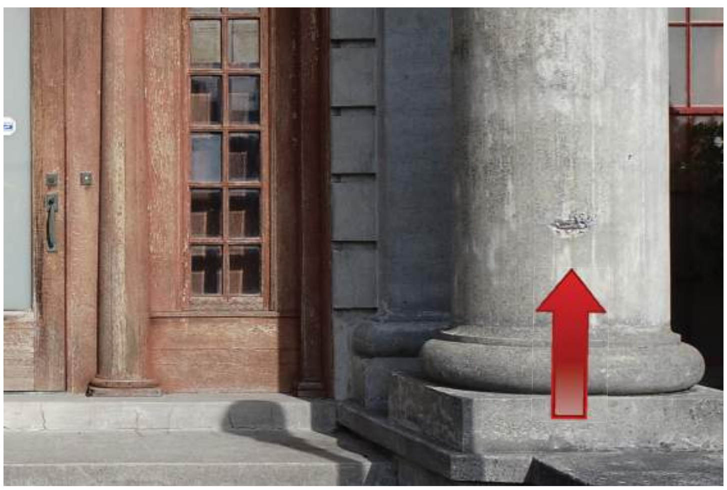
Spalling and efflorescence on the frieze. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-S DJI_00221.PNG

Section of the cornice on the west elevation shows spalling and reinforcing steel exposed due to water infiltration. Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-W P1000649.JPG

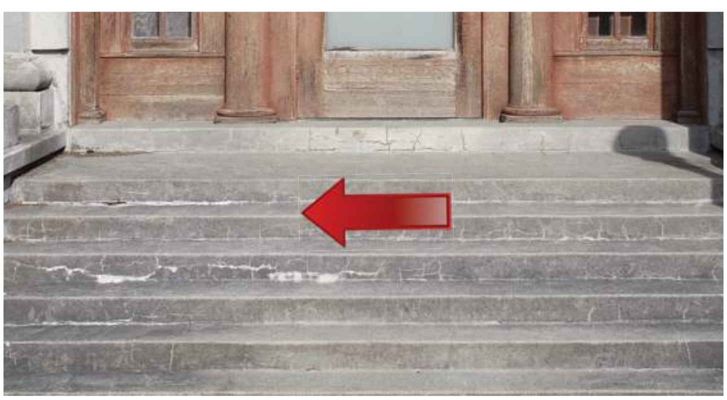
2.1 Concrete


Efflorescence was observed under the pediment and entablature on the main entrance. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0016.JPG


Spalling observed under the cornice and around the windows. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-W DSC_0039.JPG


Damage to a column on the south elevation Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0027


Spalling, efflorescence and atmospheric soiling under the cornice and capitals. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-N DSC_0163.JPG


The stairway on the south elevation has severe spalling, cracking and soiling. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0027


The foundation on the right side of the stairway has severe spalling, cracking, and organic soiling. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0014

2.1 Concrete

Spalling around a window frame on the west elevation and reinforcing steel bar exposed due to carbonation-induced corrosion. Often occurs in areas with a shallow concrete cove Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-W DSC_0026.JPG

Exposed reinforcing steel and failed concrete around one of the ground-level window bays on the west elevation. There is some amount of corrosion visible. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-W DSC_0028.JPG

Cracking and delamination present above a window on the west elevation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-W DSC_0035.JPG

Efflorescence under a window ledge on the west elevation. Moisture infiltration will result in spalling. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-W DSC_0034

2.1 Concrete

Exposed reinforcing steel and spalling under the cornice on the west elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000666.JPG

Looking up at the failed concrete at the upper left corner at a ground-level window bay, west elevation. The image below shows concrete debris that has separated from the substrate. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000663.JPG

Failed concrete at one of the ground level window bays on the west elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000660.JPG

Severe spalling and separation from the substrate around a window on the west elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000647.JPG

Severe separation from the substrate on the left edge of a pilaster on the west elevation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-W DSC_0036.JPG

2.1 Concrete

Cracks on the foundation, on the east corner of the south elevation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0004.JPG

Reinforcing steel and aggregates being exposed on a wall corner on the west elevation. Spalling in present in all elevations on the building. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0013.JPG

Exposed reinforcing steel with corrosion. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-N DSC_0174.JPG

Cementitious repair above the door on the north elevation. Image by Richaven Architecture and Preservation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-N DSC_0189.JPG

2.2 Soiling and Staining

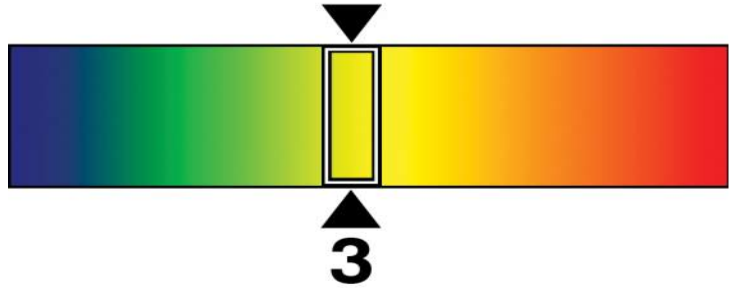
Building System Description:

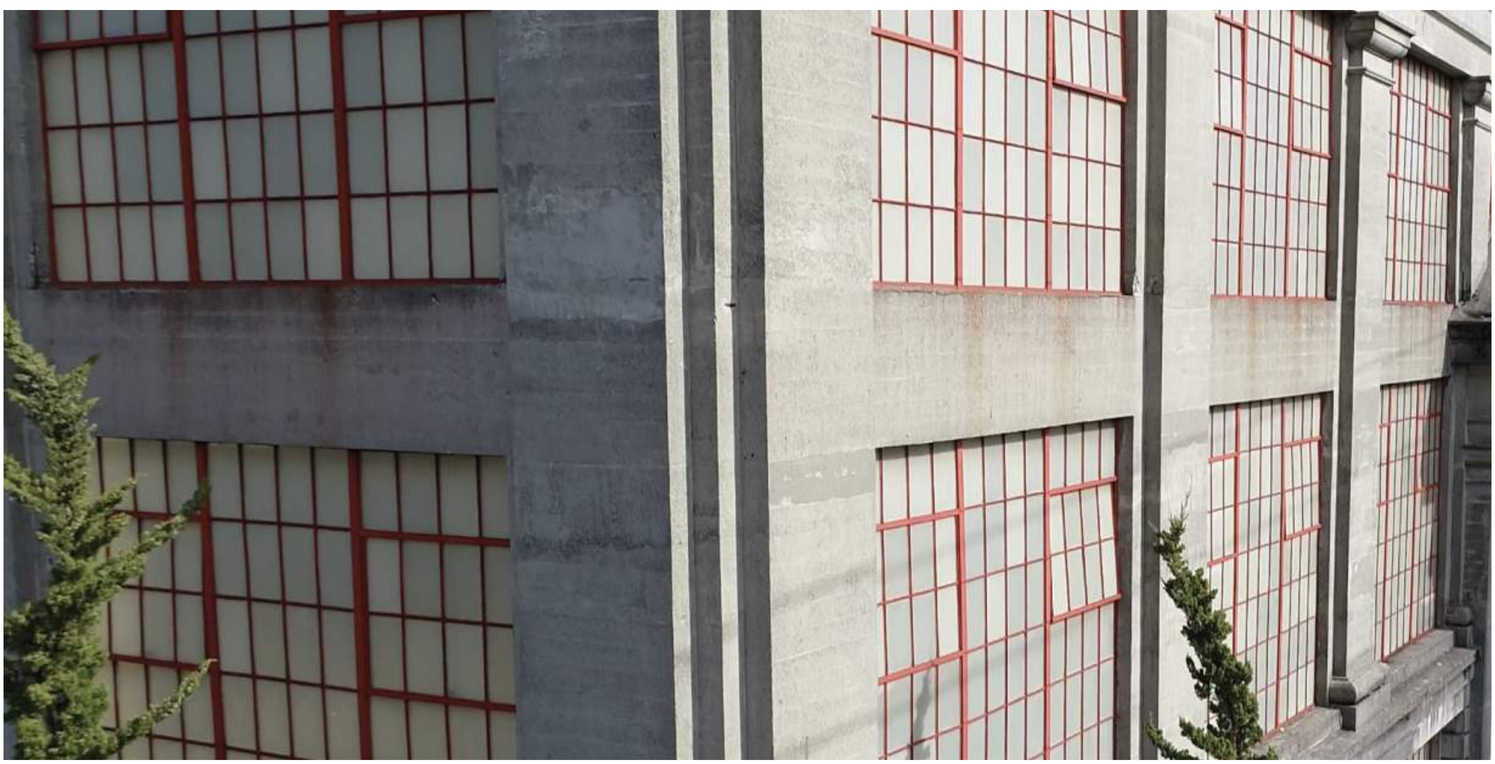
The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding.

Observed Deficiencies:

There are numerous examples of different types of soiling and staining on the exterior of the building, including organic growth (plants, algae, moss, lichens, etc.), atmospheric soiling, paint, etc. Efflorescence is also observed.

See the following images for multiple examples of typical observed soiling and staining.



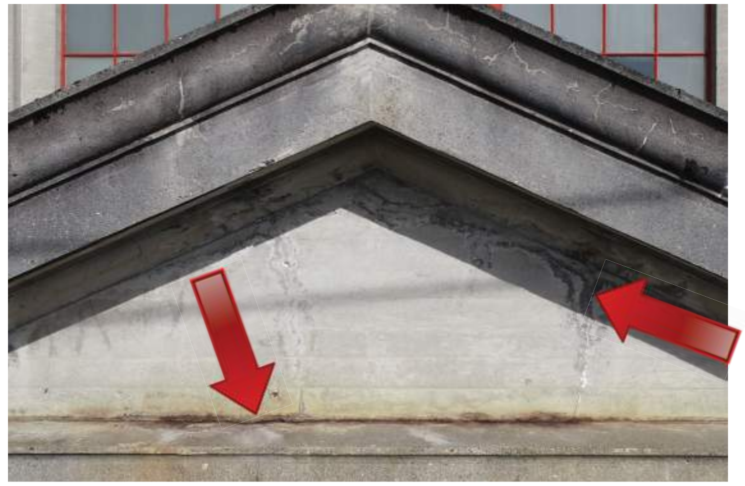


Bleeding marks of rust and paint have stained the concrete surfaces on all elevations of the building. 200224 CoT CAS EL-S-W 200224 CoT CAS EL-S-W DJI_00281.PNG

2.2 Soiling and Staining


Bleeding marks of rust and paint have stained the concrete surfaces on all elevations of the building. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000667.JPG


Organic soiling (algae and plants) and atmospheric soiling were observed on concrete at the West elevation of the building. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-W DSC_0047.JPG


The pediment above the main entrance on the south elevation shows the build-up of atmospheric soiling that has adhered to the concrete and visible stains due to corrosion of the reinforcing steel. Efflorescence is also observed. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0023.JPG


Build-up of airborne pollutants that have adhered and stained the concrete under the cornice on the south elevation. Efflorescence is also observed. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000666.JPG

2.2 Soiling & Staining

A substantial amount of organic soiling (algae) and atmospheric soiling was observed on walls on the west and south elevations. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S-W 200224 CoT CAS EL-S-W DJI_0028.PNG

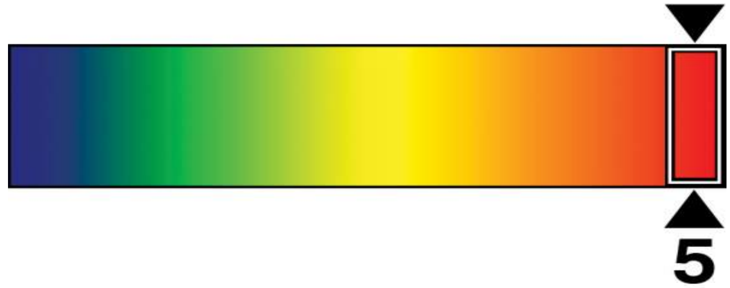
2.3 Steel Windows

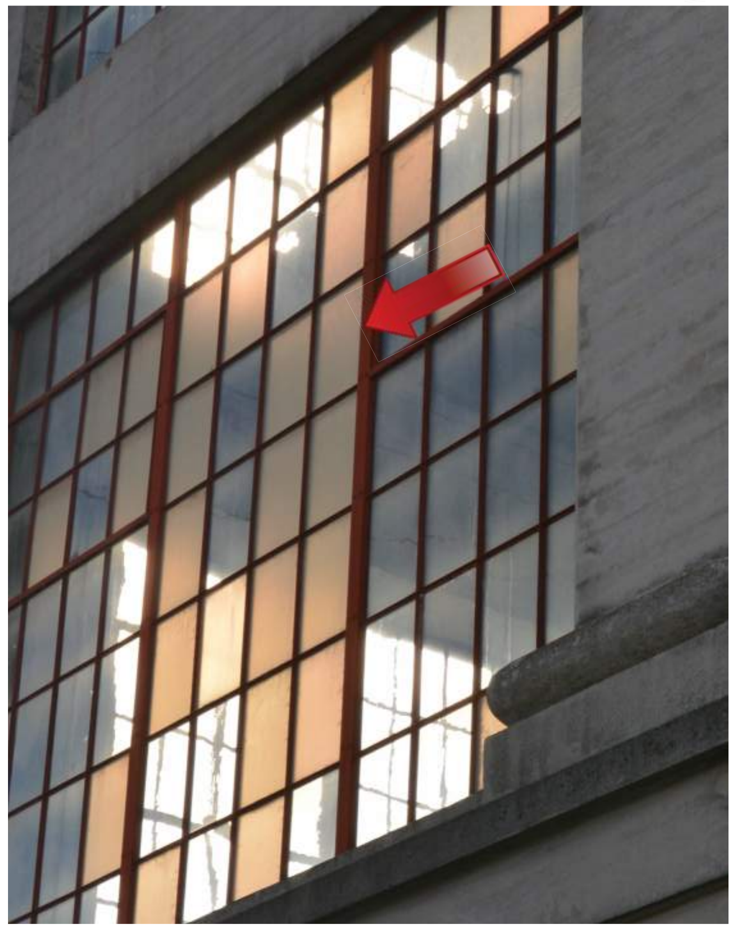
Building System Description:

The building has industrial cast-in-place pivoted steel-sash windows on all elevations. The glass is framed in a steel framework that has been coated with a red compound. The glass is interior glazed with a glazing compound. The windows have a middle sash that pivots to an open and close position.

Observed Deficiencies:

Generally, there are numerous issues with the window framing system. In some areas, there is severe corrosion. The glass panes are incompatible. The causes of yellowing and translucency in the glass are unknown. Richaven did not investigate, test or analyze for hazardous materials. Lead paint may be present on all painted surfaces. The glazing compound may contain asbestos.





The original glass appears translucent and yellow, but it is unclear if this is due to soiling or the nature of the glass. Image by Otak. 200224 CoT CAS EL-S DSC_1057.JPG

Detail of the cast-in-place steel window frame exhibits delamination, corrosion, and missing glazing compound. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000664.JPG

2.3 Steel Windows

Steel with signs of corrosion. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-N DSC_0175.JPG

Mullions and muntins on all elevations exhibit corrosion and coating failure. Image by Otak. 200224 CoT CAS EL-N DSC_0184.JPG

Operable sash-center-pivot exhibits corrosion and coating failure Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-N DSC_0176.JPG

Most of the steel window frames on all elevations exhibit corrosion. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-W DSC_0020.JPG

The cast-in-place steel windows exhibit extensive corrosion around the frame and loss of glazing compound. Image by Otak. 200224 CoT CAS EL-INT DSC_0092.JPG

Visible corrosion around the fasteners of a window on the west elevation. Image by Richaven Architecture and Preservation. CoT CAS EL-W P1000654

2.3 Steel Windows

Broken glass pane on window bay above rolling gate on the north elevation. Image by Richaven Architecture and Preservation 200224 CoT CAS EL-N DSC_0189.JPG

Badly corroded steel window frames and loss of glazing compound. Image by Otak. 200224 CoT CAS EL-INT DSC_10099.jpg

The door for roof access is badly corroded, and windows are starting to deteriorate. 200224 CoT CAS EL-S DJI_0037

2.4 Wood Entry Door

Building System Description:

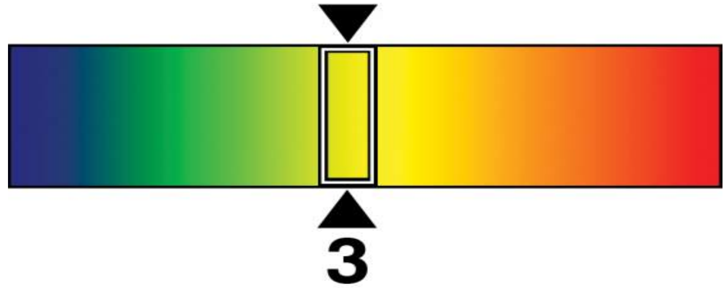
The building includes select locations of wood features. These are found mainly at the portico in the main entrance in the south elevation. The entryway consists of a wood door with a doorlight and sidelights installed on both sides of the main door.

Observed Deficiencies:

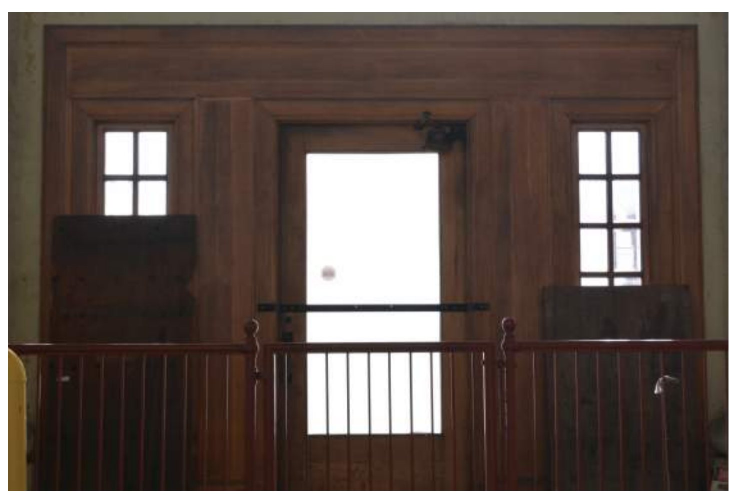
The wood in the primary entrance exhibits intensive UV radiation damage. The varnish finish in the wood shows fading and discoloration. Some areas are severely rotted, and others have atmospheric soiling.

Door frame with a significant amount of fading and discoloration. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0011.JPG


Some areas in the wood are severely rotted. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_1063.JPG



Wood columns with a significant amount of discoloration. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-S DSC_1063.JPG


Interior wood frame with discoloration. Image by Otak. 200224 CoT CAS INT DSC_0975.jpg

2.5 Architectural Metals

Building System Description:

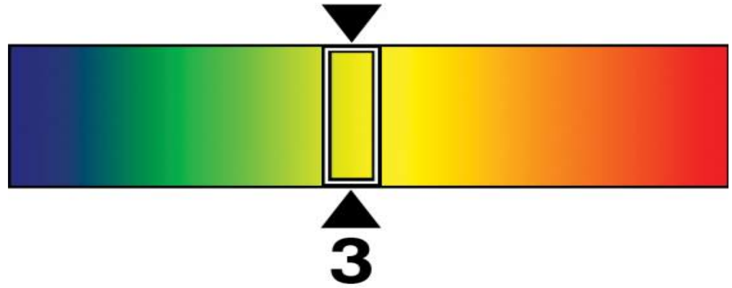
The building features doors and metal structures on the north and east elevations. A door on the second floor of the east elevation was cut into a window, and a metal stairwell was installed. Historically there was no access to the second floor from the east elevation. The date of this modification is unknown.

Observed Deficiencies:

In general, corrosion was observed on all exterior metal structures. The paint on the surfaces is peeling off, accelerating the rate at which the metal corrodes.

Richaven did not investigate, test or analyze for hazardous materials. Lead paint may be present on all painted surfaces.

Richaven observed a substantial amount of corrosion on the steps and railings of the stairwell structure. Image by Otak.
200224 CoT CAS EL-E DSC_1045.JPG

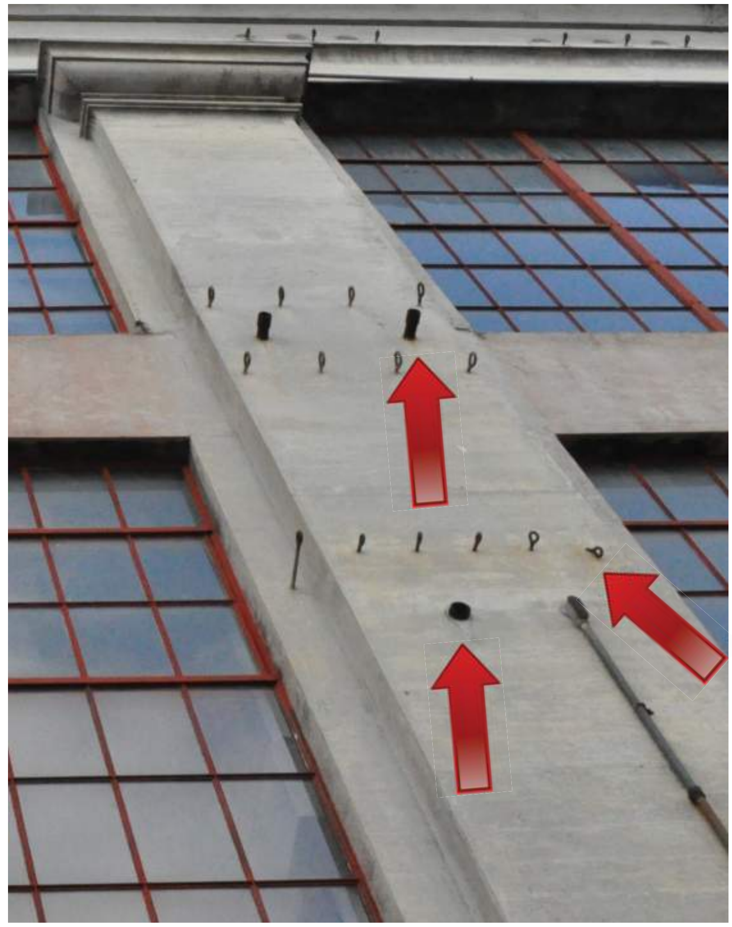


Door and stairwell on the second floor of the east elevation.
Image by Otak. 200224 CoT CAS EL-E DSC_1039.JPG

There is visible paint failure on the structure and signs of corrosion.
Image by Otak. 200224 CoT CAS EL-E DSC_1039.JPG

2.5 Architectural Metals

Richaven observed paint failure on the surface of the roll-up door on the north elevation, and corrosion around the steel frame door insert. Image by Otak. 200224 CoT CAS EL-E DSC_1056.JPG



Observed steel eye bolts and several tubes embedded in the concrete on the east elevation. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-E DSC_0189.JPG

Doors on the north elevation are beginning to deteriorate. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DSC_0189.JPG

The tube embedded in the concrete appears not to be adequately sealed. It will allow water infiltration into the wall.
200224 CoT CAS EL-N DSC_0183.JPG

2.6 Interior Features

Building System Description:

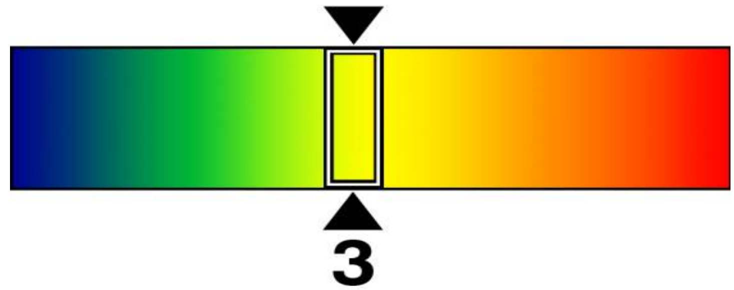
The interior of the Cushman substation maintains its original massing and form as initially constructed, and almost all operable equipment has been removed. However, there are few remaining historical portions of the interior, including the Cast iron lamps, gantry crane, engaged pilasters, and exposed board-form concrete beams that support the structure.

Observed Deficiencies:

The most visible issue in the interior of the building is paint failure. In some walls, the paint's coating has separated from the substrate. Other visible issues are water infiltration around the windows, soiling on the surfaces, and corrosion on the wall-mounted steel lamps and industrial metal stair that leads into the second floor.

Richaven did not investigate, test or analyze for hazardous materials. Lead paint may be present on all painted surfaces.

Visible paint failure in large areas in interior walls. Image by Otak. 200224 CoT CAS EL-INT DSC_0083.JPG



Cast iron decorative light fixture exhibiting corrosion. Image by Otak. 200224 CoT CAS INT DSC_0970.JPG

Glass globes are missing on the light fixtures above the main entrance. Image by Otak. 200224 CoT CAS EL-INT DSC_0999.JPG

2.6 Interior Features

The dark areas under the windows appear to be organic growth (algae), indicating water infiltration. There is also a substantial amount of paint failure on the walls. Image by Otak. 200224 CoT CAS EL-INT DSC_0998.jpg

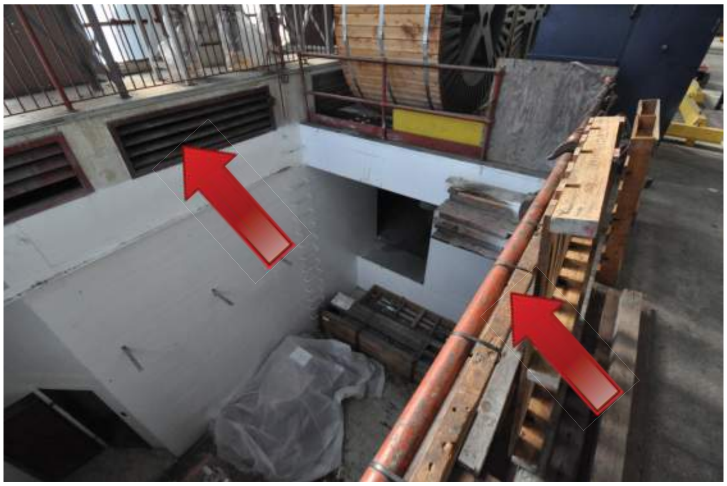
Soiling under the window appears to be mold and signs of water infiltration. Image by Otak. 200224 CoT CAS EL-INT DSC_0070.JPG

2.6 Interior Features


The stairwell railings are in fair condition. No corrosion was observed. Image by Otak. 200224 CoT CAS INT DSC_0977.JPG


Visible paint failure, flaking, and peeling. Image by Otak. 200224 CoT CAS EL-INT DSC_0082.JPG.


Dust / dirt soiling was observed on the stairwell. Image by Otak. 200224 CoT CAS EL-INT DSC_0065.JPG


Visible soiling, corrosion, and paint failure over the vents and railings. Image by Otak. 200224 CoT CAS EL-INT DSC_0051.JPG


Paint failure and dust / dirt soiling on the base of the pilaster. Image by Otak. 200224 CoT CAS EL-INT DSC_0078.JPG

2.6 Interior Features

Paint failure on walls and soiling on the floor in the basement. Image by Otak. 200224 CoT CAS EL-INT DSC_0124.JPG

Paint failure, peeling, and soiling on walls. Image by Otak. 200224 CoT CAS EL-INT DSC_0125.JPG

The location above shows concrete wall with the coating failing and peeling. Image by Otak. 200224 CoT CAS EL-INT DSC_0126.JPG.

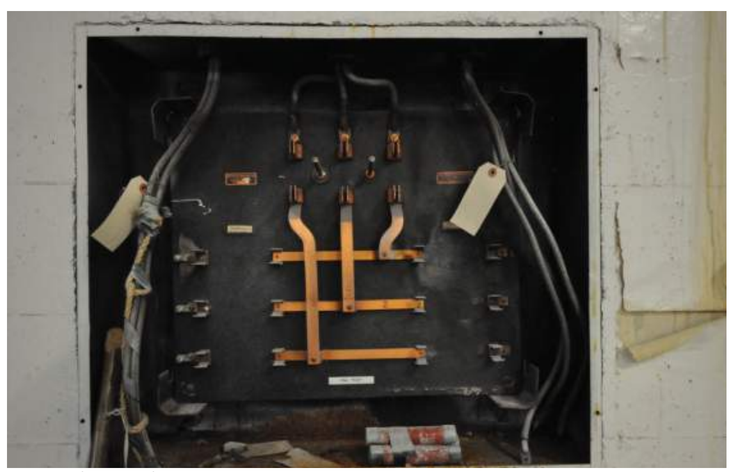
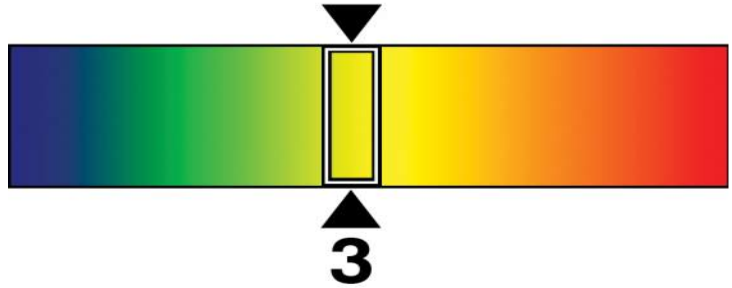


Image by Otak. 200224 CoT CAS EL-INT DSC_0127.JPG

2.7 Cast Iron Lamp Posts

Building System Description:

Original cast iron lamp posts flank the stairway to the main entrance. A 1926 historic floor plan indicates that the substation originally had eight lamp posts on the south elevation and five on the west. Currently, only four lamp posts remain on the south elevation and three on the west elevation.



Observed Deficiencies:

In general, the ornamental lamp posts are in fair condition. Historic photos show rusted white painted lamp posts. However, it appears that the lamp posts have been recently painted.

There is a gap under some lamp posts. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-W DSC_0047.JPG

The lamp globes appear to have been replaced with round plastic globes. Historical photos show that the globes were not round but acorn-shaped. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-S DSC_0001.JPG

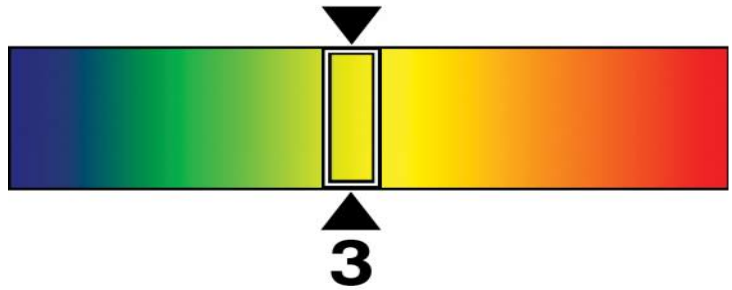
2.8 Roof

Building System Description:

The building has a shallow-pitch gable roof constructed of board-formed poured concrete.

Observed Deficiencies:

Access to the roof was not available. Observations are based on contemporary drone photos. Additional inspection recommended. The concrete surface on the roof looks clean. There are multiple enclosures with holes in the roof; it is unclear how well-sealed these are. It is unclear how the equipment and cables attached to the parapet are anchored. Richaven observed organic growth on the cornice and around the parapet on all elevations, indicating that water is collecting.



It is unclear how the equipment and cables attached to the parapet are anchored. Image by Richaven Architecture and Preservation, 200224, DJI_0006.PNG

The concrete surface on the roof looks clean. There are multiple enclosures with holes in the roof and it is unclear how well sealed these are. It is unclear how the equipment and cables attached to the parapet are anchored.

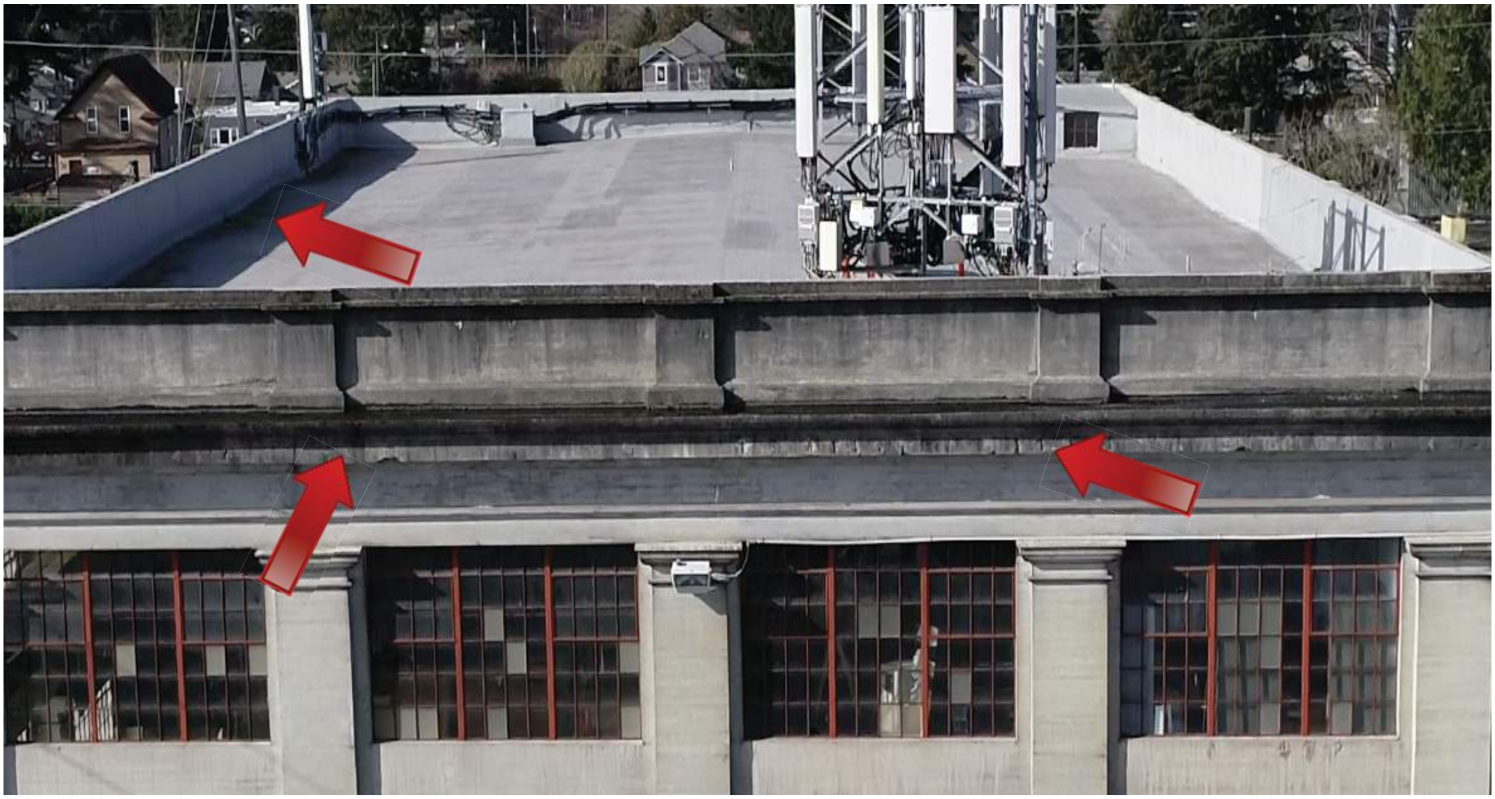
2.8 Roof

Organic soiling (algae, moss, etc.) and water collection observed on the cornice on the south elevation.
200224 CoT CAS EL-N DJI_00282.JPG

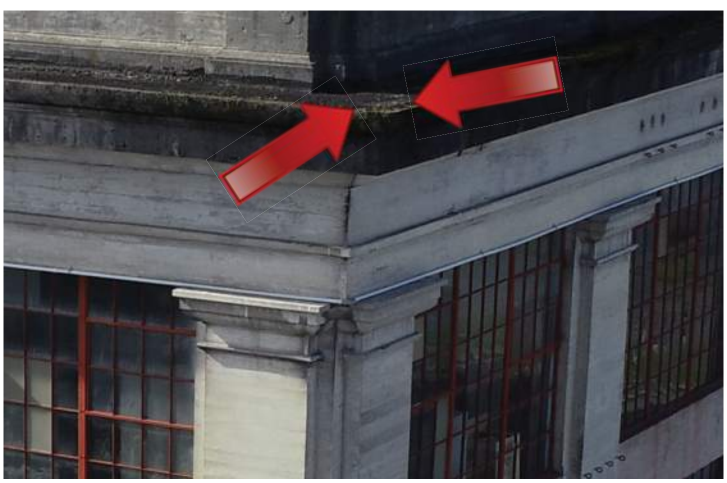
Algae growth on the cornice on the south elevation indicates that water is collecting. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0037.JPG

The back of the parapet on the south elevation has algae, indicating that water is collecting. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-E DJI_0006.JPG

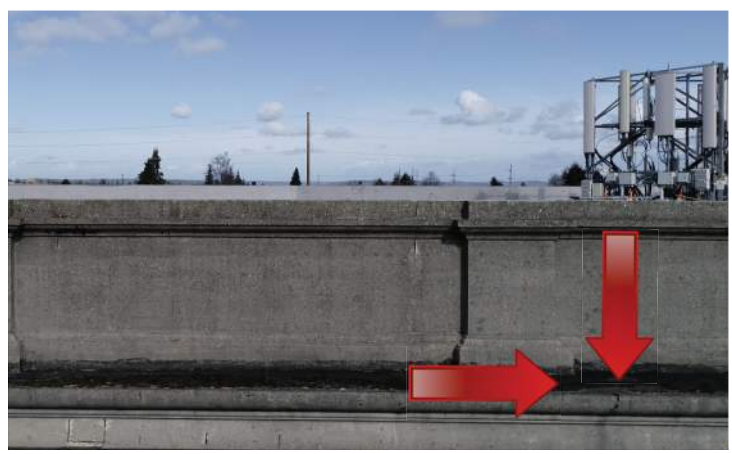
2.8 Roof



The back of the parapet on the south elevation has algae, indicating that water is collecting. There is also severe spalling on the cornice on the east elevation. There is a significant amount of atmospheric soiling. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-E DJI_0006.PNG



Water proofing on top of cornice, on the east corner of the south elevation appears to be failing. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S-W DJI_00036.jpg

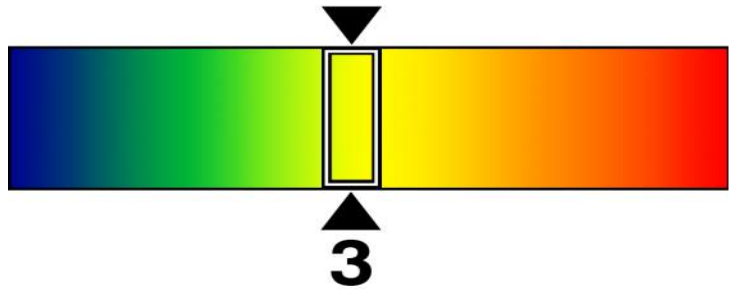


Water proofing on top of cornice appears to be failing. Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-S DJI_0022.PNG

2.9 Miscellaneous

Building System Description:

See below for descriptions.



Observed Deficiencies:

The switchyard is located adjacent to the Cushman Substation. It is partially graveled and features concrete pads and foundations for equipment that is no longer extant.

Image by Richaven Architecture and Preservation. .200224 CoT CAS EL-MISC DSC_0197.JPG

Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-MISC DSC_0195.JPG

Image by Richaven Architecture and Preservation. 190805 CoT CAS EL-MISC IMG_3852.JPG

Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-MISC DSC_0196.JPG

3.0 Preliminary Evaluation Adams Substation

3.1 Concrete

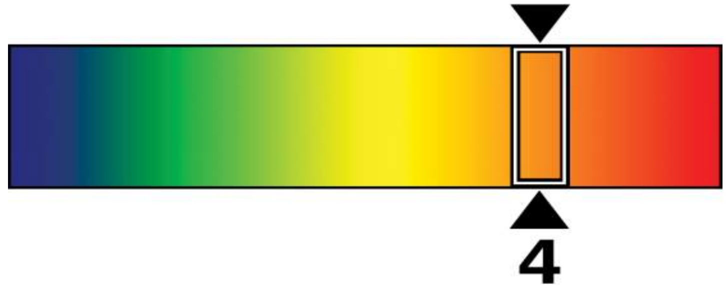
Adams Substation Building System Description:

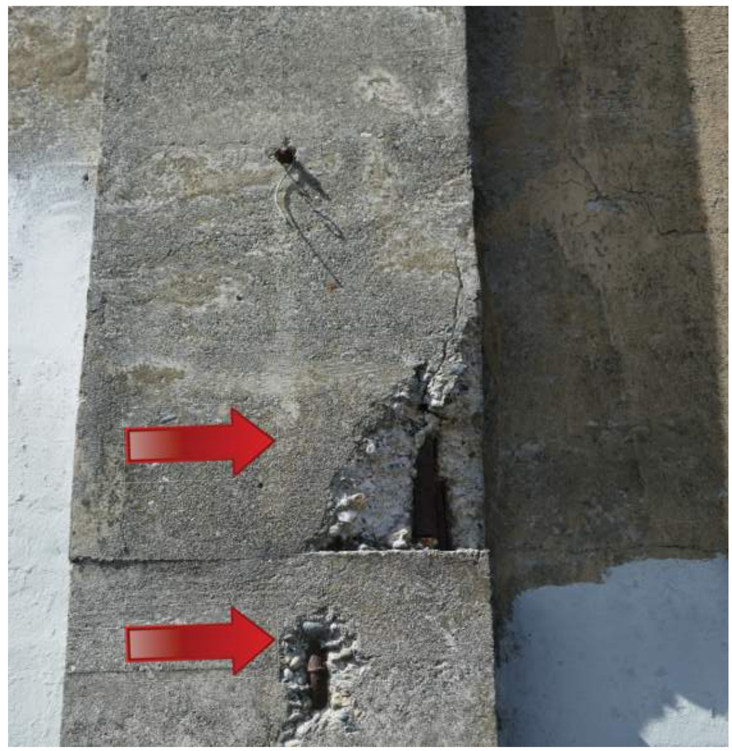
The building system is described, in part, as follows:

The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. The structural system utilizes cast-in-place reinforced concrete.

Observed Deficiencies:

Generally, there are numerous issues with the concrete on the building. There is evidence of water infiltration in the parapet, cornice, and areas around the window frames. This has resulted in spalling and cracking of the concrete on all elevations of the building. The reinforcing steel that has been exposed in areas where the concrete has cracked and delaminated from the substrate; contributed to further corrosion of the steel. Additional water-related damages to the concrete include efflorescence, visible on all elevations, especially under the cornice.

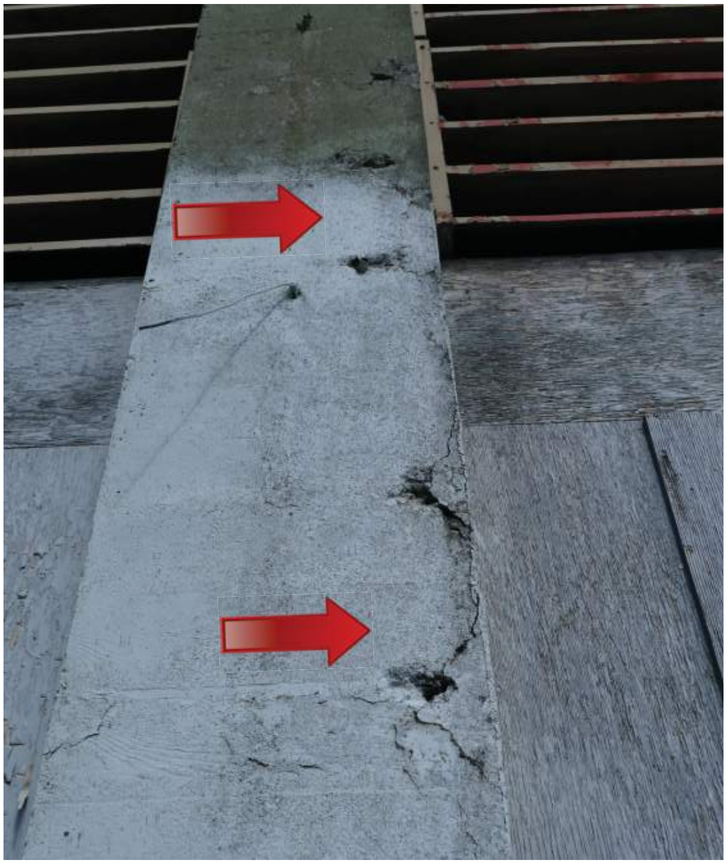




Spalling and exposed reinforcing steel on a pilaster on the east elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000672.JPG

Cracking on the right edge of a pilaster on the east elevation. Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-E P1000684.JPG

3.1 Concrete



Severe spalling and cracking on a pilaster on the west elevation. Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-E P1000678.JPG

Spalling and exposed reinforcing steel immediately under cracks shown in the photo above. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000677.JPG

Failed concrete with exposed reinforcing steel on the left corner of a pilaster on the south elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000675.JPG

Severe separation from the substrate. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000679.JPG

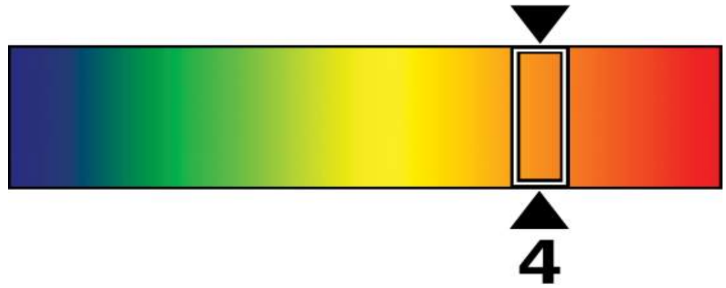
3.2 Soiling and Staining

Building System Description:

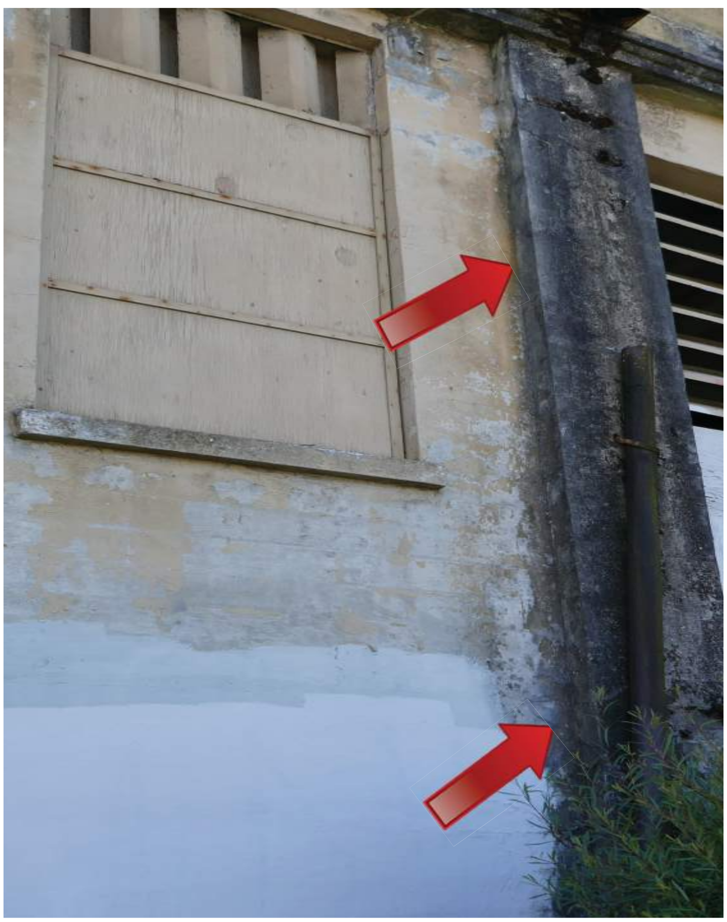
The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding.

Observed Deficiencies:

There are numerous examples of different types of soiling and staining on the exterior of the building, including organic growth (plants, algae, moss, lichens, etc.), atmospheric soiling, graffiti, paint, etc. Efflorescence is also observed. See the following images for multiple examples of typical observed soiling and staining.



View of south elevation. White paint has been applied to the concrete walls to cover graffiti. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S DJI_0071.JPG



Atmospheric soiling, build-up of airborne pollutants that have adhered and stained concrete. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-E P1000691.JPG

Organic soiling (algae and plants), observed on concrete stairs on the east elevation of the building. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-E P1000689.JPG

3.2 Soiling and Staining

Discoloration of the yellow pigment is visible on all elevations on the building. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000681.JPG

White paint used to cover graffiti. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S-E DJI_0073.JPG

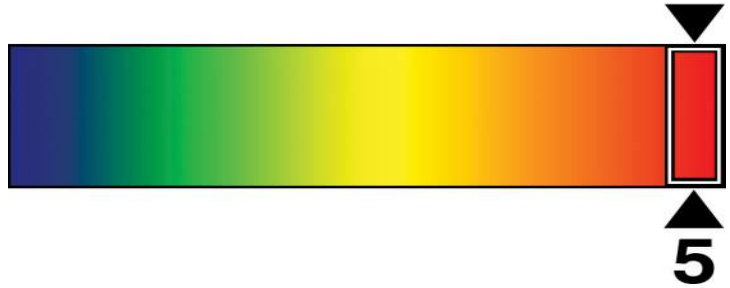
3.3 Steel Windows & Louvers

Cushman Substation Building System Description:

The Adams St. Substation's elevations are divided into bays that have large louvered steel vents and single steel framed nine-light windows.

Observed Deficiencies:

Generally, there are numerous issues with the window framing system. On all elevations missing windows have been boarded up with plywood. The louvered steel vents still in place have failed and are severely corroded.



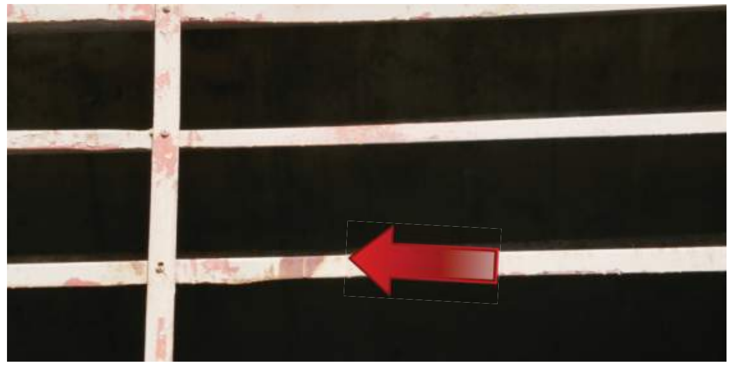
Missing windows and openings for ventilation under the louvers have been covered with plywood boards. Historical photos show single steel-framed nine-light windows with louvered vents above Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-W P1000685.JPG

Vent on the south elevation with corrosion on the edges. Areas in white were painted to cover graffiti. Image by Richaven Architecture and Preservation. P000673.JPG.

Metal awning on the west elevation is corroded. Layer of asphaltic material attached is 100% failed. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-W P1000680.JPG

3.3 Steel Windows & Louvers

Metal louvers on the west elevation and a missing window covered with plywood boards. Image by Richaven Architecture and Preservation 06/20/22, 220620 CoT CAS EL-W P1000674.JPG



The protective paint coating has separated from the surface. The steel louvers are showing corrosion. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-E P1000683.JPG.

Missing steel windows and vents have been covered with plywood boards. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-E P1000691.JPG.

Metal louvers on the east elevation are bent and failing. There are visible gaps between the metal frame. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-E P1000692.JPG

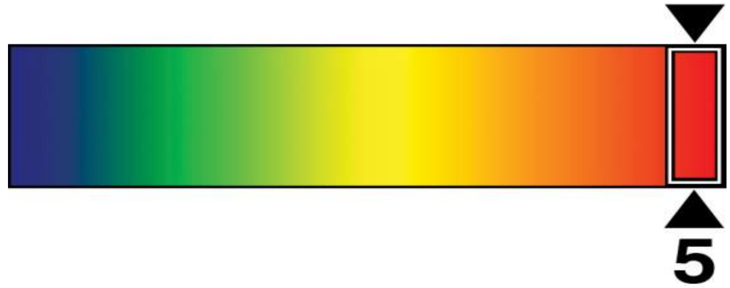
3.4 Architectural Metals

Building System Description:

The building features multiple metal structures including vents and metal structures on the north and east elevations.

Observed Deficiencies:

The metal structures are 100% failed.



Richaven observed severe corrosion on the base of the steel ventilation stack on the south elevation. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000670.JPG

The metal awning on the west elevation is corroded. A layer of asphaltic material attached to its surface is severely damaged. Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-W P1000680.JPG

The panels that form the steel ventilation stack are severely corroded. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000671.JPG

Pipe railings around the concrete stairway on the west elevation have failed. Image by Richaven Architecture and Preservation.
220620 CoT CAS EL-S-W P1000688.JPG

3.4 Architectural Metals

Observed steel eye bolts, pulleys, and severed tubes embedded into the concrete on the south elevation. The pipes embedded in the concrete appear not to be adequately sealed, allowing water infiltration into the wall. Image by Richaven Architecture and Preservation. 220620 CoT CAS EL-S P1000671.JPG

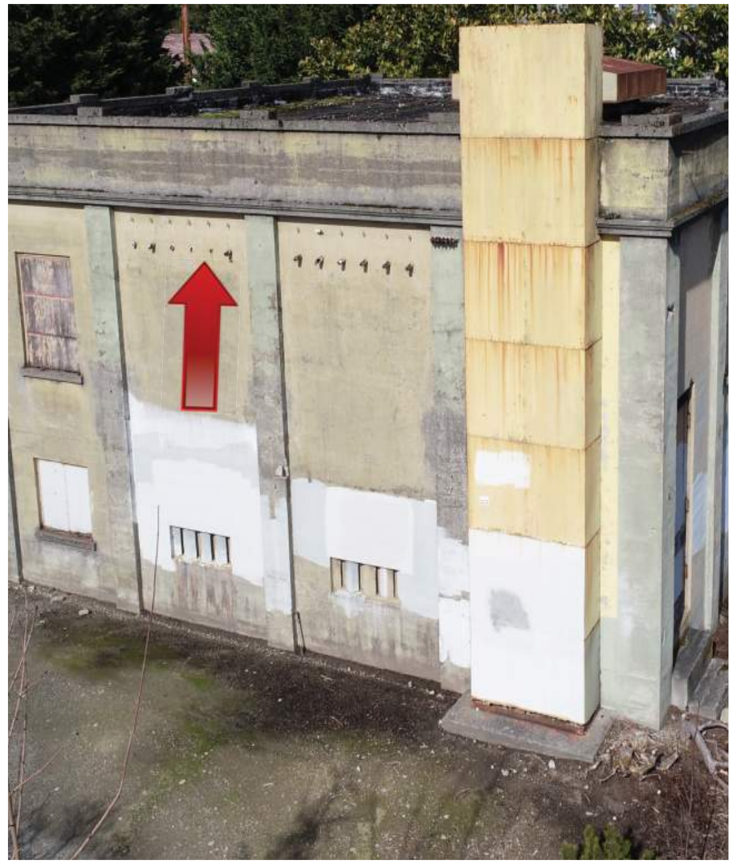


Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-S-E DJI_0072.JPG

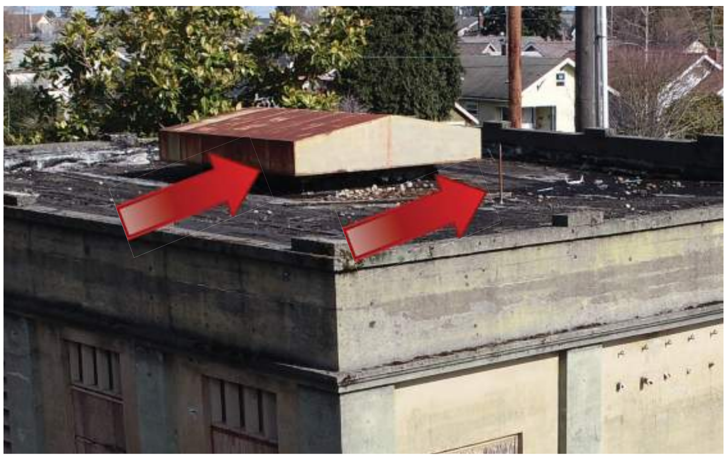
3.5 Roof

Building System Description:

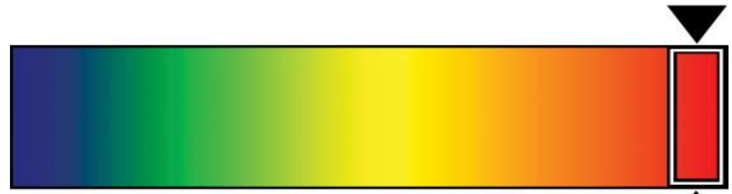
The building has a flat roof constructed of board-formed poured concrete.

Observed Deficiencies:

Access to the roof was not available. Observations are based on contemporary drone photos. Additional inspection is recommended. The roof is 100% failed. There is a substantial quantity of debris (wood, rocks, etc.). There is a significant amount of moss and organic growth, and the asphaltic waterproofing has failed.



The roof vent is severely corroded. The waterproofing around the roof penetrations has failed. The flashing around the roof monitor and pipes has failed. 200224 CoT CAS ROOF DJI_0070.JPG.

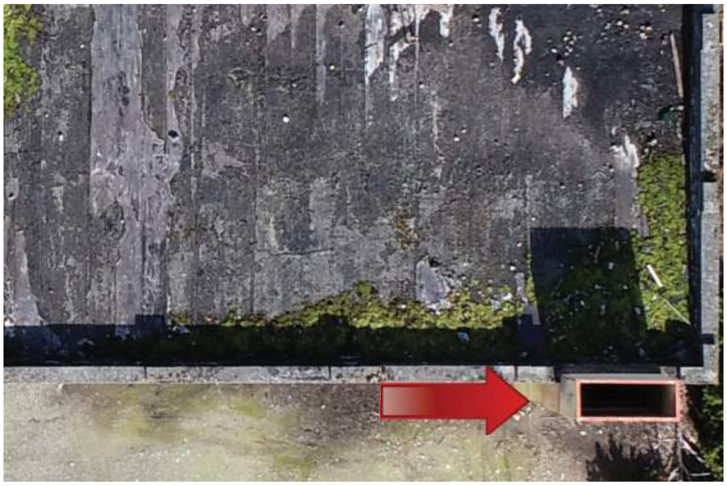


5

The monitor for ventilation is severely corroded. Image by Richaven Architecture and Preservation. 200224 CoT CAS ROOF DJI_0063.JPG.

It is unknown if holes in the parapets are original. There is extensive atmospheric soiling around them. Image by Richaven Architecture and Preservation. 200224 CoT CAS EL-E DJI_0075.JPG

3.5 Roof



The ventilation stack on the south elevation appears to be uncovered, allowing water to access the interior of the building. Image by Richaven Architecture and Preservation. 200224 CoT CAS ROOF DJI_0063.JPG.

3.6 Miscellaneous

Building System Description:

See below for descriptions.

Observed Deficiencies:

The substation switchyard is a level, square, graveled yard surrounded by a tall, chain-link fence with swinging doors on its southeast corner. Otherwise bare, one large concrete pad sits above the gravel surface.

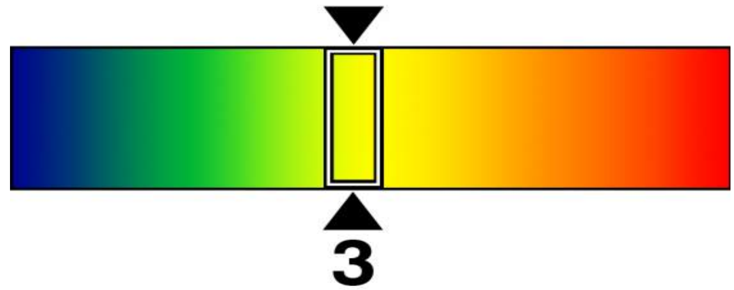


Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-MISC DJI_0063.JPG

Image by Richaven Architecture and Preservation.
200224 CoT CAS EL-MISC DJI_0067.JPG

4.0 Recommendations

4.1 Historic Material Recommendations Cushman Substation

In general, further investigation of critical issues is recommended to confirm the causes of deterioration and develop appropriate and historically sensitive restoration recommendations. Verification of locations of hazardous materials is recommended for all restoration work on historic building materials. For specific materials, the following recommendations for restoration include:

CONCRETE

- Deficiency: Spalled concrete
- Recommendation: Because of visual observations further evaluation is needed to understand the chemical composition and condition of the concrete. Where spalling is present, removing all weak and damaged concrete is recommended. In areas where reinforcing steel in exposed it is recommended to create a space behind the reinforcing steel. The reinforcing steel should be cleaned and inspected to determine whether it should be replaced. If the reinforcement has to be replaced an engineer should be consulted. All exposed reinforcing steel should be thoroughly cleaned of all rust and other contaminants. All reinforcing steel that has been cleaned should be coated with a zinc-rich primer and or epoxy paint coating system. An anchorage systems should be installed. The material placement should be in-kind with matching color, texture, and physical properties of the existing material.

- Deficiency: Cracks
- Recommendation: Where concrete has cracked, water intrusion and accelerated deterioration are more likely. Consider patching or epoxy injection for shrinkage cracks in concrete. Review structural cracks with structural engineer.

- Deficiency: Soiling and Staining
- Recommendation: In areas where efflorescence and atmospheric soiling is present, low pressure wash with appropriate chemical cleaner is recommended. Plant growth should be immediately removed to prevent further damage to the existing historic materials. Clean out all organic material and fill or patch locations with appropriate material. Richaven does not recommend sand blasting of concrete. Rust stains and paint stains that are not deep can be removed with the appropriate chemical cleaner. For deeper stains poultices are recommended. Clean the entire building with gentle washing technique. Use tools that provide a maximum of 400 psi pressure. Lower pressures are better. Cleaning agents may be used, though specific products should be carefully reviewed for potential to damage the existing historic materials.

STEEL WINDOWS

- Deficiency: Further evaluation is needed to understand the presence and degree of corrosion, condition of paint, potential of lead and asbestos, deterioration of metal sections including, bowing, misalignment of the sash or bent sections, condition of the glass and glazing compound.
- Recommendation: Severely deteriorated frames should be replaced in-kind. Light rust and flaking can be removed with an appropriate chemical compound. All metal should be wiped with a cleaning solvent and dried for the immediate application of anti-corrosive primer. Medium rust can be cleaned by abrasive blasting with low pressure.

- Deficiency: Glazing Compound
- Recommendation: Recommend testing for asbestos and abating per state and local regulations. Deteriorated glazing compound should be replaced in-kind and painted to match the window frame and sash.

- Deficiency: Perimeter Sealant Joint
- Recommendation: Recommend testing for asbestos and abating per state and local regulations. Reseal the perimeter around the windows to prevent water infiltration and trapping moisture within the wall.

- Deficiency: Clear, translucent and discolored glass panes
- Recommendation: Uncertain what glass is original to the building. Consider installing interior storm windows or vacuum insulated glass units to improve the thermal performance.

WOOD ENTRY DOORS

- Deficiency: Failing coating systems
- Recommendation: Verify potential locations of hazardous materials prior to beginning work. Gently strip and prep existing materials for recoating. Patch and fill deteriorated wood where possible. Where wood materials are too deteriorated to allow repair, provide in-kind replacement of wood materials to match the

4.1 Historic Material Recommendations Cushman Substation

existing historic construction.

- Deficiency: Potential rotting at base of wood columns
- Recommendation: Cordon area of rotting materials to prevent potential injuries. Remove existing rotted wood and replace in-kind with materials matching the size, shape and material species. Coat the new material to match existing adjacent material.

ARCHITECTURAL METALS

- Deficiency: Interior and exterior staircase with corrosion and paint coating failure
- Recommendation: Remove architectural metal components for cleaning and recoating. Remove all paint finished and corrosion product to bare clean metal. Immediately recoat all surfaces, including portions that will be embedded in the concrete. Use of a high quality epoxy coating system is recommended to maximize service life.

- Deficiency: Eye bolts embedded into the concrete
- Recommendation: Remove to a minimum depth of 3/4" from surface. Patch with a cement patching mortar to match the adjacent concrete.

- Deficiency: Metal flashing
- Recommendation: Remove and replace in-kind. In the event of inability to replace in-kind, copper and stainless steel may be appropriate alternate materials.

- Deficiency: Steel doors
- Recommendation: Clean, prep and recoat all exterior steel doors. Consider restoring the non-original steel door on the east elevation to the original steel window.

- Deficiency: Coiling metal doors
- Recommendation: Further investigation needs to be pursued to determine their service capability. Coiling doors appear to be corroded with paint failure and may be at the end of their service life.

- Deficiency: Interior cast iron wall sconces
- Recommendation: Clean, prep an recoat surface. Replace in-kind all missing glass globes

INTERIOR FEATURES

- Deficiency: Paint failure
- Recommendation: Strip and recoat areas with paint failure. Consider testing for lead and abate to state and local regulations.

- Deficiency: Light well walls
- Recommendation: Where light well walls are tilting away from the building, it is recommended that they be reconstructed with new concrete walls that are anchored into the foundations. Leveling of the existing light well enclosures may also be possible - further investigation is Recommended.

- Deficiency: Soiling and Staining
- Recommendation: In areas where efflorescence and atmospheric soiling is present, low pressure wash with appropriate chemical cleaner is recommended. Richaven does not recommend sand blasting to remove soiling and staining. Rust stains and paint stains that are not deep can be removed with the appropriate chemical cleaner. For deeper stains poultices are recommended. Clean the entire building with gentle washing technique. Use tools that provide a maximum of 400 psi pressure. Lower pressures are better. Cleaning agents may be used, though specific products should be carefully reviewed for potential to damage the existing historic materials.

CAST IRON LAMP POST

- Deficiency: Corrosion and paint coating failure
- Recommendation: Clean, prep an recoat surfaces that are corroded. Replace existing glass globes with acorn-shaped globes described in historical drawings.

ROOF

- Deficiency: Roof could not be observed directly - no access. The roof membrane appears to be in fair condition and no interior leaks were observed. However, there are multiple potential points of weather intrusion given the numerous roof penetrations.
- Recommendation: More detailed examination of the roof is required by a subject expert to confirm these observations.

- Deficiency: Water ponding on cornices
- Recommendation: To avoid further deterioration of steel reinforcing, consider a cement or Xypex wash to prevent water accumulation and saturation of the concrete structure.

4.1 Historic Material Recommendations Cushman Substation

MISCELLANEOUS

- Deficiency: Existing electrical equipment foundations remaining
- Recommendation: All foundations and remaining steel structures should be considered for removal unless permanently secured due to safety hazards they present. Alternatively, consider maintaining their locations as landscape features documenting the former presence of the electrical equipment in those locations.

- Deficiency: The extent of underground utilities, duct banks, tunnels and other structures is unknown.
- Recommendation: Further investigation of sub-surface features is recommended to confirm extent of demolition work that may be required.

- Deficiency: The extent of soil contamination is unknown.
- Recommendation: Further investigation of potential soil is recommended to confirm extent of abatement work that may be required.

4.1 Historic Material Recommendations Adams Substation

In general, further investigation of critical issues is recommended to confirm the causes of deterioration and develop appropriate and historically sensitive restoration recommendations. Verification of locations of hazardous materials is recommended for all restoration work on historic building materials. For specific materials, the following recommendations for restoration include:

CONCRETE
- Deficiency: Spalled concrete
- Recommendation: Because of visual observations further evaluation is needed to understand the chemical composition and condition of the concrete. Where spalling is present consider removing all weak and damaged concrete. In areas where reinforcing steel in exposed it is recommended to create a space behind the reinforcing steel. The reinforcing steel should be cleaned and inspected to determine whether it should be replaced. If the reinforcement has to be replaced, an engineer should be consulted. All exposed reinforcing steel should be thoroughly cleaned of all rust and other contaminants. All reinforcing steel that has been cleaned should be coated with a zinc-rich primer and or epoxy paint coating system. An anchorage systems should be installed. The material placement should be in-kind with matching color, texture, and physical properties of the existing material.

- Deficiency: Cracks
- Recommendation: Where concrete has cracked, water intrusion and accelerated deterioration are more likely. Consider patching or epoxy injection for shrinkage cracks in concrete. Review structural cracks with structural engineer.

- Deficiency: Soiling and Staining
- Recommendation: In areas where efflorescence and atmospheric soiling is present, low pressure wash with appropriate chemical cleaner is recommended. Plant growth should be immediately removed to prevent further damage to the existing historic materials. Clean out all organic material and fill locations with appropriate in-kind material. Richaven does not recommend sand blasting. Rust stains and paint stains that are not deep can be removed with the appropriate chemical cleaner. For deeper stains poultices are recommended. Clean the entire building with gentle washing technique. Use tools that provide a maximum of 400 psi pressure. Lower pressures are better. Cleaning agents may be used, though specific products should be carefully reviewed for potential to damage the existing historic materials.

STEEL WINDOWS & LOUVERS
- Deficiency: Further evaluation is needed to understand the presence and degree of corrosion, condition of paint, potential of lead and asbestos, deterioration of metal sections including bowing and misalignment of bent sections.
- Recommendation: Severely deteriorated steel louvers and window frames should be replaced in-kind. Light rust and flaking can be removed with an appropriate chemical compound. All metal should be wiped with a cleaning solvent and dried immediately for the application of anti-corrosive primer. Medium rust can be cleaned by sandblasting with low sandblasting pressure.

- Deficiency: Missing Windows
- Recommendation: Consider restoration or in-kind replacement of the original steel windows that were once installed on the west and south elevations.

ARCHITECTURAL METALS
- Deficiency: Failed exterior staircase with corrosion and paint coating failure
- Recommendation: Remove failed metal railings and replace in-kind. Remove architectural metal components for cleaning and recoating. Remove all paint finished and corrosion product to bare clean metal. Immediately recoat all surfaces, including portions that will be embedded in the concrete. Use of a high quality epoxy coating system is recommended to maximize service life.

- Deficiency: Eye bolts embedded into the concrete
- Recommendation: Remove to a minimum depth of 3/4” from surface. Patch with a cement patching mortar.

4.1 Historic Material Recommendations Adams Substation

ROOF

- Deficiency: Roof could not be observed directly - no access. The roof membrane appears to be in poor to critical condition and failed. There are multiple potential points of weather intrusion given the numerous roof penetrations. Aerial photos indicate significant areas of organic growth, multiple areas of failed asphaltic compound and membrane roof repairs, improperly flashed pipe penetrations, areas of ponding water, corroded metal roof panels, and one blocked scupper with no overflow drainage.
- Recommendation: More detailed examination of the roof is required by a subject expert to confirm these observations.

- Deficiency: Water ponding on cornices
- Recommendation: To avoid further deterioration of steel reinforcing, consider a cement or Xypex wash to prevent water accumulation and saturation of the concrete structure.

MISCELLANEOUS

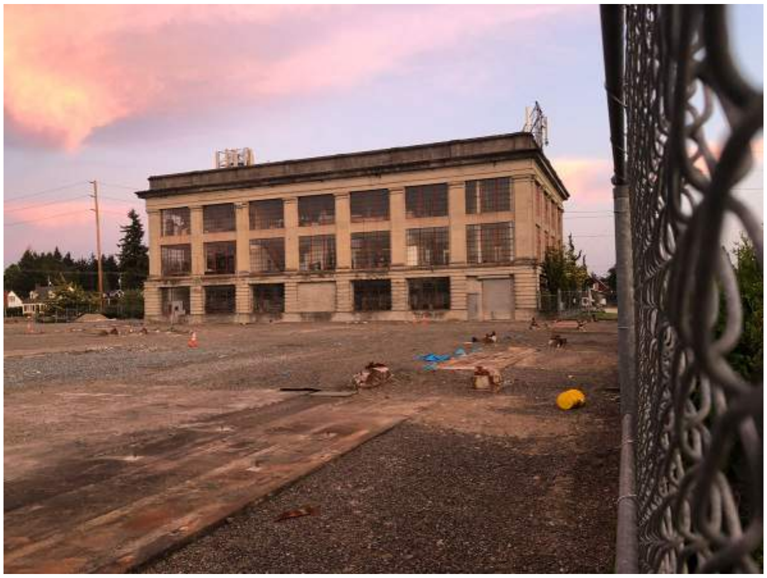
- Deficiency: Existing electrical equipment foundations remaining
- Recommendation: All foundations and remaining steel structures should be considered for removal unless permanently secured due to safety hazards they present. Alternatively, consider maintaining their locations as landscape features documenting the former presence of the electrical equipment in those locations.

- Deficiency: The extent of underground utilities, duct banks, tunnels and other structures is unknown.
- Recommendation: Further investigation of sub-surface features is recommended to confirm extent of demolition work that may be required.

- Deficiency: The extent of soil contamination is unknown.
- Recommendation: Further investigation of potential soil is recommended to confirm extent of abatement work that may be required.

5.0 Detailed Deficiency Images

5.1 Detail Deficiency Images- Cushman



190805 CoT CAS EL-N IMG_3843.JPG

190805 CoT CAS EL-N IMG_3844.JPG

190805 CoT CAS EL-N IMG_3845.JPG

190805 CoT CAS EL-N IMG_3846.JPG

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200224 CoT CAS EL-N DSC_1049.JPG

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200224 CoT CAS EL-N DSC_1076.JPG

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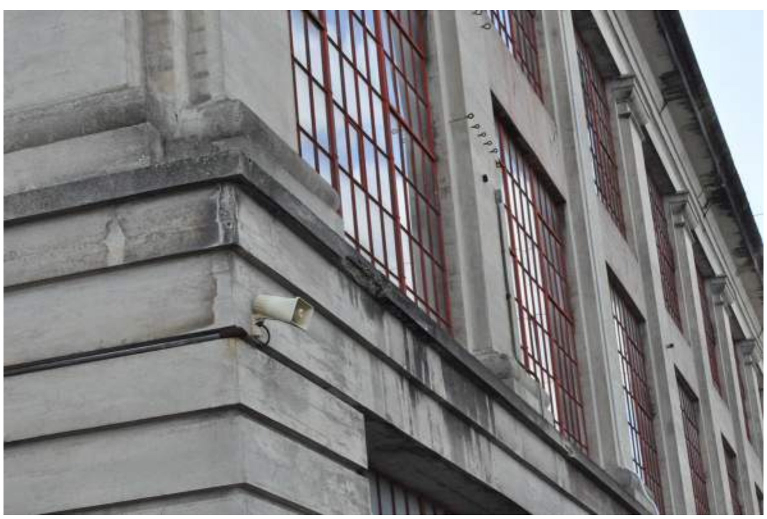

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200224 CoT CAS EL-N DSC_0170.JPG

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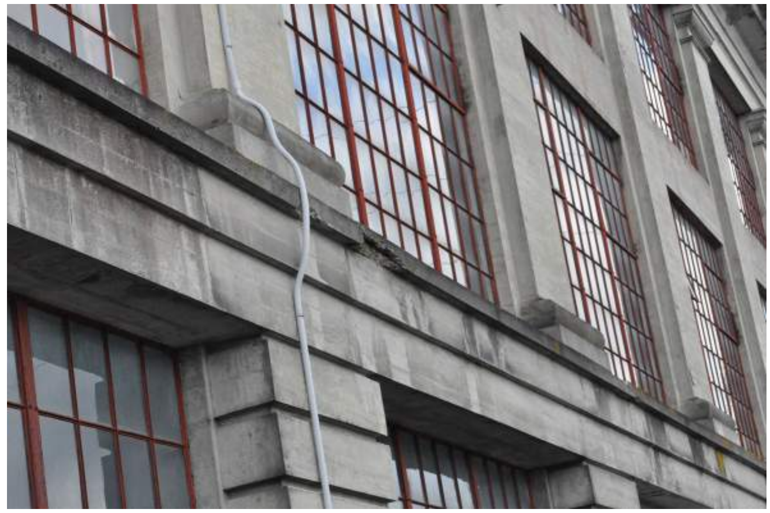

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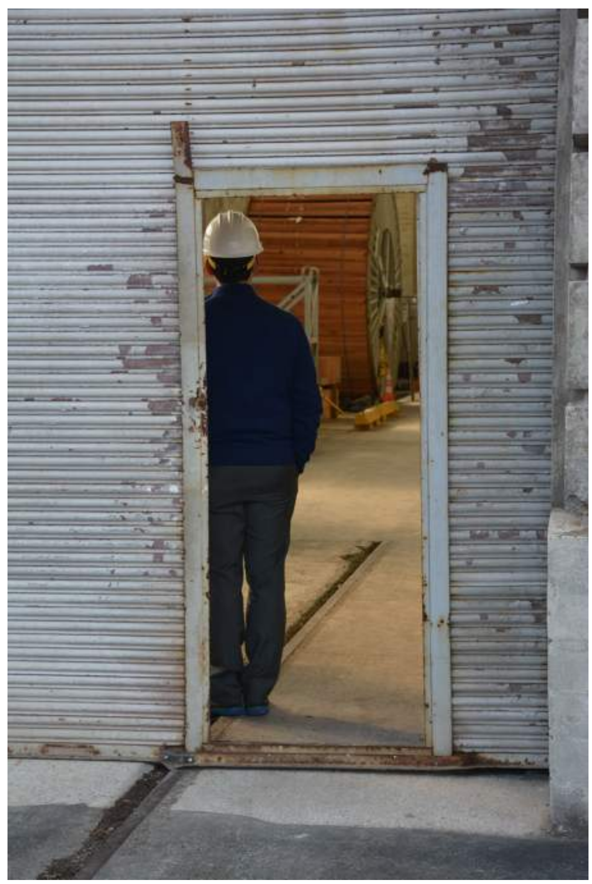

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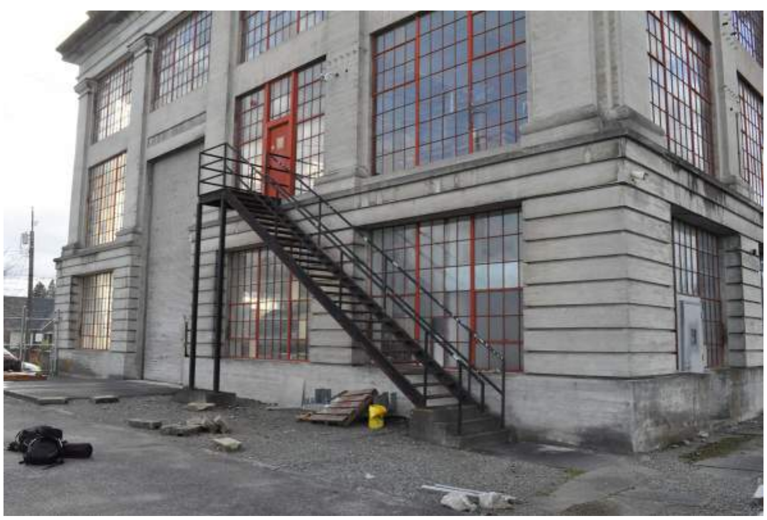

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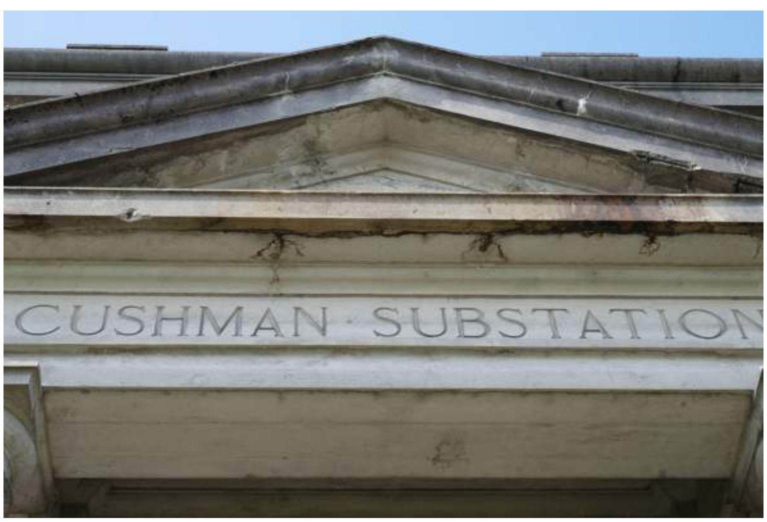

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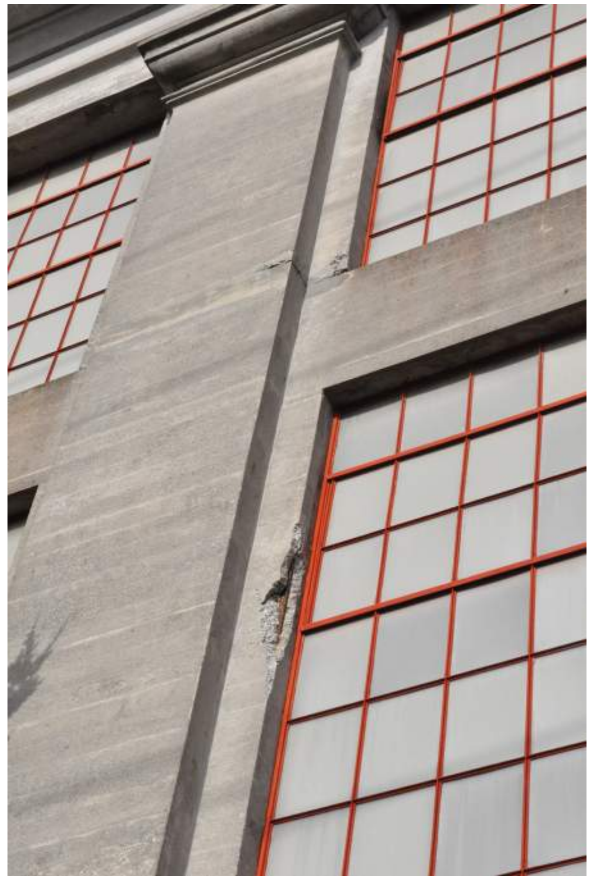

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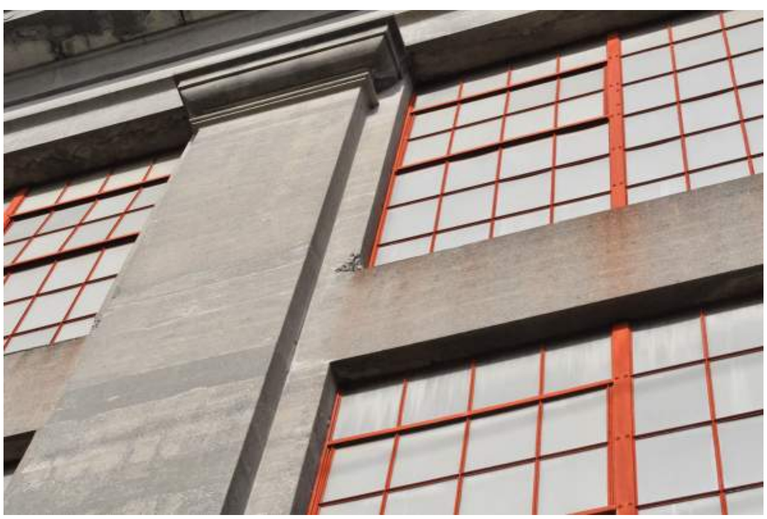

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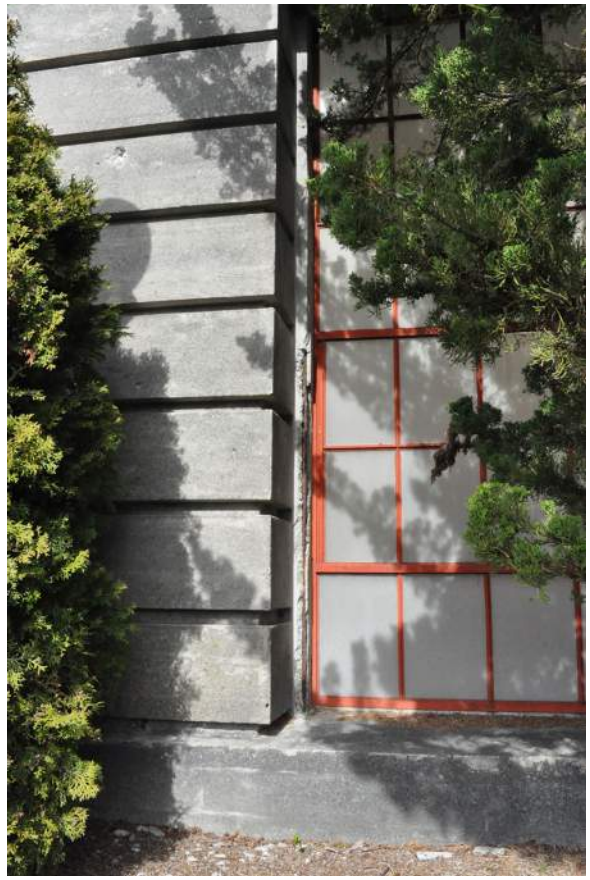

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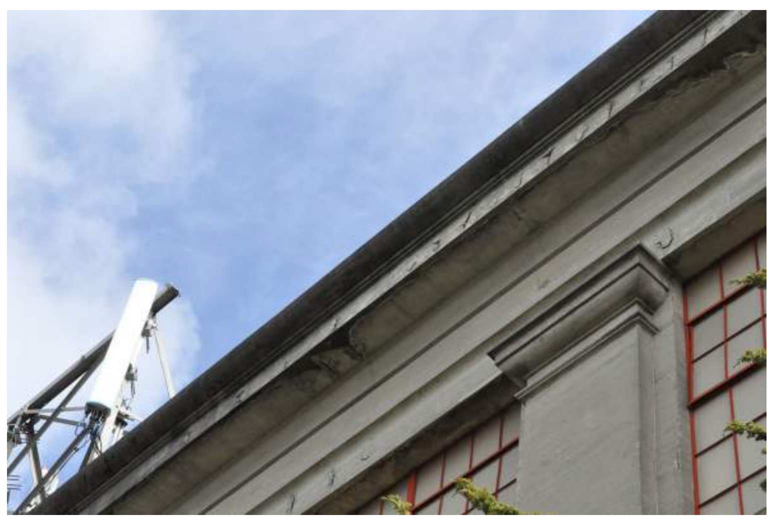

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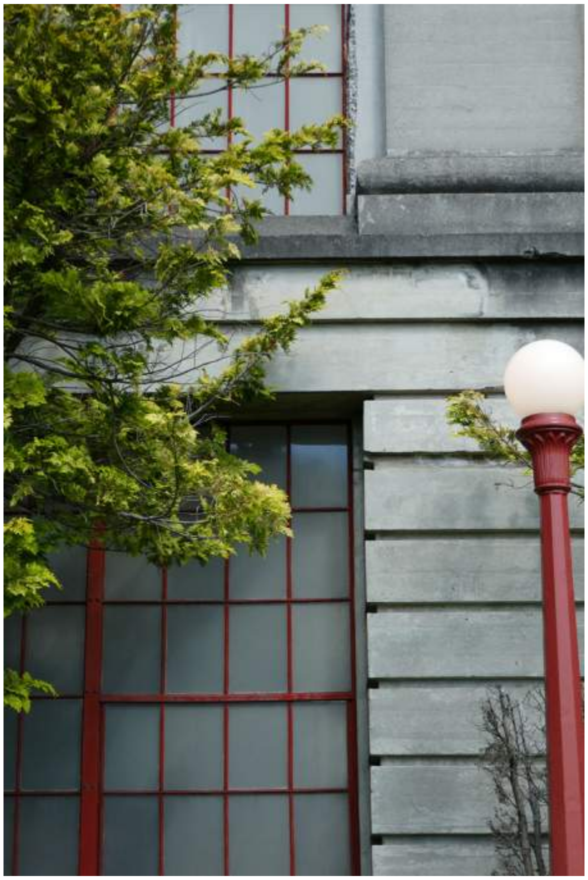

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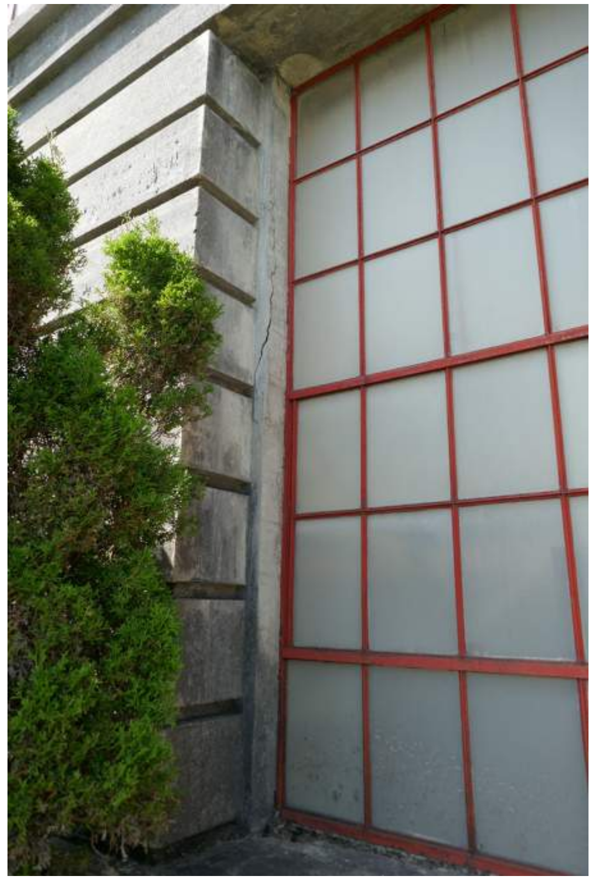

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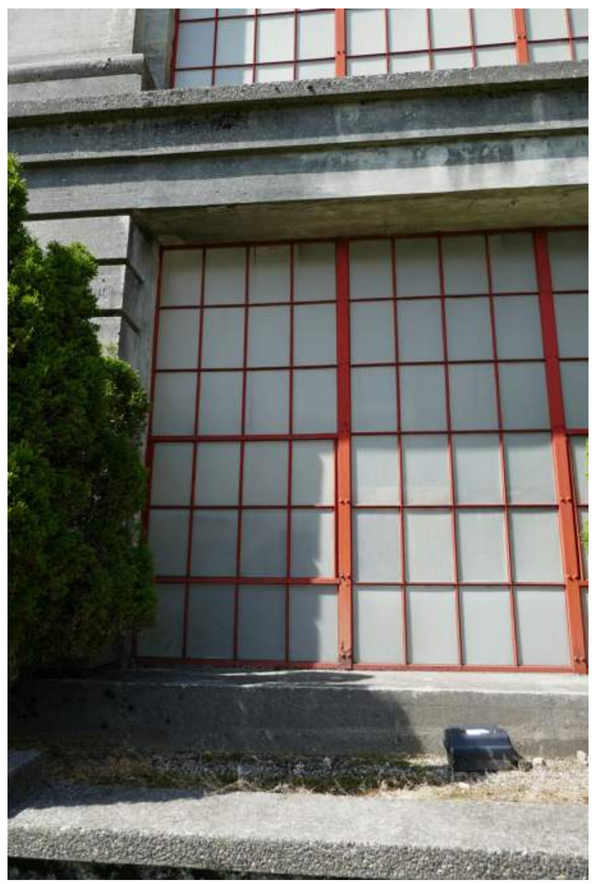

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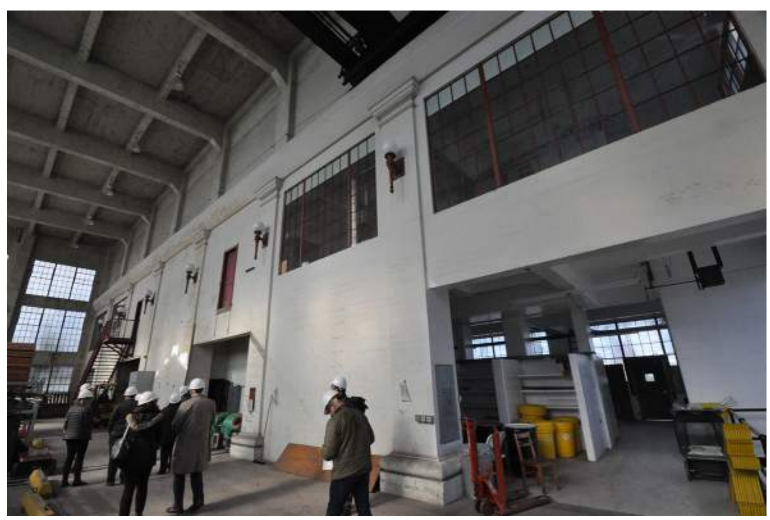

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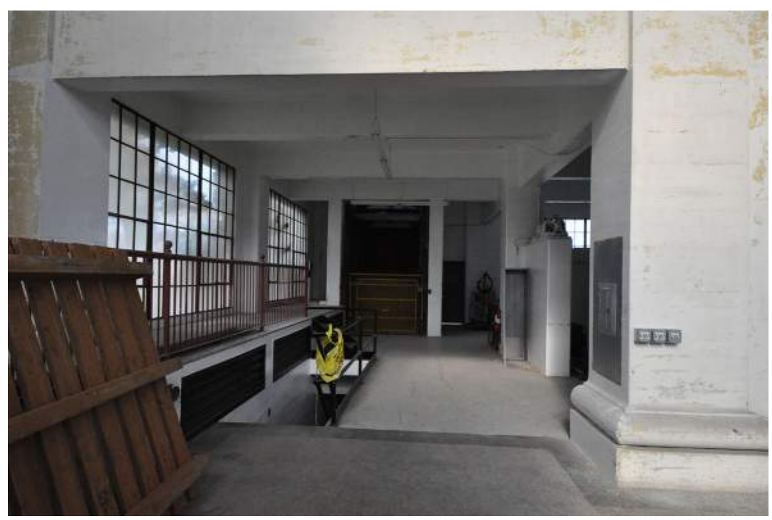

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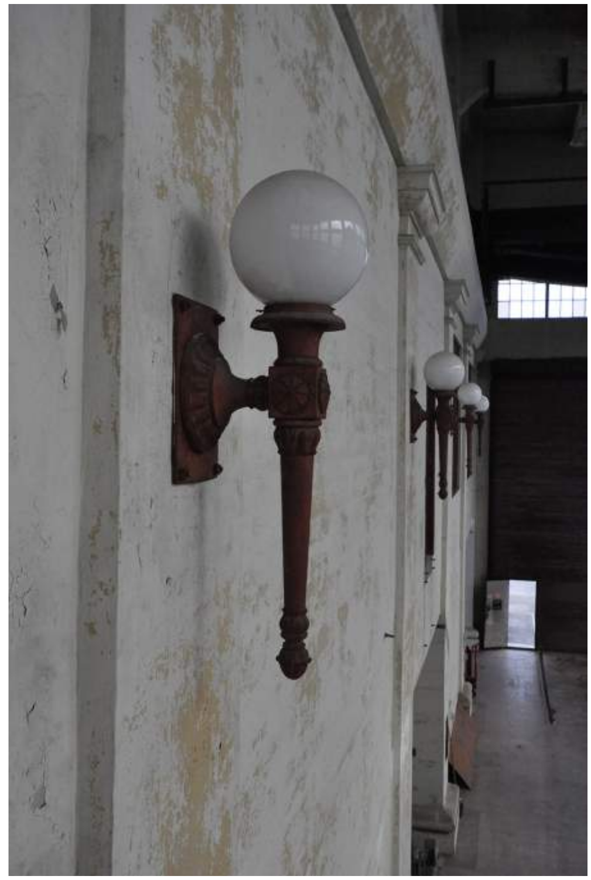

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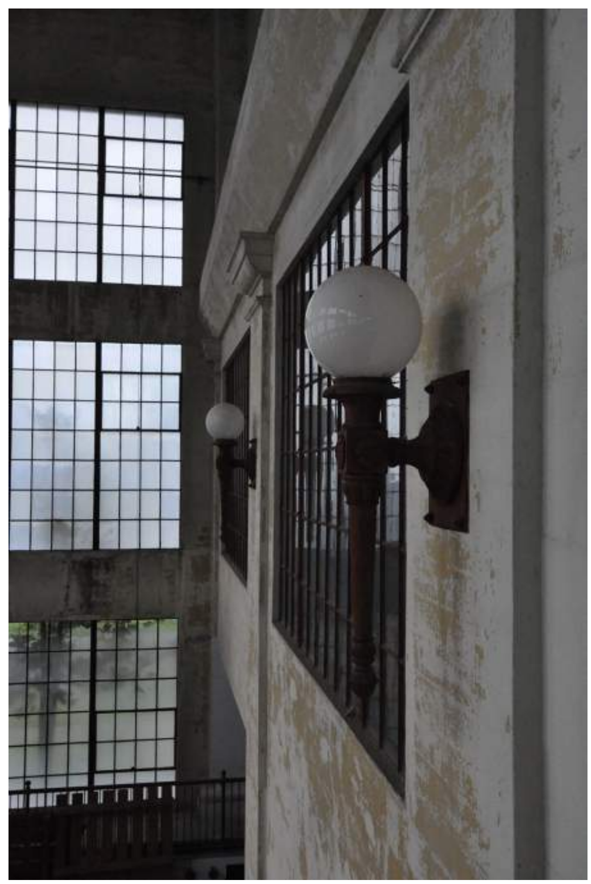

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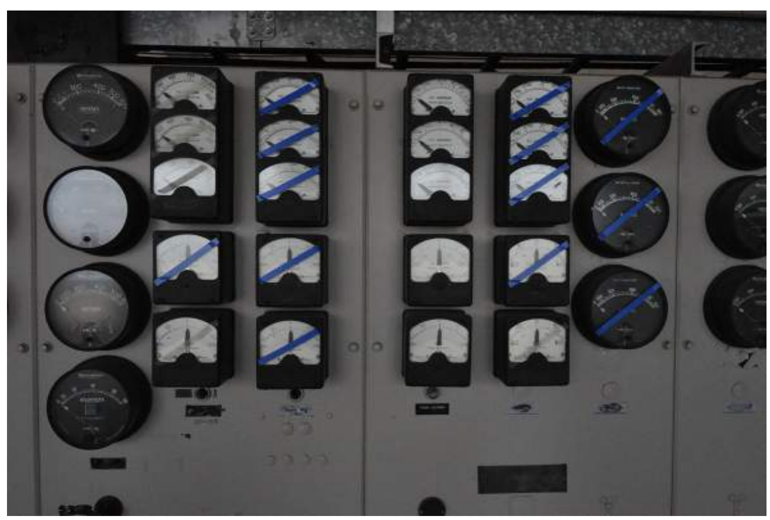

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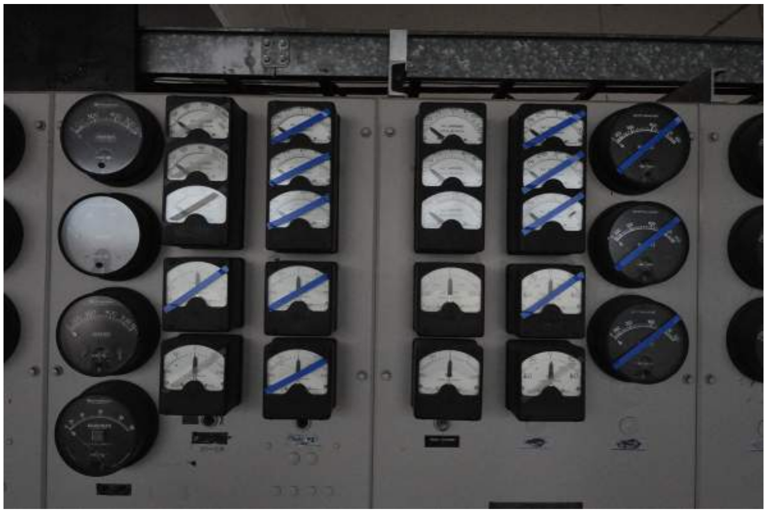

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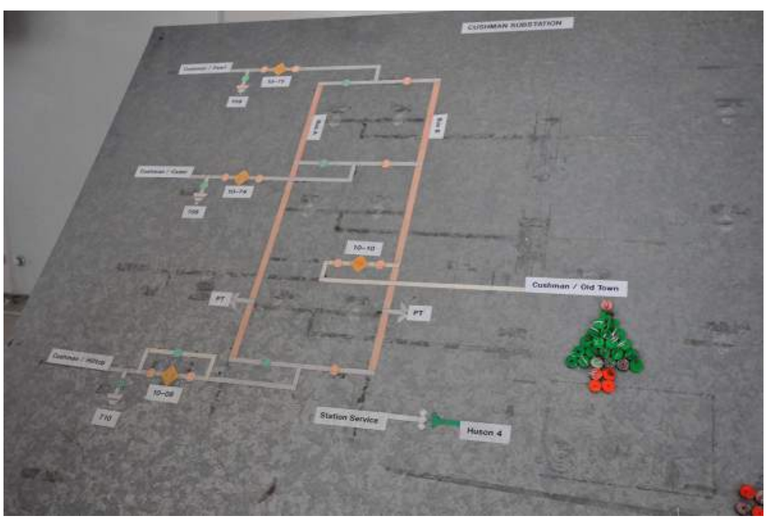

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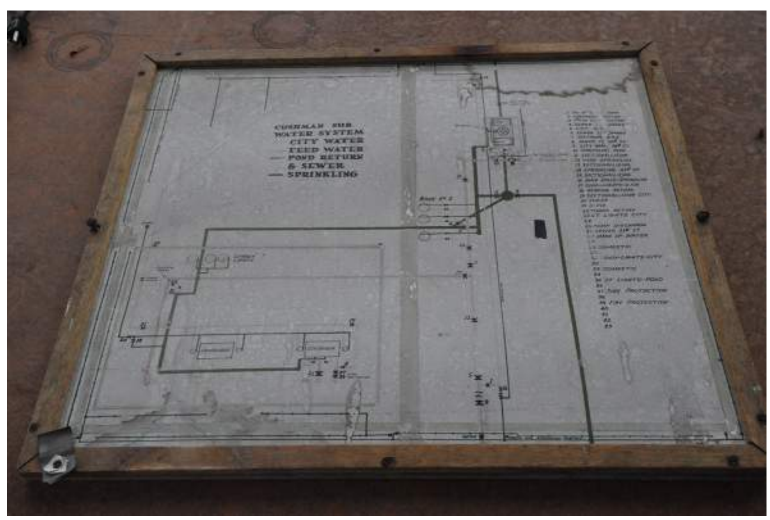

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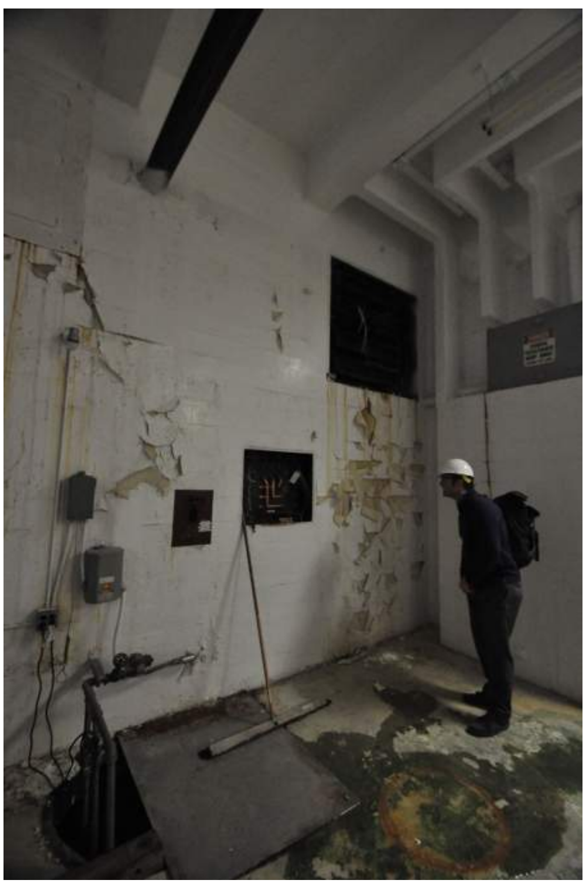

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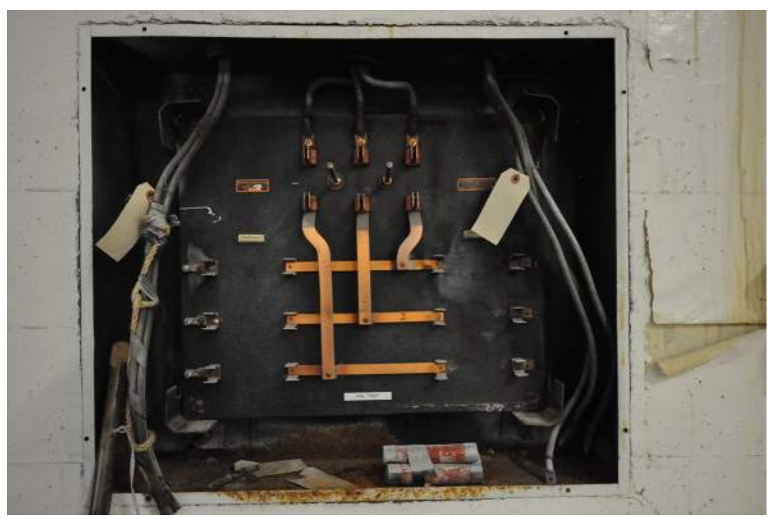

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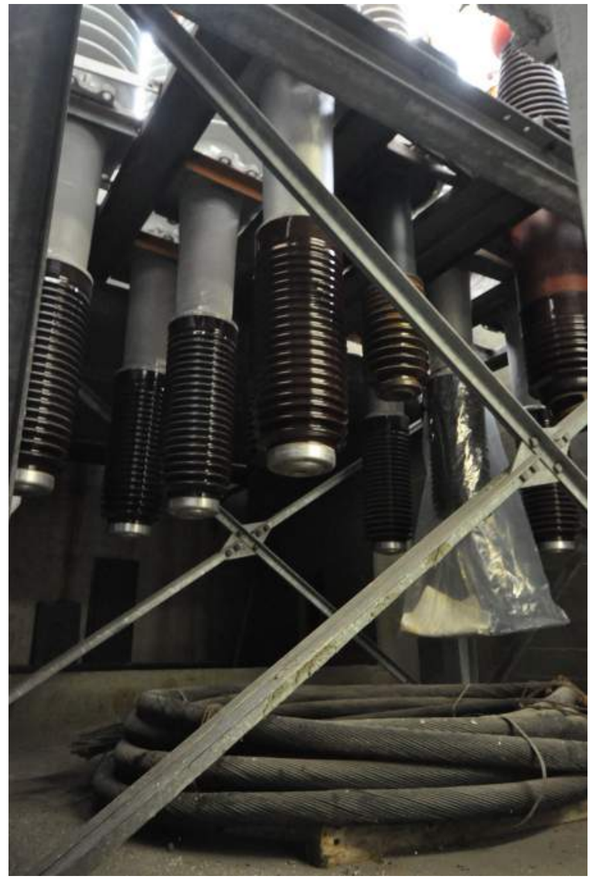

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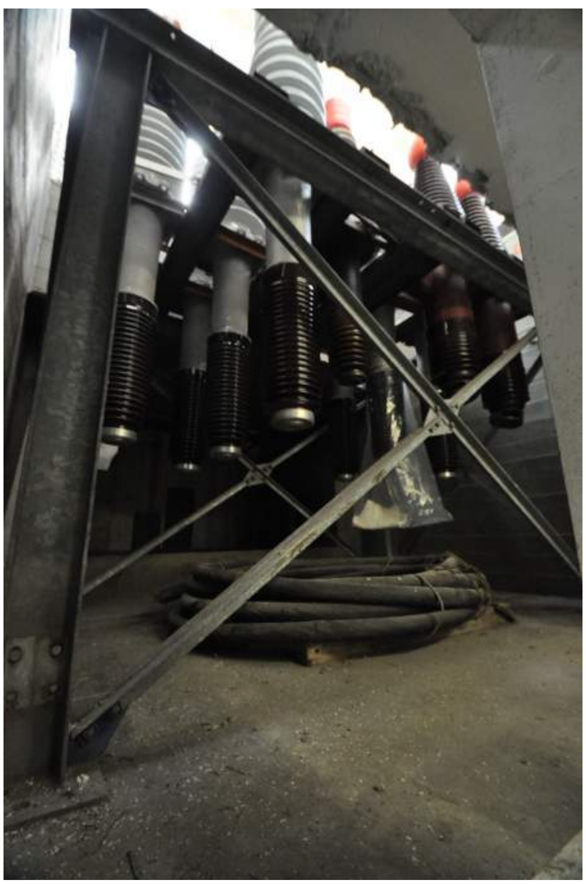

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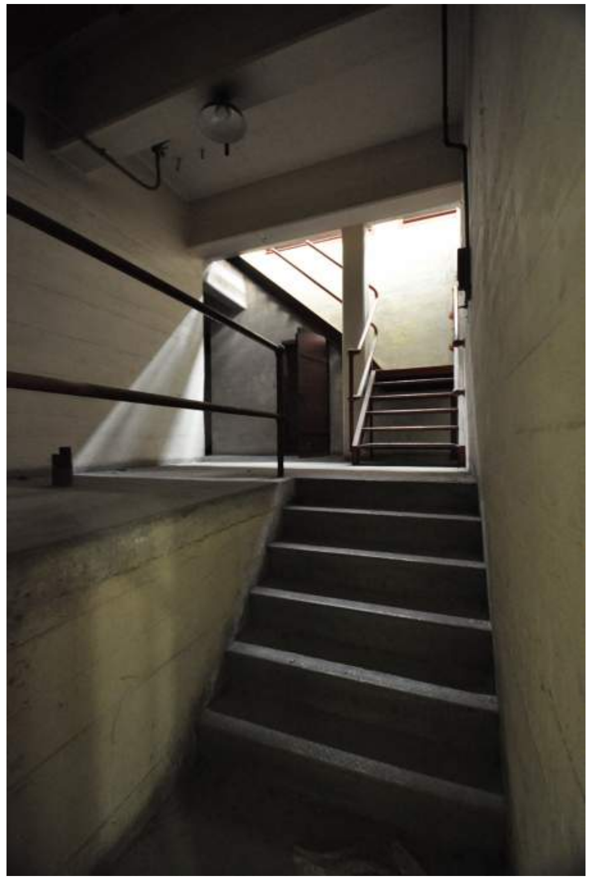

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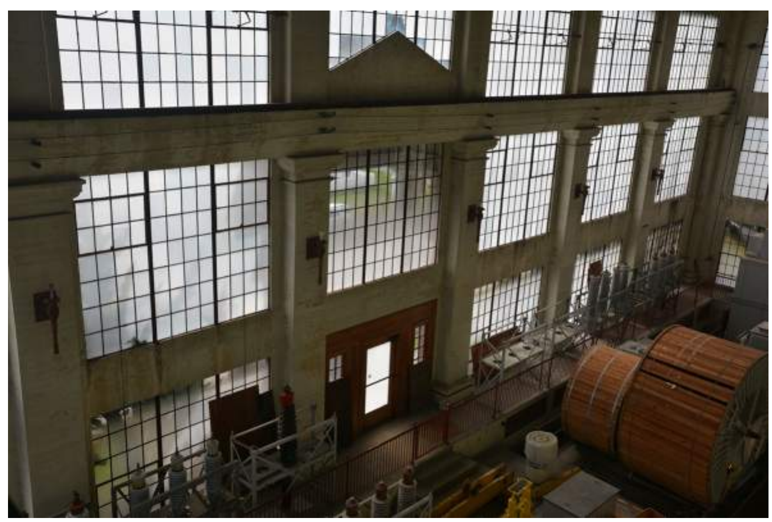

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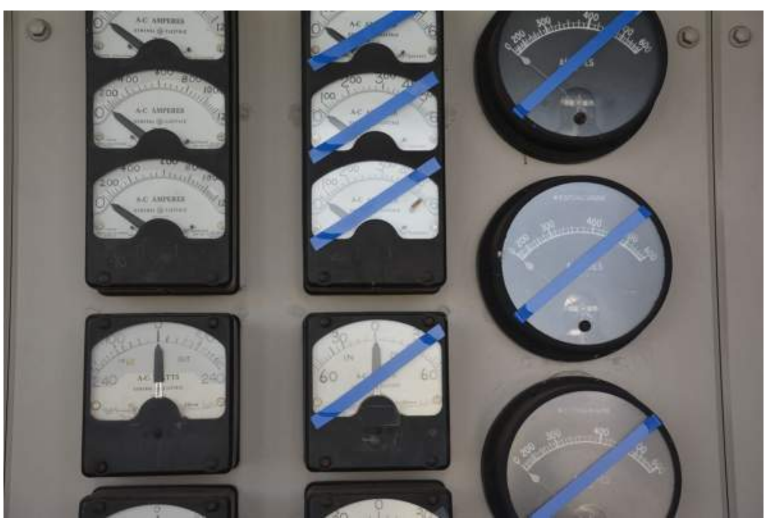

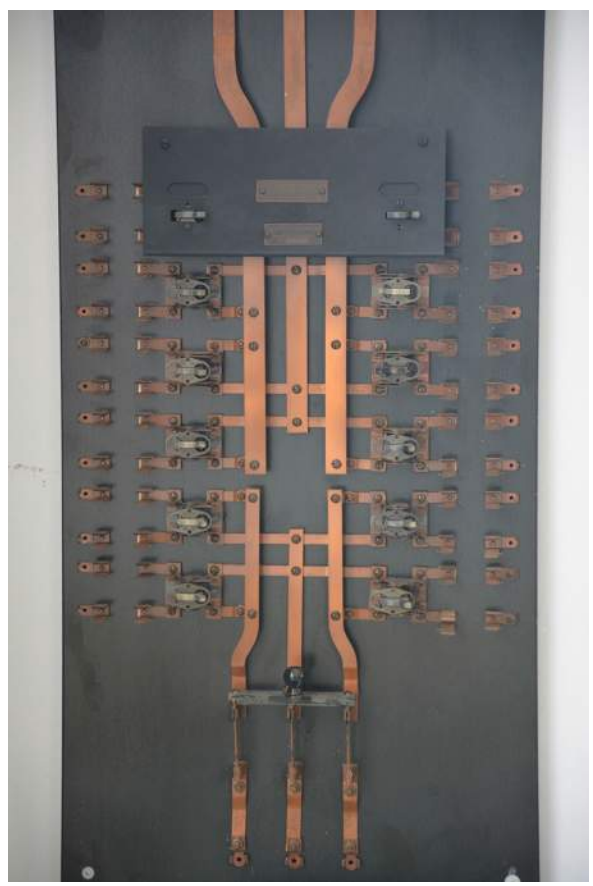

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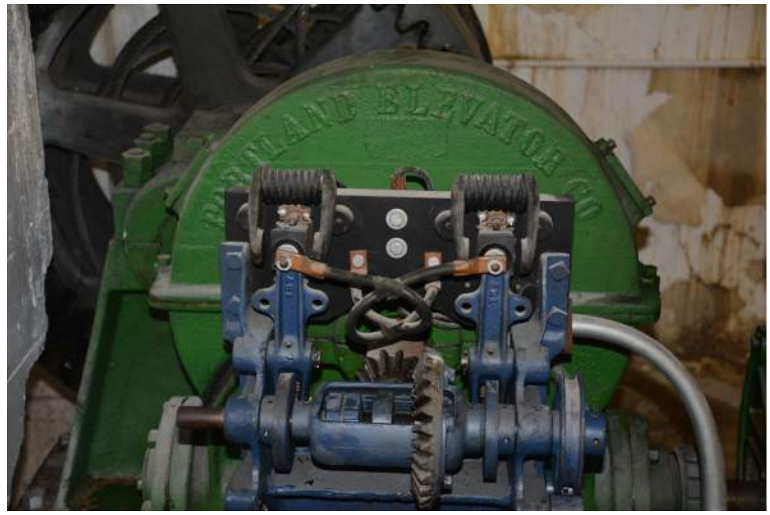

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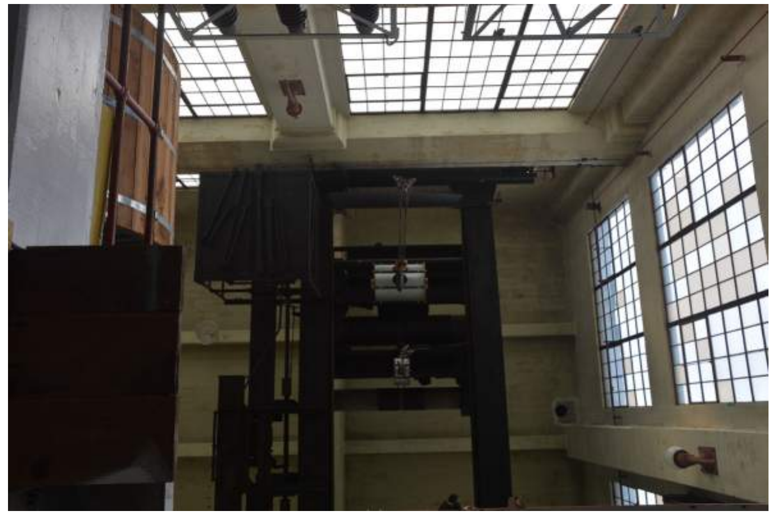

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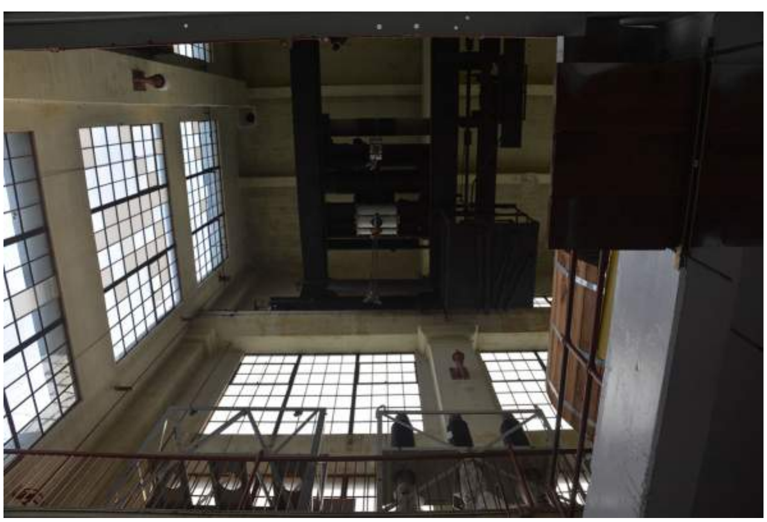

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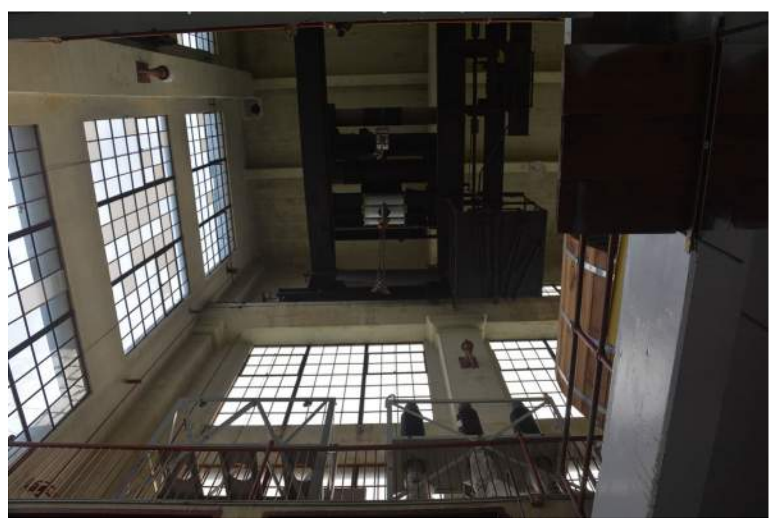

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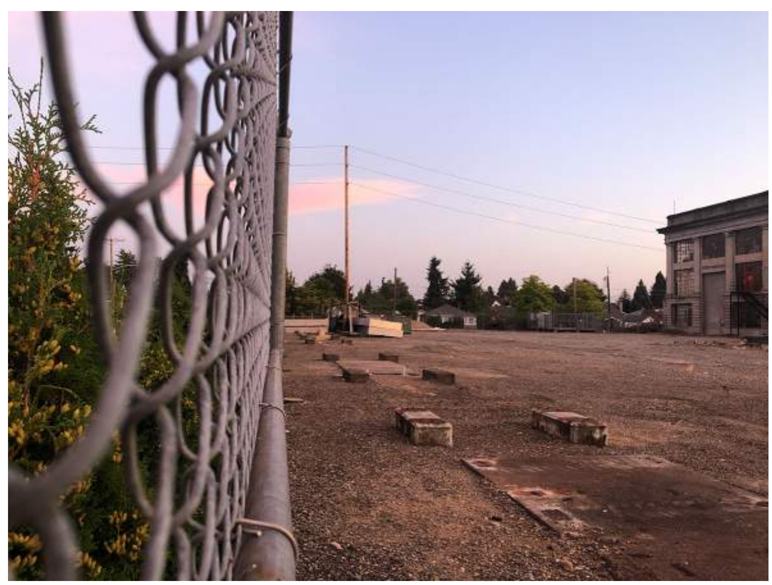

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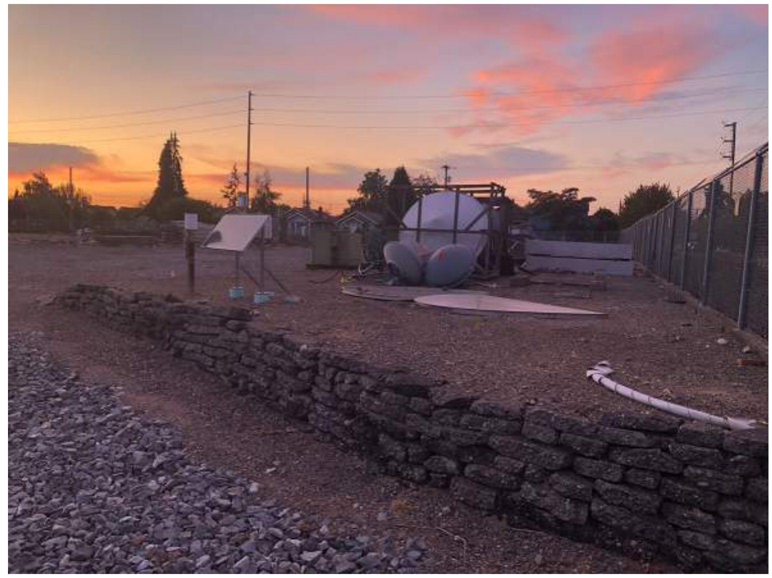

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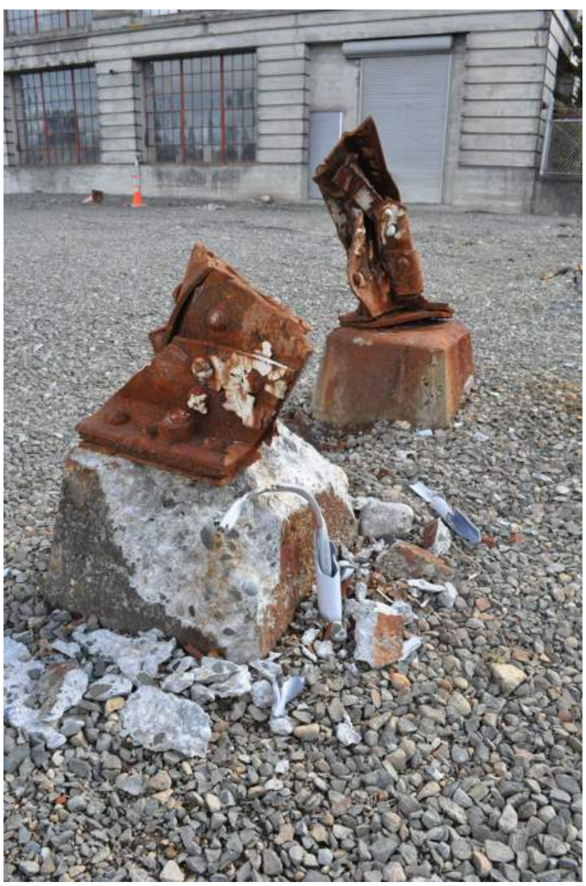

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5.2 Detail Deficiency Images- Adams

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6.0 Appendices

6.1 Bibliography

6.1 Bibliography

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6.2 Appendix: 2014 National Register of Historic Places Nomination

United States Department of the Interior
National Park Service

45PI 1354

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name **Cushman Substation**

other names/site number ______

2. Location

street & number 3713 North 19th Street ☐ not for publication

city or town Tacoma ☐ vicinity

state Washington code WA county Pierce code 053 zip code 98406

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this _X_ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property _X_ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide _X_ local

Applicable National Register Criteria

_X_ A ___ B _X_ C ___ D

11/6/14

Signature of certifying official/Title Date

WASHINGTON STATE SHPO

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) ______

Signature of the Keeper Date of Action

Cushman Substation
Name of Property

Pierce, Washington
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply.)

- [ ] private
- [X] public – Local
- [ ] public – State
- [ ] public – Federal

Category of Property
(Check only **one** box.)

- [X] building(s)
- [ ] district
- [ ] site
- [ ] structure
- [ ] object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
1		buildings
		district
		site
1	1	structure
		object
2	1	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Government: Public Works

Current Functions
(Enter categories from instructions.)

Industry/Processing/Extraction: Industrial Storage

Vacant/Not in Use

7. Description

Architectural Classification
(Enter categories from instructions.)

Late 19th and 20th Century Revivals: Classical Revival, Neoclassical Revival

Materials
(Enter categories from instructions.)

foundation: Concrete

walls: Concrete

roof: Concrete

other:

Narrative Description

Summary Paragraph

The Cushman Substation is located at 3713 North 19th Street in Tacoma, Pierce County, Washington, in the southeast quarter of Section 36, Township 21 North, Range 2 East, of the US Geological Survey Tacoma North Quadrangle. The nominated parcel includes the substation building (contributing) and adjacent outdoor switchyard (noncontributing), which collectively occupy an entire city block bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street.

The three-story Cushman Substation building occupies the southwest quadrant of the block and fronts south on North 19th Street. Park-like landscaping highlights the main entrance, which is centrally located on the south façade and is adorned with a monumental distyle temple front. The building is constructed of board-formed poured concrete, with a projecting concrete cornice articulating the top of a full entablature supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth. The most predominant feature of the Cushman Substation is its metal-sash windows, found on all stories on each side of the building, with window bays comprising three banks of 24-light windows separated by metal mullions.

Narrative Description

The substation building and outdoor switchyard occupy an entire city block, bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street. The substation building occupies the southwest quadrant of the block, and fronts south on North 19th Street; park-like landscaping highlights the main entrance. The switchyard occupies the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. The North 21st Street transmission line, a now discontinuous segment of the historic Potlatch (Cushman) Transmission Line,

1. Cushman Substation (contributing)

The Cushman Substation building is rectangular in plan, is three stories tall, and has a basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof, which is hidden by a shallow concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors, which sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.

The main entrance is centrally located on the south façade and is adorned with a monumental distyle temple front. Accessed via concrete stairs that define the stereobate, the pediment, tympanum, and Tuscan columns of the temple-front entryway are unadorned; the fully articulated entablature features the words "Cushman Substation" in the frieze. The tripartite doorway has a single-light wood door accentuated by engaged Tuscan Doric columns, and flanked by twelve-light sidelights of beveled glass with engaged pilasters at the corners.

The doorway also features an entablature, with decorative dentils below the frieze. Original metal hardware on the door appears to be intact.

The west side is devoid of entrances; other entryways, found on the north and east elevations, are industrial and/or utilitarian. These include the large metal roll-up door on the east elevation, with an inset pedestrian door; the second-floor entrance on the east elevation, accessed via an exterior metal stairway; the ground-floor pedestrian door on the east corner of the north elevation; and another metal roll-up door located in the center bay of the north elevation. With the exception of the main entryway door on the south elevation and the large metal roll-up door on the east elevation, both of which are depicted in original blueprints, all other doors appear to be modern.

The most predominant feature of the Cushman Substation is the industrial metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway (described above) has been added to one of the window bays.

Original cast-concrete light poles flank the stairway to the main entrance. The light poles are also located on the corners of the south elevation, as well as symmetrically arranged on the west elevation, for a total of seven poles currently extant. The light poles originally featured glass globes, though these have been replaced with plastic globes or, in some cases, are missing altogether.

The interior of the Cushman Substation maintains the original massing and form as originally constructed; however, all operating equipment has been removed, and the building is used primarily for storage. The south half of the building is one large open room, three stories tall, historically known as the Condenser Room. This main area once housed the machinery (condensers) necessary for the substation, and still features original details, such as sconces with glass globes; gantry crane; engaged pilasters on interior walls; and the exposed, board-formed concrete beams and ceiling that support the roof structure. Some modern lighting has been installed on the ceiling beams. One original metal stair, with industrial "pipe-fitting"-style handrails, accesses the second floor from the main room; a second stairwell was historically present, but was removed at an unknown date.

The north half of the building is horizontally divided between the first, second, and third floors. Historically, the first floor served as the Feeder Switch Room, with a small bathroom and locker room in the northeast corner. The second floor was divided between the shop (west), the Condenser Switch Room (center, not to be confused with the condenser room on the south side of the building), and the Control Room (east). The third floor served as a storeroom, as well as having smaller spaces in the northeast corner for the Battery Room, the "M. G. & Carrier Current Room," and the Load Dispatchers Office (also the location of the facility's second restroom). The roof is accessed via a metal stairway adjacent to the elevator shaft in the northwest corner. It is possible that some original slate panels are present in the control room behind the modern equipment; however, all switches and other components are no longer extant. If extant, original slate panels are hidden behind modern control stations and are likely used for partial structural support of same.

The basement level is accessed via a concrete stairwell at both the east and west ends of the Condenser Room on the first floor. The basement, historically, held a series of feeders, transmitters, and bus reactors; provided access to the machinery in the Condenser Room; and served as a storage area. Four large oil tanks, two for circuit-breaker oil and two for transmission oil, are still imbedded in the east wall of the basement.

Three underground tunnels, two on the east and one on the north side of the building, provide access to the exterior switchyard.

With the exception of wholesale removal of interior equipment, alterations to the building itself have been fairly minor. For example, a door on the second floor of the east elevation was cut into a window; this change utilized the existing window space and, with the exception of the removal of some window panes, did not require removal of building fabric. Other alterations include the removal of light poles on the exterior of the building. Analysis of historic photos indicates that the substation originally had eight light poles on the south side and five on both the east and west sides.

2. Switchyard (non-contributing)
The switchyard is located adjacent to the Cushman Substation building, occupying the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. The switchyard was constructed concurrently with the substation, but has been modified over the years as bussing and other equipment was upgraded for efficiency and safety standards. The switchyard is a non-contributing, functionally-related structure to the Cushman Substation nomination.

3. North 21st Street Towers (contributing)
The North 21st Street Towers are a collection of original steel lattice towers located in the median between the east- and west-bound traffic on North 21st Street between N Highland Street and N Adams Street in Tacoma. The towers historically connected the Cushman Substation with the Cushman No. 1 development, and are a segment of the overall Potlatch (Cushman) line. The approximately 1.25 mile segment retains 16 of the historic 230-kV double circuit, steel lattice towers. The towers are approximately 120 feet tall, with four legs (set on concrete footings or a poured concrete pad) rising in a pyramidal shape to a rectangular top with two sets of three arms, one on each the north and south sides of the towers. The arms support transmission cables, conductors, insulators, and mounting equipment. These structures are original to the Cushman electric power generation and transmission system, retain integrity of design, materials, workmanship, feeling, association, setting, and location, and are a contributing, functionally related structure to the Cushman Substation.

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property 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 represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance

(Enter categories from instructions.)

Community Planning and Development

Architecture

Period of Significance

1926–1949

Significant Dates

1926: Date of Construction

1949: Date power was rerouted

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

Gongwer, Verne (Designer/Engineer)

Parker, James (Preparer: Perspective and Plans)

Darland, Alvin F. (Electrical Construction)

Dougan & Chrisman (Builders/Contractors)

Statement of Significance Summary Paragraph
(Provide a summary paragraph that includes level of significance and applicable criteria.)

The Cushman Substation is the urban embodiment of the City of Tacoma's achievement in hydroelectric power production via development of the Cushman Hydroelectric Project. The substation housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand and, therefore, made the Cushman Substation one of the most important and influential buildings of its time. The monumental architectural style reflected this ideology, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system.

As such, the Cushman Substation is eligible to the National Register at the local level for significance under Criterion A, associations with broad patterns of history, for the role it played in the growth of the city of Tacoma and the region due to the development of hydroelectric generation and its subsequent effect on the availability of affordable electricity.

The Cushman Substation building is also eligible for listing in the National Register of Historic Places (NRHP) at the local level for significance under Criterion C, architecture. The Cushman Substation is an excellent example of monumental neoclassical revival style architecture, with which the City of Tacoma built the Cushman Hydroelectric Project facilities in the 1920s. The only urban building constructed for the Cushman Hydroelectric Project, the Cushman Substation is a visual representation of the importance of public energy facilities to growth in the region.

The period of significance is 1926–1949: the date construction was completed through the date the transmission line was rerouted to terminate at the Pearl Street Substation.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

In 1893, the City of Tacoma bought Charles Wrights' Tacoma Light and Water Company, thereby becoming one of the first cities in the Pacific Northwest to own and operate a municipal electrical system.[1] Known for political Progressivism, the Pacific Northwest was at the vanguard of the reform movement to control utilities' cost and quality by placing them under public ownership. In the mid-nineteenth century, most American cities awarded franchises to private utility companies, but reformers in the Progressive Party targeted the system's potential for graft, favoritism, and corruption. They maintained that a publicly owned utility would not only eliminate unsavory collusion among private businessmen and public officials but also promote more efficient management.[2] Unlike older cities in the American East and Midwest, Tacoma was able to move quickly toward a more democratic utility system.

After the 1893 purchase, the former Tacoma Light and Water Company became part of the City of Tacoma's Light Department, a division of the city formed to provide municipal lighting and power. The division was operating under the name Tacoma City Light by 1915, a name it would maintain until 1989, after which the organization continued doing business under the name Tacoma Power.

[1] Dick Malloy and John Ott, *The Tacoma Public Utilities Story: The First 100 Years, 1893–1993* (Tacoma, WA: Department of Public Utilities, 1993), 13.
[2] Robert Wiebe, *The Search for Order, 1877–1920* (New York: Hill & Wang, 1967), 166–72.

By the turn of the twentieth century, growing consumer demand had overtaxed the direct current system, and the city had to purchase additional power from private companies in the region. In 1909, Tacoma voters authorized construction of a hydroelectric generating facility on the Nisqually River. Attempts to develop a power plant on the North Fork of the Skokomish River at Lake Cushman actually began in 1912, when Seattle citizens approved a related bond issue. The City of Seattle issued condemnation notices to property owners, but abandoned the project in 1914.[3]

By 1917, Tacoma was experiencing a population explosion and needed a new source of electric power to meet the increasing demands of domestic labor-saving devices and power-dependent industries. Public Utilities commissioner Ira S. Davisson and Tacoma City Light reselected the Lake Cushman site for a new hydroelectric complex. The city applied for water rights and reservoir permits in 1919, and began condemnation proceedings the same year for the needed land.

In 1922, Davisson hired Jay L. Stannard from San Francisco to serve as chief engineer for the Cushman project. While some of the interviewees for the position wanted as much as $35,000 a year, Stannard offered his services at the bargain rate of $7,500. He explained, "it's just what I wanted to do . . . I made a thorough investigation of the Cushman project in 1917 with the idea of doing it for Seattle and have always wanted to develop the project."[4] Jay Stannard was born to Gilbert and Esther Stannard in New York in 1866. By 1880, the family had relocated to Shell Rock, Iowa, in a westward trend that Stannard would continue all the way to Washington. By 1900, Stannard and his wife Carrie, whom he married in 1899, were lodging in Everett, Washington. Stannard worked with the Great Northern Railway as early as 1902, when he led a survey from Columbia Falls to Tobacco Plains in Flathead, Montana.[5] Stannard also spent time in Oregon, where he was employed by the City of Baker as consulting engineer for a municipal hydroelectric project.[6] An August 1917 edition of *Electrical Review* noted, "J. L. Stannard, Portland, Oregon, is consulting engineer in connection with the proposed hydroelectric plant for the City of Seattle. He has made plans and estimates covering all phases of the contemplated project."[7] By the time Cushman was proposed for Tacoma, Stannard's career as a civil engineer appears to have been well established.

The contract for construction of the first Cushman dam (built near Hoodsport) was let to Guthrie & Company of Portland, Oregon, in spring 1924. (Guthrie & Company would also later be awarded the contract for construction of the Cushman No. 1 powerhouse under a separate bid.) Work on the tunnel shafts began first, on May 1, 1924, and peaked in 1925. After a two-year construction period, Lake Cushman began rising to fill the valley. The Cushman Powerhouse No. 1 was constructed concurrent with the dam, beginning in spring 1925 and completed in March the following year. Located 700 feet downstream of the dam, the building housed the water turbines and generators, as well as the exciter switchboard and control room.

[3] Loretta Neumann, William Beckner, Janet Friedman, Steve DelSordo, and John Culliname, *Cultural Resource Management Plan: Cushman Hydroelectric Project*, submitted to Tacoma Public Utilities, Tacoma, WA, 1996, A3-9, on file at Tacoma Public Utilities, WA.
[4] Malloy and Ott, *Tacoma Public Utilities Story*, 84.
[5] "Surveying and Speculation Continues in Flathead," *The Inter Lake*, January 3, 1902, Great Northern Railway, Kalispell Division, http://www.gnry.net/lookingback/lbi1900s.html#1902.
[6] "News Notes," *Journal of Electricity, Power, and Gas* 33 (December 26, 1914): 589.
[7] "Personal and Biographical," *Electrical Review* 71, no. 6 (1917): 250.

To distribute the power of the water, 44 miles of transmission lines were constructed to carry the full load capacity of the Cushman No. 1 powerhouse. The first 5 miles carried the line to the future site of the Cushman No. 2 powerhouse (completed in 1930). The remaining 39 miles carried the power into Tacoma, crossing the Skokomish Flats, the two relatively benign water crossings at North Bay and Henderson Bay, and the daunting Narrows Crossing, a particularly treacherous and windy water corridor almost a mile wide. When the transmission line across the Narrows was completed in 1925, the approximately 6,244-foot-long span was the longest aerial electrical span in the world, with pairs of 315-foot-tall steel towers supporting cables that carried Cushman power across the Narrows to the city.[8] The line continued into Tacoma via North 21st Street, terminating at the Cushman Substation.

Original blueprints of the Cushman Substation, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. Verne Gongwer, Superintendent of Electrical Construction A. F. Darland, and, of course, Chief Engineer Jay Stannard. Additionally, James Parker is thought to have prepared the plan and perspective drawings, though it is unknown to what extent he was involved in the design phase.[9]

Verne Gongwer, an engineer from Michigan, would later be known as the "hero" of the Cushman Substation. Using his "engineer's know-how," he designed the building without the aid of degree in architecture. He is even credited for concocting "a shortcut for spiffing up the substation," specifically the Greek Revival entry and buffed concrete finish. Gongwer is also credited with the design of the Tacoma Narrows crossing of the transmission line.[10]

Alvin F. Darland served as the superintendent of electrical construction for the entire Cushman Hydroelectric Project. "Reared and educated in Tacoma," Darland graduated from Stadium High School and, in 1914, the University of Washington. He began his electrical career at the Todd Drydock & Construction Corporation, working on the electrical installations of the yard as well as the US cruisers built there. He joined the Tacoma Light Department around 1916, and began work on the Cushman Project in April 1923. He is credited with the "splendid electrical layouts of the Cushman (No. 1) power house, substation and transmission lines."[11]

Bidding for the contract to construct the Cushman Substation was closed in December 1924. Sixteen contractors submitted twenty proposals, with cost estimates ranging from $166,470.80 up to $241,656.05. The lowest bid was received of Dougan & Chrisman of Seattle, and included construction of the substation building, the tunnels, footings for the exterior switchyard equipment, and the steel structures to support the heavy bus connectors. The firm was officially awarded the contract for the Cushman Substation in January 1925, and began work on the building shortly thereafter.[12]

Founded by James Madison Dougan in 1908, Dougan & Chrisman had offices in both Seattle and Portland, Oregon. In Portland the firm was known for construction of the Elks and Masonic temples, the Benson Hotel,

[8] Malloy and Ott, *Tacoma Public Utilities Story*, 88.
[9] "Bid for Cushman Substation to Be Called this Week," *Tacoma Sunday Ledger*, December 7, 1924, E-8.
[10] Bart Ripp, "A Very Juicy Past: Cushman Sub-Station Is an Elegant Reminder of Tacoma Public Utilities' Century of Providing Power," *Tacoma Daily Ledger*, November 29, 1993. 3. See also "Cushman Power Project Edition," *Tacoma Daily Ledger*, February 28, 1926.
[11] "Cushman Power Project Edition," *Tacoma Daily Ledger*, February 28, 1926, 11.
[12] "City Power Substation Bids Opened," *Tacoma Daily Ledger*, December 30, 1924, 1.

and the US National Bank Building, among others. In Seattle, the firm constructed the Virginia Mason Hospital, the Garfield School, and several state university buildings.[13]

Concrete for the foundations of the Cushman Substation was poured in March of 1925, with deep excavations required to allow for the huge generators the building would house.[14] The roof of the substation was poured in August.[15] By October, the distinctive metal windows were being installed, and much of the heavy electrical equipment had been installed in the adjoining switchyard.[16] In January 1926, "a giant 80-ton condenser" was the first piece of machinery tested at the substation, the success of which marked that the building and associated transmission lines and operating equipment were "practically ready to receive power from the Skokomish River."[17]

Designed to handle the power from both the Cushman No. 1 and the planned Cushman No. 2 powerhouses, the substation was constructed in the heart of one of Tacoma's residential districts. As such, "every effort was made to effect a design that was not only permanent and efficient in operation, but was also a beautiful piece of architecture and would harmonize with the surroundings."[18] Contemporary newspapers remarked on the Cushman Substation as not only "a model of electrical engineering, but its distinctive design will be in keeping with the residential section in which it will be constructed."[19] Cost of construction of the building was estimated at $150,000, with additional costs of operating and electrical equipment "representing a valuation of more than $550,000 when completed... The cost of the plant unit by unit as a whole is said to be far below the cost of other hydro-electric plants and will enable Tacoma to maintain its place in the industrial world as the home of the nation's cheapest electrical power."[20]

The three-story reinforced concrete building was constructed with

> an architectural treatment worthy of any building in the heart of the City. The cornice, pilasters, mouldings, etc. were all formed and poured monolithic with the main building. The surface treatment of the outside of the building, as well as all other exposed concrete on the block which the building occupies, is what is known as a "rubbed finish." This consists of rubbing the concrete surfaces, after being stripped, with a rough carborundum stone until all film, fins and unevenness disappears, and then painting with a neat cement grout and rubbing in with a fine carborundum stone until only enough material is left on the surface to fill all of the voids and produce a smooth sandstone-like appearance. This finish harmonizes very well with the aluminum finish used on the towers, transformers, switches, and other equipment in the outdoor portion of the substation.[21]

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[13] Ila L. Wakley, "James Madison Dougan," S. J. Clarke Publishing Company, *The USGenWeb Project*, accessed March 17, 2014, http://usgenweb.org/. http://files.usgwarchives.net/or/multnomah/bios/dougan444gbs.txt.
[14] "Pouring Concrete for New Substation," *Tacoma Daily Ledger,* March 9, 1925, 3.
[15] "Work being Speeded on Big City Substation," *Tacoma Daily Ledger,* August 16, 1925, A-4.
[16] "Getting Ready to Receive Cushman Current," *Tacoma Daily Ledger,* October 11, 1925, A-11.
[17] "Test of Machine's Success," *Tacoma Daily Ledger,* January 1, 1926, A-1.
[18] Ira S. Davisson and Llewellyn Evans, "Cushman Power Project," *1924–1925 Information Book of the Light Department, City of Tacoma, Washington,* 73. Washington State Archives, Puget Sound Region Branch, Tacoma Municipal Government Collection, Tacoma Public Utilities Division, Reports and Publications, PS611-81A-86.
[19] "Bids for Cushman Substation to Be Called This Week," E-8.
[20] Ibid.
[21] Davisson and Evans, "Cushman Power Project," 73.

As constructed, "one of the most interesting" features of the Cushman Substation "was the placing of thousands of feet of conduit in the floor slabs, walls and columns of the building." High-voltage wiring from exterior bussing equipment entered the substation via basement tunnels. Concrete barriers separated and insulated the high-voltage busses, while lower-voltage circuits were distributed via iron conduits cast into the concrete structure of the building.[22]

By March 1926, there was sufficient water in the Lake Cushman reservoir to begin producing power.[23] The 44-mile-long Potlatch Transmission Line, extending from the Cushman No. 1 powerhouse to the Cushman Substation in Tacoma, was first energized on March 23, 1926.[24] At the formal dedication held in May, "the current from the dam was turned on in Washington, D.C., by President Calvin Coolidge using a key made by Lincoln High School students, which included gold from a Northern Pacific Railroad souvenir spike."[25] The Cushman system has provided power for the city of Tacoma ever since.

From its inception in 1893, Tacoma's public utility had sold power for commercial purposes in order to reduce the cost of residential power and light. The move to promote industrial expansion within the city directly influenced municipal power development. Following the opening of Cushman No. 1 and the Cushman Substation in 1926, several large industrial enterprises located plants in Tacoma. A consequent population boom and the availability of inexpensive electricity also encouraged consumers to purchase electric stoves, refrigerators, washing machines, and smaller appliances. In fact, demand was so great that by 1927, a year after Cushman No. 1 came online, the City Light department was promoting a second dam on the Skokomish River with the dire prediction that, without increased electrical output, Tacoma would "face a power shortage within three years."[26]

In spring 1929, Tacoma City Light began construction of the second power plant on the Skokomish River, 2 miles downstream from the first. With the water discharged from Cushman No. 1, Cushman No. 2 utilized the remaining 480-foot elevation drop to the Hood Canal, a 240-foot-high arch dam, and a 13,000-foot-long tunnel to provide additional power for the city. Construction of Cushman No. 2 began none too soon: extreme drought in fall 1929 forced the city to rely in part on supplemental power supplied by the *U.S.S. Lexington*, which remained anchored in Tacoma harbor from December 18, 1929, through January 16, 1930.[27]

The combined Cushman Nos. 1 and 2 systems were poised to bring a total of 140,000 horsepower to Tacoma—50,000 from Cushman No. 1 and 90,000 from Cushman No. 2. As one report noted, "it is hard for

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[22] Davisson and Evans, "Cushman Power Project," 73.
[23] Malloy and Ott, *Tacoma Public Utilities Story*, 88; and Overland, *Early Settlement of Lake Cushman*, 40.
[24] Malloy and Ott, *Tacoma Public Utilities Story*, 88.
[25] Office of Historic Preservation, Community Development Department, "Cushman Power Project, Cushman Substation," Survey-Inventory Form, Community Cultural Resource Survey, Reference No. 31650, April 1981, 2, on file at the Washington Department of Archaeology and Historic Preservation (hereafter DAHP).
[26] City of Tacoma, Department of Public Utilities, Light Division, *1926–27 Information Book* (n.p.: n.p., 1927), 18, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, Washington State Archives, Puget Sound Regional Branch (hereafter WSA-PSRB).
[27] "Report to December 31, 1929," *Report and Information Book of the Light Division, Department of Public Utilities, City of Tacoma, Washington*, 16, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.

the mind to grasp the significance of 50,000 horsepower of electrical energy. Picture an army of 1,000,000 men engaged in physical labor. Their combined effort would about equal this horsepower."[28]

In 1930, a journalist reported that "work on Cushman No. 2 project is being carried on seven days a week and 24 hours a day, as the power is urgently needed to supply the market at Tacoma."[29] The new Cushman No. 2 dam, a 240-foot, constant-radius, high-arch dam, rose to create Lake Kokanee.[30] The Cushman No. 2 powerhouse, which is located on the Skokomish Reservation, overlooking the Olympic Highway, was constructed by J. E. Bonnel and Son of Tacoma. The city's grand design for the Cushman No. 2 powerhouse exudes the sense of pride and progress felt by Tacoma City Light. The building draws upon neoclassical influences in civic architecture to express the significance of the facility to the functioning of the city.

On August 22, 1939, John D. Ross, chief administrator of Bonneville Power (and former head of Seattle City Light), addressed Congress on the status of Bonneville Dam (1934) and the newly proposed Grand Coulee Dam for which he sought federal funding. He said, "the enterprises the Pacific Northwest needs most for industrial development are those requiring large quantities of cheap electrical energy of which the region will soon have abundance." In a feature article, the *Seattle Post-Intelligencer* listed thirteen key regional units that provided power and light. Among them was "Tacoma City Light (public monopoly—at present America's lowest power rates)."[31]

By 1947, the City of Tacoma, Department of Public Utilities, Light Division, had begun construction on the Pearl Street Substation in Tacoma; in 1949, the transmission line was rerouted from the Cushman Substation to the Pearl Substation.[32] Blueprints for the "Pearl Street Switching Station Control House" are dated June 7, 1949, approved by engineer A. W. Francis. Although the transmission line continues on to the Cushman Substation, the historic alignment and terminus of the line have been altered. The Cushman Substation now acts as a storage building, and all original interior equipment has been removed. The switchyard, located on the Cushman Substation property, is still active, although it contains only modern equipment.

Historically, the substation was an integral part of the Cushman Hydroelectric Project, acting as terminus for the transmission line and therefore an essential resource directly related to the production and transmission of hydroelectric power to the citizens of Tacoma. Though the building exhibits excellent integrity of location, design, setting, materials, workmanship, feeling, and association, rerouting of the Potlatch Transmission Line

[28] "Cushman Project Visualized," [ca. 1925],] Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.
[29] "Cushman Power Plant No. 2 for Tacoma," *Western Construction News*, November 10, 1930: 538.
[30] Lisa Soderberg, "Cushman No. 1 Hydroelectric Power Plant," National Register of Historic Places Nomination Form, 1988, 8-1, on file at DAHP.
[31] John D. Ross, "Plentiful Electricity Seen as Stimulant. Accompanied by Quotes from the Author's Address to Congress and by a List of 'Key Units and Their Present Power and Light Services,'" *Seattle Post-Intelligencer*, August 22, 1939, Costello Scrapbooks, vol. 8, "Dams and Power," Seattle Public Library, Seattle, Washington.
[32] The Pearl Street Substation is located at 2402 Pearl Street North in Tacoma. The substation comprises one building, an outdoor switchyard, and one historic-era tower identical to those found on North 21st Street. The single-story building with a drive-under basement fronts east on Pearl, with parklike landscaping separating the substation from the suburban mini-mall development located east of Pearl Street. The Pearl Street Substation has seen few exterior alterations since initial construction: the windows appear to be original, as does the stucco cladding. Though all doors appear to be modern, they are in original openings. The building retains good integrity of design, workmanship, feeling, association, setting, and location, and fair integrity of materials.

to the Pearl Street Substation in 1949 and the subsequent removal of all power-related equipment from the interior of the Cushman Substation have rendered the building functionally disconnected from the rest of the Cushman system. However, the building is an excellent example of neoclassical-revival architecture, and has seen few alterations (apart from interior removal of equipment). The basic form, massing, and scale of the building, both interior and exterior, are intact.

The Cushman Substation is eligible for listing in the National Register at the local level for significance under Criterion A, associations with broad patterns of history, for the role it played in the growth of the city of Tacoma and the region due to the development of hydroelectric generation and its subsequent effect on the availability of affordable electricity. The Cushman Substation is the urban embodiment of the City of Tacoma's achievement in hydroelectric power production via development of the Cushman Hydroelectric Project. The substation housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand and, therefore, made the Cushman Substation one of the most important and influential buildings of its time.

The monumental architectural style reflected this ideology, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system. As such, the building is also eligible for listing in the NRHP at the local level for significance under Criterion C, architecture. The Cushman Substation is an excellent example of neoclassical revival style architecture, with which the City of Tacoma built the Cushman Hydroelectric Project facilities in the 1920s. The only urban building constructed concurrent with the Cushman Hydroelectric Project, the Cushman Substation is a visual representation of the importance of public energy facilities to regional growth. The monumental architectural style reflected the importance of efficient and economic distribution of energy, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system.

The period of significance is 1926–1949, the date construction was completed through the date the transmission line was rerouted and the historic terminus altered.

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Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested)
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #__________
____recorded by Historic American Engineering Record # __________
____recorded by Historic American Landscape Survey # __________

Primary location of additional data:

_X_ State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository: ____________________

Historic Resources Survey Number (if assigned):

10. Geographical Data

Acreage of Property 4.91
(Do not include previously listed resource acreage.)

UTM References NAD 1927 or X NAD 1983

Point	Zone	Northing	Easting	References
1	10	5234987	538770	Tower No. 1
2		5235001	538646	Tower No. 2
3		5234999	538536	Tower No. 3
4		5234998	538428	Tower No. 4
5		5234997	538320	Tower No. 5
6		5234996	538199	Tower No. 6
7		5234996	538094	Tower No. 7
8		5234995	537978	Tower No. 8
9		5234996	537861	Tower No. 9
10		5234993	537745	Tower No. 10
11		5234992	537630	Tower No. 11
12		5234991	537514	Tower No. 12
13		5234990	537408	Tower No. 13
14		5234991	537225	Tower No. 14
15		5234991	537042	Tower No. 15
16		5234991	536877	Tower No. 16
17		5234990	538797	Cushman Substation, NW Corner of Tax Parcel
18		5234990	538897	Cushman Substation, NE Corner of Tax Parcel
19		5234904	538798	Cushman Substation, SW Corner of Tax Parcel
20		5234996	538902	Cushman Substation, SE Corner of Tax Parcel

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary begins midway between N Highland Street and N Winnifred Street in the median of North 21st Street in Tacoma, Washington, at the northwest corner of the tower. The boundary travels east along the north side of the median to the intersection of North 21st Street and North Proctor Street, where it angles southeast parallel to the transmission line to the intersection of North Adams Street. The boundary then travels east to North Washington Street, where it turns south to the intersection of North 19th Street, where it turns west to the intersection of North Adams Street where it turns north to the back to a point approximately 50 feet south of the southeast corner of the intersection of North Adams Street and North 21st Street, The boundary then angles northwest parallel to the transmission line to southeast corner of the tower at the intersection of North 21st and North Proctor. The boundary then travels west along the south side of the median to the southwest corner of the tower between N Highland Street and N Winnifred Street, where it turns north back to the point of beginning.

Boundary Justification (Explain why the boundaries were selected.)

The boundary includes all of Pierce County Tax Parcel 7475021970, which comprises the Cushman Substation, as well as the linear corridor containing the North 21st Street transmission towers. The boundaries along the corridor are from curb-to-curb on the north and south sides.

11. Form Prepared By

name/title Natalie K. Perrin, M.S. / Architectural Historian

organization Historical Research Associates, Inc. (HRA) date March 17, 2014

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e-mail nperrin@hrassoc.com

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.
  A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Continuation Sheets**
- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Cushman Substation
City or Vicinity: Tacoma
County: Pierce
State: Washington

Photographer: Greg Rainka, Historical Research Associates, Inc.
Date Photographed: August 2011

Description of Photograph(s) and number: See Continuation Sheet

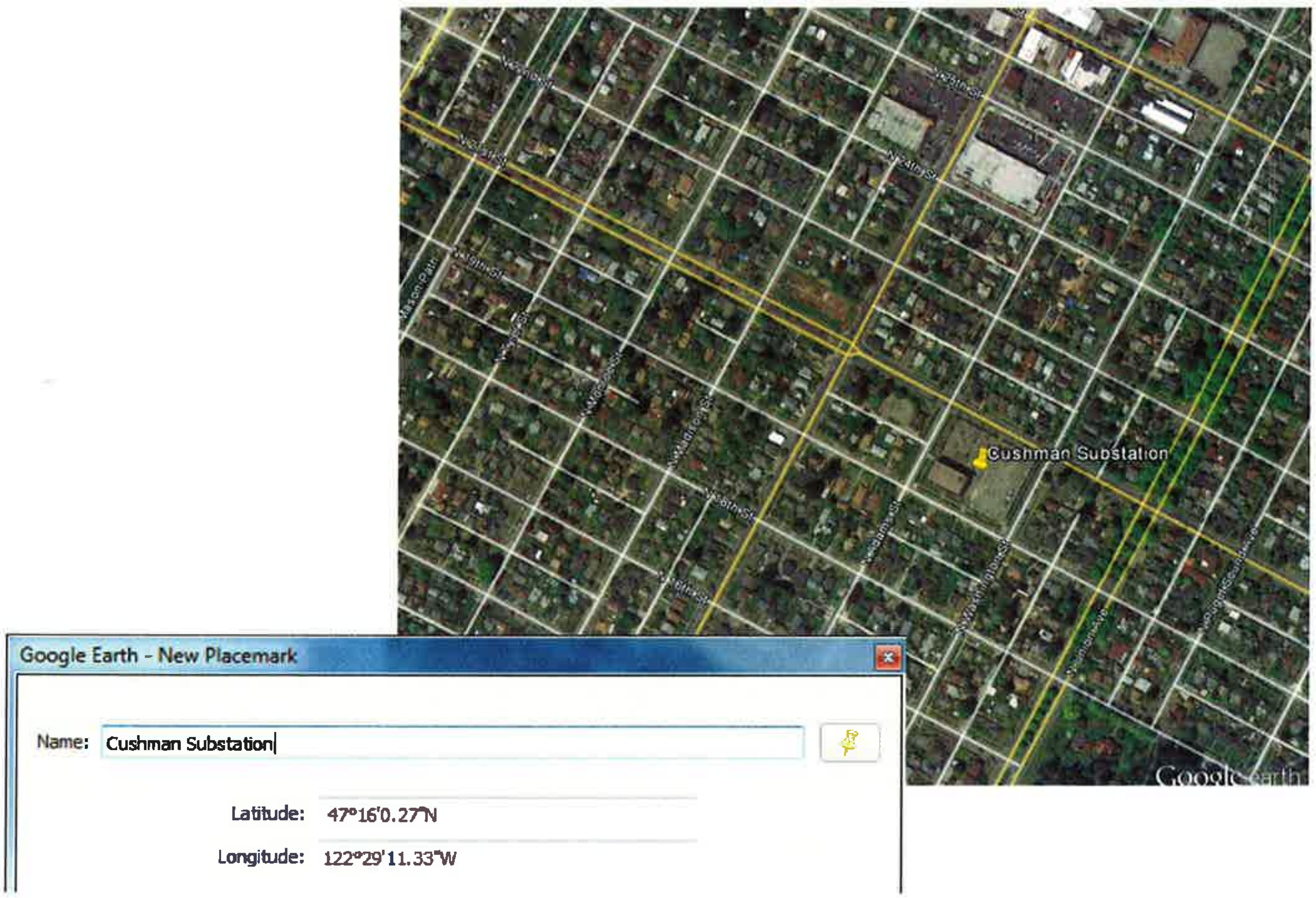
Property Owner: (Complete this item at the request of the SHPO or FPO.)

name City of Tacoma (Pat McCarty, Generation Manager, Tacoma Power)

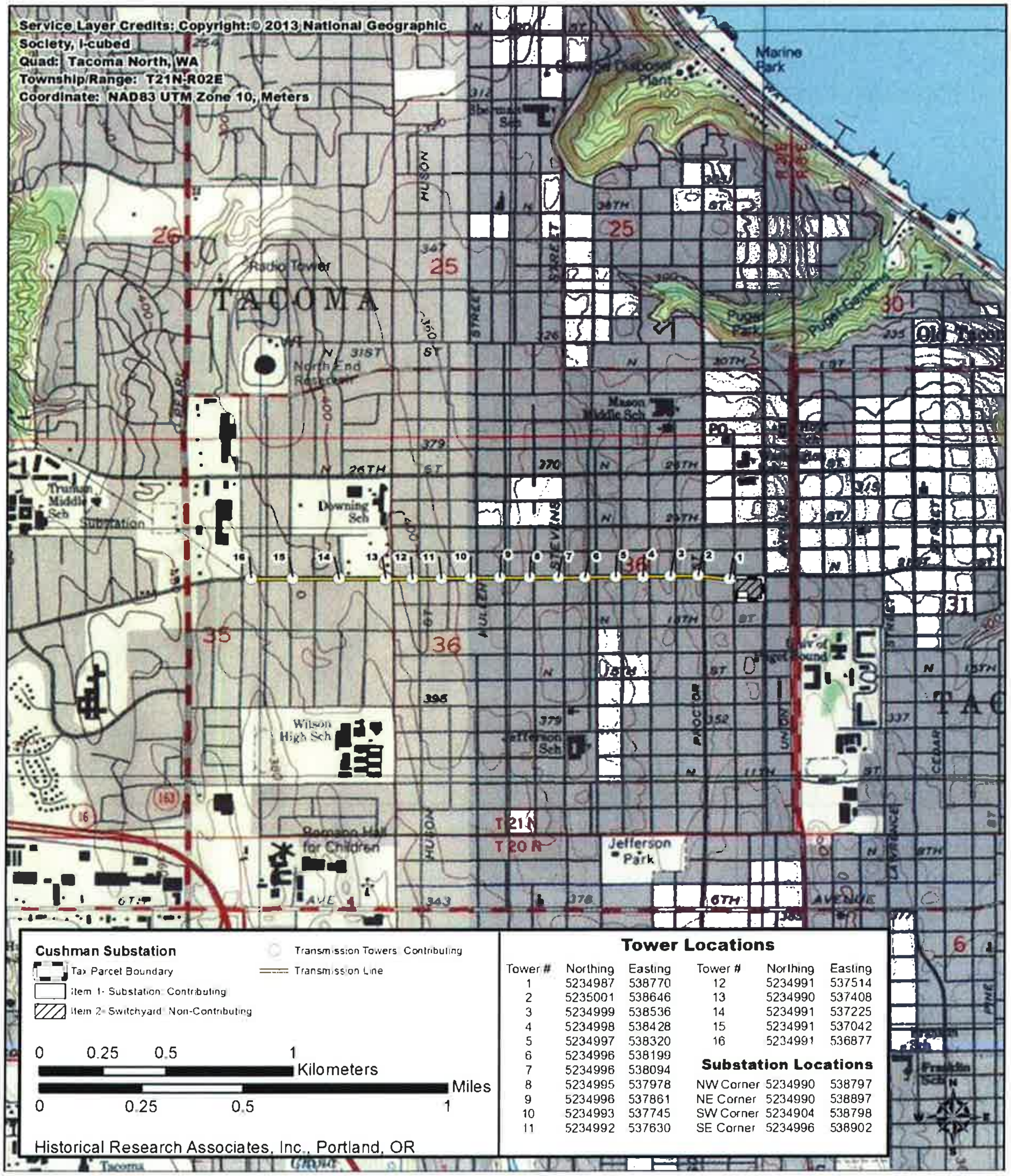
street & number 3628 South 35th Street telephone 252-502-8600

city or town Tacoma state WA zip code 98409

Maps Continuation Sheet:



Map 1. Google Earth Map of Cushman Substation showing Lat/Long reference point. Substation only.



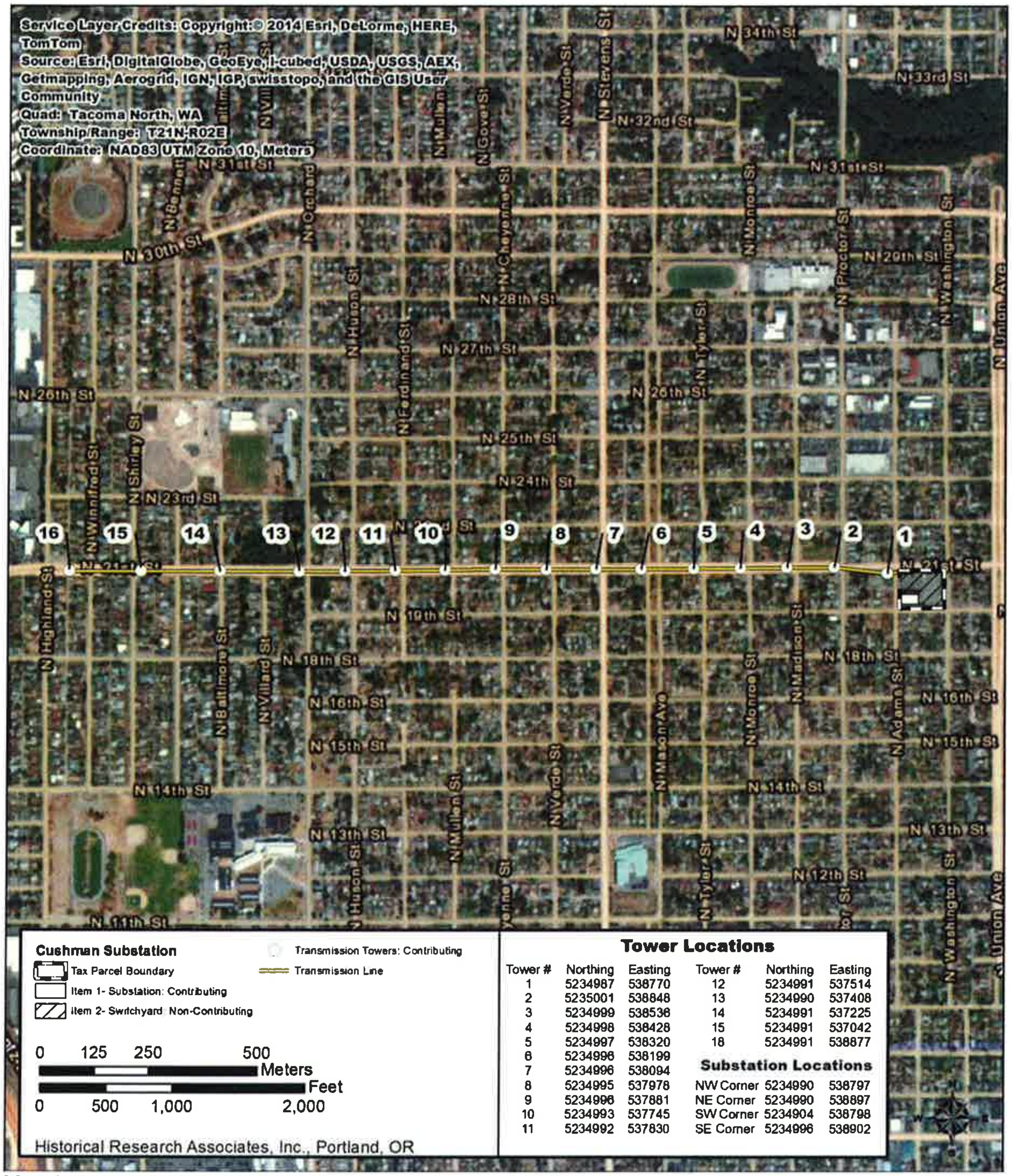
Tower Locations

Tower #	Northing	Easting	Tower #	Northing	Easting
1	5234987	538770	12	5234991	537514
2	5235001	538646	13	5234990	537408
3	5234999	538536	14	5234991	537225
4	5234998	538428	15	5234991	537042
5	5234997	538320	16	5234991	536877
6	5234996	538199			
7	5234996	538094			
8	5234995	537978			
9	5234996	537861			
10	5234993	537745			
11	5234992	537630			

Substation Locations

	Northing	Easting
NW Corner	5234990	538797
NE Corner	5234990	538897
SW Corner	5234904	538798
SE Corner	5234996	538902

Map 2. Topographical Map of Cushman Substation showing UTM reference points.



Tower Locations

Tower #	Northing	Easting	Tower #	Northing	Easting
1	5234987	538770	12	5234991	537514
2	5235001	538848	13	5234990	537408
3	5234999	538536	14	5234991	537225
4	5234998	538428	15	5234991	537042
5	5234997	538320	18	5234991	538877
6	5234998	538199			
7	5234996	538094			
8	5234995	537978			
9	5234996	537881			
10	5234993	537745			
11	5234992	537830			

Substation Locations

NW Corner	5234990	538797
NE Corner	5234990	538897
SW Corner	5234904	538798
SE Corner	5234996	538902

Map 1. Aerial image of Cushman Substation showing UTM reference points.

Figures Continuation Sheet:

Figure 1. Cushman Substation, 1925, southwest oblique viewing northeast. Image courtesy of Tacoma Power.

Figure 2. Cushman Substation, 1925, southwest oblique (viewing northeast) with view to switchyard. Image courtesy of Tacoma Power.

Figure 3. Cushman Substation, 1925, southeast oblique (viewing northwest) with view of switchyard (no longer extant). Image courtesy of Tacoma Power.

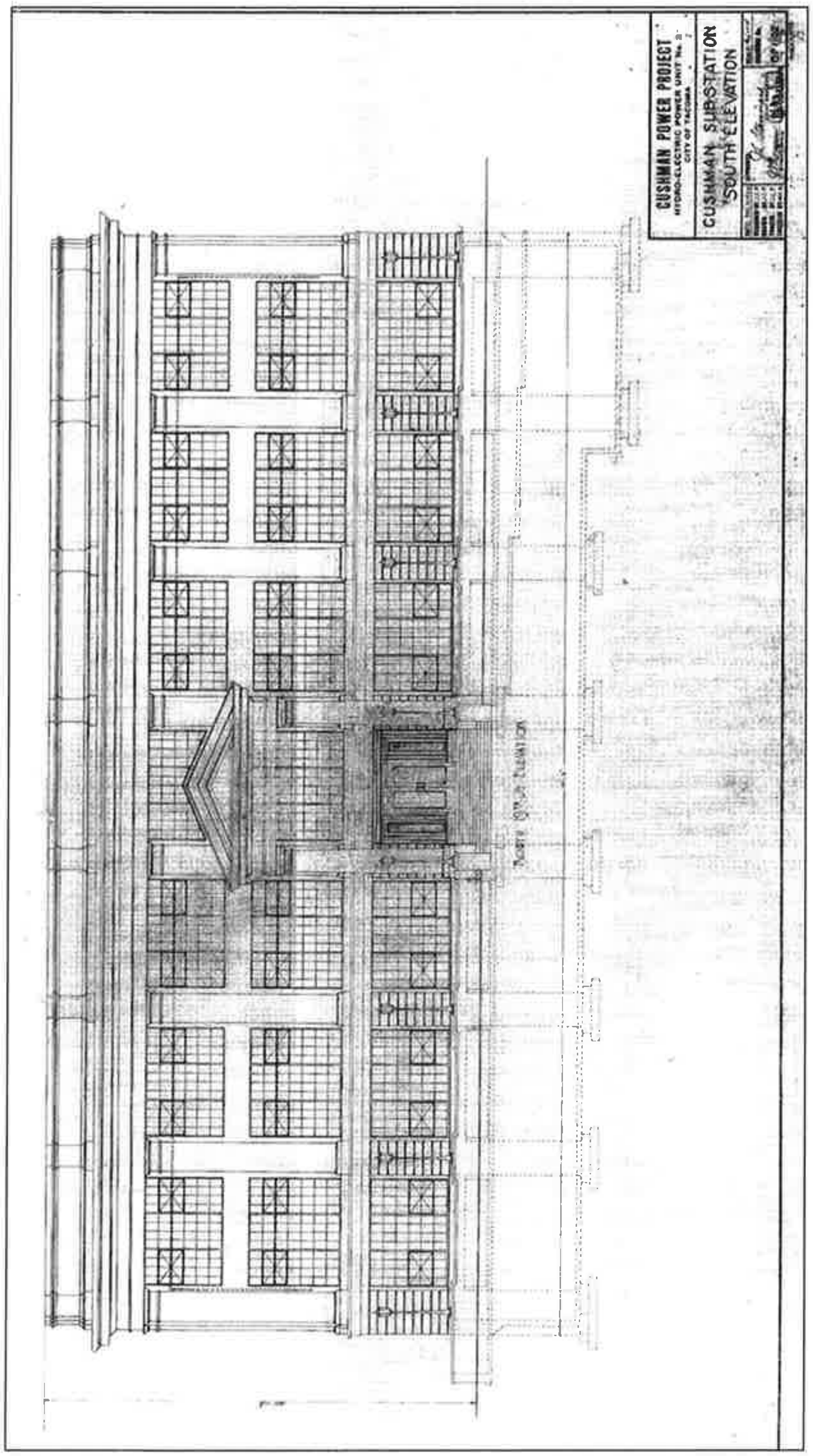


Figure 4. Design drawings of Cushman Substation, South Elevation, December 1924. Image courtesy of Tacoma Power.

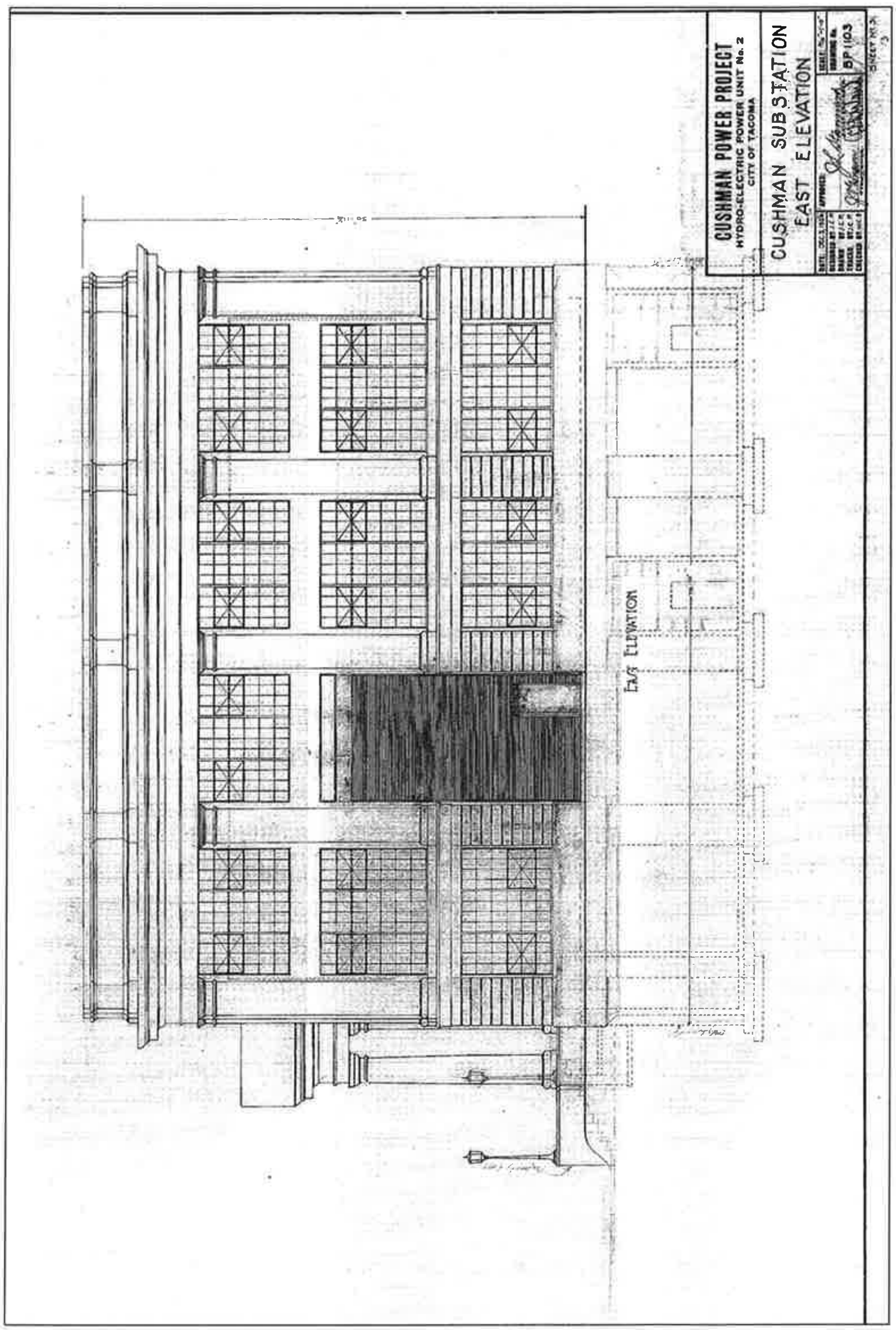


Figure 5. Design drawings of Cushman Substation, East Elevation, December 1924. Image courtesy of Tacoma Power.

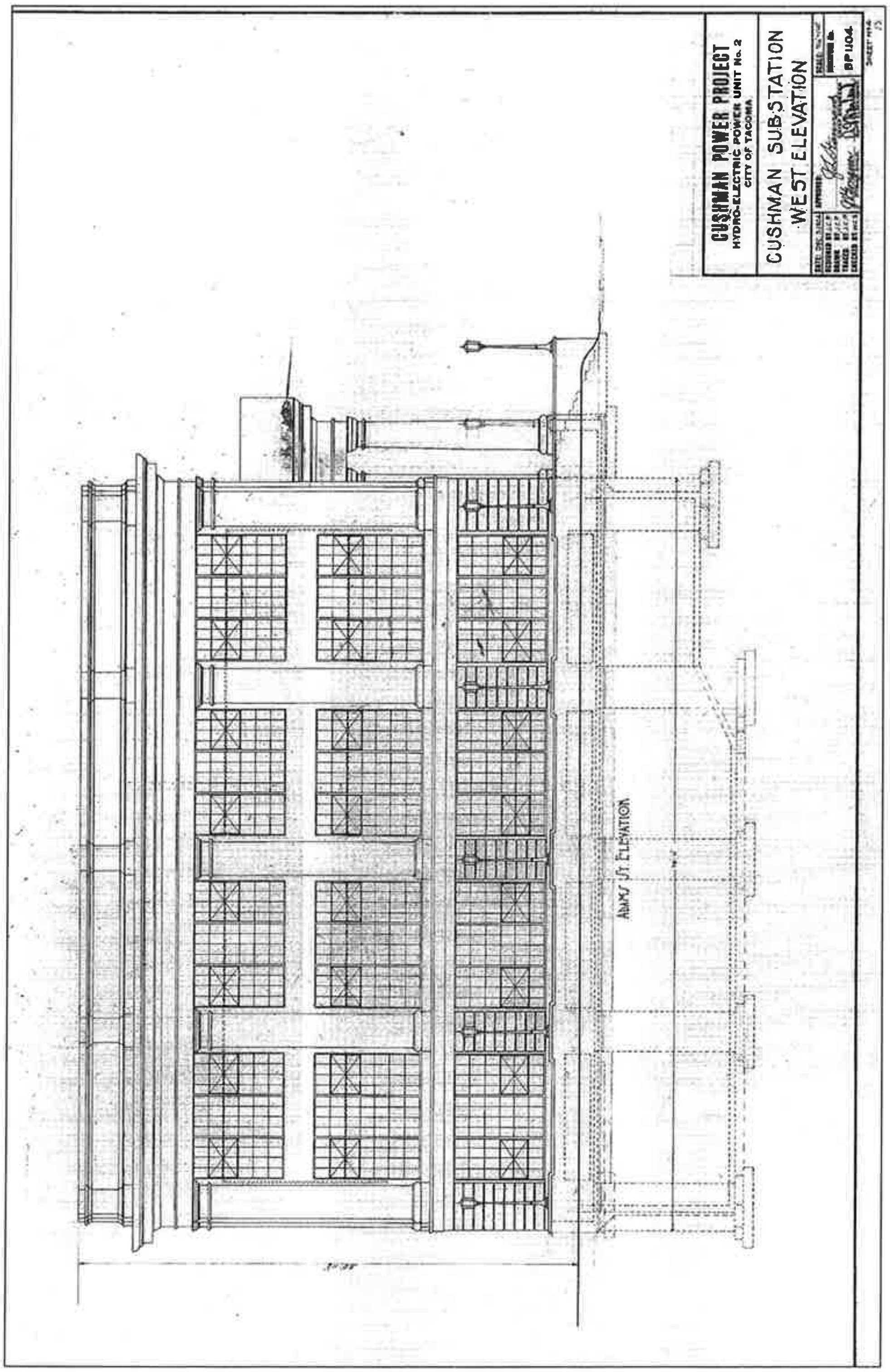


Figure 6. Design drawings of Cushman Substation, West Elevation, December 1924. Image courtesy of Tacoma Power.

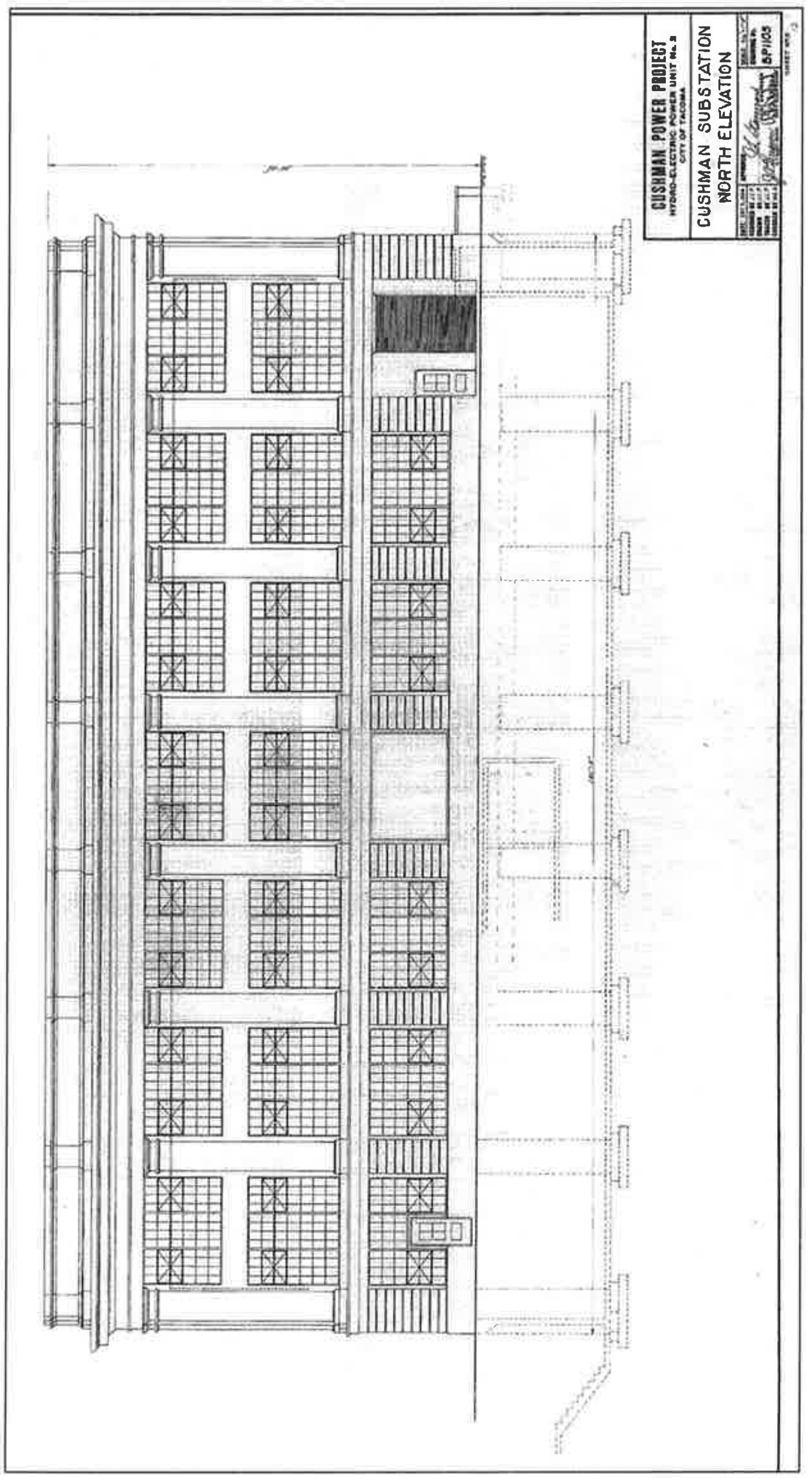


Figure 7. Design drawings of Cushman Substation, North Elevation, December 1924. Image courtesy of Tacoma Power.

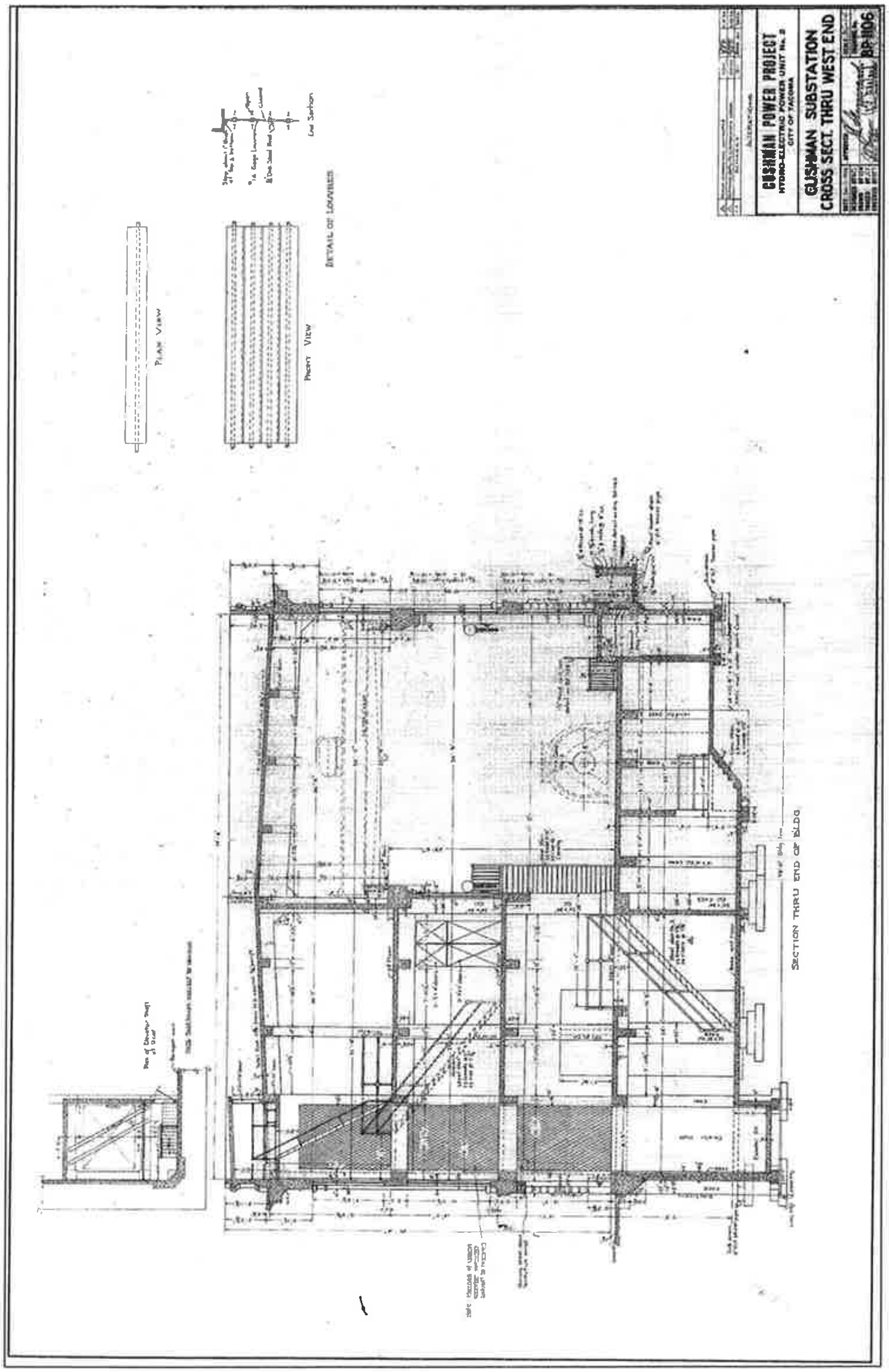


Figure 8. Design drawings of Cushman Substation, Cross Section through West End, December 1924. Image courtesy of Tacoma Power.

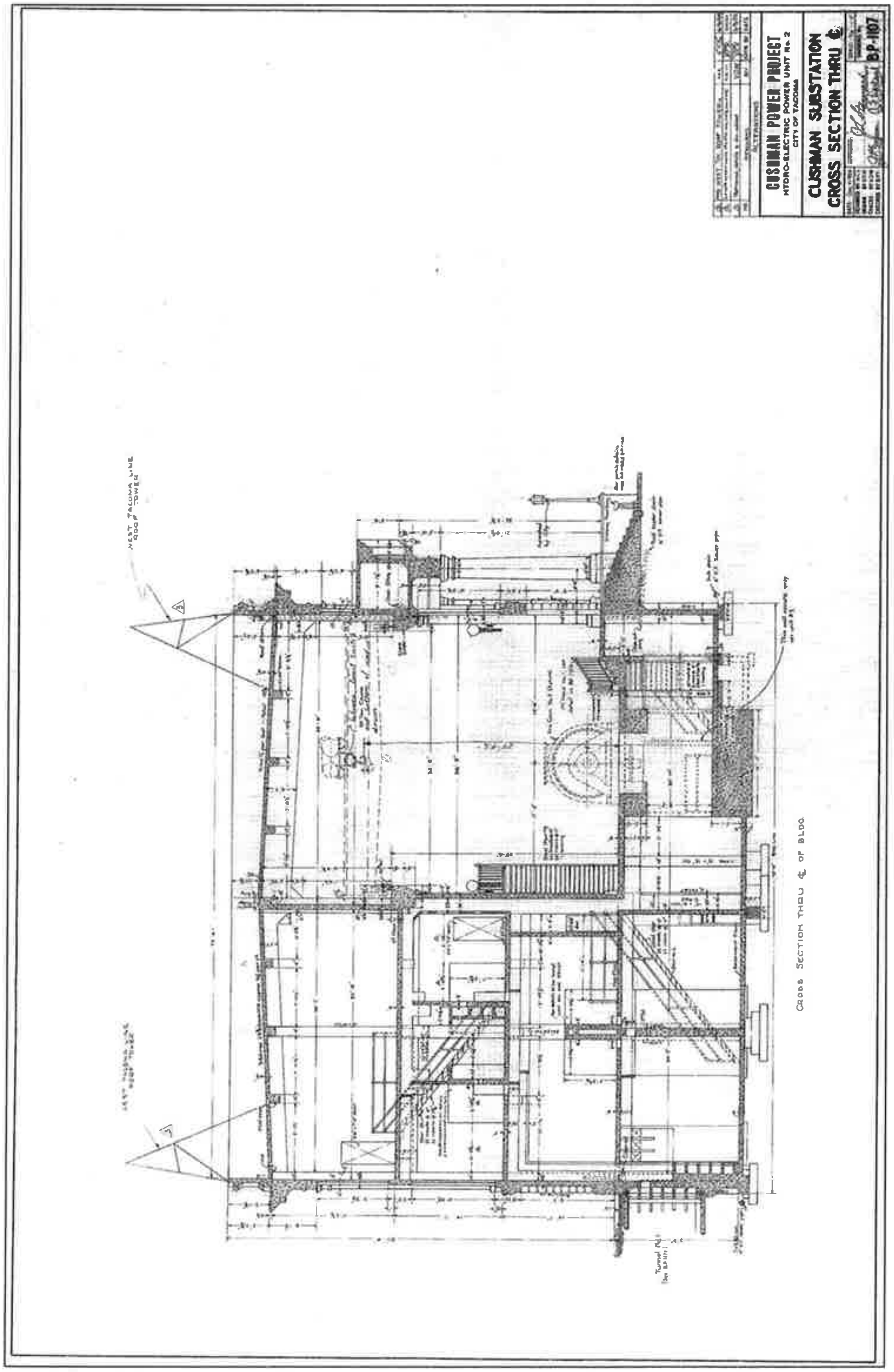


Figure 9. Design drawings of Cushman Substation, Cross Section through Center Line, December 1924. Image courtesy of Tacoma Power.

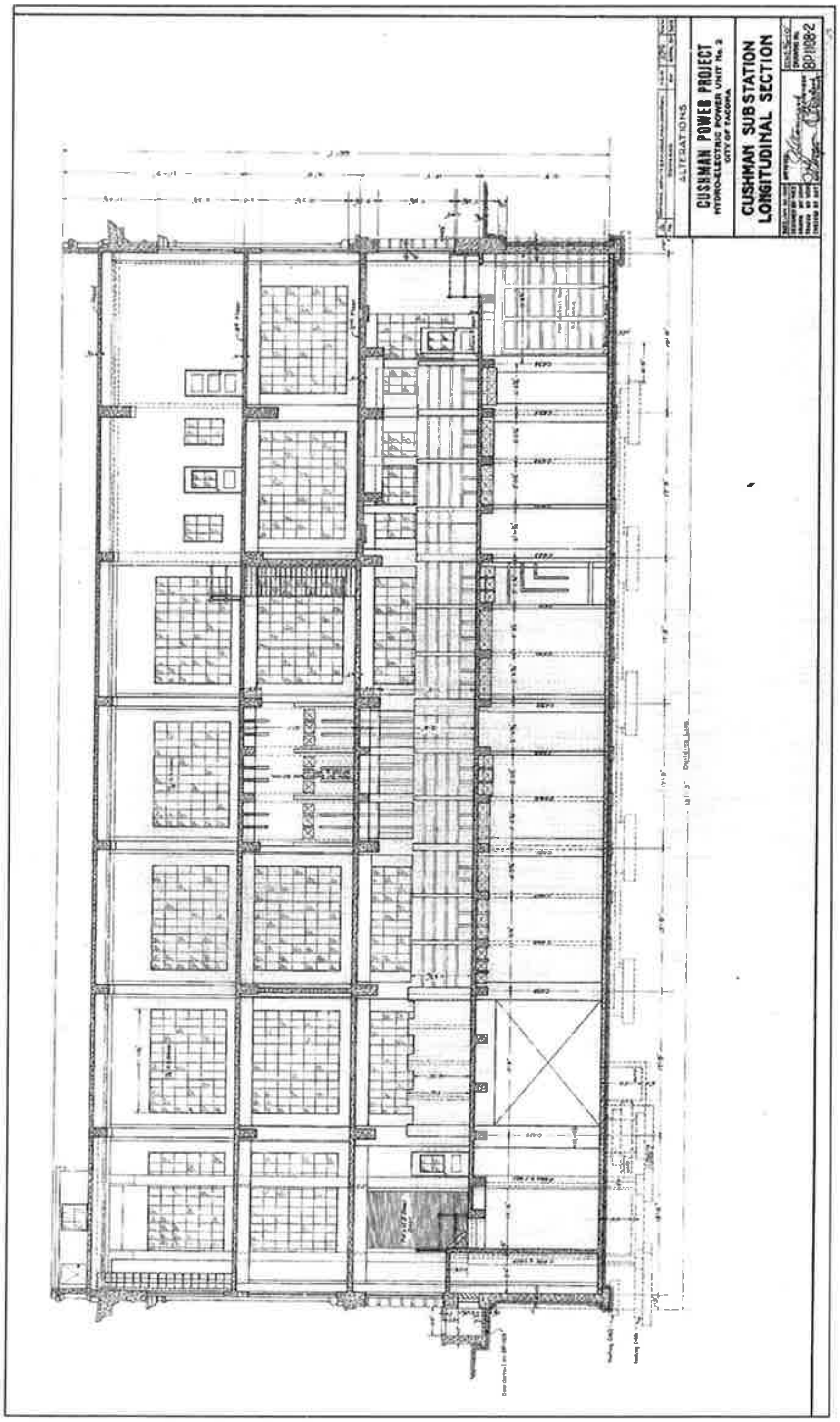


Figure 10. Design drawings of Cushman Substation, Longitudinal Section (with view to north exterior wall), December 1924. Image courtesy of Tacoma Power.

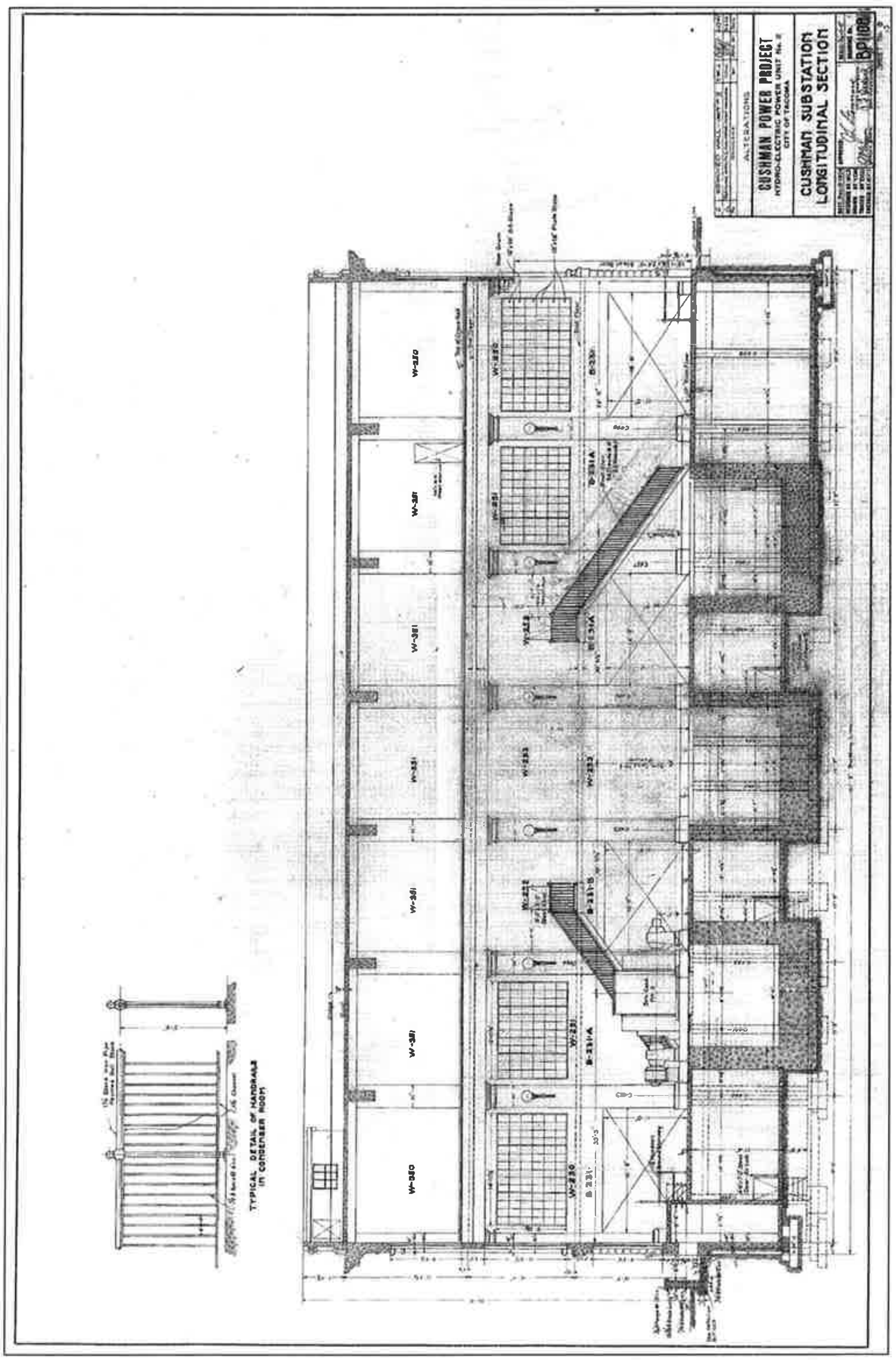


Figure 11. Design drawings of Cushman Substation, Longitudinal Section (with view to interior wall), December 1924. Image courtesy of Tacoma Power.

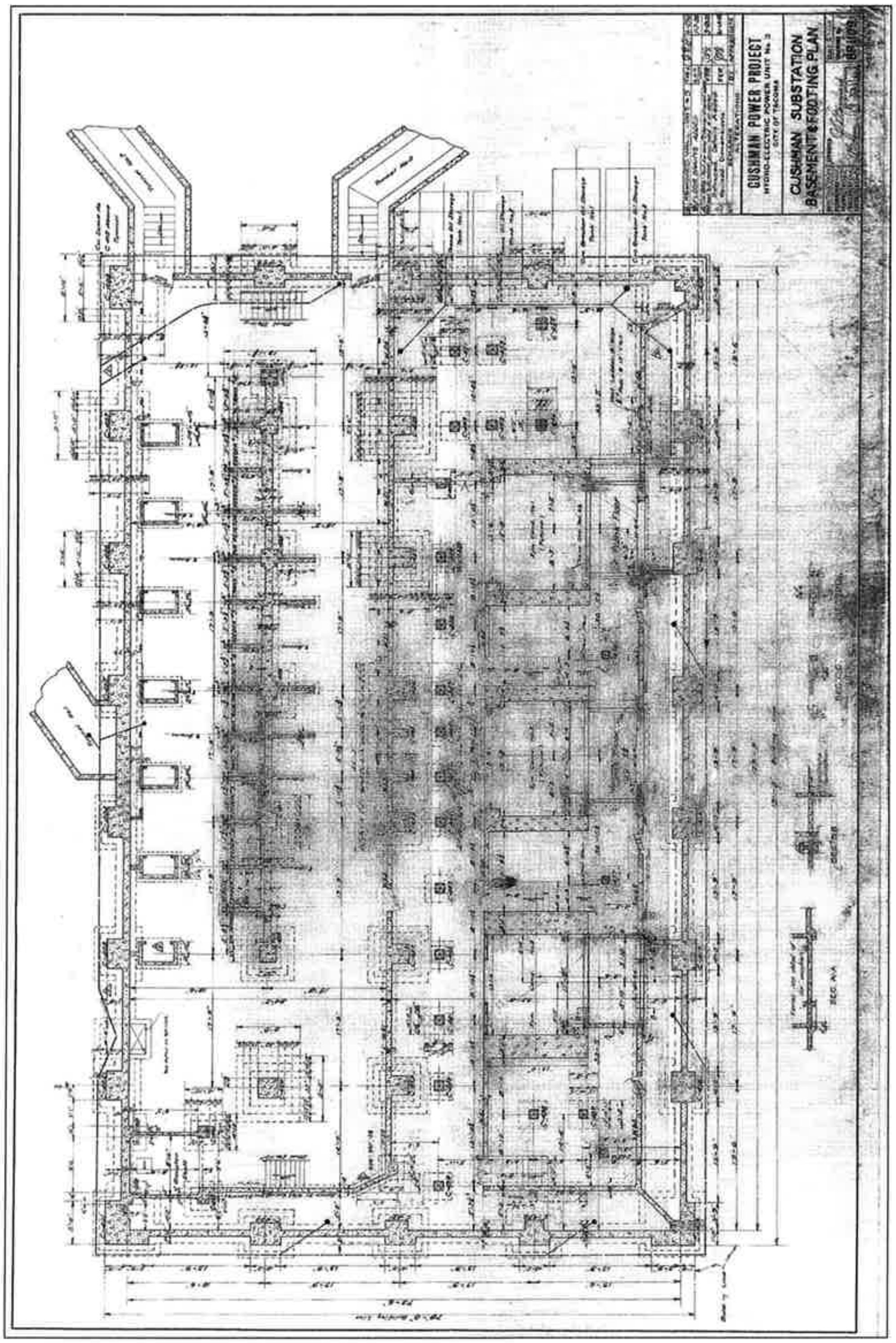


Figure 12. Design drawings of Cushman Substation, Basement and Footing Plan, December 1924. Image courtesy of Tacoma Power.

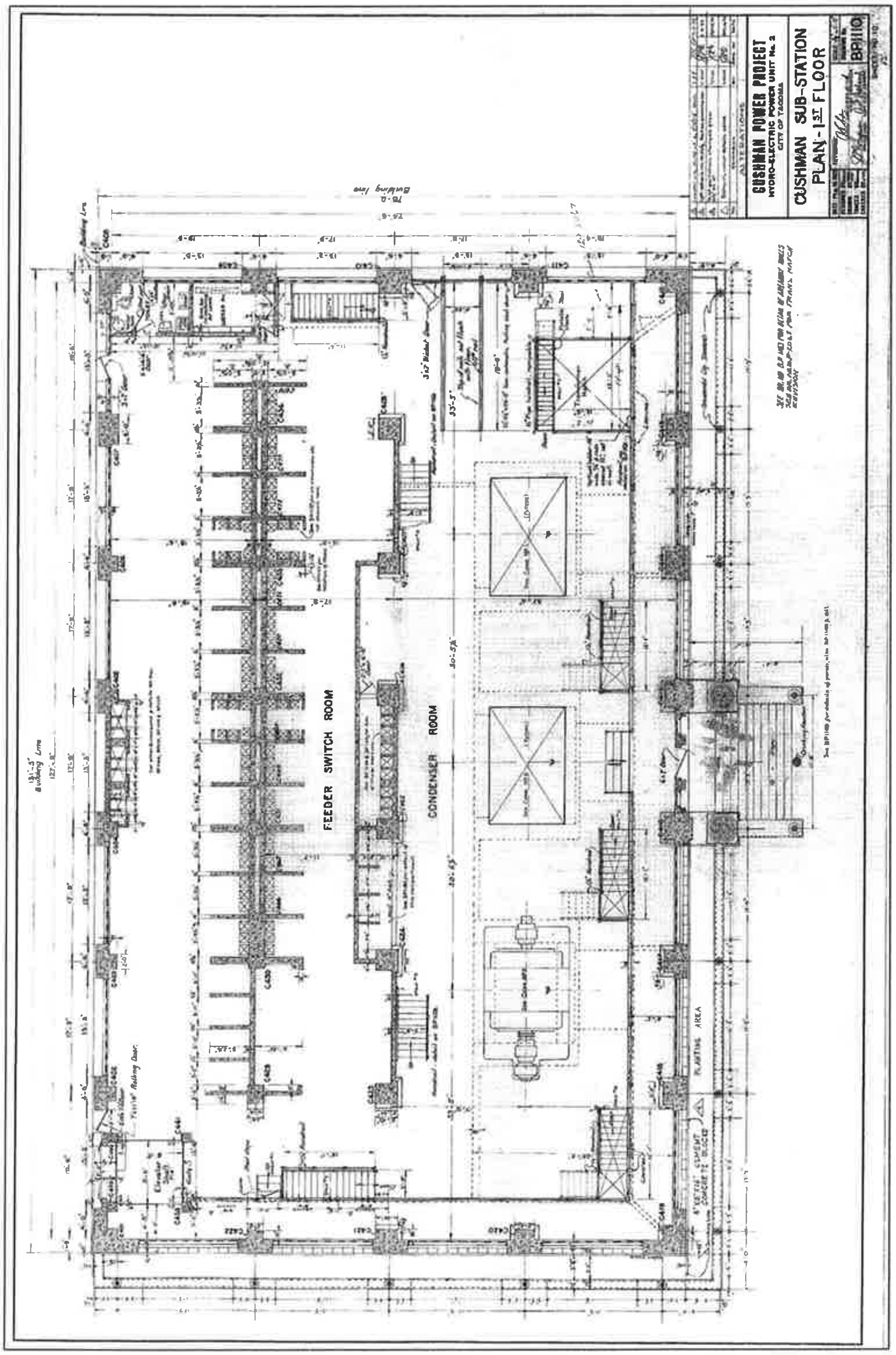


Figure 13. Design drawings of Cushman Substation, Plan of First Floor, December 1924. Image courtesy of Tacoma Power.

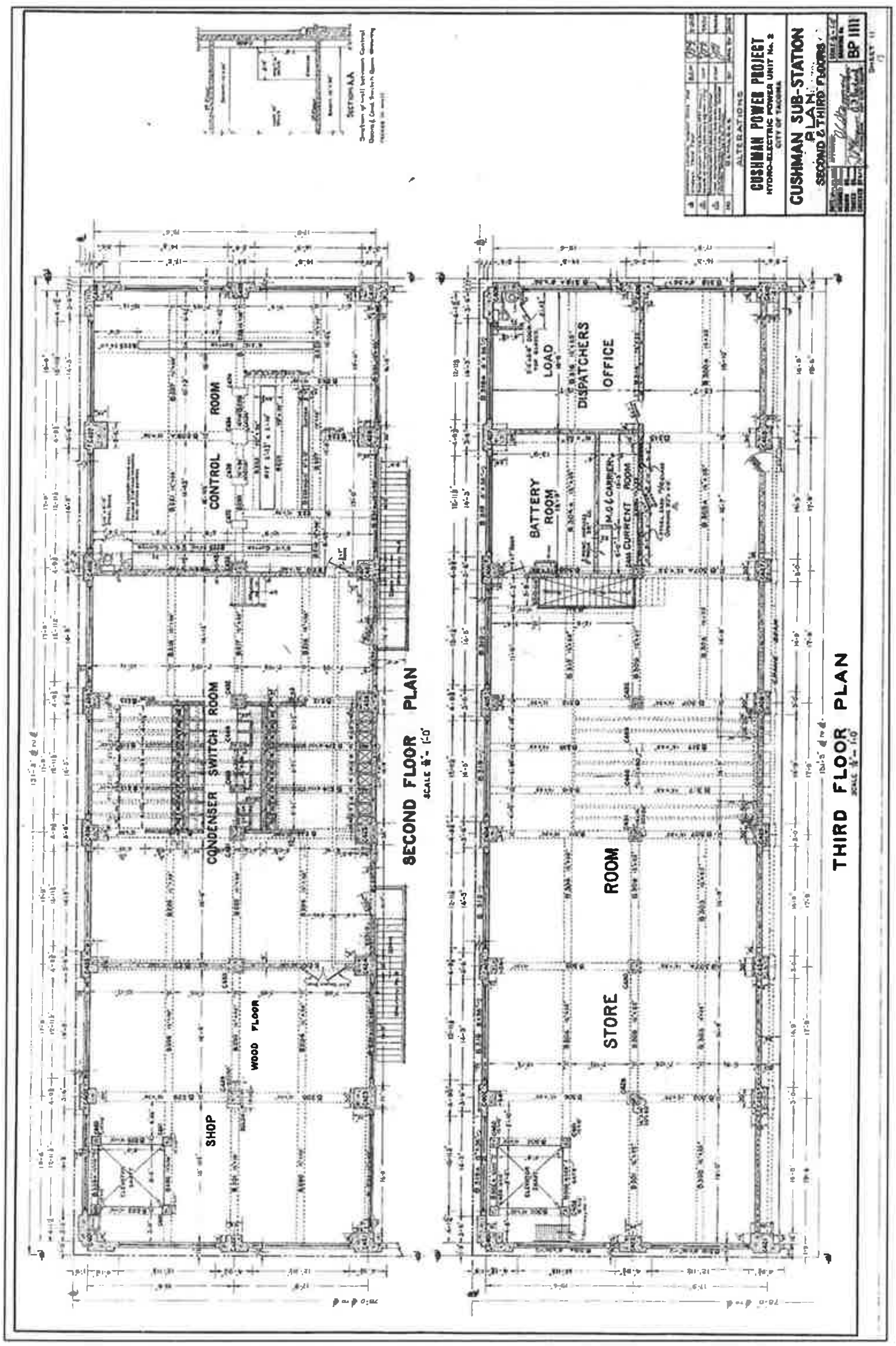


Figure 14. Design drawings of Cushman Substation, Plan of Second and Third Floors, December 1924. Image courtesy of Tacoma Power.

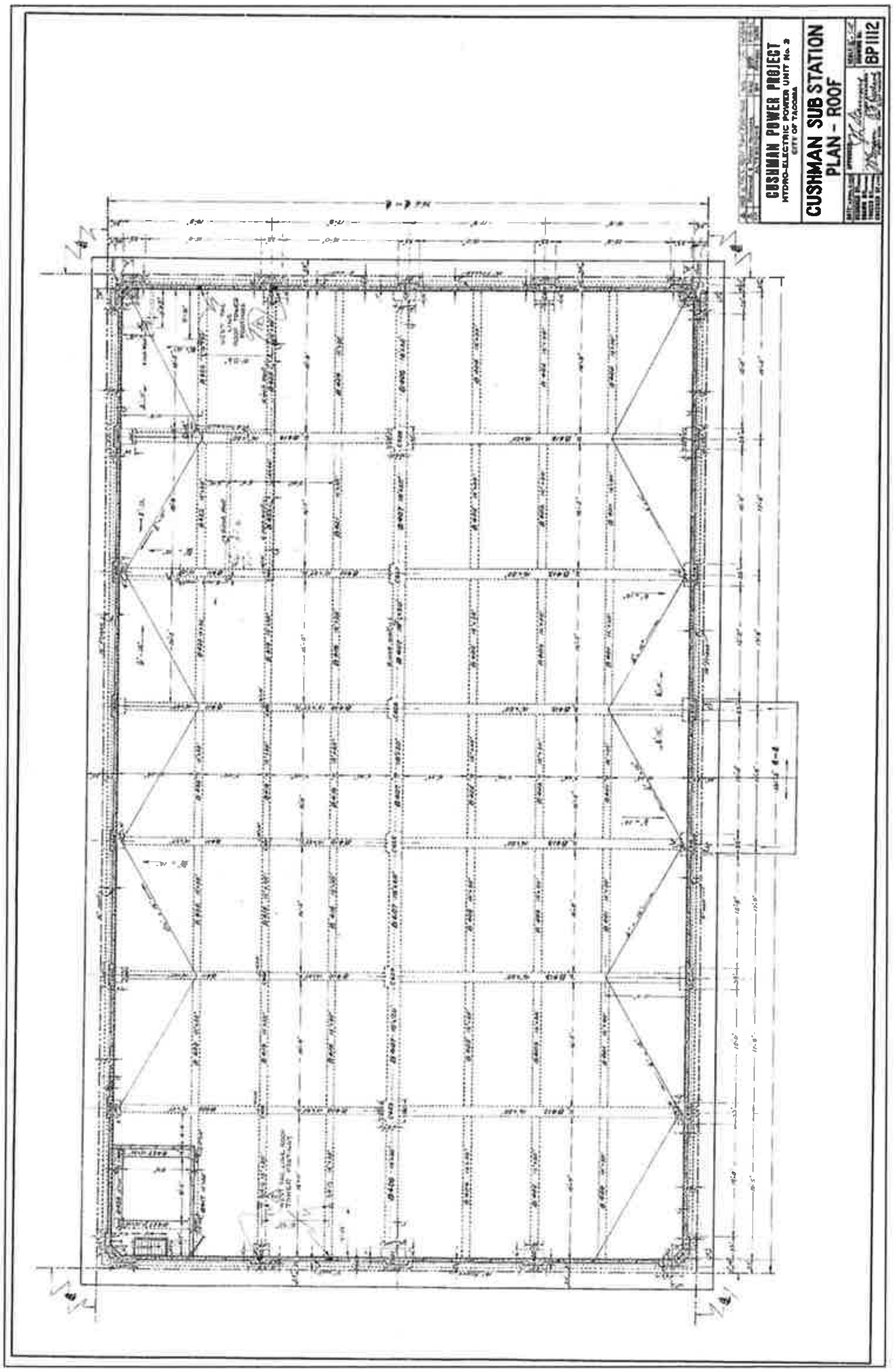


Figure 15. Design drawings of Cushman Substation, Plan of Roof, December 1924. Image courtesy of Tacoma Power.

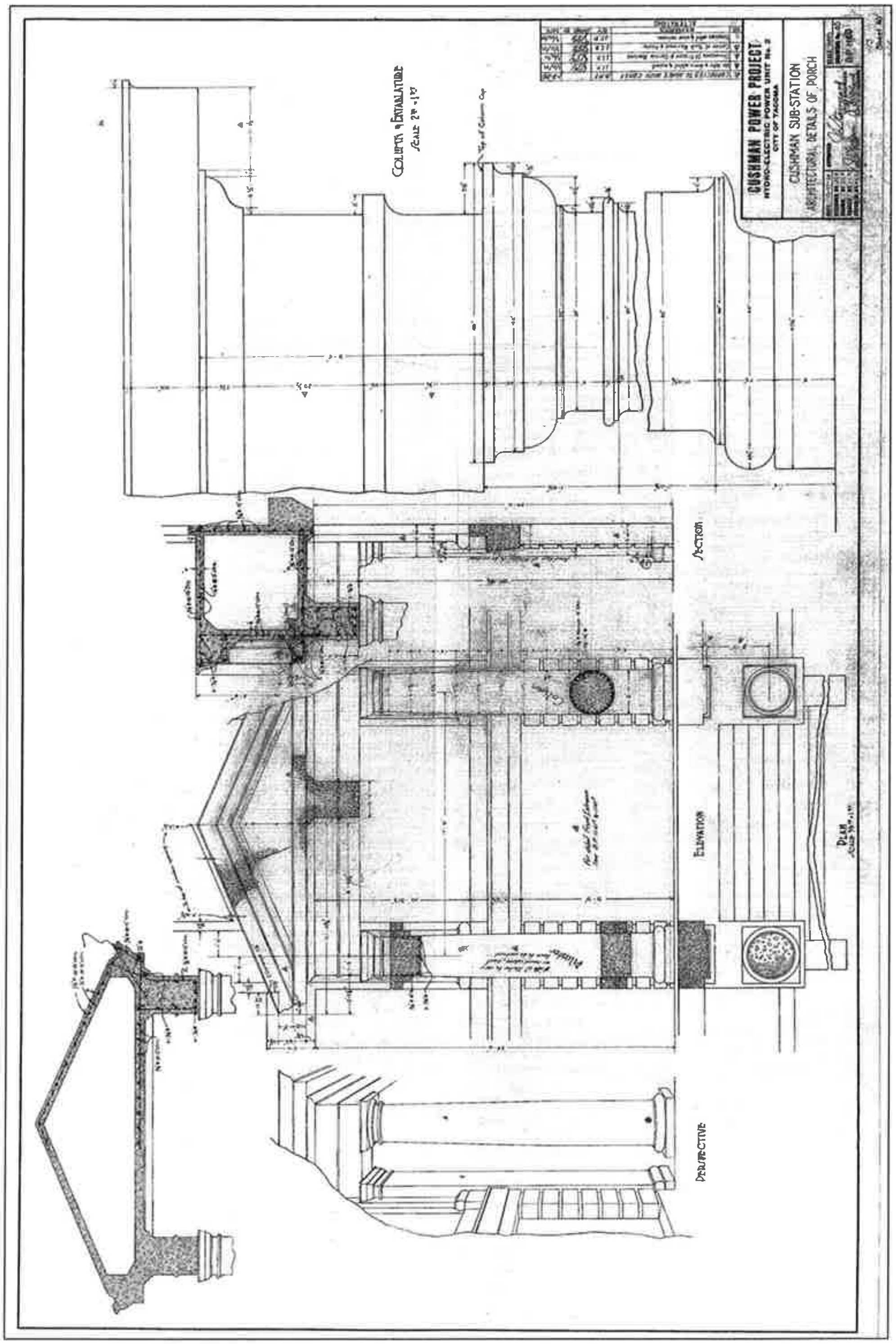


Figure 16. Design drawings of Cushman Substation, Architectural Details of Porch, December 1924. Image courtesy of Tacoma Power.

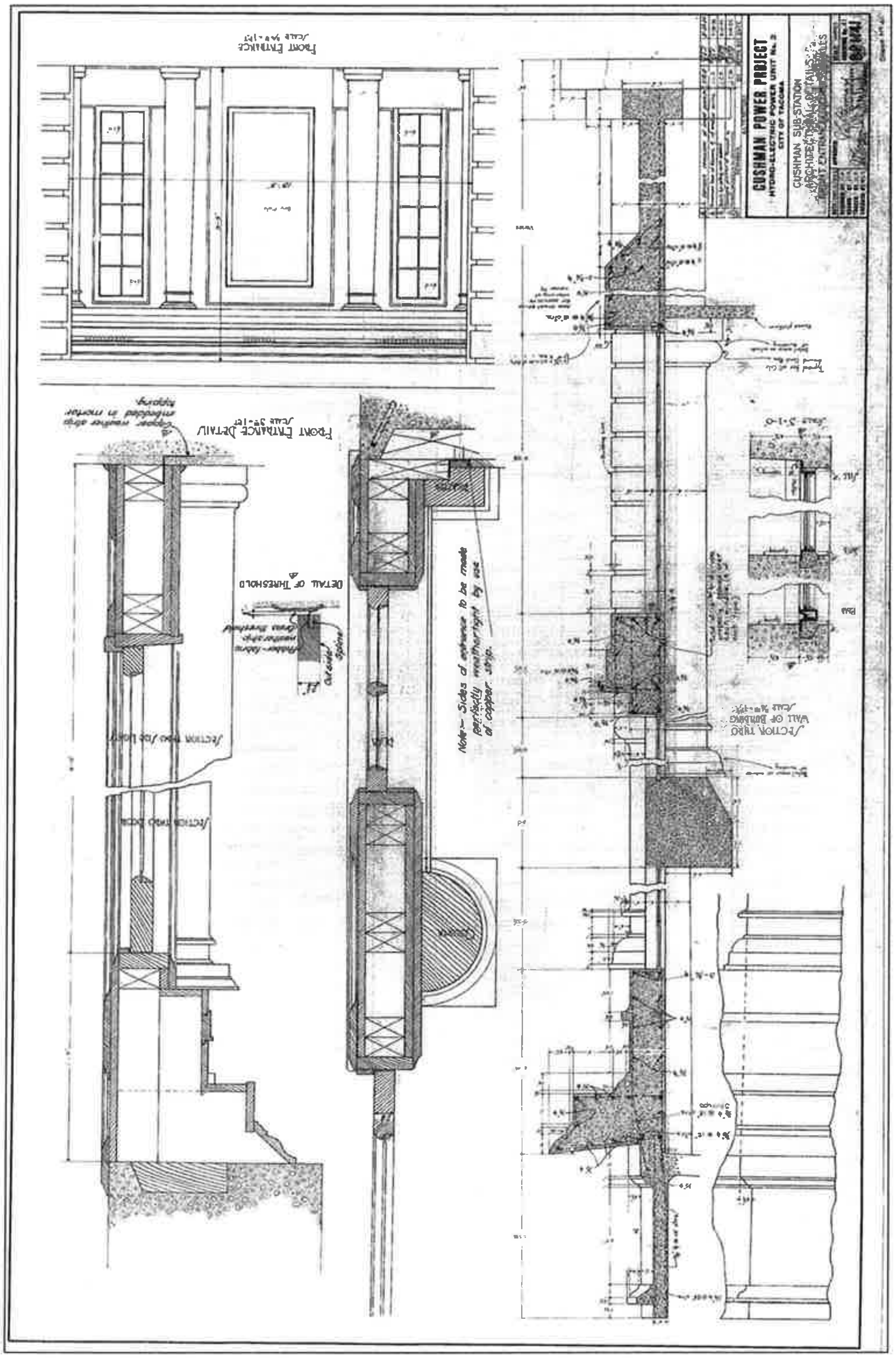


Figure 17. Design drawings of Cushman Substation, Architectural Details of Front Entrance Columns and Walls, December 1924. Image courtesy of Tacoma Power.

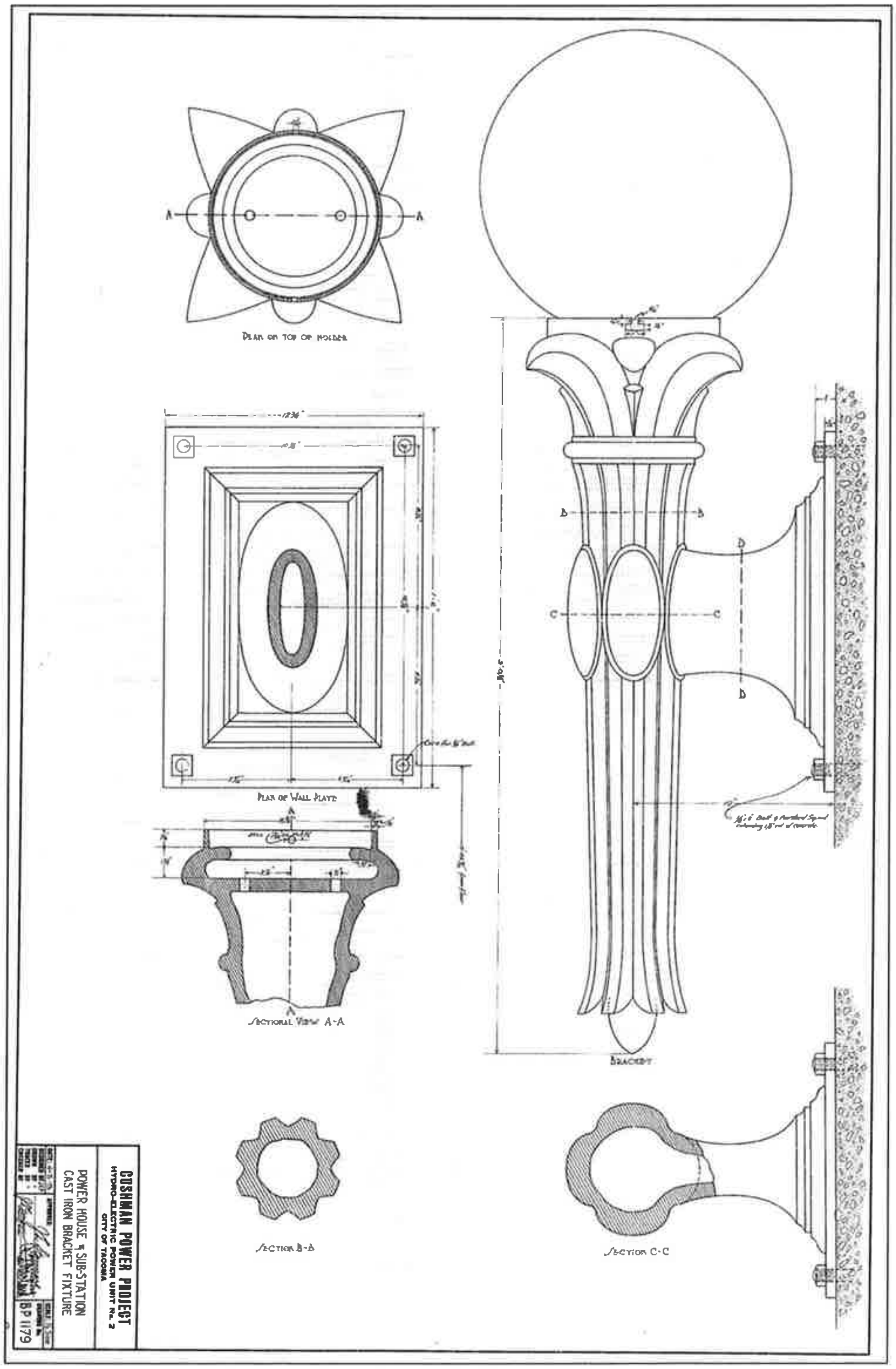


Figure 18. Design drawings of Cushman Substation, Cast Iron Bracket Fixture (lights), December 1924. Image courtesy of Tacoma Power.

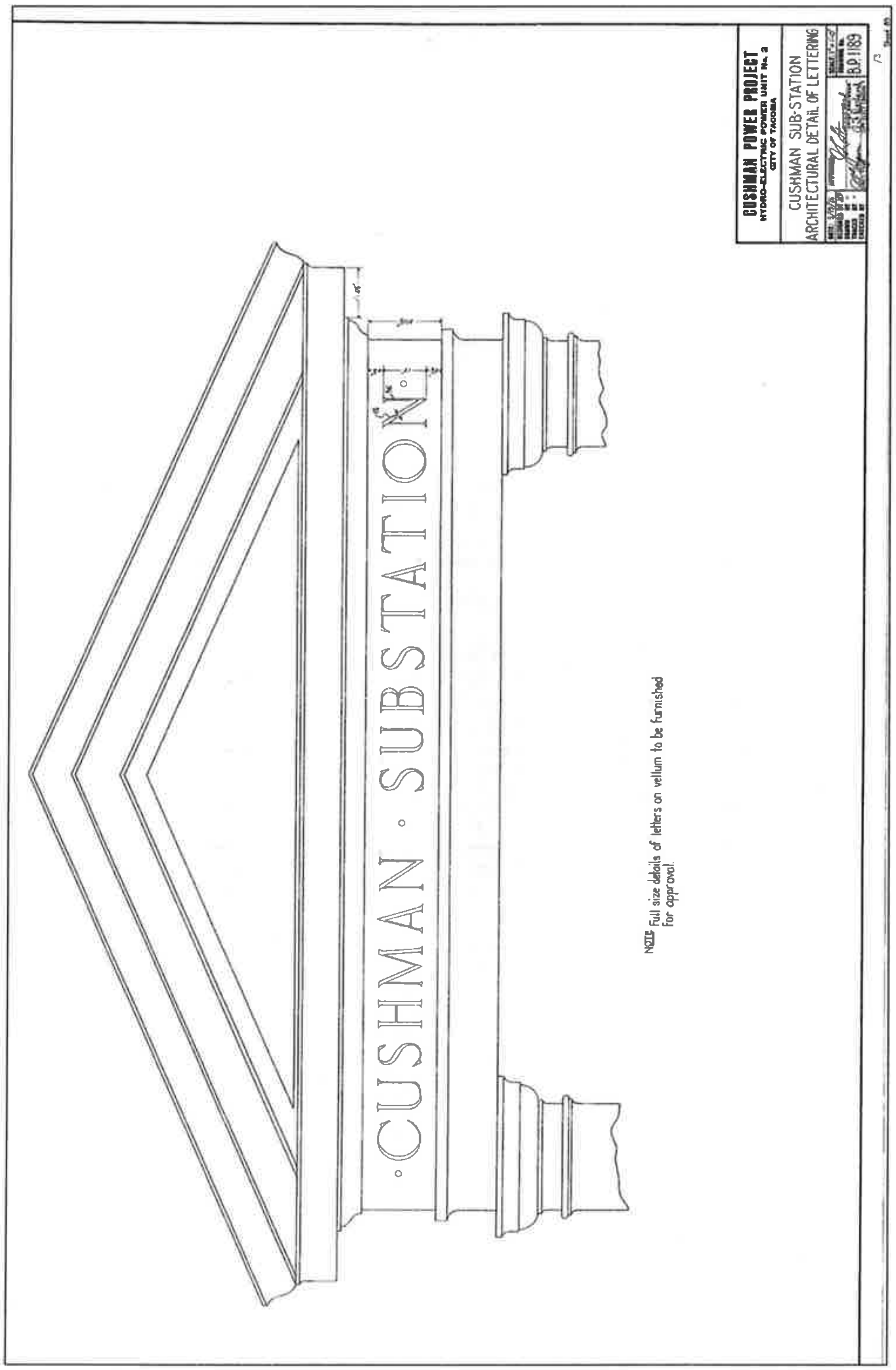


Figure 19. Design drawings of Cushman Substation, Architectural Detail of Lettering (over front entrance on south façade), December 1924. Image courtesy of Tacoma Power.

Photos Continuation Sheet:

PHOTOGRAPH LOG

Name of Property:	Cushman Substation
City:	Tacoma
County:	Pierce County
State:	Washington
Photographer:	Greg Rainka, M.A.
Date:	August 2011
Location of digital files:	Historical Research Associates, Inc. (Seattle, WA)

Photo 1 of 17. WA_PierceCounty_CushmanSubstation_0001. Cushman Substation, southeast oblique, viewing northwest.

Photo 2 of 17. WA_PierceCounty_CushmanSubstation_0002. View of the temple front entrance on the façade (south face) of Cushman Substation.

Photo 3 of 17. WA_PierceCounty_CushmanSubstation_0003. Southwest oblique of Cushman Substation, viewing northeast.

Photo 4 of 17. WA_PierceCounty_CushmanSubstation_0004. Northwest oblique of Cushman Substation, viewing southeast.

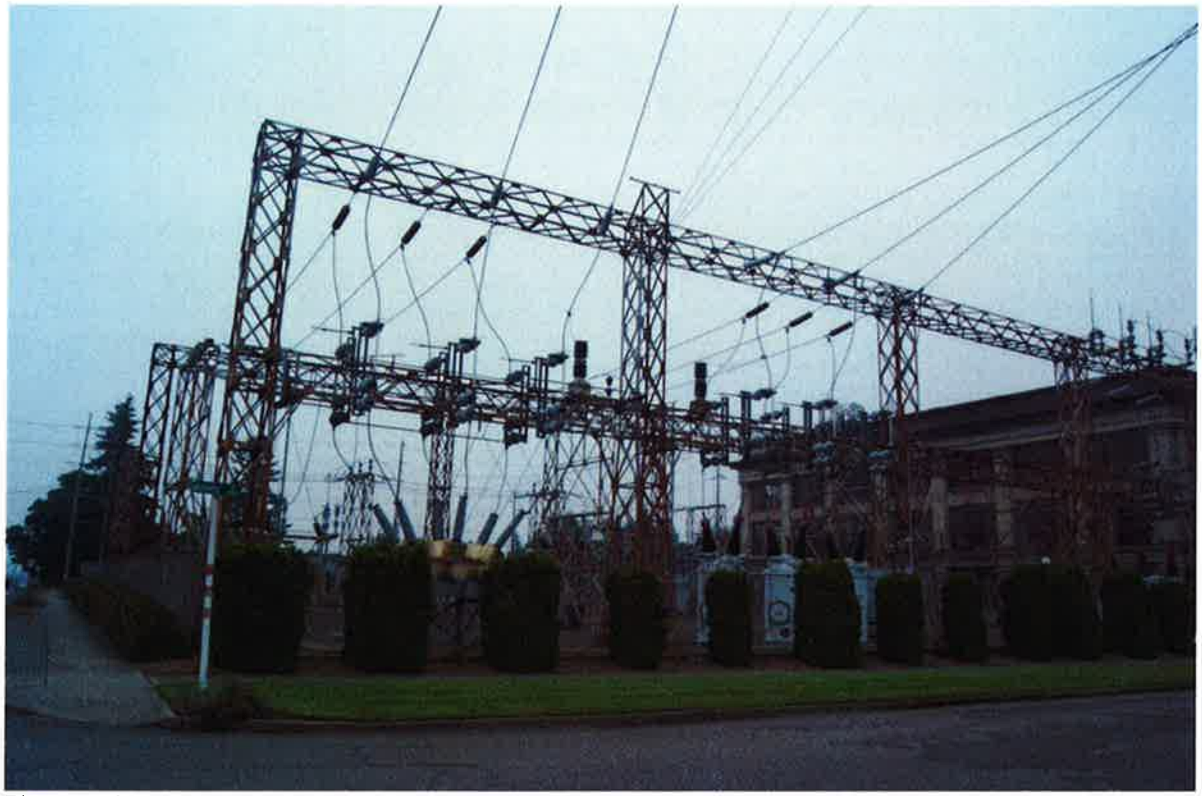


Photo 5 of 17. WA_PierceCounty_CushmanSubstation_0005. Viewing east to the exterior, modern switchyard (noncontributing) of Cushman Substation.

Photo 6 of 17. WA_PierceCounty_CushmanSubstation_0006. Viewing west to the exterior, modern switchyard (noncontributing) at Cushman Substation.

Photo 7 of 17. WA_PierceCounty_CushmanSubstation_0007. Northeast oblique of Cushman Substation, viewing southwest.

Photo 8 of 17. WA_PierceCounty_CushmanSubstation_0008. Detail of the original cast concrete lamp posts located on the northwest corner of Cushman Substation. The globes are modern plastic.

Photo 9 of 17. WA_PierceCounty_CushmanSubstation_0009. Interior of Cushman Substation, which is now used for storage. Note the decorative lighting, gantry crane (at ceiling), and voluminous interior space three stories high. Engaged pilasters are visible on both the south wall (pictured right) and interior wall (pictured left).

Photo 10 of 17. WA_PierceCounty_CushmanSubstation_0010. Detail of decorative light fixture at Cushman Substation.

Photo 11 of 17. WA_PierceCounty_CushmanSubstation_0011. Former control room at Cushman Substation. The equipment is modern, though the room retains its original function.

Photo 12 of 17. WA_PierceCounty_CushmanSubstation_0012. Second floor room at Cushman Substation, now used for storage.

Photo 13 of 17. WA_PierceCounty_CushmanSubstation_0013. Battery room at Cushman Substation.

Photo 14 of 17. WA_PierceCounty_CushmanSubstation_0014. Stair from second to third level at Cushman Substation.

Photo 15 of 17. WA_PierceCounty_CushmanSubstation_0015. Basement level of Cushman Substation.

Photo 16 of 17. WA_Pierce County_Cushman Substation_0016. First Tower as it leaves/enters substation

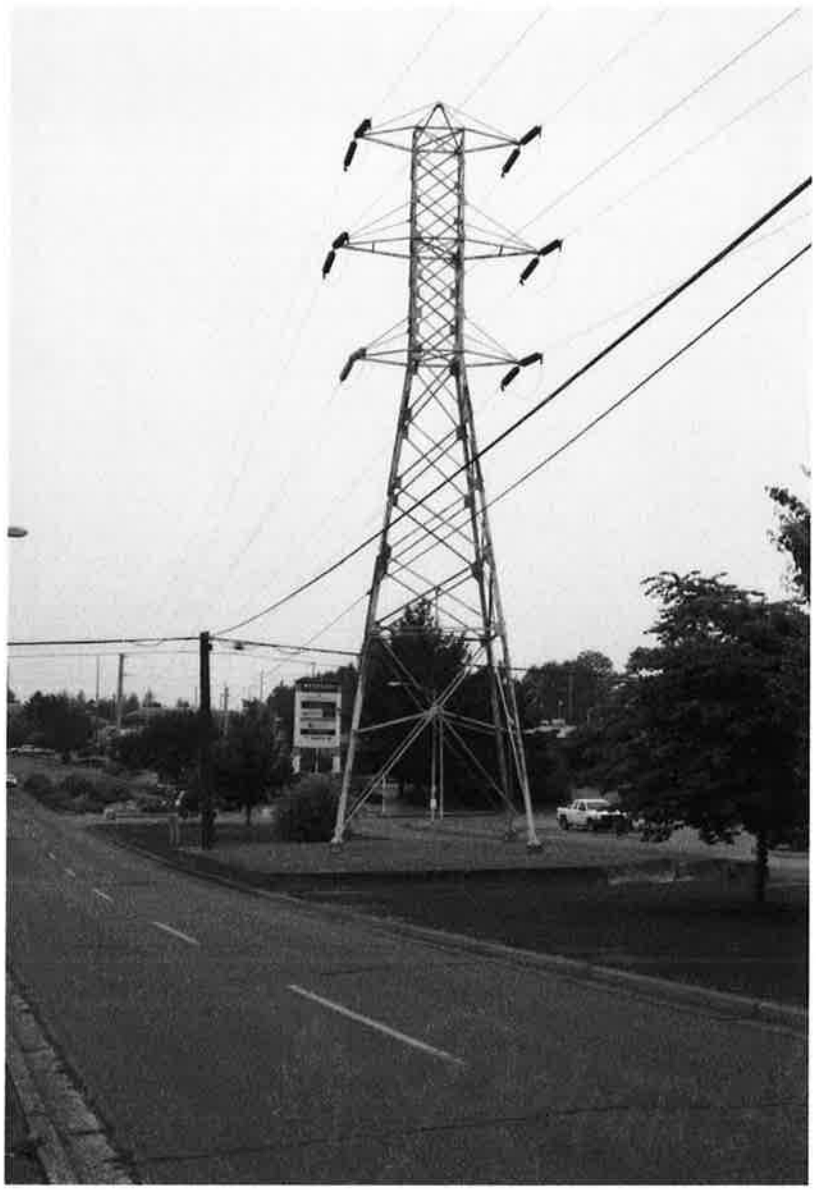


Photo 16 of 17. WA_Pierce County_Cushman Substation_0016. Typical Tower as traverses down N 21st St.

United States Department of the Interior
National Park Service

P10 1354

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property

historic name **Cushman Substation Amendment (Adams St. Substation)**

other names/site number ______

2. Location

street & number 1920 N Adams St. ☐ not for publication

city or town Tacoma ☐ vicinity

state Washington code WA county Pierce code 053 zip code 98406

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this _x_ nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property _x_ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___ national ___ statewide _x_ local

Applicable National Register Criteria

_X_ A ___ B _X_ C ___ D

Allyson Brooks 2-21-19

Signature of certifying official/Title Date

WASHINGTON STATE SHPO

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) ______

Signature of the Keeper Date of Action

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

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Applicable National Register Criteria

_X_ A ___ B _X_ C ___ D

Signature of certifying official/Title Date

WASHINGTON STATE SHPO
State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register ___ determined eligible for the National Register

___ determined not eligible for the National Register ___ removed from the National Register

___ other (explain:) ______

Signature of the Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply.)

	private
X	public - Local
	public - State
	public - Federal

Category of Property
(Check only **one** box.)

X	building(s)
	district
	site
	structure
	object

Number of Resources within Property
(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
1		buildings
		district
	1	site
		structure
		object
1	1	**Total**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

2

6. Function or Use

Historic Functions
(Enter categories from instructions.)

Government: Public Works

Current Functions
(Enter categories from instructions.)

Industry/Processing/Extraction: Industrial Storage
Vacant/Not in Use

7. Description

Architectural Classification
(Enter categories from instructions.)

LATE 19TH & 20TH CENTURY REVIVALS:
Classical Revival

Materials
(Enter categories from instructions.)

foundation: Concrete
walls: Concrete

roof: Concrete
other:

Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraphs

The Adams Street (St.) Substation and its surrounding parcel are located at 1920 N Adams St. in Tacoma, Pierce County, Washington, in the southeast quadrant of the northeast quadrant of Section 36, Township 21 North, Range 2 East, of the United States Geological Survey Tacoma North Quadrangle, Willamette Meridian. The Adams St. Substation, located west across N Adams St. from the Cushman Substation (3713 N 19th St.), is nominated as a functionally related unit to the Cushman Substation. The original nomination was accepted into the National Register of Historic Places (NRHP) in 2014 and contained a contributing building with a functionally related structure (the transmission towers), as well as a noncontributing structure (switchyard).[1] Subsequently the transmission towers have been demolished.

The City of Tacoma Light Department designed and engineered the Adams St. Substation and hired Dougan & Chrisman in 1925 to construct the substation. They put it into service in 1926, when electricity was first transmitted from the Lake Cushman Dam to the Cushman Substation (which, along with its noncontributing switchyard, encompasses an entire city block at 3713 N 19th St.).[2] The Adams St. Substation was designed as a transformer house for the Cushman Substation. A two-story, poured-concrete building facing east, the Adams St. Substation is a relatively small auxiliary building with a now-empty (except concrete pads surrounded by a chain-link fence) switchyard to its west. Like the Cushman Substation, the Adams St. Substation was constructed of board-formed concrete. The building is square, features differing fenestration patterns on each elevation, and is a modest example of Classical Revival architecture. The building's primary façade (facing east) features five bays defined by square pilasters; an off-center entry door; and a modest, three-part, concrete entablature. The building's primary characteristics include its geometric form and modest Classical Revival ornament, as well as its industrial character, visible in its multi-light, steel windows and system of louvered vents, which were designed to assist with passive cooling for the massive transformers the building originally housed.

Narrative Description

Site:

The Adams St. Substation faces east on N Adams St. on parcel 7475021883, a square parcel in the northeast quarter of the block bound on the east by N Adams St., on the south by N 19th St., on the west by N Proctor St., and on the north by N 21st St. The substation is located in the southwest quarter of the parcel. West of the substation is a gravel path leading between the substation and the former switchyard, which is roughly four times the size of the Adams St. Substation. North of the substation are ornamental plantings and a grassy lawn; on the parcel's northeast corner sits a large, steel lattice tower, a remnant of the former transmission system that is already listed as a contributing element to the Cushman Substation. East of the Adams St. Substation are additional plantings and grass. The parcel's south end includes a graveled parking lot and graveled alley running east–west between N Adams St. and N Proctor St. Sidewalks line the parcel's north and east sides.

Substation Exterior:

The Adams St. Substation is a square, two-story reinforced-concrete building topped by a flat roof with a metal monitor for ventilation. The building, while a modest example of Classical Revival style, has a simple, concrete foundation (not an accentuated base, as is found on many similar buildings). A modest entablature at the roofline tops the building's concrete walls.

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[1] Natalie Perrin, "Cushman Substation," National Register of Historic Places nomination form, March 17, 2014, National Park Service, Washington, DC, http://www.dahp.wa.gov/sites/default/files/WA_PierceCounty_CushmanSubstation_FINAL.pdf. As confirmed by the National Park Service, the Cushman Substation was accepted into the National Register of Historic Places on December 29, 2014, https://www.nps.gov/nr/listings/20150109.htm.

[2] As noted in the original Cushman Substation nomination, the City of Tacoma's Light Department was operating under the name Tacoma City Light by 1915, a name it would maintain until 1989, after which the organization continued doing business under the name Tacoma Power. The Adams St. Substation plans from 1925 still referred to "City of Tacoma Light Department."

The Adams St. Substation's façade is divided into five bays by six squared, concrete pilasters with no ornament at their bases or capitals. The building's entablature consists of a projecting architrave, no ornament in the frieze, and a simple projecting cornice with modest crenulation above. The building's façade includes no other ornament.

The primary entry to the Adams St. Substation is located in the façade's southernmost bay. Slightly recessed, the wood-paneled door is paired with a shallow concrete stair with no railings. Moving north, the second bay includes a single steel-framed nine-light window with a louvered vent above. The windows are boarded up, presumably to deter break-ins. The northern three bays include large, louvered vents directly below the cornice in each bay. Plywood covers large openings beneath the vents that were originally screened for ventilation.

Five square concrete pilasters divide the building's south elevation into four bays. The eastern bay includes a steel vent stack that projects from the wall surface and rises above the roofline. The two central bays include small, louvered vents in their bottom halves. Above are rows of projecting steel eye bolts and severed tubes, associated with connections for the former transmission system. The westernmost bay includes two plywood-covered windows. The lower window is a six-light, steel-framed window. The upper is a nine-light, steel-framed window. Both include projecting concrete sills.

The building's west elevation includes five bays defined by six square concrete pilasters and an exterior concrete stairway with pipe railings leading to a subterranean, steel entry door topped with a transom (covered with plywood) on the southwest corner. Above it, in the southernmost bay, is a nine-light, steel-framed window topped by louvers. The second bay has a similar window above and a six-light, steel-framed window below. A metal awning tops the lower window. All windows include concrete sills and are covered in plywood. The final three bays each include large, louvered vents directly below the entablature. Plywood covers large openings in the walls below the vents that were originally screened to provide ventilation.

The building's north elevation is divided into four bays by five square, concrete pilasters. The two central bays each include narrow, paired wood doors (covered in plywood) topped by a three-light transom. Each double door is accessed by a shallow, single, concrete stair.

Interior:
The building includes internal divisions that are not visible from the exterior: the building's south end is divided into two floors, one partially submerged by roughly 5.5 feet (7 feet with the foundation). The building's north end is a single, ground-level story. Metal stairs or ladders provide access between floors. Building plans from 1925 refer to the building's lower story on the south end as the regulator room and upper story as the switch room. The building's northern end, divided into two rooms by a north–south concrete wall, was referred to collectively as the transformer rooms.[3]

Regulator room: A single, open volume, the regulator room includes a concrete floor and board-formed concrete walls and ceiling (concrete left in its natural state after the removal of board forms). The room is accessed from the primary entry door on the east elevation, which leads to a metal-grate platform and metal ladder against the south wall that provides access down to the floor itself. As of this writing, the room is used for storage. From the interior, it is clear that original doors and steel-framed windows remain in place, although the windows, generally filled with safety glass, are damaged and boarded over. Although the building no longer includes any of the mechanical systems typically found in a substation, steel-doored electrical panels and connectors installed in the ceiling between the two floors remain visible.

The switch room, located above the regulator room, is also accessed by the primary door, which includes a stair from the entry platform to the second floor. The room is an open volume with board-formed concrete walls and ceiling and connectors projecting through floors and walls. A former electrical panel is located on the east wall.

The switch room provides access to the transformer rooms, which are located in the northern half of the building. A doorway in the switch room's northern wall leads to a metal stair descending a half-story to the first transformer room. Like the rest of the building, the transformer room is mainly empty, with concrete floors, board-formed concrete walls and ceiling, and some stored materials. From the interior, it is clear that double wood doors, safety-glass windows, wood-framed transoms, metal-screened panels, and steel louvers remain in place. A partial concrete room divider extends from the room's northern wall. Additional remnants of the building's former systems are visible in the severed tubing, eye bolts,

[3] City of Tacoma Light Department, Adams St. Substation, Reinforced Concrete, May 7, 1925, rev. March 6, 1974, Tacoma Power Headquarters, Tacoma, Washington (hereafter Tacoma Power).

and ceramic insulators that extend from the walls and ceiling and the opening in the ceiling that accessed the roof monitor (vent).

Accessed through a door near the building's north end, a second transformer room is located north of the first. The second transformer room is similar to the first, constructed as an open volume with concrete floor and board-formed concrete walls and ceiling. An opening in the ceiling accesses the roof monitor (vent). As in the first transformer room, windows, metal screens, and other original materials remain in place behind plywood.

2. Adams St. Substation Yard (noncontributing)

The substation switchyard is a level, square, graveled yard surrounded by a tall, chain-link fence with swinging doors on its southeast corner. Otherwise bare, one large concrete pad sits above the gravel surface. Planting strips along its perimeter with mature foliage obscure the fence and switchyard from view. Engineering plans and historical photographs show the switchyard as not original to the site but constructed sometime between 1962–1963; however, research could not confirm the precise timeframe of the switchyard's construction. Based on its estimated date of construction, the former switchyard does not appear to be functionally related to the Cushman Substation or the Adams St. Substation during the period of significance (1926–1949).[4]

[4] City of Tacoma, Department of Public Utilities, Light Division, Adams Street Substation Site Plan, 1962, Tacoma Power.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property 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 represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)

Community Planning and Development

Architecture

Period of Significance

1926–1949

Significant Dates

1926: Date of Construction

1949: Date power was rerouted

Significant Person
(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

Nightingale, Richard T. (Designer)

Ballock, Ralph H. (Designer)

Statement of Significance Summary Paragraphs
(Provide a summary paragraph that includes level of significance and applicable criteria.)

The Adams St. Substation, located west across N Adams St. from the Cushman Substation (3713 N 19th St.), is nominated as a functionally related unit to the Cushman Substation. The original nomination was accepted into the National Register of Historic Places (NRHP) in 2014 and contained a contributing building (the main substation) with a functionally related structure (the transmission towers), as well as a noncontributing structure (switchyard). Subsequently the transmission towers have been demolished.

Overall, the Cushman Substation is defined as "the urban embodiment of the City of Tacoma's achievement in hydroelectric power production" as it "housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand."[5] Eligible for listing in the NRHP at the local level for significance under Criteria A (associations with broad patterns of history) and C (an example of monumental Neoclassical Revival architecture), the Cushman Substation was listed with a period of significance dating from its completion in 1926 to 1949, when the transmission line was rerouted to terminate at Tacoma's Pearl St. Substation.

Although the Adams St. Substation was not included in the original nomination, it is significant as a functionally related unit to the Cushman Substation, as it was also critical to the efficient and economical distribution of electricity. The Adams St. Substation, constructed in the same year as the Cushman Substation and designed by engineers and draftsmen in the City of Tacoma's Light Department, was the first district substation constructed to serve the Cushman Substation. It was the final stop in a long journey between Lake Cushman and the Tacoma City Light customer. Electricity traveled from Lake Cushman to the Cushman Substation and then to the Adams St. Substation, where it was stepped down to a safe and efficient voltage for delivery to local homes and businesses. Access to inexpensive, reliable power was a significant catalyst for Tacoma's twentieth century growth and development. As such, the Adams St. Substation is significant under Criterion A for its association with broad patterns and trends in local history and deserves to be recognized along its neighbor and partner in power distribution, the Cushman Substation.

Although the Adams St. Substation does not possess the high-style architectural character of the Cushman Substation, it was designed to complement the Cushman Substation, featuring similar Classical Revival massing and incorporating many of the same materials as its larger counterpart, including board-formed concrete surfaces, classically defined bays, pilasters, and steel-sash windows. As a functionally related unit to the Cushman Substation, the Adams St. Substation is significant under Criterion C as an example of its type. Like the Cushman Substation, its period of significance dates from its completion in 1926 to the rerouting of the system in 1949.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Criterion A:
The Adams St. Substation, added here to the nomination for the Cushman Substation, was the first distribution substations constructed as a tool for distributing power from the Cushman Substation to local customers. As noted in the original nomination, the Cushman Substation was designed by Portland and Seattle architectural firm Dougan & Chrisman as an impressive three-story building in a refined Neo-Classical Revival style. The power that entered the Cushman Substation at 100,000 volts was there stepped down to 50,000 volts and then down to 13,500 for distribution. Cushman could distribute power throughout the system at 13,500 volts, but for distribution to local residence or business, power needed to step down even further. The Adams St. Substation was a necessary intermediary between Cushman and the local power customer, as it staved off the tremendous power loss that occurred when high-voltage electricity was sent from a large, central substation like Cushman throughout a local 4,000-volt distribution system. As cost and reliability were key components of Tacoma City Light's plans, adding the Adams St. Substation to the distribution system ensured that power traveling through the city's distribution system was not lost en route. Furthermore, as electricity traveled through the distribution system at a lower voltage, equipment did not have to be of the high-voltage variety.

[5] Perrin, "Cushman Substation," 8-1.

While the Cushman Substation was under construction in 1925, engineers and draftsman at the City of Tacoma Light Department worked to design this final piece of the distribution puzzle, the smaller Adams St. Substation to be located across Adams St. from the Cushman Substation. The Adams St. Substation was constructed from their plans on a lot one-quarter the size of the Cushman Substation lot. Once completed, it took electricity from the Cushman Substation and stepped it down even further to 4,000 and 1,000 volts for residential and industrial use. Electricity was sent through the city's distribution system by the Adams St. Substation, and then small transformers attached to power poles stepped the electricity down once more for personal use, either to "120, 240, or 480 volts, depending upon the particular situation encountered."[6] The two stations were connected by cabling run through an underground trench, and with the Adams St. Substation in place, the Cushman Hydroelectric Project was able to function at peak efficiency, transforming the energy from Cushman's power plant into safe electricity for distribution to light residences, run shops and storefronts, and power local industries.[7] While the Cushman Substation reportedly cost roughly $500,000 to build, the Adams St. Substation was estimated to cost only $75,000.[8]

The Adams St. Substation was the first of the "distribution" substations built for the Cushman Hydroelectric System. It was constructed as a small concrete building in 1925 and was delivering power to the surrounding residential district by November of that year, even ahead of the Cushman Substation's grand opening in March 1926. Ultimately, the Adams St. Substation served the Cushman Substation in two ways: it stepped the Cushman substation's voltage down for the local customer, and it distributed power throughout a network of other distribution substations at 13,500 volts when it was tied to the system's second distribution station at N 45th St. and Gove St.[9]

While the Adams St. Substation's primary significance comes from the role it played in the efficient and safe distribution of electricity (no need for high voltage power lines throughout the city), it is also associated with trends in substation design and beautification. Plantings around the boundaries of the switchyard and the substation give the substation's parcel a park-like appearance. The landscaping onsite, which shields much of the building's façade and north elevation and presents a well-managed greenspace to traffic along N 21st St., is similar to that which cloaks Cushman's switchyard.

In 1927, nearby residents complaining of the noise and "unsightliness" of the switchyard associated with the Cushman Substation brought a suit against Tacoma City Light. While the judge in that suit failed to award damages for the "unsightliness" of the substation in a residential area, he did award damages for noise, as all of the substations emitted a regular hum. To appease nearby property owners, the City of Tacoma not only performed experiments and learned to control the sound emanating from its substations but also launched an effort to beautify the site, grading the streets, creating "ornamental fences" of live plants around the switchyards, and establishing lawns and plantings on the grounds that would grow to screen portions of the development.[10] The results of those efforts almost a century ago continue to characterize the parcel around the Adams St. Substation and the Cushman Substation today, providing Tacoma with parklike settings.

Once completed and adorned by a landscaped site, the Adams St. Substation not only helped provide power to local homeowners and businesses throughout the City's distribution system but also powered public amenities for which Tacoma became known. By 1929, Tacoma City Light managed a distribution system covering approximately 25 square miles (mi), with 16,000 power poles and 3,000 mi of conduit running between them. The poles were primarily placed in alleys throughout the city, ostensibly to leave city streets clear, "materially assisting

[6] Ira. S. Davisson and Llewellyn Evans, *1928–29 Information Book*, City of Tacoma Department of Public Utilities, Light Division, 44, Tacoma Public Library, Tacoma, Washington (hereafter TPL).
[7] Ira. S. Davisson and Llewellyn Evans, *Report and Information Book of the Light Department of the City of Tacoma for the Years 1924–1925*, 23, TPL.
[8] "Getting Ready to Receive Cushman Current," *Tacoma Sunday Ledger*, October 11, 1924, Clippings Scrapbook, Tacoma Public Utilities Collection (hereafter TPU Collection), Washington State Archives-Puget Sound Regional Branch (hereafter PSRA).
[9] Davisson and Evans, *Report . . . for the Years 1924–1925*, 25.
[10] "Engineers Succeed in Silencing Noise at City Substation," *Tacoma Ledger*, August 28, 1927, Clippings Scrapbook, TPU Collection, PSRA.

in the creation of the 'City Beautiful.'"[11] By 1929, Tacoma's citywide electricity-distribution system allowed it to become an early leader in streetlighting, which had been found to decrease crime and accidents. By that year, the city boasted 530 arc lamps on cast-iron standards lighting the streets in downtown Tacoma. The outlying business district and residential districts included another 4,645 streetlights, installed in a staged pattern of four lights per block: "ornamental units consisting of series tungsten lamps in pear-shaped Monax globes mounted eleven feet above the walk on concrete standards."[12] As with the Cushman Substation, the Adams St. Substation served Tacoma's streetlighting program, ensuring that the city was both safe and well-lit.

Although Tacoma's growth in power consumption was modest during the Great Depression, directly after the Cushman and Adams St. Substations were constructed, Tacoma City Light continued to improve its transmission and distribution system. With the success of the Cushman and Adams St. Substations, Tacoma's urban distribution system included a second primary substation like Cushman and six secondary substations like the Adams St. Substation by 1933. By 1939, the system had grown to include fourteen secondary substations, with more on the way. One secondary substation in South Tacoma served Western Washington State Hospital, Fort Lewis, McChord Field, and the Veteran's Hospital, a system further supported by a Spanaway Substation. Additional secondary substations at Henderson Bay, N K St., and N 45th and Gove streets served the surrounding city, while the Old Tacoma Substation provided power for the flour mills and other industrial users along Tacoma's waterfront. Additional substations served south and west Tacoma.[13]

Industrial development throughout the Puget Sound ramped up during the run up to World War II. By the end of the war, it was clear that Tacoma City Light needed a strategy to face increasing demand. Between 1943 and 1953, Tacoma City Light implemented a plan designed to provide each area of the city with substations located at or near the center of every square mile of its service area. Called "unit" or "package" substations, the new stations were a departure from monolithic substations like Cushman and even Adams St. Designed to fit compactly into developed areas (residential, commercial, and industrial), the substations were unobtrusive and included underground feeders. During these years, Tacoma City Light prepared to increase its system from what had grown to 16 distribution substations with a total capacity of 76,000 kva to 47 distribution substations, 42 of which would be compact "package" substations with a total capacity of 190,000 kva.[14]

By 1949, the system's redesign allowed for power to be rerouted away from the Cushman Substation, and, presumably, away from the distribution substation at Adams St., leaving the buildings separate from Tacoma's upgraded transmission and distribution system.

In the intervening years, Tacoma City Light used the Adams St. Substation for storage, removing the transformers and other electrical equipment that regulated electricity. While the building's interior no longer contains operating electrical equipment, the building's exterior remains relatively intact, featuring the original materials, finishes, and features with which the building was constructed. Many of the building's original openings (including many original windows and screens) have been covered with plywood, but these coverings are removable.

From historic-period photographs and plans, the noncontributing switchyard appears to have been added to the site in 1962, suggesting that the Adams St. Substation may have maintained a role in the local distribution of power, even if the facility was no longer distributing power from the Cushman Substation.[15]

Between the years 1926 and 1949, the earliest years of the innovative public project, the Cushman Hydroelectric Project, the Cushman Substation was the primary distributor of Cushman electricity within Tacoma, but this electricity could not be distributed to businesses and residences without a further step-down in voltage. As the Cushman Substation stepped down and distributed power from the Cushman Hydroelectric Project, the Adams St. Substation stepped down and distributed power from the Cushman Substation, completing the complex process of managing and delivering local electricity to the City of Tacoma in one of the nation's most efficient

[11] Davisson and Evans, *1928–29 Information Book*, 44.
[12] Davisson and Evans, *1928–29 Information Book*, 47.
[13] Ira. S. Davisson and Verne Kent, *Report and Information Book of the Light Division, Department of Public Utilities, City of Tacoma, Washington. September 30, 1939*, Washington State Library, Olympia, Washington (hereafter WSL).
[14] Tacoma City Light, Annual Report, 1952, 21, TPL.
[15] Adams Street Substation Site Plan, 1962, Tacoma Power.

public power systems. As an integral part of the Cushman distribution network, and one that was critical to Tacoma's uninterrupted flow of inexpensive power, the Adams St. Substation deserves recognition under Criterion A as a functionally related unit to the Cushman Substation, as it is here nominated.

Criterion C:
While Adams St. Substation derives its greatest significance under Criterion A for its association with the Cushman Hydroelectric Project's system of power generation and distribution, the building is also significant under Criterion C as an example of its type (a substation). As a modest example of Classical Revival architecture designed in the same mode as the Cushman Substation, the Adams St. Substation is a complimentary structure with modest references to the adjacent building, visible in its smooth concrete façade, unfinished, board-formed treatment on the interior walls, modest Classical ornament (including the entablature, pilasters, and divided bays), and open interior spaces designed for industrial uses.

Plans for the Adams St. Substation were prepared by the City of Tacoma Light Engineering Department, and are therefore known to be associated with the same planning, design, and construction process as the Cushman Substation. The plans include two names under "designer": Nightingale and Ballock. Nightingale likely refers to Richard T. Nightingale, who was described in the 1920 U.S. census as an electrical draftsman for the Puget Sound Navy Yard living in Tacoma.[16] Born in Nebraska to English parents in June 1879, Nightingale raised four children in Tacoma with his wife, also born in Nebraska, Hilda Beatrice Nightingale.[17] According to the 1940 census, Richard Nightingale completed the seventh grade and never attended college.[18] By 1938, Richard Nightingale, whose name sometimes appears in Tacoma City Light records as "Nightengale," was serving as Chief Electrical Engineer for Tacoma's Electrical Engineering Department, where his office was responsible for producing designs and overseeing electrical engineering for new construction and improvements to electrical plants. Between 1938 and 1939, Nightingale's office issued drawings and specifications for a 60,000 kva bank of transformers with high-voltage switching apparatus at Cushman Power Plant No. 2; a distribution substation at S 36th and Cedar Sts.; additions to the Tide Flats industrial substation; and at least two other new substations.[19] Richard Nightingale died in 1965 at the age of 85, and is buried with his wife in Gig Harbor, Washington.[20]

Ballock may refer to Ralph H. Ballock, born in 1894, who is described in the 1930 U.S. census as a divorced electrical engineer for "Public Utilities," a naturalized citizen born in Sweden and a veteran of the first world war.[21] The 1940 U.S. census finds him working as an electrical engineer and draftsman at the U.S. Navy Yard and living in Tacoma with his wife, Alice C. Ballock, and two young children.[22] Not much more is known about his professional career.

Integrity:
The Adams St. Substation retains integrity of location and setting, as it remains on its original parcel and retains its relationship with the Cushman Substation and with its switchyard and steel lattice tower, although these resources are no longer functioning as originally planned. Alterations, including the removal of interior systems like transformers and control mechanisms, as well as exterior alterations, including the removal of cast iron sconces and hardware from the façade, have diminished the integrity of the building's design and materials, but the building retains integrity of workmanship due to the craftsmanship visible in the treatment of its concrete surfaces. From the exterior, the building retains integrity of feeling and association, as it continues to face the

[16] U.S. Bureau of the Census, Fourteenth Census of the United States, 1920 (Washington, DC: National Archives and Records Administration, 1920), T625, 2076 rolls, www.ancestry.com.
[17] Washington State Department of Health, Washington, Birth Records, 1870–1935 for Richard T Nightingale, Washington State Department of Health Birth Index: Reel 4 1939, www.ancestry.com.
[18] U.S. Bureau of the Census, Sixteenth Census of the United States, 1940 (Washington, DC: National Archives and Records Administration, 1940), T627, 4,643 rolls, www.ancestry.com.
[19] Davisson and Kent, *Report . . . September 30, 1939*, 44.
[20] Find A Grave, Richard Nightingale, Haven of Rest Cemetery, Gig Harbor, Washington, www.findagrave.com.
[21] United States of America, Bureau of the Census. Fifteenth Census of the United States, 1930 (Washington, DC: National Archives and Records Administration, 1930), T626, 2,667 rolls, www.ancestry.com.
[22] U.S. Bureau of the Census, Sixteenth Census of the United States, 1940 (Washington, DC: National Archives and Records Administration, 1940), T627, 4,643 rolls, www.ancestry.com.

Cushman Substation, maintains its industrial character, and provides a tangible reminder of how the original Cushman transmission system in Tacoma worked and distributed power.

Conclusion:

The Adams St. Substation, associated with important trends in the history of Tacoma's electricity generation and distribution system, is locally eligible for listing in the NRHP under Criterion A as a functionally related unit to the Cushman Substation with a period of significance dating from its completion in 1926, the same year the Cushman Substation was completed, to 1949, when power was routed away from the Cushman Substation. The Adams St. Substation is also locally eligible under Criterion C as an example of an industrial building designed in a modest Classical Revival style complimenting the Cushman Substation. Its period of significance dates from its completion in 1926 to its decommissioning along with the Cushman Substation, in 1949.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

City of Tacoma Light Department. Adams St. Substation, Reinforced Concrete, May 7, 1925, revised March 6, 1974. On file with Tacoma Power, Tacoma, Washington.

-------. Adams Street Substation Site Plan. 1962. On file with Tacoma Power, Tacoma, Washington.

Davisson, Ira S., and Llewellyn Evans. Report and Information Book of the Light Department of the City of Tacoma for the Years 1924–1925. Tacoma Public Library, Tacoma, Washington.

-------. 1928–29 Information Book, City of Tacoma Department of Public Utilities, Light Division. Tacoma Public Library, Tacoma, Washington.

Davisson, Ira S., and Verne Kent. Report and Information Book of the Light Division, Department of Public Utilities, City of Tacoma, Washington. September 30, 1939. Clippings file, Washington State Library, Olympia, Washington.

Perrin, Natalie. Cushman Substation, National Register of Historic Places Nomination Form. March 17, 2014, accepted into the National Register of Historic Places December 29, 2014. http://www.dahp.wa.gov/sites/default/files/WA_PierceCounty_CushmanSubstation_FINAL.pdf.

Tacoma City Light. Annual Report, 1952. Tacoma Public Library, Tacoma, Washington.

Tacoma Ledger. "Getting Ready to Receive Cushman Current." October 11, 1924. Clippings Scrapbook, Tacoma Public Utilities Collection, Washington State Archives-Puget Sound Regional Branch.

-------. "Engineers Succeed in Silencing Noise at City Substation." August 28, 1927. Clippings Scrapbook, Tacoma Public Utilities Collection, Washington State Archives-Puget Sound Regional Branch.

U.S. Bureau of the Census. Sixteenth Census of the United States, 1940. Washington, DC: National Archives and Records Administration, 1940.

------. Fourteenth Census of the United States, 1920. Washington, DC: National Archives and Records Administration, 1920.

Previous documentation on file (NPS):

____preliminary determination of individual listing (36 CFR 67 has been requested)
____previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____recorded by Historic American Buildings Survey #____________
____recorded by Historic American Engineering Record # __________
____recorded by Historic American Landscape Survey # ___________

Primary location of additional data:

__X__ State Historic Preservation Office
____Other State agency
____Federal agency
__X__ Local government
____University
____Other
Name of repository: ______________________

Historic Resources Survey Number (if assigned): ______________________

10. Geographical Data

Acreage of Property .83 acres
(Do not include previously listed resource acreage)

UTM References ____**NAD 1927 or** ____**NAD 1983**
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing		Zone	Easting	Northing
1				3			
2				4			

Or Latitude/Longitude Coordinates
(enter coordinates to 6 decimal places)

	Latitude	Longitude		Latitude	Longitude
1	47.267245°	-122.488199°	3	47.266796°	-122.487392°
2	47.267256°	-122.487378°	4	47.266780°	-122.488155°

Verbal Boundary Description (Describe the boundaries of the property.)

The Cushman Substation Amendment incorporates Pierce County Tax Parcel 7475021883 (Adams St. Substation) into an adjusted footprint of the Cushman Substation nomination. The parcel is a rectangular parcel one-quarter the size of a city block. The boundary addition begins at the northwest corner of Parcel 7475021883, midblock on the south side of N 21st St. between N Proctor St. and N Adams St. The boundary then travels 125 feet east to the parcel's northeast corner at the intersection of N 21st St. and N Adams St. The boundary then travels 120 feet south along N Adams St. to the parcel's southeast corner on N Adams St., mid-block between N 21st St. and N 19th St. The boundary then travels east 125 feet to the parcel's southwest corner, mid-block between N Adams St. and N Proctor St. The boundary then travels 120 feet north to the parcel's northwest corner.

Boundary Justification (Explain why the boundaries were selected.)

The amendment adds the Adams St. Substation to the nomination as a functionally related unit to the Cushman Substation and removes the transmission tower lines from the original nomination. The Adams St. Substation was constructed at the same time as the Cushman Substation, was connected to it by trenching, and was necessary for stepping down power for distribution. The revised boundary includes the entirely of the parcels, which was historically owned and used by Tacoma Power and once included an associated switchyard associated with power distribution.

11. Form Prepared By

name/title Chrisanne Beckner, MS
organization Historical Research Associates, Inc. date January 2019
street & number 1904 Third Ave., Ste 240 telephone 206.343.0226
city or town Seattle state WA zip code 98101
e-mail cbeckner@hrassoc.com

Additional Documentation

Submit the following items with the completed form:

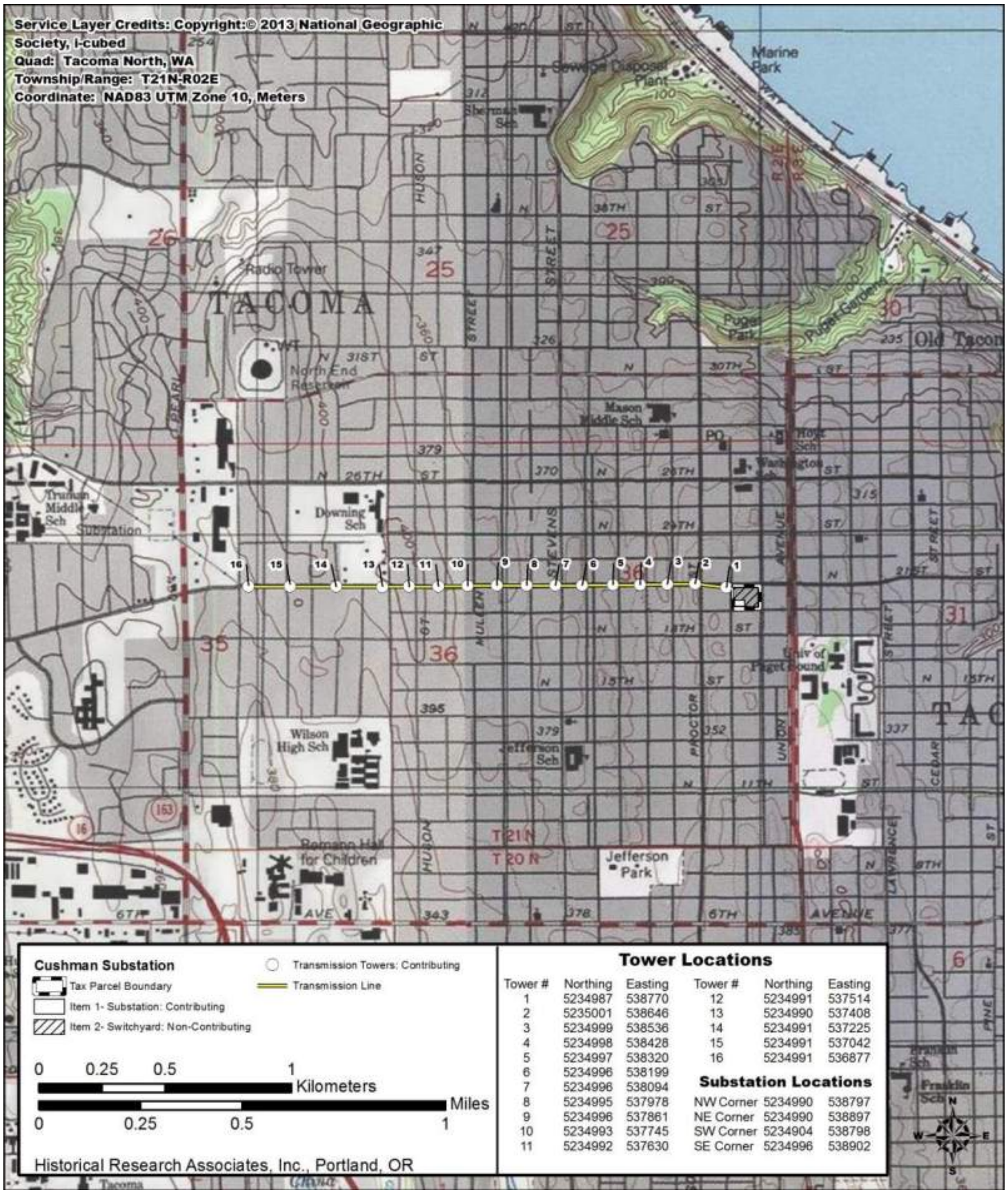
- **Maps:** A **USGS map** (7.5 or 15 minute series) indicating the property's location.
  A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Continuation Sheets**
- **Additional items:** (Check with the SHPO or FPO for any additional items.)

Map 1. Boundaries of amendment/added property - Adams St. Substation

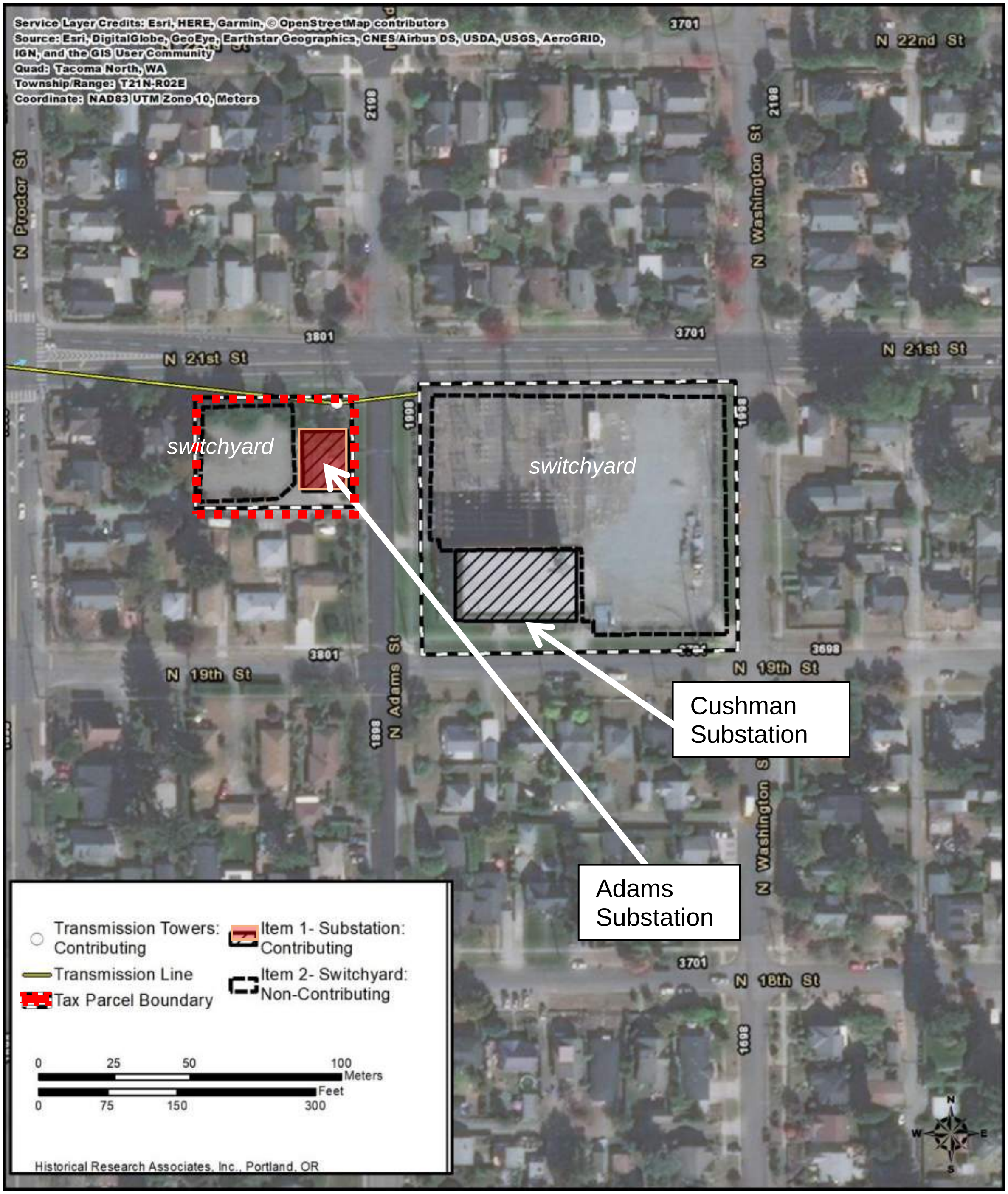
	Latitude	Longitude		Latitude	Longitude
1	47.267245°	-122.488199°	3	47.266796°	-122.487392°
2	47.267256°	-122.487378°	4	47.266780°	-122.488155°

Map 2. Revised combined boundaries of Cushman Substation and Adams St. Substation

	Latitude	Longitude		Latitude	Longitude
1	47.267275°	-122.488177°	3	47.266341°	-122.485676°
2	47.267266°	-122.485673°	4	47.266332°	-122.487282°



Map 3. Previously listed topographical map of Cushman substation and Tower locations showing UTM reference points.



Map 4. Site plan of Cushman Substation and Adams St. Substation

Figure 1. The site of the Adams St. Substation as construction begins, view north, 1925. Courtesy of Tacoma Power.

Figure 2. Construction of the Adams St. Substation continues, view north, 1925. Courtesy of Tacoma Power.

Figure 3. Adams St. Substation, nearing completion, view southeast, 1925. Courtesy of Tacoma Power.

Figure 4. Steel lattice tower, constructed adjacent to the Adams St. Substation, view south, 1925. Courtesy of Tacoma Power.

Figure 5. Adams St. Substation, nearly complete, view northwest, 1925. Courtesy of Tacoma Power.

Figure 6. Adams St. Substation, shown beside Cushman Substation, view northeast, 1925. Courtesy of Tacoma Power.

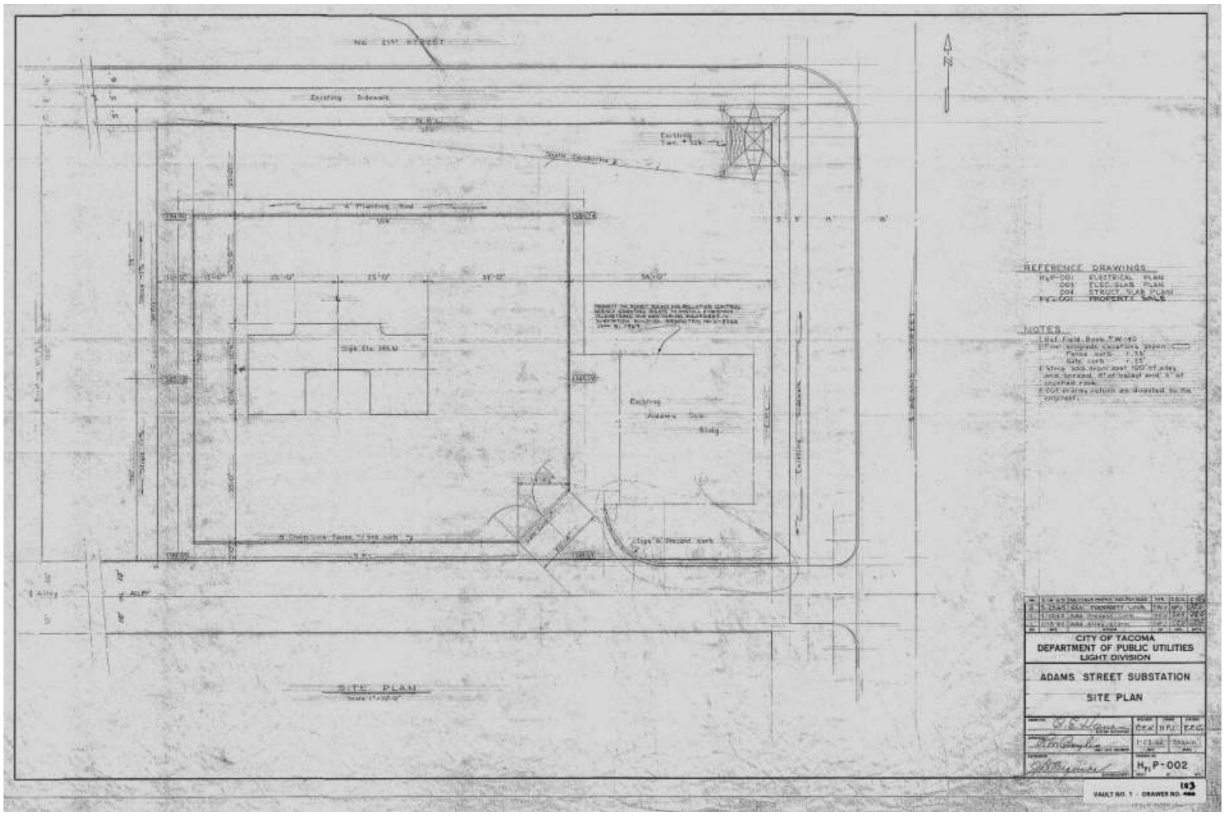


Figure 7. Adams St. Substation, site plan, 1968. Courtesy of Tacoma Power.

Figure 8. Adams St. Substation, elevation drawings, 1925. Courtesy of Tacoma Power.

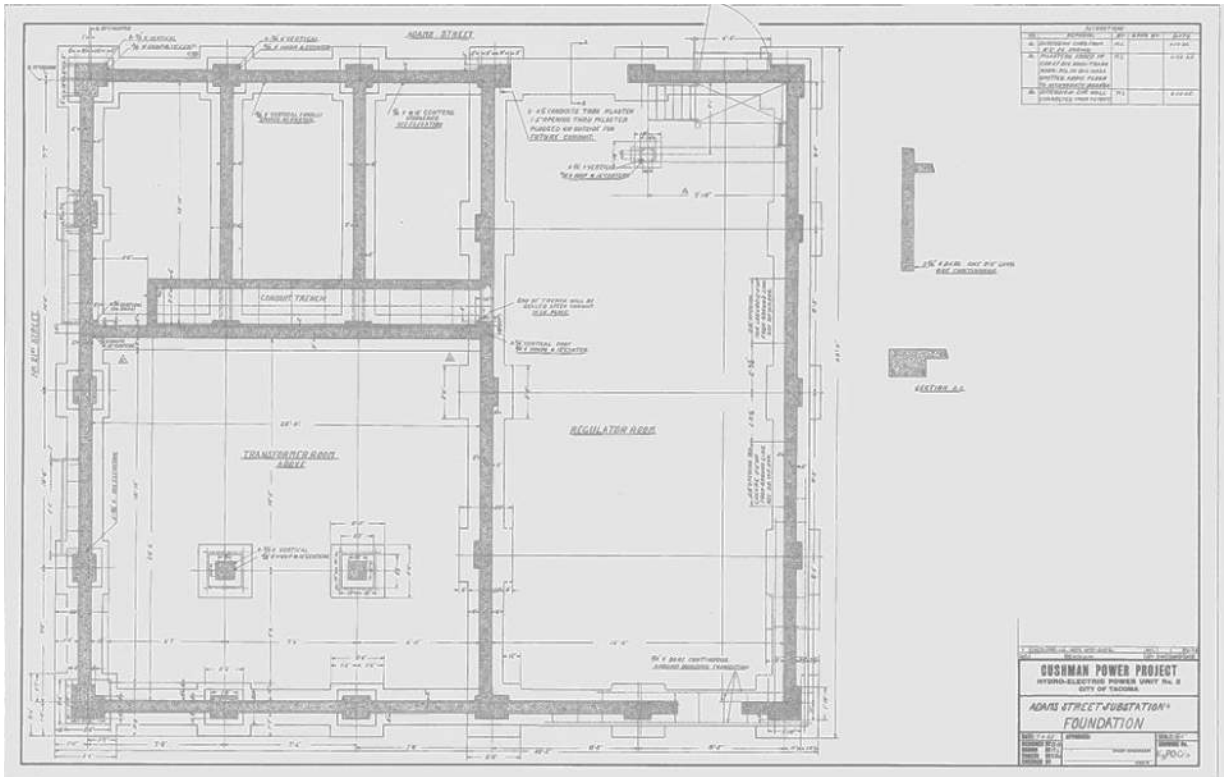


Figure 9. Adams St. Substation, foundation plan, 1925. Courtesy of Tacoma Power.

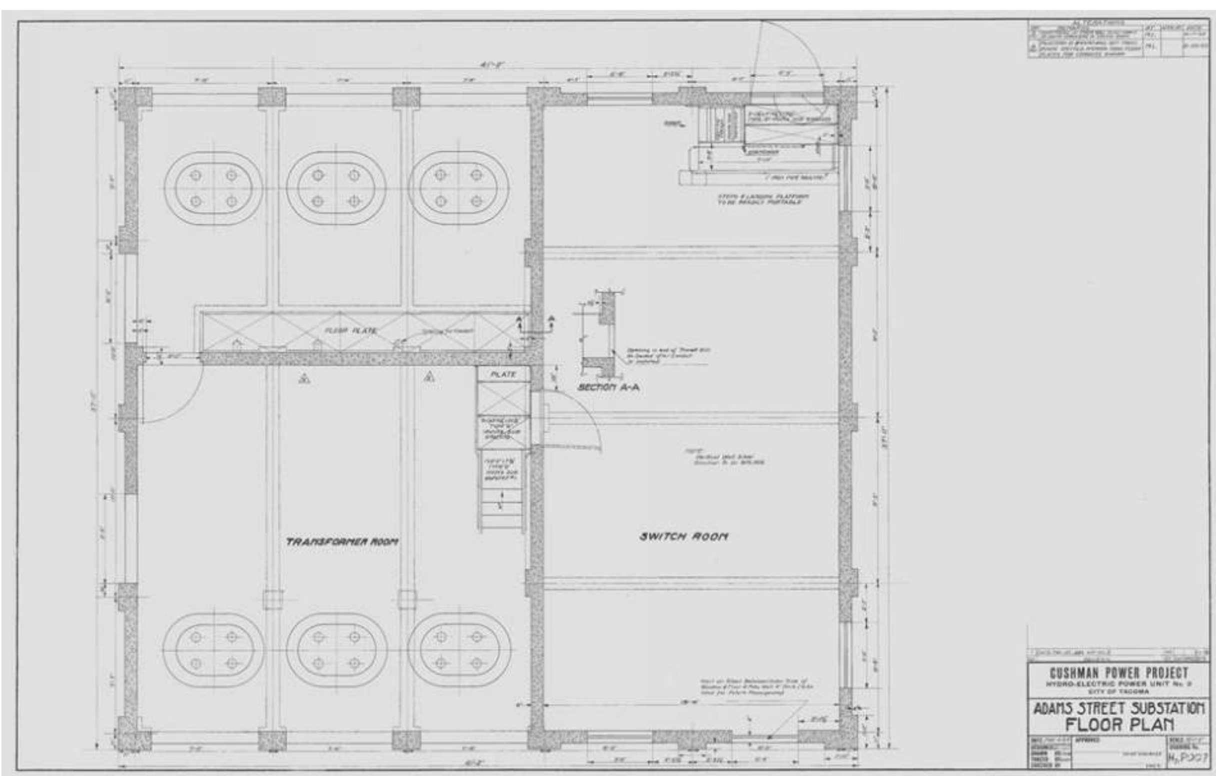


Figure 10. Adams St. Substation, floor plan, 1925. Courtesy of Tacoma Power.

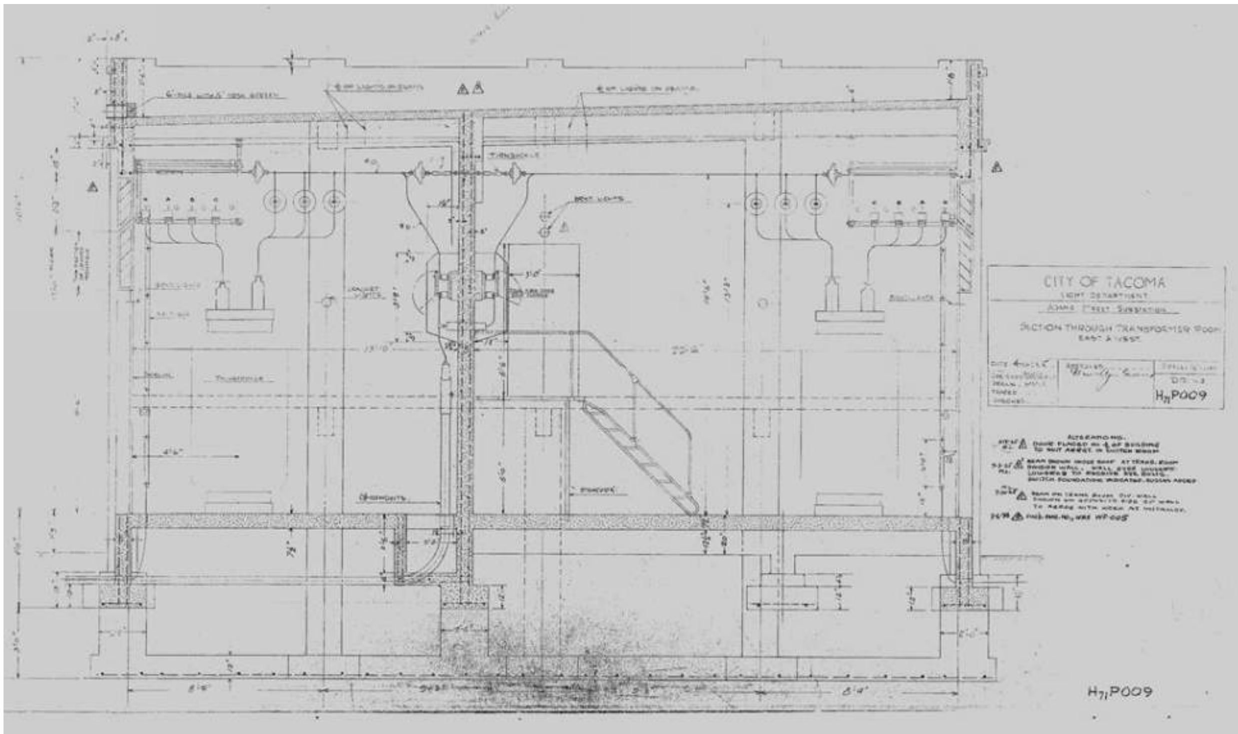


Figure 11. Adams St. Substation, east–west section, transformer room, 1925. Courtesy of Tacoma Power.

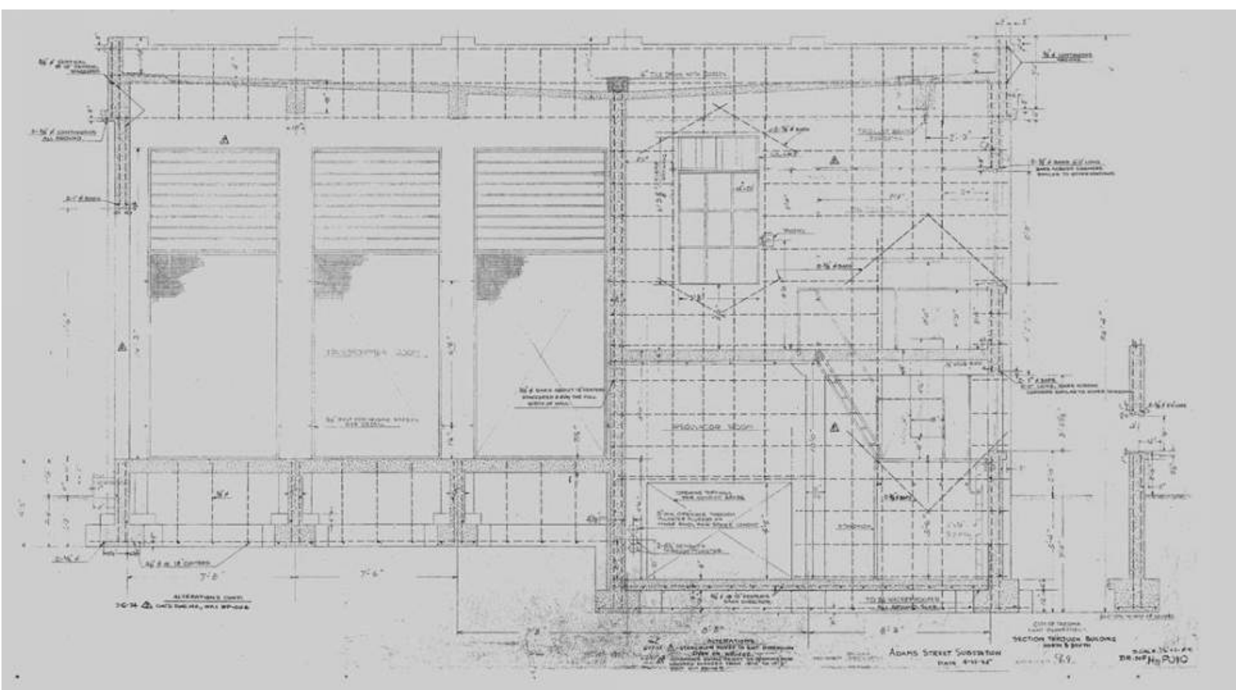


Figure 12. Adams St. Substation, north–south section, 1925. Courtesy of Tacoma Power.

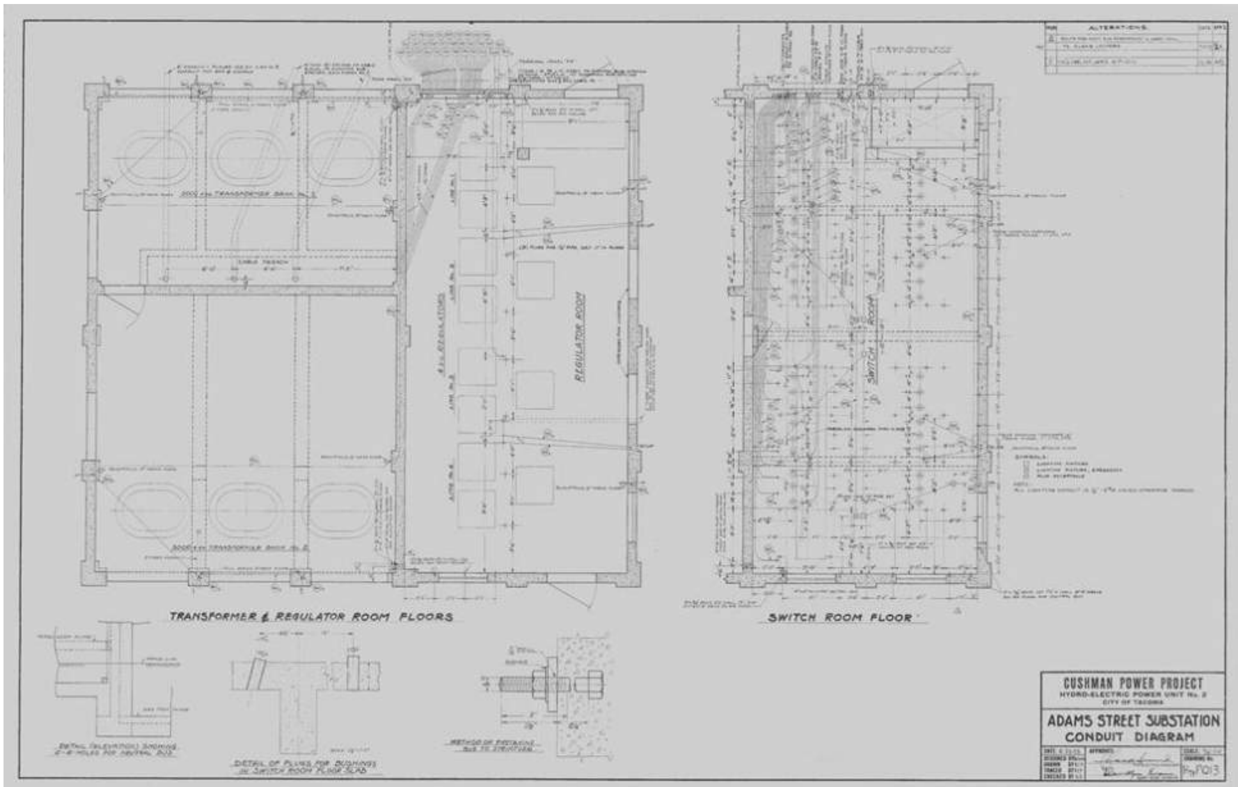


Figure 13. Adams St. Substation, conduit diagram, 1925. Courtesy of Tacoma Power.

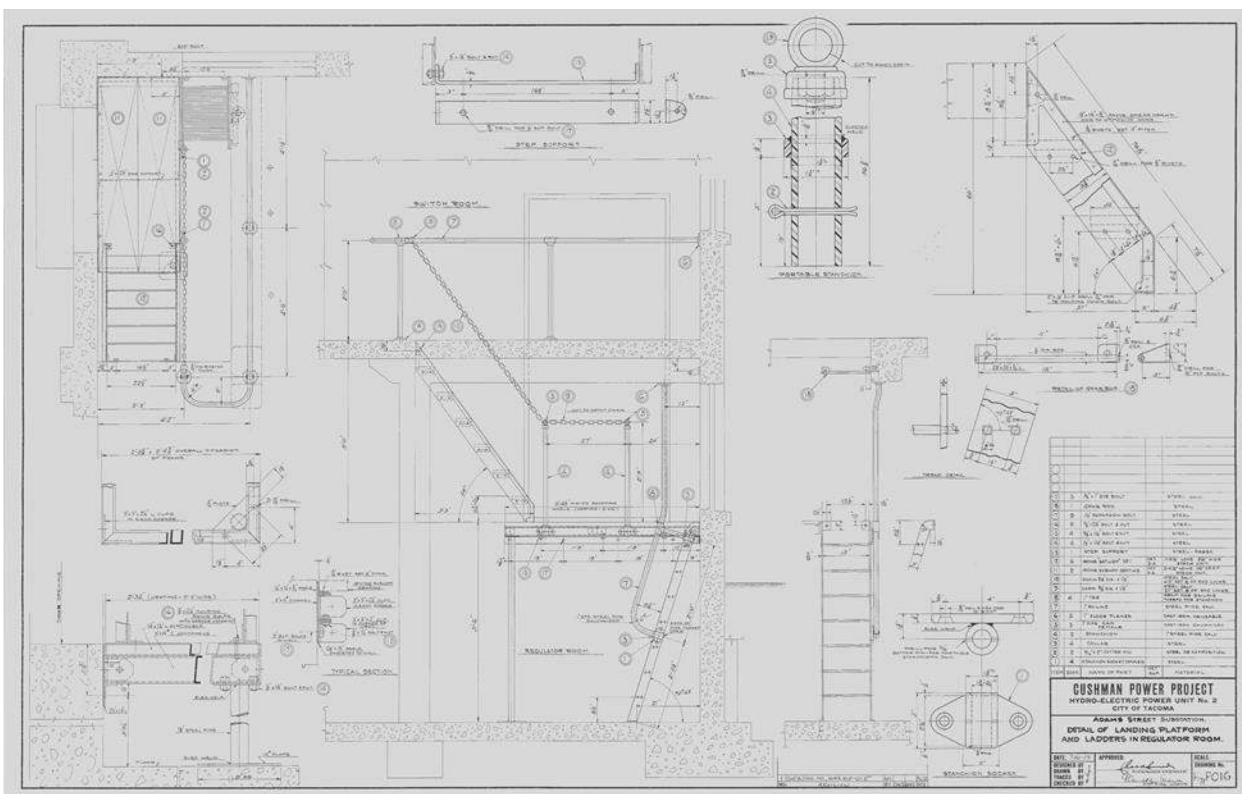


Figure 14. Adams St. Substation, detail drawings, 1925. Courtesy of Tacoma Power.

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Adams St. Substation
City or Vicinity: Tacoma
County: Pierce
State: Washington
Photographer: Chrisanne Beckner, MS, and Heather Lee Miller, MS
Date Photographed: September 2017–April 2018

Photo 1 of 13. WA_PierceCounty_AdamsSt.Substation_0001. Adams St. Substation, primary façade, view west.

Photo 2 of 13. WA_PierceCounty_AdamsSt.Substation_0002. Adams St. Substation, oblique, view northwest.

Photo 3 of 13. WA_PierceCounty_AdamsSt.Substation_0003. Adams St. Substation, south elevation, view north.

Photo 4 of 13. WA_PierceCounty_AdamsSt.Substation_0004. Adams St. Substation, oblique, view northeast.

Photo 5 of 13. WA_PierceCounty_AdamsSt.Substation_0005. Adams St. Substation, west elevation, view southeast.

Photo 6 of 13. WA_PierceCounty_AdamsSt.Substation_0006. Adams St. Substation, north elevation, view south.

Photo 7 of 13. WA_PierceCounty_AdamsSt.Substation_0007. Adams St. Substation, oblique, view southwest.

Photo 8 of 13. WA_PierceCounty_AdamsSt.Substation_0008. Adams St. Substation, interior, regulator room, lower level, view east.

Photo 9 of 13. WA_PierceCounty_AdamsSt.Substation_0009. Adams St. Substation, interior, regulator room, lower level, view west.

Photo 10 of 13. WA_PierceCounty_AdamsSt.Substation_0010. Adams St. Substation, interior, switch room, upper level, view west.

Photo 11 of 13. WA_PierceCounty_AdamsSt.Substation_0011. Adams St. Substation, interior, transformer room, view west.

Photo 12 of 13. WA_PierceCounty_AdamsSt.Substation_0012. Adams St. Substation, interior, transformer room, view south.


Photo 13 of 13. WA_PierceCounty_AdamsSt.Substation_0013. Adams St. Substation, interior, transformer room, view north.

Property Owner: (Complete this item at the request of the SHPO or FPO.)

name City of Tacoma (Pat McCarty, Generation Manager, Tacoma Power)

street & number 3628 South 35th Street telephone 252-502-8600

city or town Tacoma state WA zip code 98409

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

6.3 Appendix: 2017 Tacoma Register of Historic Places Nomination

Landmarks Preservation Commission

Tacoma Community and Economic Development Department

747 Market Street ❖ Room 1036 ❖ Tacoma WA 98402-3793 ❖ 253.591.5220

TACOMA REGISTER OF HISTORIC PLACES NOMINATION FORM

This form is required to nominate properties to the Tacoma Register of Historic Places per Tacoma Municipal Code 13.07.050. Type all entries and complete all applicable sections. Contact the Historic Preservation Officer with any questions at 253-591-5220.

PART 1: PROPERTY INFORMATION (for 'HELP' press the F1 key)

Property Name

Historic Cushman Substation   Common Cushman & Adams Street Substations

Location

Street Address 3713 North 19th Street & 1920 North Adams Street   Zip 98406

Parcel No(s).	Legal Description
Cushman Substation: 7475021970 & Adams St. Substation: 7475021883	That portion of the Southeast quarter of the Northeast quarter of Section 36, Township 21 North, Range 02 East, W.M. more particularly described as follows: The East 170 feet of the North 120 feet of Block 102, Amended Map of Second School Land Addition to the City of Tacoma as recorded in Volume 7 of Plats at Pages 78 and 79, records of Pierce County Auditor; Together with all of Tracts A and B, Block 103, Amended Map of Second School Land Addition to the City of Tacoma as recorded in Volume 7 of Plats at Pages 78 and 79, records of Pierce County Auditor, Also together with that portion of the South half of the Northeast and Northwest quarters of Section 36, and the South half of the Northeast quarter of Section 35, all located within Township 21 North, Range 02 East, W.M. more particularly described as follows: The center 24 feet of North 21st Street, from the west line of its intersection with Proctor Street to the west line of its intersection with Winnifred Street, and the center 44 feet of North 21st Street from the west line of Winnifred Street to the west line of Highland Street. Situate in the City of Tacoma, County of Pierce, State of Washington Refer to National register Nomination form for additional information and property descriptions.

Nominated Elements

Please indicate below significant elements of the property that are included in the nomination by checking the appropriate box(es) below. These elements should be described specifically in the narrative section of this form.

☒ Principal Structure	☒ Site
☐ Historic Additions	☐ Historic Landscaping, Fencing, Walkways, etc.
☐ Ancillary Buildings/Outbuildings	☒ Interior Spaces/Other (inventory in narrative)

11/2008

Narrative Continuation

Owner of Property

Name Tacoma Power, City of Tacoma

Address 3628 South 35th Street City Tacoma State WA Zip 98409

Is the owner the sponsor of this nomination? Yes ☐ No ☒

Form Preparer

Name/Title Jeff Ryan, Architect Company/Organization City Resident

Address 3017 No. 13th Street City Tacoma State WA Zip 98406

Phone 253.759.0161 Email jjryan@harbornet.com

Nomination Checklist—Attachments

☒	$100 Filing Fee (payable to City Treasurer) NENC Letter	☒	Continuation Sheets
☒	Site Map (REQUIRED)	☒	Historical Plans
☒	Photographs (REQUIRED): *please label or caption photographs and include a photography index)*	☒	Other (please indicate): National Register of Historic Places, Approved Registration Form
☒	Last Deed of Title (REQUIRED): *this document can usually be obtained for little or no cost from a titling company*		

FOR OFFICE USE

Date Received ____________

Fee Paid ____________

Narrative Continuation

PART 2: PHYSICAL DESCRIPTION

Extent of Changes

Please summarize the changes to plan, original cladding, windows, interior and other significant elements by selecting the choices below. If the property has been previously documented, these may be indicated on the Washington State Historic Property Inventory Form. These changes should be described specifically in the narrative section of this form.

	Original Materials Intact			Original Materials Intact	
Plan (i.e.: no additions to footprint , relocation of walls, or roof plan)	Yes ☒	No ☐	Interior (woodwork, finishes, flooring, fixtures)	Yes ☒	No ☐
Original cladding	Yes ☒	No ☐	Other elements	Yes ☒	No ☐
Windows (no replacement windows or replacement sashes)	Yes ☒	No ☐			

Physical Description Narrative

Describe in detail the present and original (if known) physical appearance, condition and architectural characteristics (use continuation sheets if necessary).

The following description has been taken directly from the National Register of Historic Places, Registration Form prepared by Greg Rainka, Historic Research Associates Inc. for the City of Tacoma, 2014, No. 14001108. Corrections and additions have been highlighted by [ ] to preserve the integrity of the original author's text.

Summary Paragraph

The Cushman Substation is located at 3713 North 19th Street in Tacoma, Pierce County, Washington, in the southeast quarter of Section 36, Township 21 North, Range 2 East, of the US Geological Survey Tacoma North Quadrangle. The nominated parcel includes the substation building (contributing), [the Adams Substation is located at 1920 North Adams Street and their] adjacent outdoor switchyards ([~~non~~]contributing), and the North 21st Street Towers (contributing). [These properties and structures collectively occupy] an entire city block bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street [; and the Adams Street site south of Adams street between North 21st street and the mid-block alley to the south.]

[The Cushman complex, as constructed originally included the both and structure as well the construction of both north 19tha and Adams streets adjacent to the two sites.]

The three-story Cushman Substation building occupies the southwest quadrant of the block and fronts south on North 19th Street. Park-like landscaping highlights the main entrance, which is centrally located on the south façade and is adorned with a monumental distyle temple front. The building is constructed of board-formed poured concrete, with a projecting concrete cornice articulating the top of a full entablature supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth. The most predominant feature of the Cushman Substation is its metal-sash windows, found on all stories on each side of the building, with window bays comprising three banks of 24-light windows separated by metal mullions.

[The Adams Street Substation also known as the Adams Street Transformer House occupies the southeast corner of its site. The building, like the large Cushman Substation also fronts on a park-like landscaping on both the North Adams Street and North 21st street frontages. Its adjacent transformer and storage yard resides behind the structure to the west. The Adams Street Substation is situated on the west side of North Adams Street, directly across from the Cushman Substation property. The site occupies approximately half of the block between the central alley and North 21st street. Constructed with and at the same time as the Cushman Substation and 21st street Tower system, it is a contributing part of the overall historic context of the Cushman Substation complex. Built by the same contractor and with the same materials and techniques utilized to construct the Cushman Substation, the building is a tall one story structure with a daylight basement that originally housed six transformers that supplied power to the surrounding neighborhood. The Cushman Substation originally supplied power to three smaller substations that in turn lowered the

Narrative Continuation

voltage for domestic use. These substations were located on Gove Street at North 45th, North K Street at North 8th and at the Adams Street Substation site. Of the three original substations only the Gove street site still serves as a n active electrical facility. Designed in a much simpler form than the adjacent Cushman Substation, the Adams Street Substation does share a similar poured in place board formed construction with a smooth exposed concrete finish and steel windows.]

Narrative Description

The [Cushman] substation building and outdoor switchyard occupy an entire city block, bordered to the south by North 19th Street, the west by North Adams Street, the north by North 21st Street, and the east by North Washington Street. The substation building occupies the southwest quadrant of the block, and fronts south on North 19th Street; park-like landscaping highlights the main entrance. The switchyard occupies the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. [The Adams Street Substation building and outdoor switchyard occupy about a fourth of city block, bordered to the south by an alley, the west by an adjoining property line, the north by North 21st Street, and the east by North Adams Street.] The North 21st Street transmission line, a now discontinuous segment of the historic Potlatch (Cushman) Transmission Line,

1. **Cushman Substation**

The Cushman Substation building is rectangular in plan, is three stories tall, and has a basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof, which is hidden by a shallow concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors, which sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.

The main entrance is centrally located on the south façade and is adorned with a monumental distyle temple front. Accessed via concrete stairs that define the stereobate, the pediment, tympanum, and Tuscan columns of the temple-front entryway are unadorned; the fully articulated entablature features the words “Cushman Substation” in the frieze. The tripartite doorway has a single-light wood door accentuated by engaged Tuscan Doric columns, and flanked by twelve-light sidelights of beveled glass with engaged pilasters at the corners. The doorway also features an entablature, with decorative dentils below the frieze. Original metal hardware on the door appears to be intact.

The west side is devoid of entrances; other entryways, found on the north and east elevations, are industrial and/or utilitarian. These include the large metal roll-up door on the east elevation, with an inset pedestrian door; the second-floor entrance on the east elevation, accessed via an exterior metal stairway; the ground-floor pedestrian door on the east corner of the north elevation; and another metal roll-up door located in the center bay of the north elevation. With the exception of the main entryway door on the south elevation and the large metal roll-up door on the east elevation, both of which are depicted in original blueprints, all other doors appear to be modern.

The most predominant feature of the Cushman Substation is the industrial metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway (described above) has been added to one of the window bays.

Original cast-~~concrete~~ [iron] light poles flank the stairway to the main entrance. The light poles are also located on the corners of the south elevation, as well as symmetrically arranged on the west elevation, for a total of seven poles currently extant. [These poles match the poles originally found along the lake side of the drive atop Cushman Dam

Narrative Continuation

number one. Only seven of the original thirteen light poles remain which once adorned the walls and flanked the stairs, each originally had a round opal glass globe rather than the current acorn shaped globe.] The light poles originally featured glass globes, though these have been replaced with plastic globes or, in some cases, are missing altogether. [The expansive three story tall space of the Condenser room, with glass walls on three sides, is a character defining element with in the facility. The immense volume of the room along with craftsmanship and high level of detailing, more than any other room in the complex, is a contributing part of to the buildings historic context, function and form.]

The interior of the Cushman Substation maintains the original massing and form as originally constructed; however, all operating equipment has been removed, and the building is used primarily for storage. The south half of the building is one large open room, three stories tall, historically known as the Condenser Room [Contributing]. This main area once housed the machinery (condensers) necessary for the substation, and still features original details, such as [the large cast iron] sconces with glass globes; gantry crane; engaged pilasters on interior walls; [monolithic terrazzo floor] and the exposed, board-formed concrete beams and ceiling that support the roof structure. Some modern lighting has been installed on the ceiling beams. One original metal stair, with industrial “pipe-fitting”-style handrails, accesses the second floor from the main room; a second stairwell was historically present, but was removed at an unknown date [and relocated on the exterior of the building mounted on the east façade.]

The north half of the building is horizontally divided between the first, second, and third floors. Historically, the first floor served as the Feeder Switch Room, with a small bathroom and locker room in the northeast corner. The second floor was divided between the shop (west), the Condenser Switch Room (center, not to be confused with the condenser room on the south side of the building), and the Control Room (east). The third floor served as a storeroom, as well as having smaller spaces in the northeast corner for the Battery Room, the “M. G. & Carrier Current Room,” and the Load Dispatchers Office (also the location of the facility‘s second restroom). The roof is accessed via a metal stairway adjacent to the elevator shaft in the northwest corner. It is possible that some original slate panels are present in the control room behind the modern equipment; however, all switches and other components are no longer extant. If extant, original slate panels are hidden behind modern control stations and are likely used for partial structural support of same.

The basement level is accessed via a concrete stairwell at both the east and west ends of the Condenser Room on the first floor. The basement, historically, held a series of feeders, transmitters, and bus reactors; provided access to the machinery in the Condenser Room; and served as a storage area. Four large oil tanks, two for circuit-breaker oil and two for transmission oil, are still imbedded in the east wall of the basement. Three underground tunnels, two on the east and one on the north side of the building, provide access to the exterior switchyard.

With the exception of wholesale removal of interior equipment, alterations to the building itself have been fairly minor. For example, a door on the second floor of the east elevation was cut into a window; this change utilized the existing window space and, with the exception of the removal of some window panes, did not require removal of building fabric. Other alterations include the removal of light poles on the exterior of the building. Analysis of historic photos indicates that the substation originally had eight light poles on the south side and five on both the east and west sides.

2. [**Cushman Substation**] **Switchyard**

The switchyard is located adjacent to the Cushman Substation building, occupying the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site. The switchyard was constructed concurrently with the substation, but has been modified over the years as bussing and other equipment was upgraded for efficiency and safety standards. The switchyard is a [~~non-~~] contributing, functionally-related structure to the Cushman Substation nomination. [The site provides a feeling of openness and visual link between the building and the surrounding streets, an open space and connection to the community for a building of prominence.]

Narrative Continuation

3. **North 21st Street Towers**

The North 21st Street Towers are a collection of original steel lattice towers located in the median between the east- and west-bound traffic on North 21st Street between N Highland Street and N Adams Street in Tacoma. The towers historically connected the Cushman Substation with the Cushman No. 1 development, and are a segment of the overall Potlatch (Cushman) line. The approximately 1.25 mile segment retains 16 of the historic 230-kV double circuit, steel lattice towers. The towers are approximately 120 feet tall, with four legs (set on concrete footings or a poured concrete pad) rising in a pyramidal shape to a rectangular top with two sets of three arms, one on each the north and south sides of the towers. The arms support transmission cables, conductors, insulators, and mounting equipment. These structures are original to the Cushman electric power generation and transmission system, retain integrity of design, materials, workmanship, feeling, association, setting, and location, and are a contributing, functionally related structure to the Cushman Substation. [The first of the original steel lattice Tower, west of the Cushman Substation, occupies the northeast corner of the Adam Street Substation site. Tower number 1 is the only tower resting outside the twenty first street right-of-way, the majority of which is resting on the Adam street substation site. The towers are intact and in their original form but are in need of restoration to repair peeling paint and associated rush.]

[4. **Adams Street Substation**

The Substation is situated on a relatively flat site with a service yard surrounded by a chain-link fence on the western third of the property. A parklike landscaped area of trees, shrubs and lawn runs along the north side of the site screening the service yard from 21st street. The first electrical Tower of the Potlatch line rests on the northeast corner of the lot. The Adams Street Substation is rectangular in plan, a tall single story building in height, with a daylight basement and fronts on Adams Street property line near the southeast corner of the property. The building like the Cushman Substation is constructed of reinforced board formed concrete, which was mixed on site and poured in place one wheelbarrow at a time. The building's façade is broken into five bays on the east and west sides, and four bays on the north and south, by pilasters that rise from grade up to the cornice line of the building. A shallow cornice extends around all four sides of the building, presenting a finished appearance on all sides. Above the cornice is a parapet wall with an articulated cap reflecting the pilaster located below. A shallow shed roof sloping to the west is hidden behind the parapet wall. The building is finished to the same level of finish and form on all four sides. While boarded up the building appears to be intact and in its original appearance with the exception of missing exterior light fixtures and a small exterior ventilation shaft on the south façade from grade to the top of the parapet wall above.

Each of the four facades varies in window and door arrangement and appearance principally due to the split level floor lines found within. The main entry door, a two panel wood door, is found in the southern bay of the Adams street façade, its threshold a few feet above grade. To the right of the entry door in the next bay is a nine pane steel window at the upper level with a vertical louver above. All three of the remaining bays to the north have a metal louver in the upper third and are currently boarded off below the louver but once contained a roller grill to access the transformers. The space behind these openings and similar opening on the west side allowed ventilation to the large transformers that occupied the tall single story space within. The south façade is symmetrical in appearance with a six pane steel window on the first floor and a nine pane window above, in the first and fourth bays. In the two center bays is a short vertical louver low on the wall into the first floor, high on the wall at these two bays is the remnants of the openings by which power entered the building from an adjacent set of poles long gone. A ventilation shaft has been added to the eastern bay covering up the windows from grade to the roof. The west side of the building is similar to the east, the Adams Street facade, with three large openings on the northern bays. An entry door with a three light transom is located slightly below grade, accessed by a concrete stair and metal railing to the basement floor level below. Above the door is a nine pane streel window on the upper level with louver above. A similar window is found in the second bay but with a six pane steel window below on the first floor. The north façade is symmetrical in appearance with a pair of two panel doors with three pane transom window above in both of the central bays. A short concrete stair provides access to the doors above grade. Some of the openings are currently boarded over with plywood.

Historically the northern three-fifths of the building housed six transformers and the two remaining bays on the south housed the switch room on the second floor with a regulator room below. Cast iron sconces once adorned the pilasters of the north and east sides of the building similar in appears to the interior sconces found within the Cushman Substation.

Narrative Continuation

5. **Adams Street Switchyard**

The Switchyard also known as the pole yard referring to its most recent use, occupies the western two thirds of the site. The yard is surrounded on four sides by a tall chain-link fence with gravel and concrete paving, the yard is currently vacant of any equipment only concrete pads mark the former equipment locations on site. The Switchyard is a contributing and was functionally related part of the Adams Street Substation context and character.

6. **North 21st Street Tower No. 1**

The first of the original steel lattice Tower, west of the Cushman Substation, occupies the northeast corner of the site. Tower number 1, as noted on the attached site plan, is the only tower resting outside the twenty first street right-of-way, the majority of which is resting on the Adam street substation site. The Tower as has all the Tower has been recognized as a contributing and was functionally related part of the Substation complex and directly speaks to the facilities context and character.]

PART 3: HISTORICAL OR CULTURAL SIGNIFICANCE

Criteria for Designation

Tacoma Municipal Code recognizes six criteria of eligibility for inclusion on the Tacoma Register of Historic Places. Please select any that apply to this property, for which there is documentary evidence included in this nomination form.

☒	A	Is associated with events that have made a significant contribution to the broad patterns of our history; or
☐	B	Is associated with the lives of persons significant in our past; or
☒	C	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 represents a significant and distinguishable entity whose components may lack individual distinction; or
☐	D	Has yielded or may be likely to yield, information important in prehistory or history; or
☐	E	Is part of, adjacent to, or related to an existing or proposed historic district, square, park, or other distinctive area which should be redeveloped or preserved according to a plan based on a historic, cultural, or architectural motif; or
☐	F	Owing to its unique location or singular physical characteristics, represents an established and familiar visual feature of the neighborhood or City.

Historical Data (if known)

Date(s) of Construction 1926 | Other Date(s) of Significance 1926 and 1949

Architect (s) Verne Grongwer, Design Engineer | Builder Dougan & Chrisman | Engineer James Parker

Statement of Significance

Describe in detail the chronological history of the property and how it meets the criteria for the Register of Historic Places. Please provide a summary in the first paragraph (use continuation sheets if necessary). If using a Multiple Property Nomination that is already on record, or another historical context narrative, please reference it by name and source.

The following narrative has been taken directly from the National Register of Historic Places, Registration Form prepared by Greg Rainka, Historic Research Associates Inc. for the City of Tacoma, 2014, No. 14001108. Corrections and additions have been highlighted by [ ] to preserve the integrity of the original author's text.

1. **Narrative Statement of Significance**

In 1893, the City of Tacoma bought Charles Wrights' Tacoma Light and Water Company, thereby becoming one of the first cities in the Pacific Northwest to own and operate a municipal electrical system.1 Known for political Progressivism, the Pacific Northwest was at the vanguard of the reform movement to control utilities' cost and quality by placing them under public ownership. In the mid-nineteenth century, most American cities awarded franchises to private utility companies, but reformers in the Progressive Party targeted the system's potential for graft, favoritism, and corruption. They maintained that a publicly owned utility would not only eliminate unsavory collusion among private businessmen and public officials but also promote more efficient management. [2] Unlike older cities in the American East and Midwest, Tacoma was able to move quickly toward a more democratic utility system.

After the 1893 purchase, the former Tacoma Light and Water Company became part of the City of Tacoma's Light Department, a division of the city formed to provide municipal lighting and power. The division was operating under the name Tacoma City Light by 1915, a name it would maintain until 1989, after which the organization continued doing business under the name Tacoma Power.

Narrative Continuation

By the turn of the twentieth century, growing consumer demand had overtaxed the direct current system, and the city had to purchase additional power from private companies in the region. In 1909, Tacoma voters authorized construction of a hydroelectric generating facility on the Nisqually River. Attempts to develop a power plant on the North Fork of the Skokomish River at Lake Cushman actually began in 1912, when Seattle citizens approved a related bond issue. The City of Seattle issued condemnation notices to property owners, but abandoned the project in 1914.[3]

By 1917, Tacoma was experiencing a population explosion and needed a new source of electric power to meet the increasing demands of domestic labor-saving devices and power-dependent industries. Public Utilities commissioner Ira S. Davisson and Tacoma City Light reselected the Lake Cushman site for a new hydroelectric complex. The city applied for water rights and reservoir permits in 1919, and began condemnation proceedings the same year for the needed land.

In 1922, Davisson hired Jay L. Stannard from San Francisco to serve as chief engineer for the Cushman project. While some of the interviewees for the position wanted as much as $35,000 a year, Stannard offered his services at the bargain rate of $7,500. He explained, "it's just what I wanted to do . . . I made a thorough investigation of the Cushman project in 1917 with the idea of doing it for Seattle and have always wanted to develop the project."[4] Jay Stannard was born to Gilbert and Esther Stannard in New York in 1866. By 1880, the family had relocated to Shell Rock, Iowa, in a westward trend that Stannard would continue all the way to Washington. By 1900, Stannard and his wife Carrie, whom he married in 1899, were lodging in Everett, Washington. Stannard worked with the Great Northern Railway as early as 1902, when he led a survey from Columbia Falls to Tobacco Plains in Flathead, Montana.5 Stannard also spent time in Oregon, where he was employed by the city of Baker as consulting engineer for a municipal hydroelectric project.6 An August 1917 edition of Electrical Review noted, "J. L. Stannard, Portland, Oregon, is consulting engineer in connection with the proposed hydroelectric plant for the City of Seattle. He has made plans and estimates covering all phases of the contemplated project."[7] By the time Cushman was proposed for Tacoma, Stannard's career as a civil engineer appears to have been well established.

The contract for construction of the first Cushman dam (built near Hoodsport) was let to Guthrie & Company of Portland, Oregon, in spring 1924. (Guthrie & Company would also later be awarded the contract for construction of the Cushman No. 1 powerhouse under a separate bid.) Work on the tunnel shafts began first, on May 1, 1924, and peaked in 1925. After a two-year construction period, Lake Cushman began rising to fill the valley. The Cushman Powerhouse No. 1 was constructed concurrent with the dam, beginning in spring 1925 and completed in March the following year. Located 700 feet downstream of the dam, the building housed the water turbines and generators, as well as the exciter switchboard and control room.

To distribute the power of the water, 44 miles of transmission lines were constructed to carry the full load capacity of the Cushman No. 1 powerhouse. The first 5 miles carried the line to the future site of the Cushman No. 2 powerhouse (completed in 1930). The remaining 39 miles carried the power into Tacoma, crossing the Skokomish Flats, the two relatively benign water crossings at North Bay and Henderson Bay, and the daunting Narrows Crossing, a particularly treacherous and windy water corridor almost a mile wide. When the transmission line across the Narrows was completed in 1925, the approximately 6,244-foot-long span was the longest aerial electrical span in the world, with pairs of 315-foot-tall steel towers supporting cables that carried Cushman power across the Narrows to the city.[8] The line continued into Tacoma via North 21st Street, terminating at the Cushman Substation.

Original blueprints of the Cushman Substation, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. Verne Gongwer, Superintendent of Electrical Construction A. F. Darland, and, of course, Chief Engineer Jay Stannard. Additionally, James Parker is thought to have prepared the plan and perspective drawings, though it is unknown to what extent he was involved in the design phase.[9] [The original blueprints for the Adams Street Substation are less formal but like Cushman they are on City of Tacoma Light Department title block sheets. Authorship is not clearly indicate on all sheet but a few sheets note Ballock Nightingale as the Designer, dated between May 4 and May 7, 1925, and are on file with the Tacoma Power.

Narrative Continuation

Verne Gongwer, an engineer from Michigan, would later be known as the "hero" of the Cushman Substation. Using his "engineer's know-how, "he designed the building without the aid of degree in architecture. He is even credited for concocting —a shortcut for spiffing up the substation," specifically the Greek Revival entry and buffed concrete finish. Gongwer is also credited with the design of the Tacoma Narrows crossing of the transmission line.[10]

Alvin F. Darland served as the superintendent of electrical construction for the entire Cushman Hydroelectric Project. "Reared and educated in Tacoma," Darland graduated from Stadium High School and, in 1914, the University of Washington. He began his electrical career at the Todd Drydock & Construction Corporation, working on the electrical installations of the yard as well as the US cruisers built there. He joined the Tacoma Light Department around 1916, and began work on the Cushman Project in April 1923. He is credited with the "splendid electrical layouts of the Cushman (No. 1) power house, substation and transmission lines." [11]

Bidding for the contract to construct the Cushman Substation was closed in December 1924. Sixteen contractors submitted twenty proposals, with cost estimates ranging from $166,470.80 up to $241,656.05. The lowest bid was received of Dougan & Chrisman of Seattle, and included construction of the substation building, the tunnels, footings for the exterior switchyard equipment, and the steel structures to support the heavy bus connectors. The firm was officially awarded the contract for the Cushman Substation in January 1925 , and began work on the building shortly thereafter.[12]

Founded by James Madison Dougan in 1908, Dougan & Chrisman had offices in both Seattle and Portland, Oregon. In Portland the firm was known for construction of the Elks and Masonic temples, the Benson Hotel, and the US National Bank Building, among others. In Seattle, the firm constructed the Virginia Mason Hospital, the Garfield School, and several state university buildings.[13]

Concrete for the foundations of the Cushman Substation was poured in March of 1925, with deep excavations required to allow for the huge generators the building would house.[14] The roof of the substation was poured in August.[15] By October, the distinctive metal windows were being installed, and much of the heavy electrical equipment had been installed in the adjoining switchyard.[16] In January 1926, "a giant 80-ton condenser" was the first piece of machinery tested at the substation, the success of which marked that the building and associated transmission lines and operating equipment were "practically ready to receive power from the Skokomish River." [17]

Designed to handle the power from both the Cushman No. 1 and the planned Cushman No. 2 powerhouses, the substation was constructed in the heart of one of Tacoma's residential districts. As such, "every effort was made to effect a design that was not only permanent and efficient in operation, but was also a beautiful piece of architecture and would harmonize with the surroundings."[18] Contemporary newspapers remarked on the Cushman Substation as not only "a model of electrical engineering, but its distinctive design will be in keeping with the residential section in which it will be constructed."[19] Cost of construction of the building was estimated at $150,000, with additional costs of operating and electrical equipment "representing a valuation of more than $550,000 when completed… The cost of the plant unit by unit as a whole is said to be far below the cost of other hydro-electric plants and will enable Tacoma to maintain its place in the industrial world as the home of the nation's cheapest electrical power."[20]

The three-story reinforced concrete building was constructed with an architectural treatment worthy of any building in the heart of the City. The cornice, pilasters, mouldings, etc. were all formed and poured monolithic with the main building. The surface treatment of the outside of the building, as well as all other exposed concrete on the block which the building occupies is what is known as a "rubbed finish." This consists of rubbing the concrete surfaces, after being stripped, with a rough carborundum stone until all film, fins and unevenness disappears, and then painting with a neat cement grout and rubbing in with a fine carborundum stone until only enough material is left on the surface to fill all of the voids and produce a smooth sandstone-like appearance.

Narrative Continuation

This finish harmonizes very well with the aluminum finish used on the towers, transformers, switches, and other equipment in the outdoor portion of the substation.[21]

As constructed, "one of the most interesting‖ features of the Cushman Substation" was the placing of thousands of feet of conduit in the floor slabs, walls and columns of the building." High-voltage wiring from exterior bussing equipment entered the substation via basement tunnels. Concrete barriers separated and insulated the high-voltage busses, while lower-voltage circuits were distributed via iron conduits cast into the concrete structure of the building.[22]

By March 1926, there was sufficient water in the Lake Cushman reservoir to begin producing power.[23] The 44-mile-long Potlatch Transmission Line, extending from the Cushman No. 1 powerhouse to the Cushman Substation in Tacoma, was first energized on March 23, 1926.24 At the formal dedication held in May, "the current from the dam was turned on in Washington, D.C., by President Calvin Coolidge using a key made by Lincoln High School students, which included gold from a Northern Pacific Railroad souvenir spike."[25] The Cushman system has provided power for the city of Tacoma ever since.

From its inception in 1893, Tacoma's public utility had sold power for commercial purposes in order to reduce the cost of residential power and light. The move to promote industrial expansion within the city directly influenced municipal power development. Following the opening of Cushman No. 1 and the Cushman Substation in 1926, several large industrial enterprises located plants in Tacoma. A consequent population boom and the availability of inexpensive electricity also encouraged consumers to purchase electric stoves, refrigerators, washing machines, and smaller appliances. In fact, demand was so great that by 1927, a year after Cushman No. 1 came online, the City Light department was promoting a second dam on the Skokomish River with the dire prediction that, without increased electrical output, Tacoma would "face a power shortage within three years."[26]

In spring 1929, Tacoma City Light began construction of the second power plant on the Skokomish River, 2 miles downstream from the first. With the water discharged from Cushman No. 1, Cushman No. 2 utilized the remaining 480-foot elevation drop to the Hood Canal, a 240-foot-high arch dam, and a 13,000-foot-long tunnel to provide additional power for the city. Construction of Cushman No. 2 began none too soon: extreme drought in fall 1929 forced the city to rely in part on supplemental power supplied by the U.S.S. Lexington, which remained anchored in Tacoma harbor from December 18, 1929, through January 16, 1930.[27]
The combined Cushman Nos. 1 and 2 systems were poised to bring a total of 140,000 horsepower to Tacoma - 50,000 from Cushman No. 1 and 90,000 from Cushman No. 2. As one report noted, "it is hard for the mind to grasp the significance of 50,000 horsepower of electrical energy. Picture an army of 1,000,000 men engaged in physical labor. Their combined effort would about equal this horsepower."[28]

In 1930, a journalist reported that "work on Cushman No. 2 project is being carried on seven days a week and 24 hours a day, as the power is urgently needed to supply the market at Tacoma."[29] The new Cushman No. 2 dam, a 240-foot, constant-radius, high-arch dam, rose to create Lake Kokanee.[30] The Cushman No. 2 powerhouse, which is located on the Skokomish Reservation, overlooking the Olympic Highway, was constructed by J. E. Bonnell and Son of Tacoma. The city's grand design for the Cushman No. 2 powerhouse exudes the sense of pride and progress felt by Tacoma City Light. The building draws upon neoclassical influences in civic architecture to express the significance of the facility to the functioning of the city.

On August 22, 1939, John D. Ross, chief administrator of Bonneville Power (and former head of Seattle City Light), addressed Congress on the status of Bonneville Dam (1934) and the newly proposed Grand Coulee Dam for which he sought federal funding. He said, —the enterprises the Pacific Northwest needs most for industrial development are those requiring large quantities of cheap electrical energy of which the region will soon have abundance. "In a feature article, the *Seattle Post-Intelligencer* listed thirteen key regional units that provided power and light. Among them was —Tacoma City Light (public monopoly—at present America's lowest power rates)."[31]

Narrative Continuation

By 1947, the City of Tacoma, Department of Public Utilities, Light Division, had begun construction on the Pearl Street Substation in Tacoma; in 1949, the transmission line was rerouted from the Cushman Substation to the Pearl Substation.[32] Blueprints for the "Pearl Street Switching Station Control House" are dated June 7, 1949, approved by engineer A. W. Francis. Although the transmission line continues on to the Cushman Substation, the historic alignment and terminus of the line have been altered. The Cushman Substation now acts as a storage building, and all original interior equipment has been removed. The switchyard, located on the Cushman Substation property, is still active, although it contains only modern equipment.

Historically, the substation was an integral part of the Cushman Hydroelectric Project, acting as terminus for the transmission line and therefore an essential resource directly related to the production and transmission of hydroelectric power to the citizens of Tacoma. Though the building exhibits excellent integrity of location, design, setting, materials, workmanship, feeling, and association, rerouting of the Potlatch Transmission Line to the Pearl Street Substation in 1949 and the subsequent removal of all power-related equipment from the interior of the Cushman Substation have rendered the building functionally disconnected from the rest of the Cushman system. However, the building is an excellent example of neoclassical-revival architecture, and has seen few alterations (apart from interior removal of equipment). The basic form, massing, and scale of the building, both interior and exterior, are intact.

The Cushman Substation ~~is eligible for listing in~~ [has been listed on] the National Register at the local level for significance under Criterion A, associations with broad patterns of history, for the role it played in the growth of the city of Tacoma and the region due to the development of hydroelectric generation and its subsequent effect on the availability of affordable electricity. [The Cushman Substation complex is eligible for listing in the Tacoma Register based on these same reasons. The Cushman Substation [complex] is the urban embodiment of the City of Tacoma's achievement in hydroelectric power production via development of the Cushman Hydroelectric Project. The substation housed the means for efficient and economical distribution of electricity, which enabled the region to grow and expand and, therefore, made the Cushman Substation one of the most important and influential buildings of its time.

The monumental architectural style reflected this ideology, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system. As such, the building is also eligible for listing in the NRHP at the local level for significance under Criterion C, architecture. The Cushman Substation is an excellent example of neoclassical revival style architecture, with which the City of Tacoma built the Cushman Hydroelectric Project facilities in the 1920s. The only urban building constructed concurrent with the Cushman Hydroelectric Project, the Cushman Substation is a visual representation of the importance of public energy facilities to regional growth. The monumental architectural style reflected the importance of efficient and economic distribution of energy, creating a visual statement as to the importance of the city's recently completed municipal hydroelectric system.

The period of significance is 1926–1949, the date construction was completed through the date the transmission line was rerouted and the historic terminus altered.

Narrative Continuation

[1] Dick Malloy and John Ott, The Tacoma Public Utilities Story: The First 100 Years, 1893–1993 (Tacoma, WA: Department of Public Utilities, 1993), 13.
[2] Robert Wiebe, The Search for Order, 1877–1920 (New York: Hill & Wang, 1967), 166–72.
[3] Loretta Neumann, William Beckner, Janet Friedman, Steve DelSordo, and John Culliname, Cultural Resource Management Plan: Cushman Hydroelectric Project, submitted to Tacoma Public Utilities, Tacoma, WA, 1996, A3-9, on file at Tacoma Public Utilities, WA.
[4] Malloy and Ott, Tacoma Public Utilities Story, 84.
[5] "Surveying and Speculation Continues in Flathead," The Inter Lake, January 3, 1902, Great Northern Railway, Kalispell Division, http://www.gnry.net/lookingback/lbi1900s.html#1902.
[6] "News Notes," Journal of Electricity, Power, and Gas 33 (December 26, 1914): 589. 7 —Personal and Biographical," Electrical Review 71, no. 6 (1917): 250.
[8] Malloy and Ott, Tacoma Public Utilities Story, 88.
[9] "Bid for Cushman Substation to Be Called this Week" *Tacoma Sunday Ledger*, December 7, 1924, E-8.
[10] Bart Ripp, "A Very Juicy Past: Cushman Sub-Station Is an Elegant Reminder of Tacoma Public Utilities' Century of Providing Power*," Tacoma News Tribune*, November 29, 1993. 3. See also —Cushman Power Project Edition," *Tacoma Daily Ledger*, February 28, 1926.
[11] "Cushman Power Project Edition*" Tacoma Daily Ledger*, February 28, 1926, 11.
[12] "City Power Substation Bids Opened," *Tacoma Daily Ledger*, December 30, 1924, 1.
Original blueprints of the Cushman Substation, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. Verne Gongwer, Superintendent of Electrical
[13] Ila L. Wakley, "James Madison Dougan," S. J. Clarke Publishing Company, The USGenWeb Project, accessed March 17, 2014, http://usgenweb.org/. http://files.usgwarchives.net/or/multnomah/bios/dougan444gbs.txt.
[14] "Pouring Concrete for New Substation," Tacoma Daily Ledger, March 9, 1925, 3.
[15] "Work being Speeded on Big City Substation," Tacoma Daily Ledger, August 16, 1925, A-4.
[16] "Getting Ready to Receive Cushman Current," Tacoma Daily Ledger, October 11, 1925, A-11.
[17] "Test of Machine's Success*," Tacoma Daily Ledger*, January 1, 1926, A-1.
[18] Ira S. Davisson and Llewellyn Evans, "Cushman Power Project," 1924–1925 Information Book of the Light Department, City of Tacoma, Washington, 73. Washington State Archives, Puget Sound Region Branch, Tacoma Municipal Government Collection, Tacoma Public Utilities Division, Reports and Publications, PS611-81A-86.
[19] "Bids for Cushman Substation to Be Called This Week," E-8.
[20] Ibid.
[21] Davisson and Evans, "Cushman Power Project," 73.
[22] Davisson and Evans, "Cushman Power Project," 73.
[23] Malloy and Ott, Tacoma Public Utilities Story, 88; and Overland, Early Settlement of Lake Cushman, 40.
[24] Malloy and Ott, Tacoma Public Utilities Story, 88.
[25] Office of Historic Preservation, Community Development Department, —Cushman Power Project, Cushman Substation,‖ Survey-Inventory Form, Community Cultural Resource Survey, Reference No. 31650, April 1981, 2, on file at the Washington Department of Archaeology and Historic Preservation (hereafter DAHP).
[26] City of Tacoma, Department of Public Utilities, Light Division, 1926–27 Information Book (n.p.: n.p., 1927), 18, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, Washington State Archives, Puget Sound Regional Branch (hereafter WSA-PSRB).
[27] "Report to December 31, 1929," Report and Information Book of the Light Division, Department of Public Utilities, City of Tacoma, Washington, 16, Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.
[28] —Cushman Project Visualized," [ca. 1925],] Tacoma Public Utilities History Collection, Accession PS-20091012-02, Box 7116, Tacoma Public Utilities Archival Collection, WSA-PSRB.
[29] —Cushman Power Plant No. 2 for Tacoma,‖ Western Construction News, November 10, 1930: 538.
[30] Lisa Soderberg, "Cushman No. 1 Hydroelectric Power Plant," National Register of Historic Places Nomination Form, 1988, 8-1, on file at DAHP.
[31] John D. Ross, "Plentiful Electricity Seen as Stimulant. Accompanied by Quotes from the Author's Address to Congress and by a List of 'Key Units and Their Present Power and Light Services,' *Seattle Post-Intelligencer*, August 22, 1939, Costello Scrapbooks, vol. 8, "Dams and Power," *Seattle Public Library*, Seattle, Washington.
[32] The Pearl Street Substation is located at 2402 Pearl Street North in Tacoma. The substation comprises one building, an outdoor switchyard, and one historic-era tower identical to those found on North 21st Street. The single-story building with a drive-under basement fronts east on Pearl, with parklike landscaping separating the substation from the suburban mini-mall development located east of Pearl Street. The Pearl Street Substation has seen few exterior alterations since initial construction: the windows appear to be original, as does the stucco cladding. Though all doors appear to be modern, they are in original openings. The building retains good integrity of design, workmanship, feeling, association, setting, and location, and fair integrity of materials.

Continuation Sheet

1. Geographic Data

Acreage of Properties: 1.91 acres Cushman Substation
0.47 acres Adams Street Substation

Additional UTM References for the Adams Street Substation Site

	Zone	Northing	Easting
21.	10	538724	5234996
22.		538722	5234953
23.		538784	5234955
24.		538785	5234997

A. Figures Continuation Sheet

Figure 1 1926 “Metsker’s Atlas – Tacoma, Washington. Metsker, Chas F., Metsker Map Company, Tacoma Washington

Figure 2. Illustrated Map of Cushman Project 1947, Tacoma City Light

Figure 3. Cushman Substation under construction, board formed construction, August 3, 1925, Image courtesy of Tacoma Power

Figure 4. Raising of Tower 1 with Adams and Cushman Substation in background August 4, 1925, Image courtesy of Tacoma Power

Figure 5. Adams Street view North, September 8, 1925, Image courtesy of Tacoma Power

Figure 6. Adams Street substation and Tower 1; view northwest, September 12, 1925, Image courtesy of Tacoma Power

Figure 7. Adams Street Substation; view southeast, October 6, 1925, Image courtesy of Tacoma Power

Figure 8. Adams Street view northeast, October 19, 1925, Image courtesy of Tacoma Power

Figure 9. Cushman Substation Control Room ca. 1929, Image courtesy of Tacoma Public Library

Figure 10. Cushman Substation Condenser room ca. 1929, Image courtesy of Tacoma Public Library

Figure 11. Cushman Dam and Lake, ca 1929, Lamp poles, Image courtesy of Tacoma Public Library

Figure 12. Cushman complex, View east April 13, 1937, Image courtesy of Tacoma Power

Figure 13. Cushman Substation, 19th Street facade, 1947, Image courtesy of Tacoma Power

Figure 14. Adams Street Substation Plan 1924, Drawing courtesy of Tacoma Power

Figure 15. Adams Street Substation Elevations 1924, Drawing courtesy of Tacoma Power

Figure 16. Cushman Substation, main entry onto 19th Street

Figure 17. Cushman Substation, view northwest, Jeff Ryan Photographer, August 2016.

Figure 18. Cushman Substation, view northeast, Jeff Ryan Photographer, August 2016.

Figure 19. Cushman Substation view southeast, Jeff Ryan Photographer, August 2016.

Figure 20. Cushman Substation view south, Jeff Ryan Photographer, August 2016.

Figure 21. Cushman Substation, view west, Jeff Ryan Photographer, August 2016.

Figure 22. Adams Street Substation and Tower 1, view southwest, Jeff Ryan Photographer, August 2016.

Figure 23. Adam Street Substation, with tower 1 in background, view northeast, Jeff Ryan Photographer, August 2016.

Continuation Sheet

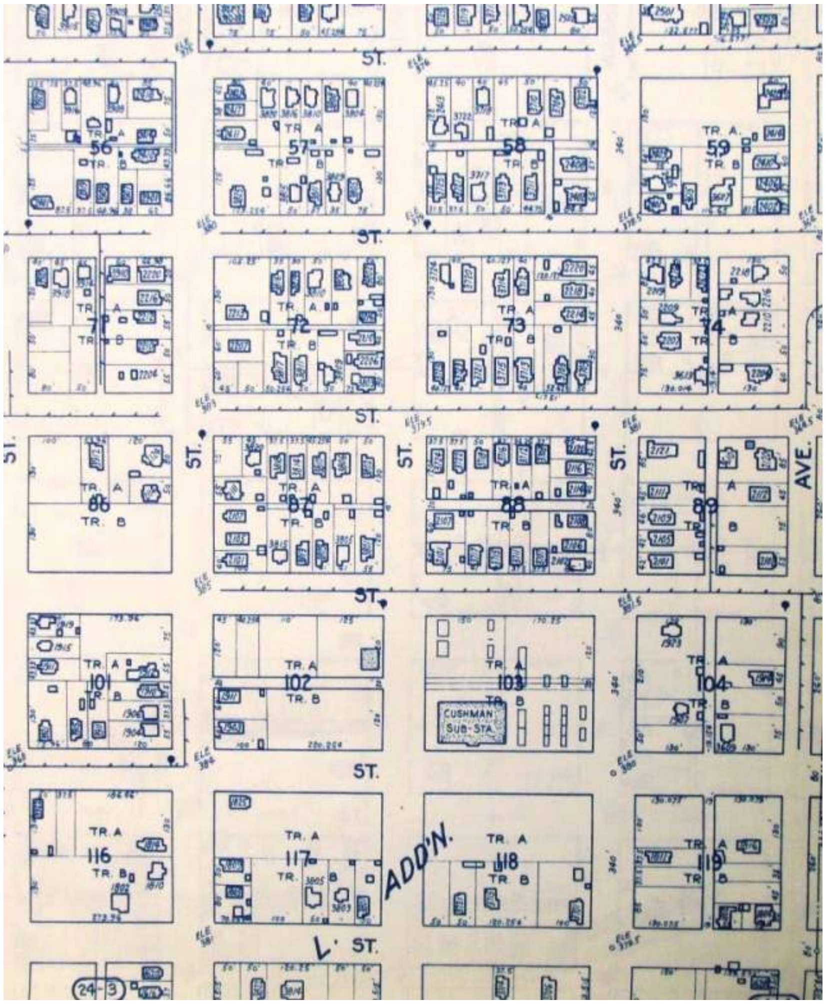


Figure 1 Cushman & Adams Street Site 1926

Continuation Sheet

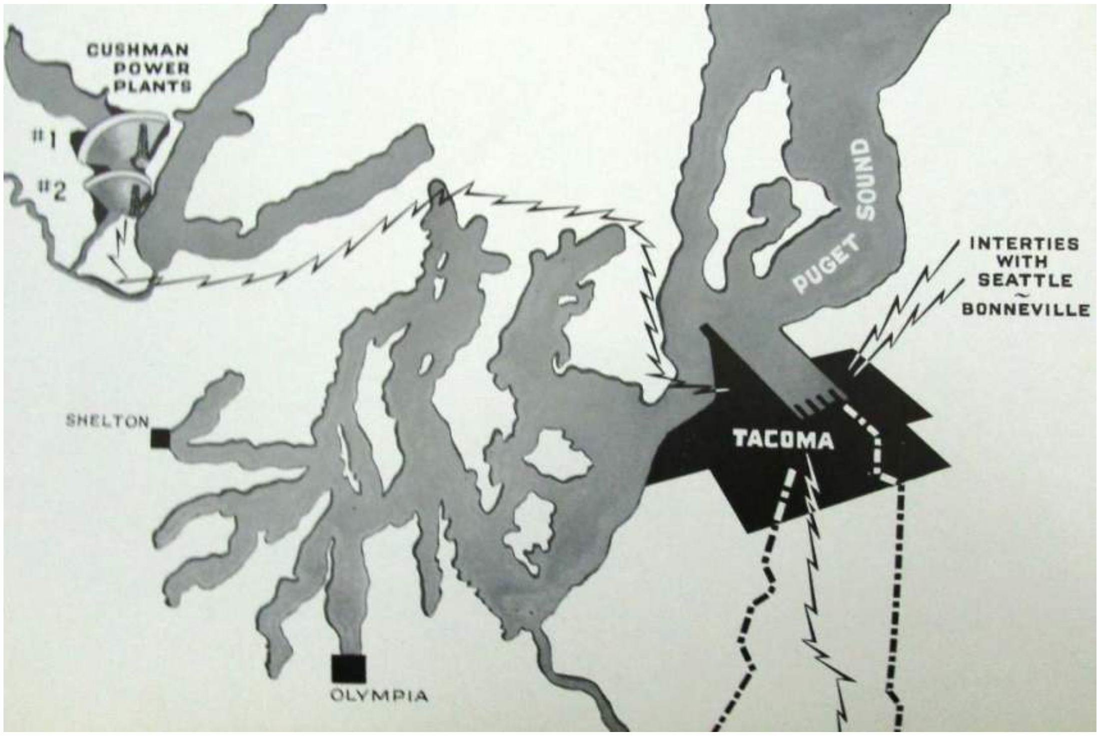


Figure 2 Cushman Power Project Illustrated Map 1947

Continuation Sheet

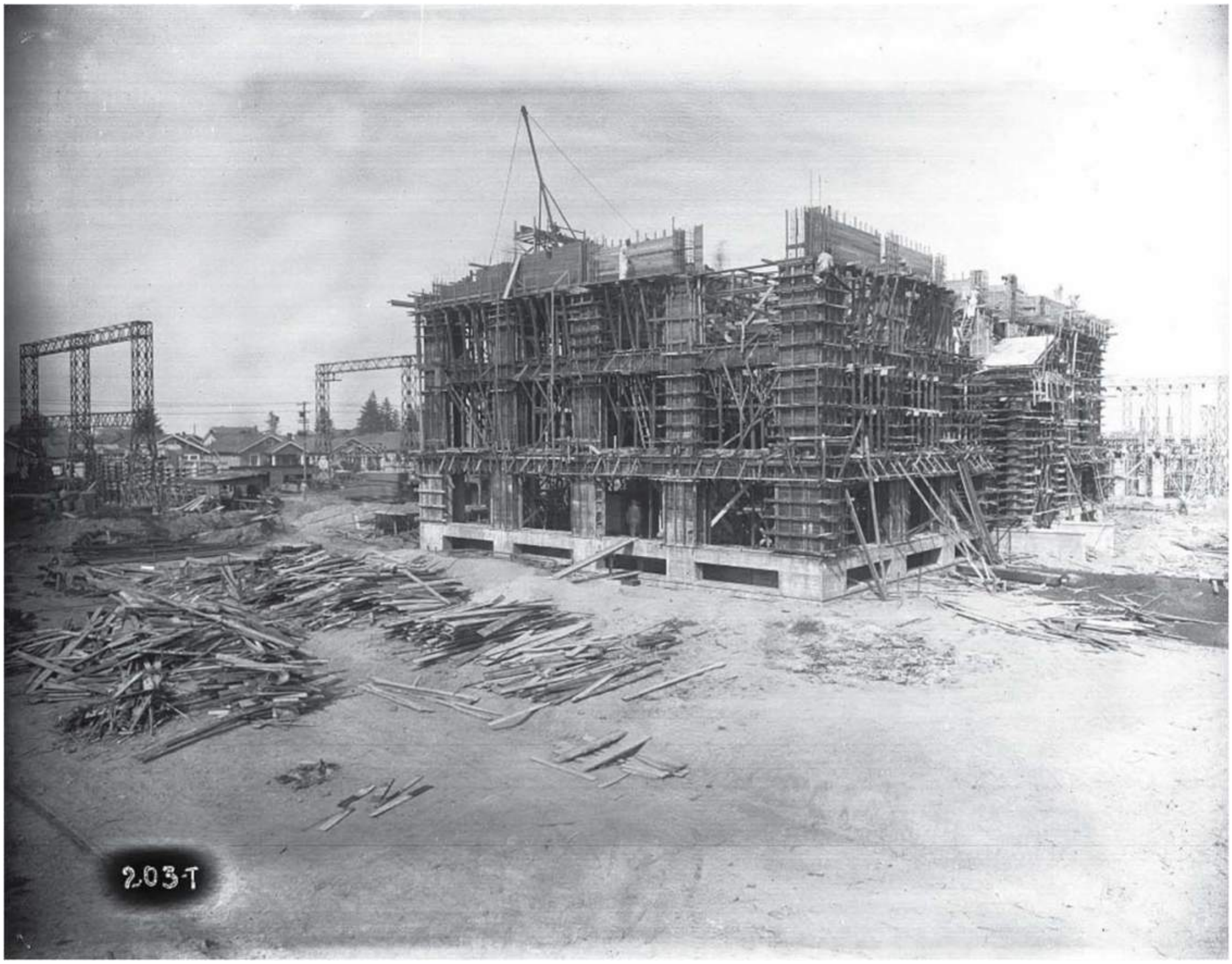


Figure 3 Cushman Substation under construction, board formed construction, August 3, 1925, Image courtesy of Tacoma Power

Continuation Sheet

Figure 4 Raising of Tower 1 with Adams and Cushman Substation in background August 4, 1925, Image courtesy of Tacoma Power

Continuation Sheet

Figure 5 Adams Street view North, September 8, 1925, Image courtesy of Tacoma Power

Continuation Sheet

Figure 6 Adams Street substation and Tower 1; view northwest, September 12, 1925, Image courtesy of Tacoma Power

Continuation Sheet

Figure 7 Adams Street Substation; view southeast, October 6, 1925, Image courtesy of Tacoma Power

Continuation Sheet

Figure 8 Adams Street view northeast, October 19, 1925, Image courtesy of Tacoma Power

Continuation Sheet

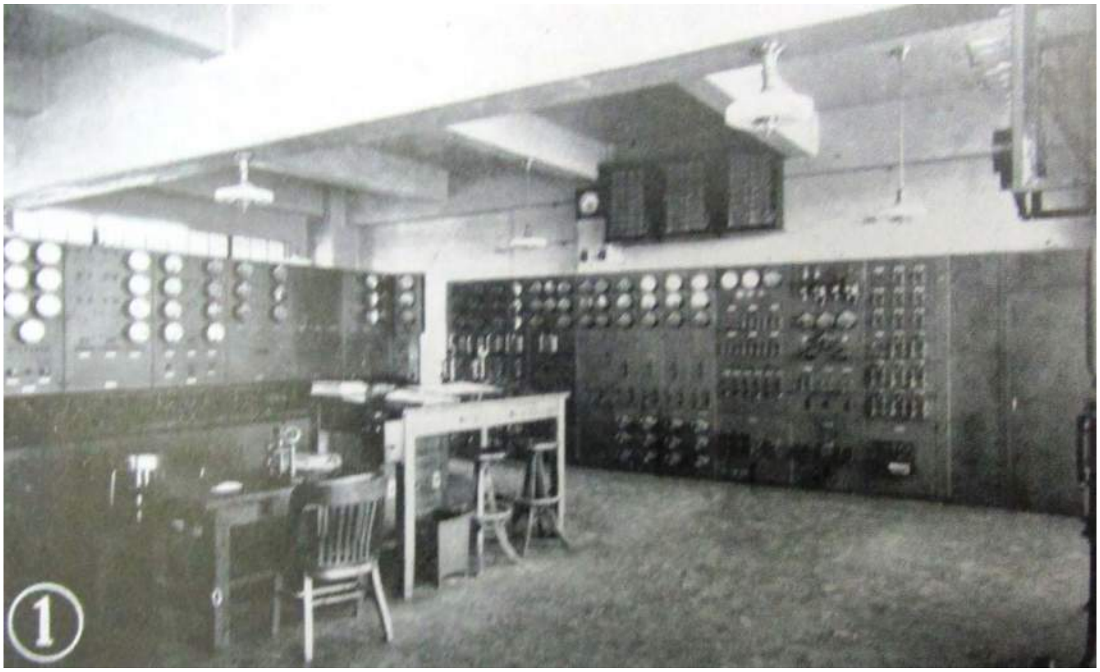


Figure 9 Cushman Substation Control Room ca. 1929, Image courtesy of Tacoma Public Library

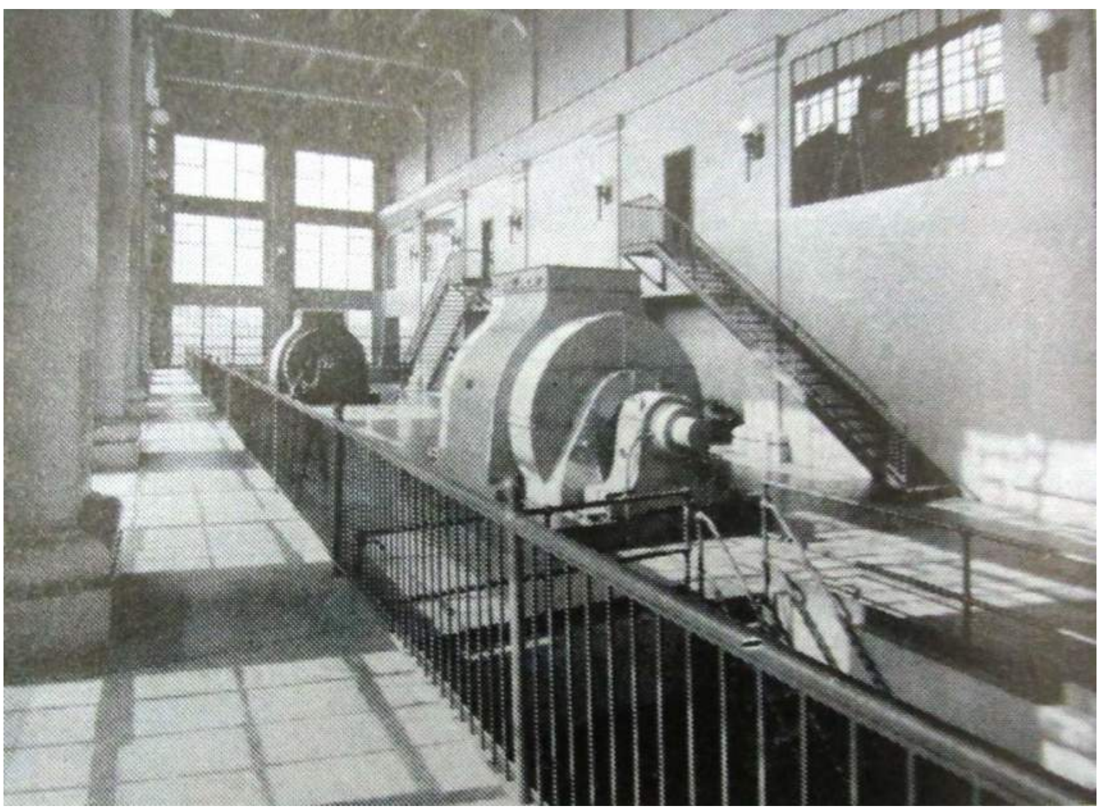


Figure 10 Cushman Substation Condenser room ca. 1929, Image courtesy of Tacoma Public Library

Continuation Sheet

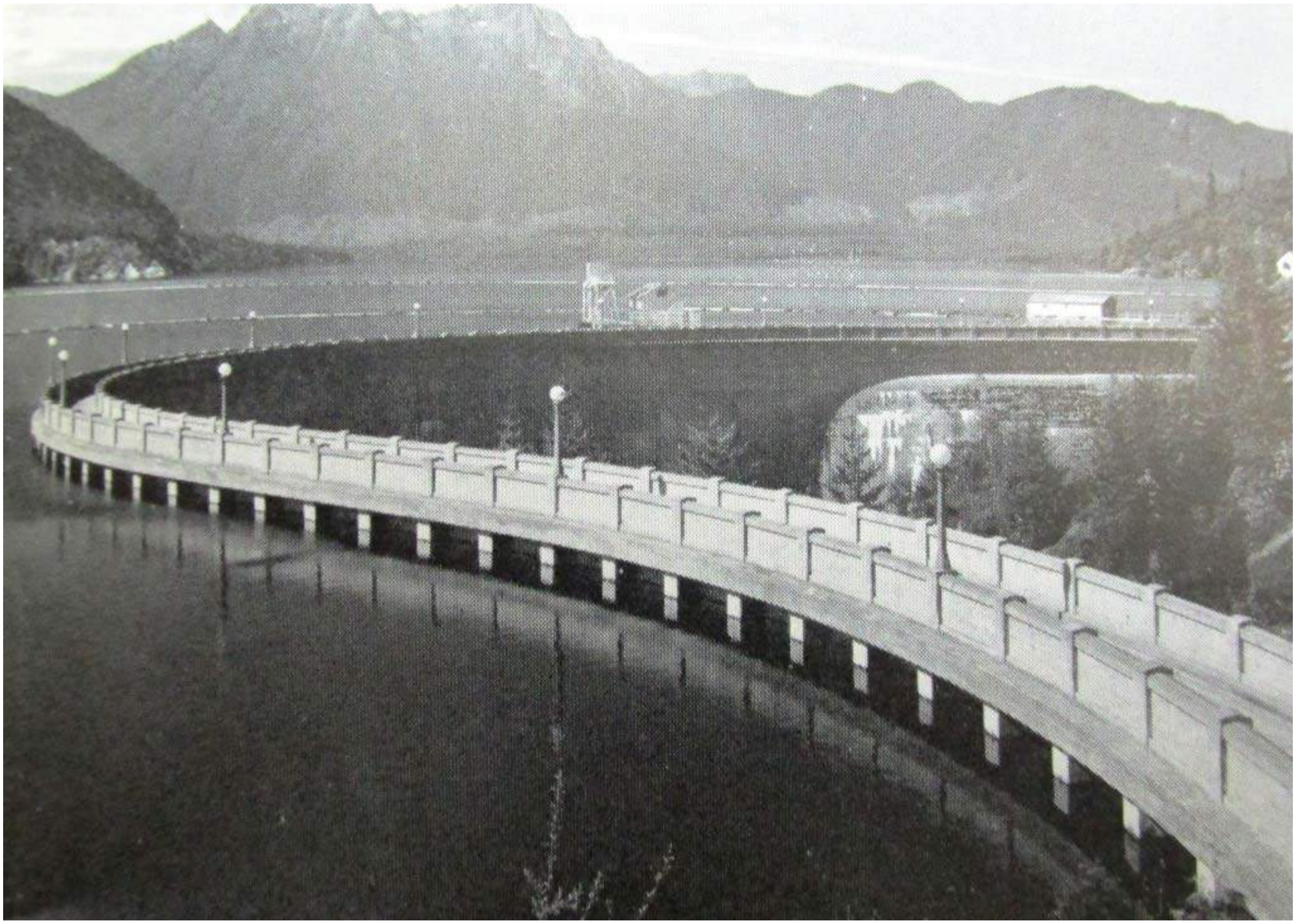


Figure 11 Cushman Dam and Lake, ca 1929, Lamp poles, Image courtesy of Tacoma Public Library

Continuation Sheet

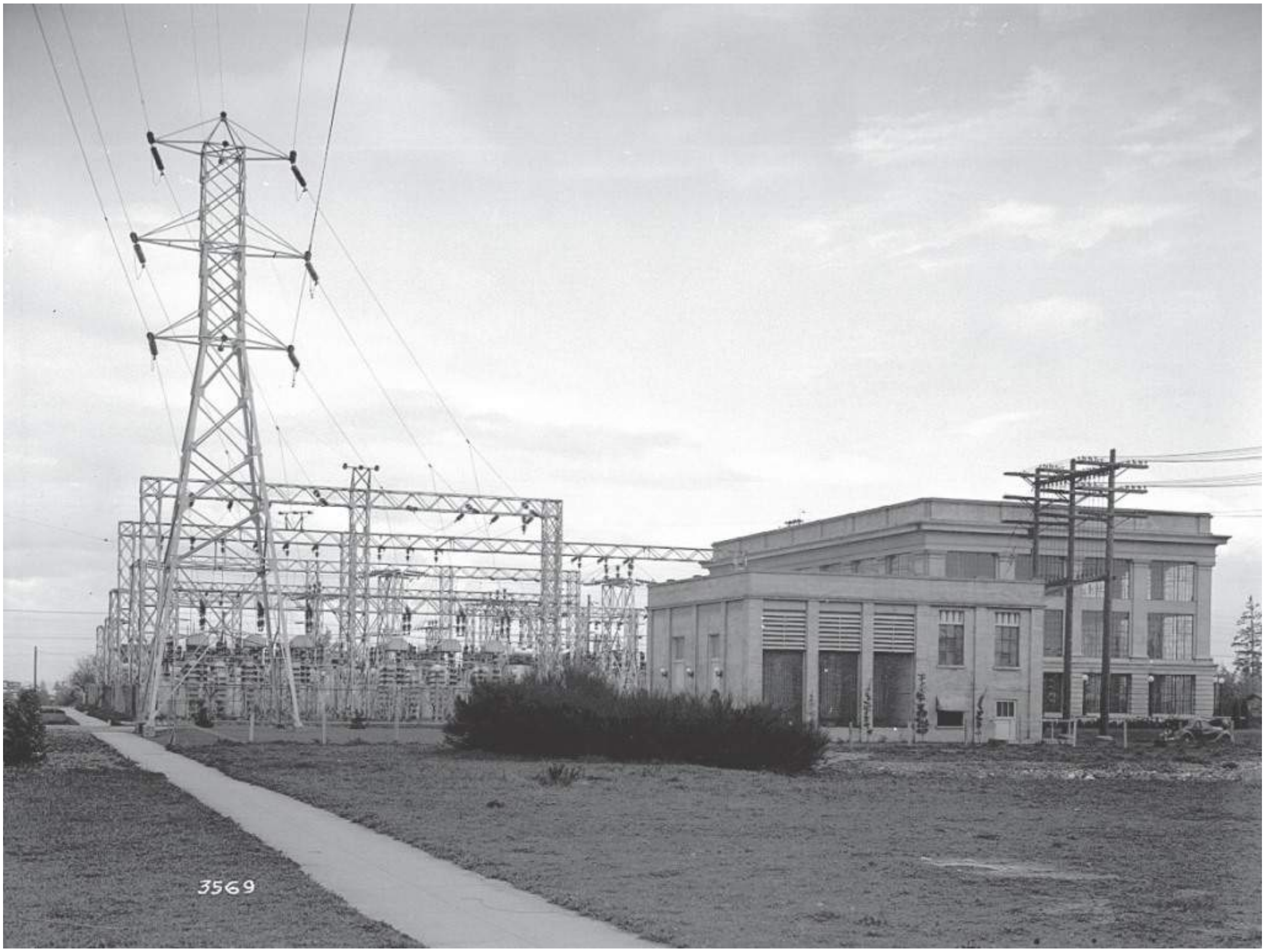


Figure 12 Cushman complex, View east April 13, 1937, Image courtesy of Tacoma Power

Continuation Sheet

Figure 13 Cushman Substation, 19th Street facade, 1947, Image courtesy of Tacoma Power

Continuation Sheet

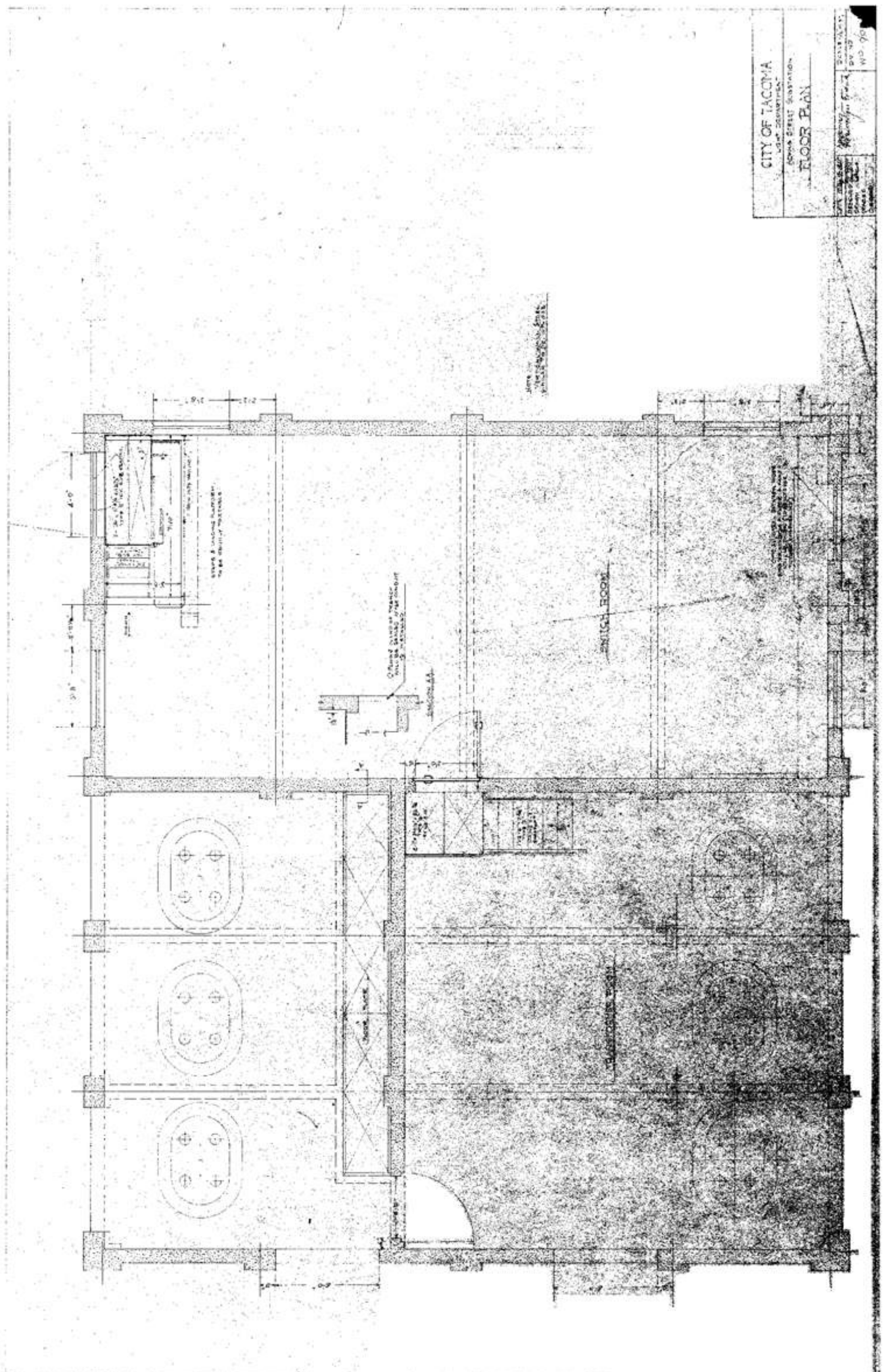


Figure 14 Adams Street Substation Plan 1924, Drawing courtesy of Tacoma Power

Continuation Sheet

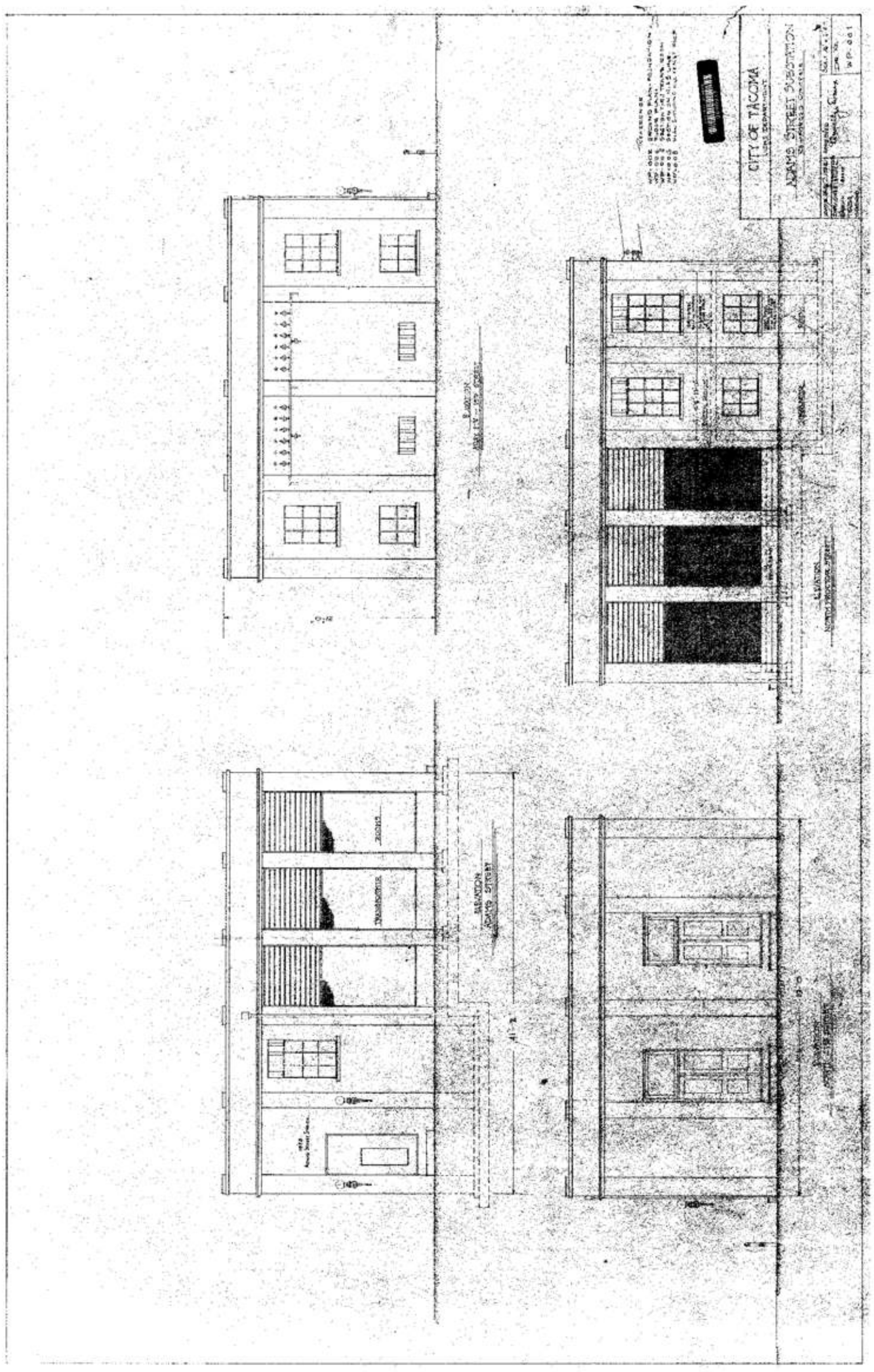


Figure 15 Adams Street Substation Elevations 1924, Drawing courtesy of Tacoma Power

Continuation Sheet

Figure 16 Cushman Substation, main entry onto 19th Street

Continuation Sheet

Figure 17 Cushman Substation, view northwest.

Continuation Sheet

Figure 18 Cushman Substation, view northeast

Continuation Sheet

Figure 19 Cushman Substation view southeast

Continuation Sheet

Figure 20 Cushman Substation view south

Continuation Sheet

Figure 21 Cushman Substation, view west

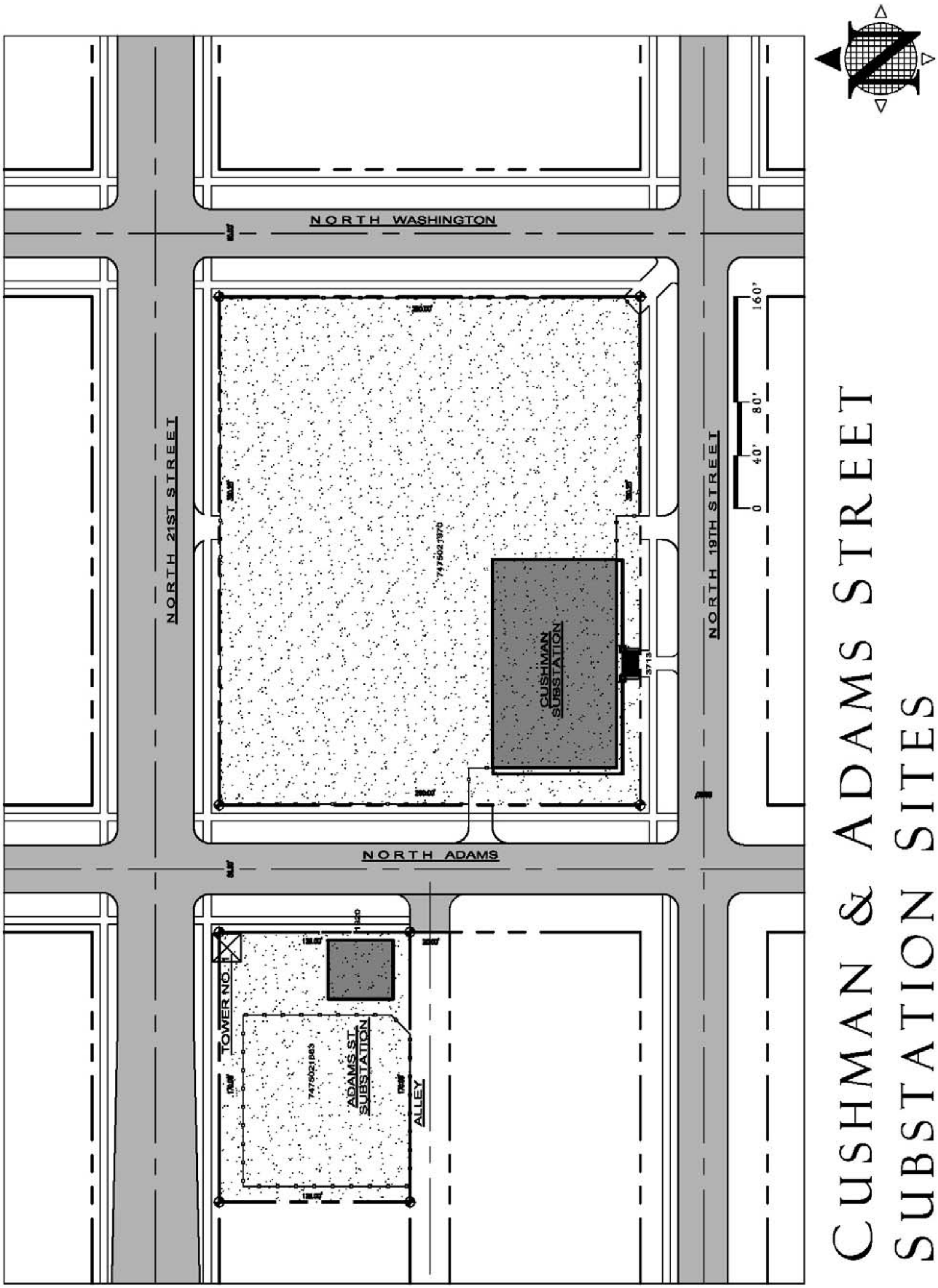
Continuation Sheet

Figure 22 Adams Street Substation and Tower 1, view southwest

Continuation Sheet

Figure 23 Adam Street Substation, with tower 1 in background, view northeast

Continuation Sheet



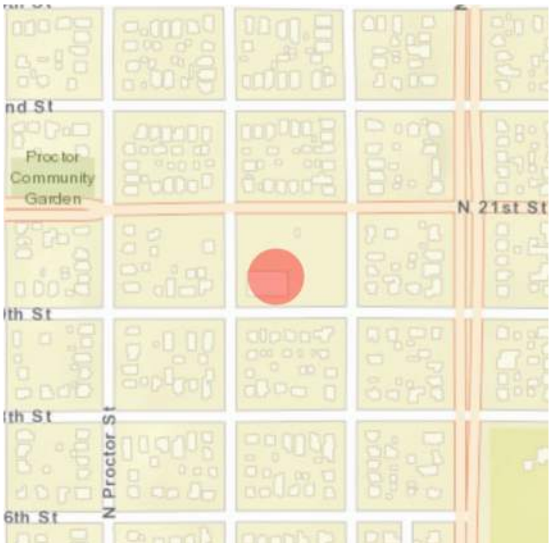
6.4 Appendix
DAHP Historic Property Inventories

Historic Property Report

Resource Name: Cushman Substation - Tacoma

Property ID: 31650

Location



Address: 3713 North 19th Street, Tacoma, WA

Tax No/Parcel No: 7475021970

Geographic Areas: Pierce County, TACOMA NORTH Quadrangle, Pierce County Certified Local Government, Tacoma Certified Local Government, T21R02E36

Information

Number of stories: 3

Construction Dates:

Construction Type	Year	Circa
Built Date	1948	☐
Built Date	1925	☐
Built Date	1956	☐

Historic Use:

Category	Subcategory
Government	Government - Public Works
Industry/Processing/Extraction	Industry/Processing/Extraction - Energy Facility
Industry/Processing/Extraction	
Government	Government - Public Works
Industry/Processing/Extraction	Industry/Processing/Extraction - Energy Facility
Industry/Processing/Extraction	

Historic Context:

Category
Architecture
Community Planning and Development
Industry/Manufacturing

Architect/Engineer:

Category	Name or Company
Builder	City of Tacoma
Engineer	Stannard, J.L.
Architect	Gongwer, Verne (Designer/Engineer); Parker, James (Preparer: Perspective and Plans)
Builder	Dougan and Chrisman; Darland, Alvin F. (Electrical Construction)

Registers:

Register Type	Listed Date	Removed Date	Period of Significance	Level of Significance	Criteria
National Register	12/29/2014		1926 - 1949	Local	A, C
Washington Heritage Register	12/29/2014		1926 - 1949	Local	A, C

Thematics:

Local Registers and Districts

Name	Date Listed	Notes

Project History

Project Number, Organization, Project Name	Resource Inventory	SHPO Determination	SHPO Determined By, Determined Date
030911-63-FERC, FERC, Cushman Dam Relicensing HPMP	8/12/2011	Determined Eligible	, 4/11/2012
062612-06-FCC, FCC, AT&T Wireless Antenna Collocation; TA43 University of Puget Sound			
102814-02-FCC, FCC, TA43 UPS Cell Tower			
2012-06-00078, , U of Puget Sound #TA43 cellular	4/21/2012	Determined Eligible	, 7/1/2014
2016-03-01969, FCC, SE05513F UPS-Cushman SS cell tower			

Photos

southeast corner

Detail of light poles

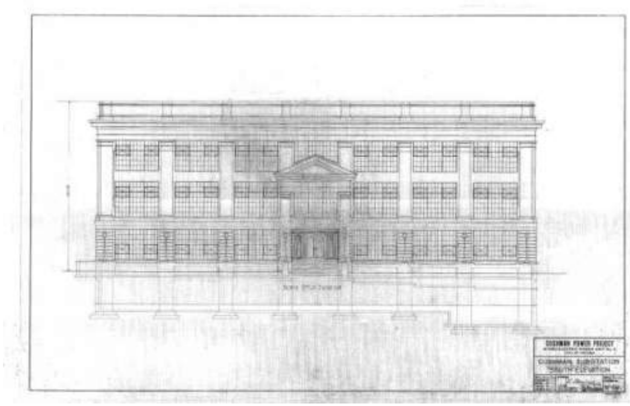
Third Floor interior

Northeast oblique

Southeast Oblique

Temple front at main entrance

Northwest oblique



Cushman Substation blueprint

Cushman Substation

Register nomination form

CushmanAdamsStSubstation.pdf

Cushman Substation - HP-Forms-Nomination FINAL.pdf

Original HPI form(s)

Inventory Details - 1/1/1900

Common name:	Cushman Hydroelectric Project - Cushman Substation
Date recorded:	1/1/1900
Field Recorder:	
Field Site number:	7475021970
SHPO Determination	

Styles:

Period	Style Details
Early 20th Century Revivals (1900-1940)	Neoclassical

Historic Property Report

Resource Name: Cushman Substation - Tacoma

Property ID: 31650

Inventory Details - 8/8/2011

Common name:	Cushman Hydroelectric Project - Cushman Substation
Date recorded:	8/8/2011
Field Recorder:	Artifacts Consulting, Inc.
Field Site number:	7475021970
SHPO Determination	

Detail Information

Characteristics:

Category	Item
Structural System	Wood - Platform Frame

Styles:

Period	Style Details
Early 20th Century Revivals (1900-1940)	Neoclassical

Surveyor Opinion

Significance narrative:

Modeled as a category "1C" property. Modeling provides a broad planning tool that is not meant to be a definitive decision on individual building historic status nor a substitute for field based survey work and determinations of eligibility. In 2011 the model assigned categories to 39,270 City of Tacoma properties. This work establishes a baseline of legacy data against which to measure future data sets to gauge both retention and attrition.

Modeling stemmed from a city-wide preservation planning need and providing this planning data content in concert with updates to the city's Preservation Plan. The city's goal to have a more comprehensive perspective expanded modeling to include all properties built in or before 1969. This work also included linking and integrating Tacoma Public Library Building Index data to inform modeling.

Modeling provides a tool to augment the traditional survey and inventory approach. The data can effectively guide at a broad city and neighborhood-wide level initial research efforts to develop and prioritize context statements and field survey work. Intended user groups include city staff (preservation, planning and permit), historical societies, consultants and interested citizens and property owners. The data becomes a tool supporting the broader approach of building conservation.

City Preservation Plan categories:

Group 1. HISTORICALLY SIGNIFICANT PROPERTIES

1A. Individually eligible to the National Register (NR)

1B. Contributor to a National Register eligible district

1C. Eligible for local listing, but not to the NR

1D. Contributor to a Local Register eligible district

Group 2. NOT HISTORICALLY SIGNIFICANT PROPERTIES

2A. Not eligible, with conditions

2B. Not eligible

Data included on this historic property inventory form (HPI) detail stemmed from County Assessor building records imported by the Washington State Department of Archaeology of Historic Preservation (DAHP) into WISAARD in 2011. This upload reduces data entry burden on community volunteers and historical societies participating in the survey and inventory of their communities. The intent of this project is directed specifically to facilitating community and public involvement in stewardship, increasing data accuracy, and providing a versatile planning tool to Certified Local Governments (CLGs).

Project methodology entailed use of the University of Washington's State Parcel Database (http://depts.washington.edu/wagis/projects/parcels/development.php) to provide the base parcel layer for CLGs. Filtering of building data collected from each county trimmed out all properties built after 1969, as well as all current, previously inventoried properties. Translation of building data descriptors to match fields in HPI allowed the data upload. Calculation of point locations utilized the center of each parcel. Data on this detail provides a snapshot of building information as of 2011. A detailed project methodology description resides with DAHP. Project team members: Historic Preservation Northwest, GeoEngineers, and Artifacts Consulting, Inc. (project lead).

Physical description: The building at 3713 N 19th, Tacoma, is located in Pierce County. According to the county assessor, the structure was built in 1948 and is an energy facility. The 1-story, platform frame building has a roof clad in an unknown material.

Bibliography: Tacoma Building Index data integrated into this form provided courtesy of the Tacoma Public Library. (http://search.tacomapubliclibrary.org/buildings/bldgv2.asp)

Historic Property Report

Resource Name: Cushman Substation - Tacoma | Property ID: 31650

Inventory Details - 8/12/2011

Common name:	Cushman Hydroelectric Project - Cushman Substation
Date recorded:	8/12/2011
Field Recorder:	Perrin, Natalie
Field Site number:	7475021970
SHPO Determination	030911-63-FERC determined on 4/11/2012

Detail Information

Characteristics:

Category	Item
Roof Material	Asphalt/Composition
Plan	Rectangle
Foundation	Concrete - Poured
Structural System	Masonry - Precast Concrete
Cladding	Concrete
Roof Type	Gable

Styles:

Period	Style Details
Early 20th Century Revivals (1900-1940)	Neoclassical

Surveyor Opinion

Property appears to meet criteria for the National Register of Historic Places: Yes

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Significance narrative: The Cushman Substation was constructed by the City of Tacoma in 1925. Original blueprints, dated December 3, 1924, and on file with Tacoma Power, reference Structural Engineer J. V. Gongwer, Superintendent of Electrical Construction A. J. Darland, and Chief Engineer J. L. Stannard. Jay Stannard was born to Gilbert and Esther Stannard in New York in 1866. By 1880, the family had relocated to Shell Rock, Iowa, in a westward trend that Jay would continue all the way to Washington. Stannard married Carrie A. in 1889, and by 1900, was lodging in Everett, Washington. Stannard worked with the Great Northern Railway as early as 1902, when he led a survey from Columbia Falls to Tobacco Plains in Flathead, Montana (Inter Lake 1902). Stannard also spent time in Oregon, where he was employed by the city of Baker as consulting engineer for a municipal hydroelectric project (Western Engineering 1915:316). An August 1917 edition of Electrical Review noted, “J. L. Stannard, Portland, Oregon, is consulting engineer in connection with the proposed hydroelectric plant for the city of Seattle. He has made plans and estimates covering all phases of the contemplated project” (Electrical Review 1917:250). By the time Cushman was proposed for Tacoma, Stannard’s career as a civil engineer appears to have been well established.

The Cushman Substation, as constructed, was the terminus of the Cushman Transmission Line, also called the Potlatch 1 & 2 Transmission Line or simply the Potlatch Transmission Line, which stretched from the Cushman No. 1 switchyard west of Hoodsport to the Cushman Substation in Tacoma. The line was first energized during the dedication of the Cushman system on May 24, 1926. "At the dedication, the current from the dam was turned on in Washington, D.C. by President Calvin Coolidge using a gold key made by Lincoln High School students from a Northern Pacific Railroad souvenir gold spike" (Office of Historic Preservation 1981:2). Since then, the Cushman system has provided power for the city of Tacoma.

The Cushman Transmission Line no longer connects directly to the Cushman Substation. In 1947, the Pearl Street Substation in Tacoma was under constructed, and by 1949, the transmission line had been rerouted from the Cushman to the Pearl substation. Although the transmission line continues on to the Cushman Substation, its historic alignment and terminus have been altered. The Cushman Substation now acts as a storage building, and all the interior equipment has been removed; the switchyard, located on the Cushman Substation property, is still active.

With the exception of wholesale removal of interior equipment, alterations to the building itself have been fairly minor. For example, a door on the second floor of the east elevation was cut into a window; this change utilized the existing window space and, with the exception of the removal of some window panes, did not require removal of building fabric. Other alterations include the removal of light poles on the exterior of the building; based on analysis of historic photos the substation originally had eight light poles on the south side and five on both the east and west sides.

The Cushman Substation was recorded in 1981 as part of the Tacoma Cultural Resource Survey (Census Tract 607; see historic property inventory form #31650, Cushman Power Project, on file with the Washington Department of Archaeology and Historic Preservation); no determination of eligibility was recommended or made at that time.

Although the substation was an integral part of the Cushman Hydroelectric Project (both Cushman No. 1 and Cushman No. 2 Historic Districts were listed on the National Register in 1988), acting as terminus for the transmission line and therefore an essential resource directly related to the production and transmission of hydroelectric power to the citizens of Tacoma, alterations have removed the building's ability to convey this significance within the historic context. Though the building exhibits excellent integrity of location, design, setting, materials, workmanship, feeling, and association, rerouting of the Cushman-Tacoma Transmission Line to the Pearl Street Substation in 1949 and the subsequent removal of all power-related equipment from the interior of the Cushman Substation have rendered the building functionally disconnected from the rest of the Cushman system. The Cushman Substation is therefore recommended ineligible under Criterion A, for contributions to broad patterns of history.

The building is not known to be associated with a significant person, and is recommended ineligible under Criterion B. The Cushman Substation is also not likely to yield archaeological information important in history or prehistory, and is recommended ineligible under Criterion D.

The building is an excellent example of Neoclassical-revival architecture, and has seen few alterations (apart from interior removal of equipment). The basic form, massing, and scale of the building, both interior and exterior, are intact. The building also exhibits excellent integrity of location, design, setting, materials, workmanship, feeling, and association. The Cushman Substation is recommended eligible under Criterion C.

Physical description: The Cushman Substation is located at 3713 North 19th Street in Tacoma, Washington. The substation building and outdoor switchyard maintain an entire city block, bordered to the south by North 19th Street, the west by North Adams Street, the north by North

21st Street, and the east by North Washington Street. The building occupies the southwest quadrant of the block, and fronts south on North 19th Street; park-like landscaping highlights the main entrance. The switchyard occupies the northwest quadrant of the block. The eastern half is partially graveled, partially paved, and features concrete pad foundations for equipment no longer extant at the site.

The Cushman Substation building is rectangular in plan and three-stories tall on basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof with a concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.

The main entrance is centrally located on the south façade and is adorned with a monumental distyle temple front. Accessed via concrete stairs that define the stereobate, the pediment, tympanum, and Tuscan columns of the temple-front entryway are unadorned; the fully articulated entablature features the words “Cushman Substation” in the frieze. The tri-parte doorway has a single-light wood door accentuated by engaged Tuscan Doric columns, and flanked by twelve-light sidelights of beveled glass with engaged pilasters at the corners. The doorway also features an entablature, with decorative dentils below the frieze. Original metal hardware on the door appears to be intact.

The west side is devoid of entrances; other entryways, found on the north and east elevations, are industrial and/or utilitarian. These include the large metal roll-up door on the east elevation, with an inset pedestrian door; the second-floor entrance on the west elevation, accessed via an exterior metal stairway; the ground-floor pedestrian door on the east corner of the north elevation; and the metal roll-up door located in the center bay of the north elevation. With the exception of the main entryway door on the south elevation and the large metal roll-up door on the east elevation, all other doors appear to be modern.

The most predominant feature of the Cushman Substation is the metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway (described above) has been added to one of the window bays.

Original cast-concrete light poles flank the stairway to the main entrance. The light poles are also located on the corners of the south elevation, as well as symmetrically arranged on the west elevation, for a total of seven poles currently extant. The light poles originally featured glass globes, though these have been replaced with plastic globes or, in some cases, are missing altogether.

The interior of the Cushman Substation maintains the original massing and form as originally constructed; however, all operating equipment has been removed, and the building is used primarily for storage. The south half of the building is one large open room, three stories tall, historically known as the Condenser Room. This main area once housed the machinery (condensers) necessary for the substation, and still features original details such as sconces with glass globes; gantry crane; engaged pilasters on both the exterior and interior walls; and the exposed, board-formed concrete beams and ceiling that support the roof structure. Some modern lighting has been installed on the ceiling beams. One original metal stair, with industrial “pipe-fitting” style handrails, accesses the second floor from the main room; a second stairwell was historically

present, but has been removed.
The north half of the building is horizontally divided between the first, second, and third floors. Historically, the first floor served as the Feeder Switch Room, with a small bathroom and locker room in the northeast corner. The second floor was divided between the shop (west), the Condenser Switch Room (center), and the control room (east). The third served as a storeroom, as well as having smaller spaces in the northeast corner for the Battery Room, the "M.G & Carrier Current Room," and the Load Dispatchers Office (also the location of the second restroom in the facility). The roof is accessed via a metal stairway adjacent to the elevator shaft in the northwest corner. Again, all original equipment appears to have been removed and the building now stores modern equipment. There is some evidence that original slate panels in the control room are present behind modern equipment; however, all switches and other components are no longer extant.
The basement level is accessed via a concrete stairwell at both the east and west ends of the Condenser Room on the first floor. The basement, historically, held a series of feeders, transmitters, and bus reactors, provided access to the machinery in the Condenser Room, and served as a storage area. Four large oil tanks, two for circuit-breaker oil and two for transmission oil, are still imbedded in the east wall of the basement. Three underground tunnels, two on the east and one on the north side of the building, provide access to the exterior switchyard.

Bibliography:

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Office of Historic Preservation, Community Development Department. Survey-Inventory Form, Community Cultural Resource Survey. 1981. "Cushman Power Project, Cushman Substation." Reference No. 31650. April. On file with the Washington Department of Archaeology and Historic Preservation, Olympia, Washington.
Soderberg, Lisa. 1988a. "Cushman No. 1 Hydroelectric Power Plant." National Register of Historic Places Registration Form. On file with the Washington Department of Archaeology and Historic Preservation, Olympia, Washington.
Soderberg, Lisa. 1988b. "Cushman No. 2 Hydroelectric Power Plant." National Register of Historic Places Registration Form. On file with the Washington Department of Archaeology and Historic Preservation, Olympia, Washington.
Tacoma Power Archives. Tacoma, Washington. Historic photos and blueprints.
"Personal." Western Engineering 5, no. 7 (January 1915): 316.
United States of America, Bureau of the Census. Electronic documents, Ancestry.com.

Historic Property Report

Resource Name: Cushman Substation - Tacoma Property ID: 31650

Inventory Details - 8/8/2011

Common name:	Cushman Hydroelectric Project - Cushman Substation
Date recorded:	8/8/2011
Field Recorder:	Artifacts Consulting, Inc.
Field Site number:	7475021970
SHPO Determination	

Detail Information

Characteristics:

Category	Item
Structural System	Masonry - Brick

Styles:

Period	Style Details
Early 20th Century Revivals (1900-1940)	Neoclassical

Surveyor Opinion

Significance narrative:

Modeled as a category "2B" property. Modeling provides a broad planning tool that is not meant to be a definitive decision on individual building historic status nor a substitute for field based survey work and determinations of eligibility. In 2011 the model assigned categories to 39,270 City of Tacoma properties. This work establishes a baseline of legacy data against which to measure future data sets to gauge both retention and attrition.

Modeling stemmed from a city-wide preservation planning need and providing this planning data content in concert with updates to the city's Preservation Plan. The city's goal to have a more comprehensive perspective expanded modeling to include all properties built in or before 1969. This work also included linking and integrating Tacoma Public Library Building Index data to inform modeling.

Modeling provides a tool to augment the traditional survey and inventory approach. The data can effectively guide at a broad city and neighborhood-wide level initial research efforts to develop and prioritize context statements and field survey work. Intended user groups include city staff (preservation, planning and permit), historical societies, consultants and interested citizens and property owners. The data becomes a tool supporting the broader approach of building conservation.

City Preservation Plan categories:

Group 1. HISTORICALLY SIGNIFICANT PROPERTIES

1A. Individually eligible to the National Register (NR)

1B. Contributor to a National Register eligible district

1C. Eligible for local listing, but not to the NR

1D. Contributor to a Local Register eligible district

Group 2. NOT HISTORICALLY SIGNIFICANT PROPERTIES

2A. Not eligible, with conditions

2B. Not eligible

Data included on this historic property inventory form (HPI) detail stemmed from County Assessor building records imported by the Washington State Department of Archaeology of Historic Preservation (DAHP) into WISAARD in 2011. This upload reduces data entry burden on community volunteers and historical societies participating in the survey and inventory of their communities. The intent of this project is directed specifically to facilitating community and public involvement in stewardship, increasing data accuracy, and providing a versatile planning tool to Certified Local Governments (CLGs).

Project methodology entailed use of the University of Washington's State Parcel Database (http://depts.washington.edu/wagis/projects/parcels/development.php) to provide the base parcel layer for CLGs. Filtering of building data collected from each county trimmed out all properties built after 1969, as well as all current, previously inventoried properties. Translation of building data descriptors to match fields in HPI allowed the data upload. Calculation of point locations utilized the center of each parcel. Data on this detail provides a snapshot of building information as of 2011. A detailed project methodology description resides with DAHP. Project team members: Historic Preservation Northwest, GeoEngineers, and Artifacts Consulting, Inc. (project lead).

Physical description: The building at 3713 N 19th, Tacoma, is located in Pierce County. According to the county assessor, the structure was built in 1956 and is a manufacturing facility. The 1-story, unreinforced masonry building has a roof clad in an unknown material.

Bibliography: Tacoma Building Index data integrated into this form provided courtesy of the Tacoma Public Library. (http://search.tacomapubliclibrary.org/buildings/bldgv2.asp)

Historic Property Report

Resource Name: Cushman Substation - Tacoma Property ID: 31650

Inventory Details - 4/21/2012

Common name:	Cushman Hydroelectric Project - Cushman Substation
Date recorded:	4/21/2012
Field Recorder:	David Pinyerd
Field Site number:	7475021970
SHPO Determination	030911-63-FERC determined on 7/1/2014

Detail Information

Characteristics:

Category	Item
Foundation	Concrete - Poured
Roof Material	Asphalt/Composition - Built Up
Plan	Rectangle
Roof Type	Flat with Parapet
Cladding	Stucco
Cladding	Concrete
Structural System	Masonry - Precast Concrete

Styles:

Period	Style Details
Early 20th Century Revivals (1900-1940)	Neoclassical

Surveyor Opinion

Property appears to meet criteria for the National Register of Historic Places: Yes

Property is located in a potential historic district (National and/or local): No

Significance narrative: The building was surveyed in 2011, and at that time, it was noted as eligible for the National Register. However, DAHP has left the building's eligibility undetermined. This survey found the building to be potentially eligible for the National Register due to its power transfer history and excellent integrity.

Physical description:

The Cushman Substation is located at 3713 North 19th Street. According to DAHP it was built in 1925. The substation complex takes up an entire city block; however, the substation building takes up less than a quarter of the southwest corner of the property. The rest is the yard of the electrical substation. The building was surveyed in 2011. From that survey:

The Cushman Substation building is rectangular in plan and three-stories tall on basement. The building is constructed of board-formed poured concrete, including the foundation, walls, and exterior cladding. Seven bays wide by four bays deep, the building has a shallow-pitched gable roof with a concrete parapet. The roof also features a shed-roof penthouse in the northwest corner that denotes the location of the interior elevator shaft. Below the parapet, a projecting concrete cornice articulates the top of a full entablature, supported by engaged pilasters. Designed in the Tuscan order, the simplified Doric pilasters that define the second and third floors sit atop a pedestal (the first floor) comprising a raked dado and unadorned plinth.

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The most predominant feature of the Cushman Substation is the metal-sash windows. Found on all stories on each side of the building, the window bays comprise three banks of 24-light windows separated by metal mullions, for a total of 12-light by 6-light window bays. Each bay includes two operable 8-light hoppers, one each in the outside bank. The only exception to this configuration is on the second floor of the east side, where a doorway (described above) has been added to one of the window bays.

Historic Property Report

Resource Name: Adams Street Substation

Property ID: 715864

Location

Address: 1920 N Adams St, Tacoma, WA, 98406, USA

Geographic Areas: Pierce County Certified Local Government, Tacoma Certified Local Government, Pierce County, T21R02E36, TACOMA NORTH Quadrangle

Information

Number of stories: N/A

Construction Dates:

Construction Type	Year	Circa
Built Date	1925	☐

Historic Use:

Category	Subcategory
Industry/Processing/Extraction	Industry/Processing/Extraction - Energy Facility
Industry/Processing/Extraction	Industry/Processing/Extraction - Energy Facility

Historic Context:

Category

Architect/Engineer:

Category	Name or Company

Historic Property Report

Resource Name: Adams Street Substation

Property ID: 715864

Thematics:

Local Registers and Districts

Name	Date Listed	Notes

Project History

Project Number, Organization, Project Name	Resource Inventory	SHPO Determination	SHPO Determined By, Determined Date
2016-01-00010, DAHP, Architect File	6/5/2018		

Inventory Details - 6/5/2018

Common name:

Date recorded: 6/5/2018

Field Recorder: Michael Houser

Field Site number:

SHPO Determination

Characteristics:

Category	Item
Plan	Rectangle
Foundation	Concrete - Poured
Roof Type	Flat with Parapet
Roof Material	Asphalt/Composition - Built Up
Cladding	Concrete - Poured
Structural System	Masonry - Poured Concrete
Form Type	Utilitarian

6.5 Appendix
Consultant Qualifications

6.5 Brian Rich- Qualifications

Brian D. Rich AIA, APT-RP, LEED BD+C, PMP, CCCA, sUAS

Principal, Project Manager, Senior Historic Architect

Brian has over 30 years' experience as a Principal, Project Manager, Senior Historic Architect, and Construction Manager working on existing and historic building projects. This experience is interwoven with threads of preservation, technical, project management, and construction management. He thrives on complicated projects including working with occupied facilities, dozens of overlapping jurisdictional requirements, sub-standard archaic construction techniques, and facilities designed to outdated standards. Brian's qualifications exceed the Secretary of the Interior's Professional Qualifications (36 CFR Part 61) for Architects, Historic Architects, and Architectural Historians.

PROJECT ROLE
Principal, Project Manager and Senior Historic Architect

YEARS' EXPERIENCE
30+ years

EDUCATION
University of Washington
- Master of Architecture, 2016
- Certificate in Historic Preservation

University of Notre Dame
- Bachelor of Architecture, 1994

CERTIFICATIONS
- APT Recognized Professional
- Exceeds SOI Architect, Historic Architect & Architectural Historian Qualifications (36 CFR Part 61)
- FAA Small Unmanned Aircraft System (sUAS) Rating
- Dispute Resolution Board Foundation Certification
- PMI Project Management Professional (PMP)
- CSI Construction Contract Administrator (CCCA)
- LEED BD+C Accredited Professional
- Registered Architect - Washington

AREAS OF EXPERTISE
- Architecture
- Historic Preservation
- Project Management
- Construction Management

Renovation, Restoration, Preservation

Brian has experience working with 193 existing and historic buildings including designated landmarks. His experience includes work as a Project Manager and Project Architect guiding the overall process of design of projects working on existing buildings. The nuances of renovation versus restoration and preservation are commonly discussed in understanding and achieving the goals of the project. Brian serves on the Redmond Landmarks Commission. Brian served on the King County Landmarks Commission for 9 years as the Chair of the Commission and the Chair of the Design Review Committee. He has earned a Masters Degree in Architecture and Certificate in Historic Preservation at the UW. In addition, Brian was recently acknowledged as a leading preservation expert by the Association for Preservation Technology's Recognized Professional program and was the Instructor for Arch 579: Technical Issues in Historic Preservation at the UW in 2015 and BLD 206, Green Building & Sustainable Preservation at Clatsop Community College.

Project Management

Brian has performed project management work on projects in both formal and informal roles for over 20 years. He recently filled the role of both Project Manager and Project Architect on several academic and preservation projects guiding the development of projects through all phases of development, including monitoring project, scope, budget, quality, and schedule. Brian holds a Project Management Professional (PMP) certification from the Project Management Institute.

Technical Architectural Experience

From the beginning of Brian's professional experience at a building supply company and working with contractors, his career has emphasized the technical development of building projects. Brian reinvests his construction experience to develop high quality, well-coordinated, contract documents. Brian is deeply interested in the techniques of conserving historic building fabric and serves as the President of the Northwest chapter of the Association for Preservation Technology.

Construction & Project Management Experience

Brian has over 12 years of experience in bidding, negotiation, administering construction contracts, including GC/CM, GC at risk, public low bid contracts and low bid and negotiated contracts. He has managed all aspects of Contract Administration including RFI responses, submittals, Change Order and claim review and resolution, Schedule and construction quality monitoring, punchlisting, and closeout. In addition, he has worked as a construction manager representing the Owner's interests on projects for 6 years. Brian has earned the Construction Specification Institute's certifications as a Certified Document Technician (CDT) and a Certified Construction Contract Administrator (CCCA) and is a Dispute Resolution Board Foundation (DRBF) member.

6.5 Personnel- Brian Rich

SELECTED PROJECTS

Rehabilitation & Restoration:

- TPS Central Admininstration Building Window Rehabilitation/Restoration, Tacoma, WA
- Wenatchee Valley Museum & Cultural Center Rehabilitation, Wenatchee, WA
- Snoqualmie Depot Re-Roofing, Snoqualmie, WA
- OSU Heat Plant Repurpose, Corvallis, OR
- McAlexander Fieldhouse Refresh, Corvallis, OR
- TESC Seminar 1 Building Rehabilitation, Olympia, WA
- Pacific Apartments Restoration, Seattle, WA
- Bldg 8, 9, 111 Seismic Retrofit, VA American Lake, WA
- Bldg 81/81AC Seismic Retrofit, VA American Lake, WA
- Roseburg Service Center Rehabilitation, Roseburg, OR
- BBCT Building 47 Theatre Rehabilitation, Seattle, WA
- Bogue Visitor Center Rehabilitation, Gig Harbor, WA
- KCIA Main Terminal Remodel, Seattle, WA
- St. John's Episcopal Church, Snohomish, WA
- Clarks Creek Hatchery Rehabilitation, Puyallup, WA
- UW Guggenheim Hall Rehabilitation, Seattle, WA*
- Marion Oliver McCaw Hall, Seattle, WA*
- Auditorium Theatre Rehabilitation, Chicgao, IL*
- Cadillac Palace Theatre Rehabilitation, Chicago, IL*
- Oriental Theatre Rehabilitation, Chicago, IL*
- Oliver Typewriter Building Rehabilitation, Chicago, IL*
- Blackstone Theater Rehabilitation, Chicago, IL*

Building Condition Assessments:

- Tolliver Temple Church of God in Christ, Seattle, WA
- DNR Ahtanum Fire Camp, Ahtanum, WA
- TPS Stadium High School Assessment, Tacoma, WA
- TPS CAB Window Cost-Benefit Analysis, Tacoma, WA
- Ranger Station, Pump House, and Generator Building @ Alpine Visitor Center, RMNP
- Pacific Apartments, Plymouth Housing, Seattle, WA
- Plymouth on Stewart, Seattle, WA
- Tacoma Municipal Building, Phase 1 & 2, Tacoma, WA
- Wenatchee Valley Museum & Cult. Ctr., Spokane, WA
- SWSHS Log House Museum, Seattle, WA
- KCIA FAA AFSS BCA, Seattle, WA
- Cushman & Adams Substations, Tacoma, WA
- Hangar 2050, Fairchild AFB, Spokane, WA
- Magnuson Park Bldg. 47 Theatre, Seattle, WA
- University Heights Center, Seattle, WA
- Washington Military Department HSRs (Administration & Arsenal Buildings, Building 23, Centralia & Snohomish Armories), WA
- SCL North Substation, Seattle, WA
- North Bend Theatre, North Bend, WA
- Villa Camini - Greystar, Seattle, WA

SELECTED PROJECTS

Preservation Planning:

- Fairchild AFB Cultural Resources Survey, Spokane, WA
- Kloko Chikamin Context Study, WA
- House of Tomorrow HABS, Puyallup, WA
- Lake Union Hydro House, Seattle, WA
- Lewiston Municipal Preservation Plan, Lewiston, ID
- Alpine Visitor Center, Rocky Mountain Nat'l Park, CO
- Walcher House HPI, Redmond, WA
- Day Hall at the Moran School, Bainbridge, WA
- Christensen House HPI, North Bend, WA
- Tacoma Brewery District, Tacoma, WA
- Anderson Park Stone Wall, Redmond, WA
- Old Newcastle/Baima House, Newcastle, WA
- Jefferson Park Golf Course, Seattle, WA*
- FEMA Section 106 Reviews, Multiple Locations*
- State & Lake CTA Station HAER, Chicago, IL*

Construction Management:

- VAAL B201 Design-Build RFP, Tacoma, WA
- University Heights Center Projects, Seattle, WA
- Vi Hilbert Hall at Seattle University, Seattle, WA
- Timberlake Church Renovation, Redmond, WA
- UW NanoEngineering Building, Seattle, WA*
- UW Fluke Hall NanoFab Lab, Seattle, WA*
- UW WestCUP, Seattle, WA*
- UW Montlake Triangle Project, Seattle, WA, 2015*

Value Analysis Reviews

- BIA Tonealea Day School, New Mexico
- BIA Crystal Boarding School 1 & 2, New Mexico
- USDA Baltimore Research Center 1 & 2, Baltimore, MD
- SPS Van Asselt Addition, Seattle, WA
- SPS Viewlands ES, Seattle, WA
- SSD Selah JCPS, Selah, WA
- MLSD Moses Lake ES, Moses Lake, WA
- KSD New Valley ES, Kent, WA
- VSD Truman ES, Vancouver, WA

Constructability Reviews

- KSD New Valley ES, Kent, WA
- BSD Parkview ES, Bellevue, WA
- KSD Kennewick HS, Kennewick, WA
- EPS Mountainview HS, Vancouver, WA
- BSD Puesta del Sol ES, Bellevue, WA
- SCSD Stanwood HS,, Stanwood, WA
- PSD Pope ES, Puyallup, WA
- BSD Highland MS, Bellevue, WA

* = Work completed for another employer.

6.5 Brian Rich- Education

University of Notre Dame

1987 to 1994

Bachelor of Architecture, cum laude, 3.50 GPA

The bachelor's degree program at the University of Notre Dame is a 5 year professional degree that supports a broad range of interests and required education. While Brian attended Notre Dame, the program shifted focus from a generalist program to a classical school of design. Brian benefited from the transition by learning about both approaches to architectural design. Classes ranged from design studio to watercolor and drawing and also included art and architecture history.

At the core of the architecture program is the Year in Rome. All Juniors live in Rome for a full year surrounded by the historic buildings and cities of Italy. For Brian, this was a seminal foundation for his architectural career. Brian learned how to work with existing buildings by soaking in the multi-layered history of the city and Italy's outlying regions.

Financial constraints required Brian to complete his degree over 7 years.

University of Washington

2013 to 2016

Masters of Architecture, 3.78 GPA

Historic Preservation Certificate

The Masters of Architecture degree program at the University of Washington is a 1 year degree. At the time that Brian undertook his degree, he had over 20 years professional experience. Brian completed the degree and certificate over the course of 3 years due to multiple obligations, including working as the Principal of Richaven Architecture & Preservation and as a Construction Manager at the University of Washington. Brian selected coursework that consisted entirely of historic preservation focused classes, far exceeding the requirements for the Historic Preservation Certificate. At the core of Brian's course work and research was the theme of future-proofing historic buildings. His thesis consisted of compiling the research he had completed combined with additional research into resilience in historic buildings and creating a future-proof rating system to evaluate the success of rehabilitation and projects.

6.5 Brian Rich- Training

Landmarks Commissioner Training
- National Alliance of Preservation Commissions, Preservation Commissioner Training; Basics & Beyond (2008) [1]
- Advisory Council on Historic Preservation, Section 106 Essentials (2005) [1]
- National Alliance of Preservation Commissions, Commission Assistance & Mentoring Program (2005) [1]

Restore Seminars
- Masonry Cleaning & Restoration Seminar (2002) [1]
- Workshop on the Conservation of Terra Cotta (1998) [1]

APTI Conferences, Workshops & Symposia
- APTI Seattle + Documentation Workshop + TC-MH Symposium (2023)[1, 2, 3]
- APTI Detroit + Guastavino Vault Construction & Restoration Workshop (2022)[1]
- APTI Washington DC + Graffiti Management Workshop (2021)[1]
- APTI Edmonton + Conservation, Disruption & the Future of Heritage Symposium (2020) [1]
- APTI Miami + Conservation of Modern Concrete and Terrazzo Flooring Workshop (2019) [1]
- APTI Buffalo + Next Fifty Symposium & Window Restoration Workshop (2018) [1]
- APTI Ottawa + Digital Documentation Workshop (2017) [1]
- APTI San Antonio + Building Science & Systems Workshop + Water, Water, Everywhere Symposium (2016) [1]
- APTI Quebec + Principles and Practice in the Assessment and Treatment of Heritage Structures Workshop (2014) [1]
- APTI New York + Conservation of Metal Finishes Workshop (2013) [1]
- APTI Victoria + Heavy Timber Condition Assessment Workshop (2011) [1]
- APTI San Juan + Wood Restoration Workshop (2007) [1]
- APTI Atlanta + Stone Conservation Workshop (2006) [1]

APT Northwest Chapter Workshops & Symposia
- Unreinforced Masonry Symposium - Policy & Equity (2020) [1, 2, 3]
- Masonry Cleaning Workshop (2019) [1]
- Unreinforced Masonry Symposium - Technical Solutions (2019) [1]
- Water Repellent Workshop (2017) [1, 3]
- Energy Conservation in Mid-Century Modern Buildings (2017) [1, 2, 3]
- Preservation of Mid-Century Modern Building Materials (2016) [1, 2, 3]
- UW Denny Hall Tour (2015) [1, 3]
- King Street Station Tour (2015) [1, 3]
- Preservation on High: Investigation & Documentation of Monumental Historic Structures (2015) [3]
- Community Rehabilitation from the Technical Perspective (2013) [3]
- Historic Masonry Workshop (2010) [1]
- Non-Destructive Testing Workshop (2006) [1]
- Cast Stone Workshop (2005) [1]

6.5 Brian Rich- Training

Additional Historic Preservation Training

National Trust for Historic Preservation

- National Preservation Conference & Conducting Historic Building Assessments Workshop (2012) [1]
- New Pathways: Historic Preservation & Sustainability (2008) [1]
- National Preservation Conference & Section 106 Essentials Workshop (2005) [1]

AIA Seattle

- Historic/Cultural Crossroads: Historic Buildings and Neighborhoods in the Context of Cultural Design (2006) [1]

Additional Professional Education

- AIA, CalOES & WASafe Safety Assessment Program Evaluator Training (2020) [1]
- International Masonry Institute, Concrete Repair & Rehabilitation (2020) [1]
- AIA, Retrofit Anchoring of Masonry and Stone Facades (2020) [1]
- Applied Technology Council, FEMA P-2055 Post-Diaster Building Safety (2020) [1]
- DAHP Academy, Historic Property Inventory Forms (2019) [1]
- Applied Technology Council, FEMA P-58 Performance Based Seismic Design (2018) [1]
- Design-Build Institute of America Certification Workshop (2016) [1]
- PMI Professional Development Conference, Agile, Innovation & Beyond (2016) [1]
- UW Professional Development, Choosing By Advantages Workshop (2016) [1]
- Dispute Resolution Board Foundation, Advanced Chairing Workshop (2015) [1]
- AIA Resilience Summit, Subject Matter Expert (2015) [1]
- Building Technology Educator's Society, Intersections & Adjacencies (2015) [1, 2]
- Association of General Contractors, General Contractor/Construction Manager Workshop (2015) [1]
- UW Professional Development, Strategic Leadership Program (2015) [1]
- AIA Washington - ATC 20-1 and Cal-EMA Safety Assessment Program Evaluator Training (2013) [1]
- Cal-EMA, Post-Disaster Safety Assessment Program Evaluator Training (2011) [1]
- Vashon Island Community Emergency Response Team (CERT), Disaster and Emergency Response Training (2008) [1]
- URS Corporation, Project Management Training Program (2005) [1]
- Seattle Red Cross and AIA Seattle, ATC 20-1 and ATC 45 Training (ca. 2004) [1]
- PSMJ Project Manager's Bootcamp (2000) [1]

Notes:

[1] Attendee
[2] Presenter
[3] Organizer

6.5 Brian Rich- Licenses & Certifications

Professional Licenses

- Registered Architect, State of Washington, #9108 (2009-Present)
- Registered Architect, State of Illinois, #001-016681 (1998-Present)
- Federal Aviation Administration, Licensed Drone Pilot (sUAS, Certificate #4035757, 2017-Present)

Certifications

- Association for Preservation Technology International - Registered Professional (APT-RP, 2020-Present)
- Exceeds the Secretary of the Interior's Professional Qualifications (36 CFR Part 61) as an Historic Architect, Architect, and Architectural Historian (2016-Present)
- National Council of Architectural Registration Boards (NCARB) Certification, #51343 (1999-Present)
- US Green Building Council, LEED AP Certification (2004-2013)
- US Green Building Council, LEED BD&C Accreditation (2013-Present)
- Construction Specification Institute, Certified Document Technician (CDT) (2012-Present)
- Construction Specification Institute, Certified Construction Contract Administrator (CCCA) (2013-Present)
- Cal-EMA Certified Disaster Response Worker (2011-Present)
- WASafe Safety Assessment Facility Evaluator (2021-Present)
- Project Management Professional, Project Management Institute (2013-Present)

6.5 Brian Rich- Honors & Awards

- APTI Presidential Citation, APT Seattle 2023 Conference Co-Chair, 2023
- NAIOP-WA Historic Renovation of the Year Finalist - Lake Union Hydro House Historic Renovation, 2023
- NAIOP-WA Historic Renovation of the Year Finalist - Old Woodinville School, 2023
- Historic Seattle, Outstanding Stewardship Award, UHeights Center, 2021
- APT Recognized Professional, Association for Preservation Technology International, 2020
- Student Housing Business Innovator Award, Best Public-Private Partnership Development, Vi Hilbert Hall at Seattle University, 2020
- DBIA Merit Award, University of Washington West Campus Utility Plant, 2017
- AIA Washington Civic Design Awards, West Campus Utility Plant, 2017
- AIA Seattle Honor Award, West Campus Utility Plant, 2017
- The HUSKY 100 Award, University of Washington, 2016
- ACEC Gold Award / Special Judges Award for Complexity, UW Montlake Triangle, 2016
- AIA Resilience Summit, Subject Matter Expert, 2015
- NTHP Honor Award, Washington Heritage Barn Advisory Committee, 2012
- NAPC Commission Excellence Award, Best Practices for Identification and Registration, King County Landmarks Heritage Barn Initiative, 2008
- AIA NW Regional Design Honor Award, Marion Oliver McCaw Hall, 2006
- AIA Seattle Honor Award, Marion Oliver McCaw Hall Rehabilitation, 2004
- AIA What Makes it Green Award, Marion Oliver McCaw Hall, 2003
- AIA Chicago Special Recognition Award, Cadillac Palace Theater Rehabilitation, 2002
- United States Institute of Theatre Technology, Merit Award, Oriental Theatre/ Ford Center For the Performing Arts Rehabilitation, 2002
- Society of American Registered Architects, Design Award, Cadillac Palace Theatre Rehabilitation, 2002
- Society of American Registered Architects, Design Award for Excellence, Oriental Theatre/Ford Center for the Performing Arts Rehabilitation, 2002
- Society of American Registered Architects, Design Award for Excellence, Cadillac Palace Theatre Rehabilitation, 2001
- City of Chicago Preservation Excellence Award, Auditorium Theatre, 2001
- Building Design & Construction, National Renovation Project of the Year, Oriental Theatre Rehabilitation, 2000
- AIA Chicago Distinguished Building Award, Oriental Theatre / Ford Center for the Performing Arts Rehabilitation, 1999
- AIA Chicago Distinguished Building Award, Cadillac Palace Theatre Rehabilitation, 1999
- Association of Licensed Architects, Award of Excellence, Oriental Theatre/ Ford Center for the Performing Arts Rehabilitation, 1999

6.5 Brian Rich- Volunteer Roles

APT International
- Co-Chair, 2023 International Conference, Local Conference Committee
- Moderator, 2023 Symposium, Aging Composite Materials and Assemblies
- Member 2006-2023, Life Member (2023-Present)

APT Northwest Chapter
- Member (2006-Present)
- Chapter President (2011-2024), Past President (2024-Present)
- Directed the organization and production of 10 Workshops and Symposia:
  - Unreinforced Masonry Symposium - Policy & Equity (2020)
  - Masonry Cleaning Workshop (2019)
  - Unreinforced Masonry Symposium - Technical Solutions (2019)
  - Water Repellent Workshop (2017)
  - Energy Conservation in Mid-Century Modern Buildings (2017)
  - Preservation of Mid-Century Modern Building Materials (2016)
  - Preservation on High: Investigation & Documentation of Monumental Historic Structures (2015)
  - King Street Station Tour (2015)
  - UW Denny Hall Tour (2015)
  - Community Rehabilitation from the Technical Perspective (2013)

APTI Student Scholar Program Peer Reviewer (2017-Present)
APTI Chapters Committee (as president of APT Northwest, 2011-Present)
APTI Bulletin Peer Reviewer (over 24 reviews completed, 2011-Present)
APTI Technical Committee on Sustainable Preservation (2006-Present)
APTI Committee on Education & Research (2013-2016)

Redmond Landmarks Commission
- Preservation Professional Member (2019-Present)
- Presented Training Session to Redmond Design Commission Members on the Secretary of the Interior's Standards

University Heights Community Center
- Historic Preservation Subject Matter Expert (2016-2021)
- Finance and Capital Committee Co-Chair (2017-2021)
- Vice Chair, Board of Directors (2020-2021)

Washington Heritage Barn Advisory Committee
- Certified Local Government Representative (2006-Present)
- National Trust for Historic Preservation Honor Award (2012)
- Bi-annual Bricks & Mortar Grant Application Reviewer (2006-Present)

6.5 Brian Rich- Volunteer Roles

UW Huskies at Work
- Professional Mentor to Student Interns (2016-Present)

Notre Dame Internships
- Professional Mentor to Student Interns (2020-Present)

Seattle Academy of Arts & Science (SAAS)
- Professional Mentor to Student Interns (2020-Present)

UW Alumni Association
- Graduates of the Last Decade Committee (GOLD) (2016-2019)

King County Landmarks Commission
- Commissioner (2003-2012)
- Commission Chair (2006-2008)
- Design Review Committee (2003-2012), Chair (2006-2012)
- "Conduct of Public Hearings" Training Presentation to the King County Landmarks Commission and members of the Public (2012)

Olympic Manor Community Club
- Trustee (2011-2013)
- Building and Landscape Committee (2011-2013) (reviewing and approving alterations residences in the National Register Eligible Historic District).

4Culture Historic Preservation Advisory Committee
- Member (2006-2009)
- Liaison with King County Landmarks Commission (2006-2009)

AIA Seattle
- Historic Resources Committee Member (2001-2006)

6.5 Brian Rich- Teaching & Publications

Professional Instruction:

- BLD 206 Sustainable Preservation and Green Design, Clatsop Community College, 2021
- Arch 579 Technical Issues in Historic Preservation, University of Washington, 2015
- Mentor: U. Notre Dame Internships, UW Huskies@Work, U of Oregon, and SAAS Internships, 2016 - Present

Publications

- Rich, Brian. 2021. URM Seismic Retrofits: Resilience Built-In, Disaster Averted. The Alliance Review, Issue No. 2. National Alliance of Preservation Commissions. pp. 32-37.
- Future-Proofing and Panarchy: Adaptive Cycles and Managed Change for the Historic Built Environment (for the Marion Dean Ross Northwest Chapter of the Society of Architectural Historians, 2019)
- Catalyzing Business Agility (an Interview with Barry Bettman, 2019)
- Future-Proofing Critical Water Infrastructure from an Economic and Hazard Resilience Perspective (for the International Water Conference, presented by co-author Meghan Gattuso, 2019)
- Rich, Brian D. and Gattuso, Meghan. 2016. “Future-Proofing Critical Water Infrastructure from an Economic and Hazard Resilience Perspective.” Originally published in the Association of Collegiate Schools or Architecture, 104th Annual Meeting Proceeding, Shaping New Knowledges., Seattle, WA. Corser, Robert and Haar, Sharon, Co-chairs. Pp. 636-643.
- Rich, Brian. 09 June 2016. Future-Proofing: Seeking Resilience in the Historic Built Environment. University of Washington. Masters thesis.
- Rich, Brian D. 2015. Future-Proof Building Materials: A Life Cycle Analysis. Intersections and Adjacencies. Proceedings of the 2015 Building Educators’ Society Conference, University of Utah, Salt Lake City, UT. Gines, Jacob, Carraher, Erin, and Galarze, Jose, editors. Pp. 123-130.
- Rich, Brian D. 2014. Wells, Jeremy C. and Sheppard, Rebecca J., eds. “The Principles of Future-Proofing: A Broader Understanding of Resiliency in the Historic Built Environment.” Journal of Preservation Education and Research, 31-49 Vol. 7.
- Rich, Brian. 2014. “Why Preserve: A Sustainability Panel Discussion.” Eugene, OR: University of Oregon Associated Students of Historic Preservation.
- Rich, Brian. 10 June 2014. Life Cycle Analysis of Future-Proof Buildings. University of Washington. Unpublished paper.
- Rich, Brian. 12 March 2014. Future-Proofing, Charters and Standards: The Integration of the Principles of Future-Proofing in Cultural Heritage Policy Documents. University of Washington. Unpublished paper.
- Rich, Brian. 28 February 2013. Future-Proofing Principle #10: Local Traditional Materials. University of Washington. Unpublished paper.
- Rich, Brian. 12 December 2013. The 10 Principles of Future-Proofing Historic Buildings and the Role of Computational Simulation Software in Future-Proofing. University of Washington. Unpublished paper.

Articles by others about Future-Proofing

- Wiser, Jeana. 2015. “An Interview with Brian Rich about Futureproofing Historic Structures.” National Trust for Historic Preservation’s Preservation Leadership Forum Blog. April 13, 2015. http://forum.savingplaces.org/blogs/forum-online/2015/04/13/brian-rich-future-proofing.
- O’Connell, Kim A. 2014. “Future-Proofing the Past.” Architect Magazine, 38-41. Washington, DC: Hanley Wood, December 2014. (Not included in this appendix due to copyright prohibitions).
- Kelley, Peter. 2014. “‘Future proofing’: Present protections against challenges to come.” UW Today. November 4, 2014. http://www.washington.edu/news/2014/11/04/future-proofing-present-protections-against-challenges-to-come/.

6.5 Brian Rich- Presentations

Presentations

- DIY Condition Assessment (to Places, the Washington Trust for Historic Preservation Conference, 2024)
- Drones: Safe, Efficient, but Limited (to APT Seattle 2023 Documentation Workshop, 2023)
- Terra Cotta, Brick, and Stucco Restoration at the Pacific Apartments (to the APT Seattle 2023 Field Session 11, 2023)
- Future-proofing, Charters & Standards: Integrating Principles into Practice (APT Seattle 2023 Symposium, 2023)
- Future-Proofing...But Why? (to Seattle Building Envelope Council Annual Symposium, 2023)
- Unreinforced Masonry (URM) Buildings (to UW Building Re-use class, 2023)
- Building Condition Assessments - Technologies & Uses (to the Washington Trust for Historic Preservation's RevitalizeWA Conference, submission accepted, presentation postponed due to Covid-19)
- Brick & Clay Masonry: Materials & Methods, Deterioration & Repair (to the Northeast Oregon Preservation Workshop, 2020)
- Historic Preservation Principles and the Secretary's Standards for Rehabilitation (to the Redmond Landmarks Commission, 2019)
- Future-Proofng and Panarchy: Adaptive Cycles and Managed Change for the Historic Built Environment (to the Marion Dean Ross Northwest Chapter of the Society of Architectural Historians, 2019)
- Future-Proofing: Problems, Principles & Promise (to the APTI-National Trust Joint Conference at Capitalizing on Heritage, 2017)
- Mid-Century Modern: Modern Philosophies & Modern Materials (to the APTNW Mid-Century Modern Energy Conservation Symposium, 2017)
- Future-Proofing Critical Water Infrastructure From an Economic and Hazard Resilience Perspective (to the Association of Collegiate Schools of Architecture Conference, 2016)
- Preservation of Modern Materials (to the Washington Trust for Historic Preservation's RevitalizeWA Conference, 2016)
- Preserving Mid-Century Modern Materials (Panel Discussion presentation at the APTNW Mid-Century Modern Workshop, 2016)
- Future-Proof Building Materials: A Life Cycle Analysis (to the Building Technology Educator's Society Conference, 2015)
- The Principles of Future-Proofing and the Arctic Building (to AIA Seattle Historic Resources Committee, 2014)
- 10 Principles of Future-Proofing Historic Buildings and the Role of Computational Simulation Software in Future-Proofing (Panel Speaker at the UW Center for the Built Environment BE-Connected Symposium, 2014)
- The Greenest Building - A Panel Discussion (for the University of Oregon Associated Students of Historic Preservation, Preservation Week, 2014)
- Wood, Stone & Brick: Preservation Basics (to Historic Seattle Building Renovation Fair, 2013)
- Stone Restoration: Chemistry, Pathology, and Treatment of Historic Stone Materials (to APT Northwest, 2013)
- Preservation, Sustainability and the Trades (to the Academy of Building Conservation, 2013)
- Adaptive Re-Use and Sustainability (to Redmond Landmarks Commission, 2012)
- Preservation & Sustainability (to the Society of Industrial Archaeologists, 2011)
- Conduct of Public Hearings (to King County Landmarks Commission, 2011)
- Preservation of Wood Materials (to Bassetti Architects Staff, 2008)
- Sustainability Through Preservation (to Washington State Association of Counties, 2008)
- Greening in Place: From Policy to Practice. Preservation as a Sustainable Development Tool (Green Building Summit, 2008)
- Stone Restoration: Chemistry, Pathology, and Treatment of Historic Stone Materials (to Bassetti Architects, 2007)
- Historic Preservation in King County (to King County Council Member Reagan Dunn, 2006)

6.5 Brian Rich- References

Mr. Rich has been lauded by numerous Owners, Contractors, subcontractors, consultants, and staff throughout his professional career. Below are a sampling of the comments about Mr. Rich's professional and volunteer work.

"I have been project managing a long time- 15 plus years…and I can say [Richaven is] the best of the best Architects I've ever known."

Sharilynn Sage, Project Manager, Parametrix Engineering (SSage@Parametrix.com, (360) 338-8503)

"...is well-suited to use his exceptional skills as a historic preservation architect, project manager... for both Owners and architecture firms."

Steve Tatge, Executive Director, Major Capital Projects, UW Capital Planning & Development (statge@uw.edu, (206) 221-4231)

"We found Brian to be a man of total integrity, reliable and extremely professional… …very responsive… …ability to catch things early… … with minimum disturbances and no delays…. we could rely on Brian's skills to ensure our project was executed smoothly."

Rick Meserve, Construction Manager, Capstone Development Partners, LLC (rmeserve@capstonemail.com, (205) 790-6840)

"...enormously communicative and skilled at his work... always took responsibility, never passing it off... His character and his genuine interest in people and their issues is what made the members at Fluke Hall connect with him and believe in his efforts."

Kira Franz, Fluke Hall Manager, University of Washington (kiraf1@uw.edu, (206) 221-8455)

"I am impressed by the facility feature-specific identification of maintenance challenges... excellent documentation of issues... I highly recommend them as first rate professionals in this field."

Tom Skjervold, Deputy Director, CMFO, Washington Military Department (thomas.skjervold@mil.wa.gov, (253) 512-8466)

"...extremely proficient and detail oriented in his performance... a great team player."

Steve Hammer, Principal, BPH Architects (steve@bpharch.com, (425) 774-4701)

"...fair and reasonable advocate... timely and trusted... exceptional skills, knowledge and passion for historic preservation."

Lorne McConachie, Principal, Bassetti Architects (lmcconachie@bassettiarch.com, (206) 340-9500)

"...open-minded and creative... broad grasp of the industry... ...a truly valuable and collaborative team member... highly credible..."

Steve Harrison, Project Manager, UW Capital Planning & Development (srh24@uw.edu, (206) 616-4713)

"... always professional, punctual, thoughtful, and thorough... ...balanced and analytical approach to finding solutions... communication and coordination skills are excellent... understanding of... historic properties is exceptional... combine[s] a passion for the field with exceptionally strong research, writing, and analytical skills"

Todd Scott, Preservation Architect, King County Historic Preservation Program (todd.scott@kingcounty.gov, 206-477-4545)

"...top-notch architect, project manager and... strong underlying capability in project management, detailed analysis and a responsive approach... deep and broad understanding of period construction techniques and practices..."

Tom Corboy, Treasurer, University Heights Community Center Board of Trustees (tcorboy@gmail.com, (206) 799-2981)

"... thoroughly knowledgeable in his craft and takes on all projects and tasks methodically and with an eye for detail... a dedicated preservationist who understands all elements of preservation and uses his knowledge... to significant effect."

Tom Hitzroth, Chair, King County Landmarks Commission (thitzroth1@frontier.com, (425) 823-2981)

"...high quality work... meticulous when putting preservation technology into practice... ...the very definition of a Recognized Professional."

Ron W. Anthony, FAPT, President & Wood Scientist, Anthony & Associates (woodguy@anthony-associates.com, (970) 377-2453)

Mr. Rich's "understanding of technical issues... ...was instrumental... an effective mentor... great depth of knowledge... effectively balance[s] priorities... keen focus on efficient use of time and funds... exemplary... command of preservation technology practices....

Maureen Ewing, Executive Director, University Heights Community Center (maureen@uheightscenter.org, (206) 527-4278)

"I cannot overstate how impressed I am by the quality of the condition assessment... exemplary knowledge... thorough and comprehensive methodology, the thoughtful... recommendations [Mr. Rich is an] indispensable asset to any project or initiative..."

Michael King, Executive Director, Southwest Seattle Historical Society (director@loghousemuseum.org, (206) 350-0999)