

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Jefferson Substation
Name of Property
Multnomah County, Oregon
County and State
80003368
NR Reference Number

**National Register of Historic Places**

**Date Delisted** 4-5-2021

**NRIS No.** 2580003368

**Oregon SHPO**

Amendment:

NRIS # 80003368

Listed Date: 31 May 1980

The purpose of this document is to remove the Jefferson Substation from the National Register of Historic Places. The justification for delisting is that the resource no longer retains sufficient integrity to convey its historic and architectural significance as a result of the Multnomah County Courthouse project that converted the former substation into courtrooms, waiting areas, and offices. According to 36 CFR 60.15(a)(1)(b), for historic properties listed prior to December 13, 1980 (like the nomination for Jefferson Station), historic properties can only be removed from the National Register for grounds established in 36 CFR 60.15(a)(1). The regulation is written as follows:

*The property has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed, or such qualities were lost subsequent to nomination and prior to listing.*

Judging from the cumulative loss of nearly all aspects of integrity, the qualities of the Jefferson Substation that caused it to be originally listed have been lost or destroyed (i.e. the integrity has been lost). The applicant is pursuing delisting pursuant to 36 CFR 60.15(a)(1), "The property has ceased to meet the criteria for listing in the National Register because the qualities which cause it be originally listed have been lost or destroyed."

Originally listed in the National Register of Historic Places (NRHP) in 1980, the Jefferson Substation was noted as achieving "architectural and engineering significance as a relatively rare extant example in Portland of an early electrical substation – it is the only remaining structure of its type in downtown Portland --- and as a very local instance of a building with a reinforced concrete superstructure." The nomination continues that the substation had an important role "in the early days of electrical distribution in Portland's business district, particularly for street lighting and the street railway system" and "was unique in its use of a patented reinforced concrete structural system." At the time the substation was nominated, the National Register criteria did not exist, however, it was likely significant under NRHP Criteria A for its association with the electrification of downtown Portland and streetcar development and under NRHP Criteria C as a rare example of an electrical substation property type and example of the Kahn System of Reinforced Concrete. Due to the loss of historical integrity during the ongoing Multnomah County Courthouse project, however, the structure no longer communicates its function as a substation or its associations with downtown electrification as it evolved in 1909 (original construction) and 1925 (expansion) (Criterion A), is not associated with a significant person or group of people (Criterion B), no longer retains sufficient evidence of the character-defining elements of its reinforced concrete superstructure associated with the "Kahn System of Reinforced Concrete", its architectural evolution over time, and the rationale behind its original exterior design nods towards architectural compatibility (Criterion C). Lastly, the above ground features are readily visible so there is no potential for the building to yield potential information that is significant to the history at the local, state, or national levels (Criterion D).

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**State Agency Certification:**

I hereby certify that this \_\_\_ additional documentation \_\_\_ move \_\_\_X\_ removal \_\_\_ name change 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.

*Christina Cannon*

02/12/21

Signature of Certifying Official/Title: Deputy State Historic Preservation Officer

Date of Action

Oregon State Historic Preservation Office

State or Federal agency/bureau or Tribal Government

**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
- additional documentation accepted
- other (explain:) \_\_\_\_\_

Signature of the Keeper

Date of Action

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## 7. Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity).

### Summary Paragraph

The following text has been retrieved from the original (1980) nomination.

*“The Jefferson Substation occupies a site at the corner of First and Jefferson Streets on Block 8 of Portland's original town plat, on property acquired from Frank C. Ludesher. When the first unit of the present structure was completed in the summer of 1909, Block 8 was fully developed with masonry buildings except for the substation site which contained a three story wood frame rooming house. Adjacent to the north was the four story brick and cast-iron structure housing the J. N. Matschek Candy Co. (see photo #4), and through the block at First and Madison was the Mattheson Hotel, later known as the Wabash. In 1925 the Matchek Candy Co. building was razed and the Substation expanded to its present configuration.*

*The blocks around the Substation stayed substantially the same until after WWII when urban renewal and highway programs had a significant impact on the area. Except for one small brick structure north of the Substation, Block 8 is presently vacant, having been acquired by Multnomah County for an access ramp to the Hawthorne Bridge. The County has planted grass and shrubs on the unpaved area. On the block to the south is the 17 story Benjamin Franklin Plaza completed in 1977, and catercorner is Columbia Square, a 15 story structure nearing completion. Across Jefferson Street to the west is the seven level City Parking Garage. Further north is the recently completed Willamette Center, and the two block high-rise office complex, 1 Main Plaza, scheduled for completion in 1981. While partly surrounded by new high-rise construction, the simple unadorned structure of the Jefferson Substation fits well with its larger neighbors.”*

Since 1980, Jefferson Station was rehabilitated under the Federal Rehabilitation Tax Credit program and was also subject to the Oregon Special Assessment program for two terms until 2011. In 2018, construction began on the new Multnomah County Central Courthouse which occupies the remainder of the block. The project is integrating the Jefferson Substation (also called Jefferson Station in this nomination) into the program of the building, however, the project has resulted in extensive demolition activity that includes removal of all windows on the 1909 building and reinstallation of original windows with new interior storms, removal of all concrete floors, removal of at least 3/4 of the longitudinal and transverse reinforced concrete structural beams, brick infill walls, the roof over the 1925 addition, the north and east walls of the 1925 addition, all vertical and horizontal structural components in the 1925 addition, all interior room divisions, all interior vertical supports, and all doors (including the interior fire doors). Additional changes included the replacement of all interior brick infill with reinforced concrete, installation of incompatible interior details in the turbine hall including a mezzanine that has diminished nearly 3/7<sup>th</sup> of the former two story volume for additional office space and intruding entrances on the north side of the turbine hall floor, installation of a brick exterior north wall laid in all stretcher bond with struck joints and expansion joints, introduction of three floors of single pane windows on the north elevation, and subdividing of formerly open spaces in the 1925 addition into high traffic courtroom and office spaces.

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## Narrative Description

The following text has been taken from the original nomination.

### 1909 UNIT

*The original building, occupying all of Lot 5, is a 50' x 100' reinforced concrete structure with solid brick infill walls. Planned by the owner, the Portland Railway Light & Power Co., the structural system was known as the "Kahn System of Reinforced Concrete" (see attached plans), and was designed by the Trussed Concrete Steel Co. of Detroit. Construction was by the Hurley Mason Co. of Tacoma and Portland.*

*The main entrance to the Substation is near midlevel at the high point of the site on Jefferson near the corner of First Avenue. From the entrance landing, concrete stairs lead to the basement and to the first or main floors. The basement has a concrete floor slab and a narrow (7' -3") central longitudinal bay formed by 15" thick concrete walls. Equal outer bays are formed by the exterior walls which are framed by 22" x 20" concrete columns in seven primary transverse bays on 14'-0" centers. Similar columns are set in three equal bays at the front and rear walls. Columns are tied together with a continuous 14" x 30" concrete girder at the first floor line. In the outer bays the 5" thick first floor slab is supported by 12" x 26" transverse concrete beams at 7'-0" centers, and at the center bay by smaller irregularly spaced beams. A loading area, open to the first floor is located in the southeast corner bay where the street grade is the same as the basement floor level.*

*Except for a small Office cubicle at the west end, the first floor is one clear span open space which housed the large transformers and other related equipment. Twenty feet above the floor is a 30" deep continuous girder. On the long north and south walls the girder is corbelled out from the wall to allow for a steel track that carries a 20 ton travelling crane. Above are the clear span transverse girders which are supported by the perimeter columns. Girders are haunched at the ends and tapered at the top, and measure 5'-6" deep at the center. Longitudinal beams support the concrete roof slab which has four large ventilators. The clear space measures 48' wide x 98' long x 32' high.*

*All concrete and brick surfaces on both floors are painted. All electrical equipment has been removed except some control panels and switch gear. Most original single lamp incandescent light fixtures, located on the perimeter columns, are still in place. Only one retains its original glass canopy.*

*The simple concrete structure is the dominant element of the exterior - three equal vertical bays along First Street and seven equal bays along Jefferson. Horizontal divisions are articulated by the first floor girder, the crane girder and the roof girder. The roof girder is flush with the column faces while the lower girders are recessed a few inches.*

*The concrete frame was infilled with common red brick, Wood windows and panels, and cement sills. At the ground floor, typical bays had paired windows with brick mullions and jambs. Sash is double hung, four lights over four. The entrance door occupies a window space in the westerly bay on Jefferson Street, and the loading doors take up all of the easterly bay. Bays between the first floor girder and the crane girder had brick jambs and paired double hung windows, six lights over six, at the top. Under the upper sash in alternating bays are paired six light awning sash and paired wood panels. Below, in all bays, were brick panels that featured square cast cement corner blocks and a central diamond element. The top bays had brick jambs and a fixed 30 light*



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*cross window. Above the roof girder is a corbelled brick parapet, accented at the columns. Rear and side walls are plain brick without Openings.*

*Alterations to the exterior include: stucco over all brick surfaces, except the - parapet, on the south and west walls; paint on all brick and concrete surfaces; replacement of the swinging loading doors with an overhead door; and security screens on basement windows.*

### 1925 ADDITION

*In 1925 a 34' wide by 100' deep addition was built on the north. The addition has a basement and two stories with the first floor on the same level as the first floor of the 1909 building.*

*Reinforced concrete and brick construction is similar to the original building. The basement and first floor are nearly identical — three equal longitudinal bays and ten equal transverse bays creating a grid approximately ten feet square. Basement columns are 18" square and those at the first floor are 15". Transverse beams are reinforced concrete, haunched at the ends, at the first floor, and steel (15" x 60.8") encased in concrete at the second floor. First and second floor slabs are 8" thick. Centered longitudinally on the second floor is a concrete switch gear housing above which are steel double channel columns, irregularly spaced, which support a steel channel beam and transverse sloping roof beams -- steel encased in concrete and a 4" concrete roof slab. The front (west) bay is open from the basement to the roof. At mid-bay near the roof is a transverse I-beam which supports a travelling hoist that was used to lift heavy equipment from the grade level loading dock at the southwest corner.*

*A concrete stair leading to all floors is located east of the loading dock. A similar stair situated along the rear wall extends to all floors and the roof. Both Stairways have steel pipe railings. Connection between the 1909 and 1925 units is through a fire door at the center bay of the first floor, and by a stair and door in the basement (the basement floor of the 1925 unit is 6'-4" below the 1909 basement).*

*Brick sidewalls are plastered, and all brick and concrete surfaces except the basement floor have been painted. Except for one transformer in the basement, all electrical equipment has been removed. Cabinets for 11,000 volt "Switch Tanks" are still in place.*

*With a few minor exceptions the exterior treatment of the addition duplicates the original work on the 1909 unit. The front facade is divided into two equal vertical bays that are nearly the same width as the original front bays. The concrete frame, brick jambs and panels, are intact, though they have been painted.*

*Sash is steel rather than wood. In the north bay, the basement opening contains steel louvers. Large swinging doors to the loading dock are located in the south bay. Upper story windows are identical — paired 25 light units with a thin vertical mullion, and a six light horizontally pivoted sash centered in each unit.*

### PROPOSED REHABILITATION

*The present owner plans to rehab the structure for a mixed-use of office, retail and restaurant. The 1925 Annex will have retail on the ground floor and offices on upper floors. Restaurant use is planned for the large, 32' high space of the original building. The partial mezzanine proposed for this room will be designed in such a manner that the scale and spatial quality of the original will be maintained.*

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*New windows on the north and east (non-street) walls are planned to provide city and river views, and will be harmonious with existing designs. New windows are also proposed in place of the present wood panels at the first floor level of the 1909 unit. These windows will match the existing windows in adjacent bays. Other exterior work will include repair of existing surfaces and repainting.*

### **2019-2020 updated description**

As noted in the summary, construction of the new 17-story Multnomah County Central Courthouse began in 2018 and now occupies the remainder of the block. The project is integrating Jefferson Substation into the program of the building, however, it has resulted in extensive demolition activity that includes many of the character-defining features of the building that conveyed its historical use and function as a substation that used the Kahn System of reinforced concrete construction. The cumulative effect of alterations to the building starting with its abandonment as a substation in 1977, its rehabilitation in the 1980s, and its integration into a courthouse has substantially diminished the building's features most notably its exterior surface expression (which was stuccoed prior to the 1980s), the removal of the first floor doors and windows in the 1980s, and the demolition activities in 2018-2019. At the conclusion of the courthouse project, the building now features glazing on three elevations, with a single party wall that leaves little indication of its historic context and setting. The use of all stretcher bond with struck joints provides the appearance that the structure was intended to be a stand-alone structure as opposed to a building that formerly shared a party wall with a neighboring structure. During its period of significance, Jefferson Substation was situated on a block consisting of similarly sized masonry buildings with shared party walls. In its present condition, it stands as an isolated building with glazing on three elevations bounded on the same block by an oversized structure that is fourteen stories taller. With the construction of the courthouse and broader changes to the surrounding lots over time, the substation's nod to architectural compatibility within the early twentieth century urban fabric of Portland has been entirely lost.

The following includes a list of alterations that have occurred over time that have cumulatively diminished the character-defining features of the building.

- 1) The original nomination (1980) notes the following alterations:
  - a. stucco over all brick surfaces, except the parapet, on the south and west walls;
  - b. paint on all brick and concrete surfaces;
  - c. replacement of the swinging loading doors with an overhead door;
  - d. security screens on basement windows.
- 2) The proposed rehabilitation, which is discussed in the original nomination proposed the following changes in the 1980s:
  - a. Adapting the building to a mixed-use of office, retail and restaurant. The 1925 Annex will have retail on the ground floor and offices on upper floors;
  - b. Restaurant use is planned for the large, 32' high space of the original building. The partial mezzanine proposed for this room was allegedly designed in such a manner that the scale and spatial quality of the original was allegedly maintained;
  - c. New windows on the north and east (non-street) walls;
  - d. New windows were installed at the first floor level of the 1909 unit. These windows were designed to match the existing windows in adjacent bays but some of the first floor fenestration were reconfigured to accommodate storefronts;
  - e. Other exterior work will include repair of existing surfaces and repainting;
  - f. Rooftop penthouse was added;

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- g. Four rectangular shaped louvered monitors were refashioned and glazed to accommodate skylights.<sup>1</sup>
- 3) The 2018-2019 alterations (see Additional Information pages 30-33) include:
- a. Addition of a 17-story courthouse to the north and east elevations of the building;
  - b. Removal of all interior reinforced concrete floors;
  - c. Removal of 10 character-defining haunched transverse reinforced concrete beams;
  - d. Removal of all vertical interior supports in 1909 and 1925 parts of the buildings (five vertical supports located on the south north side of the 1909 building where it joined the 1925 remain);
  - e. Removal of most five-to-one common bond brickwork in all parts of the building and replacement with reinforced concrete;
  - f. Removal of all electrical equipment cited in the original nomination including the incandescent lighting, electrical cabinets, fire doors, and concrete switch gear housing have been removed;
  - g. Complete removal of the north and east walls of the 1925 addition;
  - h. Complete removal of the roof over the 1925 addition;
  - i. The basement level of the 1925 addition was infilled;
  - j. Installation of an interior mezzanine that occupies 3/7<sup>th</sup> of the former two-story volume of the turbine hall;
  - k. Two new security entrance boxes that protrude into the first floor of the turbine hall;
  - l. Removal of all previously existing interior room divisions in the 1909 and 1925 addition and reconfigured floor plans in both parts of the building to accommodate individualized office spaces, hearings rooms, a bike room, and processing spaces.<sup>2</sup> Most interior walls are furnished with drywall and/or reinforced concrete and ceilings feature drop ceilings;
  - m. Incorporation of last remaining interior supports between 1909 original building and 1925 addition into a solid reinforced concrete wall with protruding encased steel I-beam vertical supports;
  - n. Installation of signage over the first-floor windows of the west and south elevations that may be permanent due to security concerns;
  - o. Installation of security cameras on the northwest and southwest exterior corners;
  - p. Installation of three floors of new windows on north elevation that formerly served as a common wall;
  - q. Installation of all stretcher bond brick wall with control joints (originally a brick wall laid in a common bond with buttered joints) on the north side of the building;
  - r. Installation of metal awning over west and south entrances.
  - s. Installation of new oversized transom windows over west entrance.
  - t. Installation of glazed Pella doors and sidelights on west entrance that are now covered with plywood.
  - u. Installation of a new transom window over west entrance with oversized panes.

<sup>1</sup> Final Findings and Decision by the Landmarks Commission Rendered on December 12, 2016. City of Portland, Oregon, Bureau of Development Services Land Use Services Case File Number: LU 16-207720 HRM AD, PC # 16-134597. Also available at <https://www.portlandoregon.gov/bds/article/621972>.

<sup>2</sup> Additional information about these changes can be found in Architectural Resources Group, Jefferson Station: Documentation of Proposed Modifications, October 2016 and associated documentation filed with the Oregon SHPO as a part of the SHPO Case No. 16-0426.

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**8. Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations).

Originally listed in the National Register of Historic Places (NRHP) in 1980, the Jefferson Substation was noted as achieving “architectural and engineering significance as a relatively rare extant example in Portland of an early electrical substation – it is the only remaining structure of its type in downtown Portland --- and as a very local instance of a building with a reinforced concrete superstructure.” The nomination continues that the substation had an important role “in the early days of electrical distribution in Portland’s business district, particularly for street lighting and the street railway system” and “was unique in its use of a patented reinforced concrete structural system.” At the time the substation was nominated, the National Register criteria did not exist, however, it was likely significant under NRHP Criteria A for its association with the electrification of downtown Portland and streetcar development and under NRHP Criteria C as a rare example of an electrical substation property type and example of the Kahn System of Reinforced Concrete. Due to the loss of historical integrity during the ongoing Multnomah County Courthouse project, however, the structure no longer communicates its function as a substation or its associations with downtown electrification as it evolved in 1909 (original construction) and 1925 (expansion) (Criterion A), is not associated with a significant person or group of people (Criterion B), no longer retains sufficient evidence of the character-defining elements of its reinforced concrete superstructure associated with the “Kahn System of Reinforced Concrete”, its architectural evolution over time, and the rationale behind its nod to architectural compatibility (Criterion C). Lastly, the above ground features are readily visible so there is no potential for the building to yield potential information that is significant to the history at the local, state, or national levels (Criterion D).

According to 36 CFR 60.15(a)(1)(b), for historic properties listed prior to December 13, 1980 (like the nomination for Jefferson Station), they can only be removed from the National Register for grounds established in 36 CFR 60.15(a)(1). The regulation is written as follows:

*The property has ceased to meet the criteria for listing in the National Register because the qualities which caused it to be originally listed have been lost or destroyed, or such qualities were lost subsequent to nomination and prior to listing.*

Judging from the cumulative loss of nearly all aspects of integrity, the qualities of the Jefferson Station that caused it to be originally listed have been lost or destroyed (i.e. the integrity has been lost).

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

This supplemental information for the National Register of Historic Places addresses the recent demolition activities associated with the Jefferson Substation located at 37 SW Jefferson Street in Portland, Oregon. The purpose of this addendum is to provide an update on the building’s historical importance and the loss of its historic integrity since the initiation of the new Multnomah County Courthouse project which is currently integrating the building into the new courthouse structure. The project’s removal of the building’s historic fabric is not consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties as it resulted in the removal of all interior masonry (brick and concrete) room divisions, all reinforced concrete floors, 40% of the roof, 30% of the exterior walls, and 90% of the vertical and horizontal interior structural framing and flooring in addition to other details associated with its history as a substation. This has left only 60% of the roof structure, approximately 75% of a party wall, and the two streetside elevations intact. Due to the project’s substantial removal of historic fabric, the building no longer appears to retain historical integrity, has lost its capacity to convey its significance as the last remaining substation in downtown Portland, no longer retains sufficient structural features associated with the “Kahn System” of reinforced concrete and is no longer eligible for the National Register of Historic Places.

Due to the age of the nomination which listed the substation on May 31, 1980, the original nomination does not contain National Register Criteria for Evaluation, a stated period of significance, level of significance, or specific assessment of historic integrity. This addendum provides an update to the nomination that



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summarizes its historical significance in the areas of architecture and engineering, discusses its period of significance (1909 and 1925), applies all of the NRHP Criteria for Evaluation, and assesses its current lack of historic integrity.

The following information has been transferred from the original (1980) nomination.

*The Jefferson Substation achieves architectural and engineering significance as a relatively rare extant example in Portland of an early electrical substation – it is the only remaining structure of its type in downtown Portland — and as a very early local instance of a building with a reinforced concrete superstructure.*

*Also of significance is the important role the Substation played in the early days of electrical distribution in Portland's business district, particularly for street lighting and the street railway system. Portland's introduction to electric lighting occurred in May, 1879 with the arrival of the steamship, State of California, which had six carbon arc lights, four in the cabin and two in the engine room. According to the Oregonian of May 31, 1879*

*"The novelty of the light attracted a large crowd of our Citizens, and during the evening probably 500 persons including a large number of ladies, visited the vessel. . . The light is pure white and gives day colors to all objects viewed by it. . . The electric light is as much superior to gas as gas is superior to coal oil. "*

*The same year Thomas Edison succeeded in making a commercially practical incandescent lamp using a carbon filament in a vacuum, and had also perfected the direct current dynamo (generator) and the 110-220—volt 3—wire distribution system. These developments aroused the interest of railroad and shipping magnate Henry Villard, who visited Edison at his laboratory in Menlo Park, New Jersey. Villard was so impressed that he ordered dynamos and incandescent lamps for the steamer Columbia, then under construction for the Oregon Railroad & Navigation Company in Philadelphia. Except for Edison's original plant at Menlo Park, this was the first installation of the Edison system. Commenting on this fact, the Oregonian stated at a later date,*

*"The enterprise of a western railroad in 1880 gave Edison's greatest invention, the electric light, its first practical use while the conservative east was still trying to laugh it off as a ridiculous joke. "*

*The Columbia arrived in the City in the summer of 1880 and again Portlanders experienced the electric light through a marine installation. Exhibitions were held whenever the Columbia was in port, and on September 7, 1880 the Oregonian described such an event:*

*"Monday night wires were run from the steamship Columbia to the porch of the Clarendon Hotel, and the electric light used in the vessel's rigging suspended over the center of First Street. The powerful rays lighted up the whole neighborhood to the brightness of day. Thousands visited the light and the vessel, and like all others who have seen the Columbia, were greatly pleased. "*

*Also in September 1880, George W. Weidler erected a dynamo to operate 10 electric arc lamps in his sawmill on the Willamette River across from Albina. In addition to lighting the mill yard the circuit was extended to serve the Ainsworth Dock with three arc lamps and a single lamp at the Clarendon Hotel at First and F (Flanders) Streets. The success of the new lighting prompted orders from several merchants and Weidler became the first Portlander to market electric lighting.*

*In the spring of 1884, Weidler, along with L. L. Hawkins, P. F. Morey, and F. V. Holman organized the United States Electric Lighting & Power Co., the first corporate predecessor of the present Portland*

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*General Electric Co. (P. G. E.) The new company added larger Westinghouse steam engines, new Weston dynamos and extended service to all parts of the business district. The steam boilers were fueled by mill waste, more commonly known as "hog fuel. " A year later the company received the first street lighting contract from the City for lights along First and Third Streets.*

*For several years there had been considerable interest and research on the possibility of hydro—electric power at the Oregon City Falls. The first comprehensive survey was done in 1883 by a Swiss engineer, P. Miescher, under commission by Henry Villard. The survey results indicated the feasibility of such a venture but Villard's subsequent financial collapse doomed any development at that time.*

*It wasn't until 1888 that the first hydro-power went into service at Oregon City. The Oregon City Electric Company, formed by E. L. Eastham, installed a 450-light Edison dynamo in the Excelsior and Shoddy Mill. The dynamo was belted to the existing water wheel.*

*Eastham, foreseeing the manufacturing possibilities of Willamette Falls water power and its importance to both Oregon City and Portland, formed a syndicate which acquired several hundred acres of land contiguous to the Falls and bought control of Willamette Transportation and Locks Co. and all other O. R. & N. Co. properties at the Falls. The reorganized Locks Co. thus came into possession of the basin, locks, water rights, and ample land for factory sites. Within weeks the Oregon City Co. merged with Portland's U. S. Electric to form the Willamette Falls Electric Co. The new company received a street lighting franchise from Portland in April 1889. Two months later the company generated the country's first long distance (13 miles) commercial transmission of direct current hydro-electric power. The power came from Brush arc dynamos located in Station "A" on the east side of the Willamette River in Oregon City.*

*Also in 1889, electrification of street railways was begun in Portland, and gradually all horse car lines were converted to electric. Nearly all the companies operating street car lines had their own electric plants. The city was growing and likewise the electric load, so P. F. Morey, who had become president of the company upon Eastham's death in 1891, sought financial aid in the East for the purpose of building a new generating plant on the West side of the Willamette at the Falls. This resulted in the organization of the Portland General Electric Co. (the first company of that name) in August 1892, financed by the Old Colony Trust Co. of Boston (First Boston Corp.) and the General Electric Co. which furnished the generating equipment for the new 9000 kw facility to be known as Station "B".*

*By 1890 the generation and distribution of electricity had reached a state of complexity that resulted in the development of substations whose primary role was to convert high voltage power from the generating plants to the several modes used for street lighting, street rail lines, commercial and residential. The first of these facilities in Portland was the Montgomery Substation built in 1890 on the west side of the Willamette at the foot of Montgomery Street. Two years later the East Portland Substation was built on Union Avenue near Morrison St. In 1894 the Alder Substation (station 'a') was built at the northeast corner of Broadway and Alder. (In 1910 the Electric Building, P. G. E.'s headquarters, was built on this quarter block site. Alder Substation occupied the basement and part of the first floor. )*

*The three original substations sufficed for about 10 years. Portland's rapid growth after the 1905 Lewis & Clark Exposition, the accelerating demand for electrical energy and the consolidation of electric companies, brought in a new generation of power plants and substations. The first of the new substations was Sellwood ("b") in 1905, followed by Knott ("d") in 1906, Northern (St. Johns) ("c") in 1906—07, Piedmont ("f") in 1908, and Jefferson ("e") in 1909.*

*Initial equipment in the Jefferson Substation included one 1000 kw rotary generator, two 1000 kw frequency changer sets, all the mercury arc street lighting equipment and nine 375 kw transformers for light and power distribution. This equipment all came from Alder Substation which had to shut down for*

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*construction of the Electric Building. . ' When put on line Jefferson Substation received its power from Station "B", the hydro plant at the Falls, and from Stations "C" and "E", steam plants located in northwest Portland.*

*A significant event in the history of Portland's utility industries occurred on June 29, 1906 when the Portland Railway Light and Power Company was incorporated. A holding company P. R. L. & P. Co. took over all of the Portland Railway properties, and the Oregon Water Power and Railway Co. At the end of 1907 the company completed its consolidation by a merger with P. G. E. and became Portland's first monopoly, comprising 19 companies, 161 miles of railway covering the entire city, 43 franchises and 6 power plants.*

*In 1925 a major addition was built at the Jefferson Substation, more than doubling the floor area. Three 5000 — kva banks of transformers were installed to serve the underground and overhead-service. (In 1907 the City adopted an ordinance for an "underground district" roughly bounded by Jefferson, 14th, Glisan and the river.) The new transformers replaced the equipment at the Alder Substation which was eventually phased out.*

*The Jefferson Substation continued in active use, through several corporate upheavals, and modifications of equipment, until 1977 when it was purchased by the present owners. During its 68 years of continuous service the Jefferson Substation had the primary mission of electrical distribution for downtown Portland's street light and railway systems.*

*None of the original P. G. E. substations built prior to 1900 remain. Of the second generation substations, Sellwood, Knott, Northern, and Jefferson are still standing. All but Jefferson are on sites of active P. G. E. substations but the buildings are only marginally used. The Jefferson Substation, the only one of its era remaining on the west side is scheduled for rehabilitation and adaptive re-use. (See section 7).*

The following passage is noted as an addendum to the 1980 nomination.

*Of the four remaining Portland General Electric substations built in the early 1900s, the original 1909 Jefferson Substation was unique in its use of a patented reinforced concrete structural system (see attached drawing), and in the clear expression of the structure on the exterior. (The Sellwood Substation has stone exterior walls and a steel roof truss; Knott Substation is a neo-classic design with brick exterior walls and a steel roof truss; and Northern Substation is a simple structure also with brick walls and steel roof truss. Northern has a c. 1928 addition with concrete walls and a steel roof truss.)*

*The concrete structural system had no particular regional significance but it was an early if not the earliest example of its kind in Portland--no earlier examples are known. In subsequent years, this type of fireproof construction became quite common for urban industrial buildings requiring long clear floor and roof spans.*

*Also of significance is the fact that Jefferson Substation is the only remaining example of an early substation in the downtown core of Portland. During the early years, the substation played an important role in serving the downtown street light and railway systems.*

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## **Update to Nomination (2019)**

### **Application of the National Register of Historic Places Criteria for Evaluation**

#### *Criterion A*

To be eligible under National Register Criterion A, a resource must be able to communicate its association with events that have made a significant contribution to the broad patterns of our history. As noted in the original nomination, the Jefferson Substation was erected during an important part of Portland's history. The Jefferson Substation was part of a large interconnected utility network associated with the consolidation and rapid expansion of Portland Railway, Light, and Power Company (PRL&PC) beginning in 1906. The building's evolution over time has also been largely removed, as it was expanded in 1925 as a reflection of the economic growth of Portland in the 1920s and the need for additional electrical capacity. The building, however, currently exhibits little to no evidence of its history as a substation as the entire interior organization of the building was removed in 2018-2019. The exterior conveys how PRL&PC sought to integrate substations into the city's architectural fabric, but without the interior, it remains difficult to examine the dichotomy between interior utilitarianism and function with exterior embellishment. It also blurs the building's associations with the electrification of downtown and its growth over time. The Jefferson Substation, therefore, is not eligible under Criterion A.

#### *Criterion B*

The original nomination does not contain information pertaining to the associations of the Jefferson Substation with important individuals or groups of people. Additional research performed, most notably utilizing the digitized issues of the *Oregonian*, did not uncover individuals sufficiently associated with the property to warrant significance. Felix Kahn, the brother of the Kahn System of Reinforced Concrete developer Albert Kahn, visited Portland in 1907 to market the values behind the Kahn System.<sup>3</sup> While in Portland, Kahn appeared to focus on the virtues of using reinforced concrete for bridges and viaducts.<sup>4</sup> Just prior to his visit, Kahn's firm, The Trussed Concrete Steel Company had obtained the engineering contract for the ten story annex to the Oregon Hotel.<sup>5</sup> Subsequent to his visit, the Trussed Concrete Steel Company obtained contracts to build the Jefferson Substation as well as the National Register – listed "Electric Building" which was located at Broadway and SW Alder in Portland.<sup>6</sup> Both buildings were erected using the Kahn System. While Felix Kahn would become a significant engineer (eventually as a partner for MacDonal & Kahn Company who was a part of the so-called "Six Companies" who helped to build the Hoover Dam), he does not have any direct personal associations with the Jefferson Substation and his participation in the design and construction of the building is not mentioned in the historical record.<sup>7</sup> Even if he were directly associated with the building, the building lacks the characteristics to be reflective of his engineering expertise. Lacking associations with significant individuals or groups, the Jefferson Substation, is not eligible under Criterion B.

#### *Criterion C*

##### **Substation as Property Type**

As a property type, electrical substations typically maintain physical characteristics that convey their historic use and function. Characteristics of substations in Portland from the early twentieth century feature elements integral to their function of distributing and/or transmitting electricity coupled with an exterior architectural embellishment as utilities sought to make the buildings an integrated component to the city's urban environment. Due to the density of buildings and need for transportation infrastructure, companies were challenged to integrate substations into the city. At a very early date, Portland created an "underground district" by which electrical transmission and distribution lines would be buried rather than extended on

<sup>3</sup> *Oregonian*, "Noted Building Expert is Here: Felix Kahn Talks of the Advantages of Reinforced Concrete Construction," December 29, 1907: 4.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> *Oregonian*, "Structure Takes Shape: Electric Building will be Blaze of Light," October 24, 1909: 8.

<sup>7</sup> *Oakland Tribune*, "Felix Kahn, Noted Contractor, Dies." June 6, 1958: 13.

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overhead lines due to constrained public right of ways.<sup>8</sup> This aversion to the visibility of electrical utilities resulted in companies constructing purpose built substations, such as the Sellwood ("b") in 1905, followed by Knott ("d") in 1906, Northern (St. Johns) ("c") in 1906—07, Piedmont ("f") in 1908, and Jefferson ("e") in 1909.<sup>9</sup> In addition to purpose built substations, companies such as the PRL&PC integrated substations into the basements and/or first floors of office buildings such as the National Register-listed "Electric Building" at the northeast corner of Broadway (formerly 7<sup>th</sup>) and SW Alder (still extant).<sup>10</sup>

The surviving substations from the early twentieth century, most notably "substation D" (44 NE Knott Street), Sellwood Station (8856 SE 13<sup>th</sup> Avenue), and the Tabor Substation (423-433 SE 60<sup>th</sup> Avenue) all retain their associations with electrical distribution and transmission as they exist within an operating electrical substations.<sup>11</sup>

During the early 20<sup>th</sup> century electrical distribution expansion program of PRL&PC (a subsidiary of PGE), the Jefferson Station was the last of a series of stations erected by the company and provided needed resiliency following an outage triggered by a "disaster" at the company's Cazadero plant that impacted service.<sup>12</sup> The new building at the corner of First and Jefferson supplied power for street lights and the street railway system in the southern section of the city.<sup>13</sup>

### **The Kahn System**

Erected using the "Kahn System" the Jefferson Station reflected the patented reinforced concrete construction system employed by the Trussed Concrete Steel Company of Detroit, Michigan. The Kahn System was developed by engineers Albert and Julius Kahn who experimented extensively to increase the structural capacity of reinforced concrete in an effort to expand its use and efficacy.<sup>14</sup> This included reconfiguring reinforcement bars to create the "Kahn bar".<sup>15</sup> In addition to that advance, the Kahn's patented dozens of additional components to their system including "rib bar", built-up column hooping, Rib-lath, Rib-studs, post caps, centering clamps, and even rib steel stair treads in addition to variety of chemical products to treat, finish, and waterproof the buildings built with the company's steel and concrete products.<sup>16</sup> United Steel Sash were also commonly used windows as they were designed to maximize light in these new masonry buildings. These light weight sash were made possible as a result of the structural columns serving as the primary weight-bearing members (as opposed to the entire wall).<sup>17</sup> It remains uncertain if these sash were employed at the Jefferson Station, but those pictured in period photographs appear similar.

In the period after the San Francisco earthquake of April 18, 1906, the company touted the performance of the Kahn System – both for its resilience during the earthquake, but also its fire resistance. The Bekins Van and Storage Company Building, being erected just as the earthquake struck, survived the fire and was prominently featured by the company as it stood alone against an otherwise charred urban landscape of San Francisco. Kahn System buildings and structures were subjected to a number of disasters during the period and were studied and promoted by the company as evidence of reinforced concrete's elasticity during violent earth movements and resistance to fire.<sup>18</sup>

<sup>8</sup> Craig Wollner, *Electrifying Eden: Portland General Electric 1889-1965* (Portland, OR: Oregon Historical Society Press, 1990) 75.

<sup>9</sup> George A. McMath, Jefferson Substation. National Register of Historic Places Inventory – Nomination Form. 1979 (listed May 31, 1980).

<sup>10</sup> *Oregonian*, "Structure Takes Shape". The substation would remain in the Electric Building until 1942. See Wollner 47.

<sup>11</sup> It should be noted that the other substations built during this period and located at 6616 N Lombard Street (1906), 7804 N Vancouver Avenue (1911), and 10227 SE Woodstock Boulevard (1906) have all been demolished.

<sup>12</sup> *Oregonian*, "New Generators Installed: Street Railway Company Restores Two-Thirds of Normal Service," August 5, 1908: 10.

<sup>13</sup> *Ibid.*

<sup>14</sup> Joseph M. Siry, "The Architecture of Earthquake Resistance: Julius Kahn's Truscon Company and Frank Lloyd Wright's Imperial Hotel," *Journal of the Society of Architectural Historians*, Vol. 67, No. 1 (March 2008) 78-79.

<sup>15</sup> *Ibid.*

<sup>16</sup> Frank Sedlar, "Engineering Industrial Architecture: The Trussed Steel Company and Albert Kahn," Self-published, April 23, 2013: 14-15.

<sup>17</sup> *Ibid.* 22.

<sup>18</sup> *Ibid.* 10. See also Lewis Alden Estes. *Earthquake-Proof Construction: A Discussion of the Effects of Earthquakes on Building Construction with Special Reference to Structures of Reinforced Concrete*. Detroit, MI: Trussed Concrete Steel Company, 1911.



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While some components of the Kahn System remain within the exterior walls and one set of remaining vertical columns, the structural system of Jefferson Station does not retain sufficient integrity of materials to adequately convey the comprehensiveness of the system or its integrated nature – particularly with the loss of the horizontal beams as well as all of the floors, non-structural brick masonry, and interior room divisions. Because the building no longer retains enough integrity to convey its function as a substation (as a property type) and its systematic form and method of construction, which were specifically mentioned as the source of the building's significance in the original nomination, the Jefferson Station is not eligible under Criterion C.

#### *Criterion D*

A significant percentage of the above ground features of the Jefferson Station have been destroyed and removed from the site. Those above ground features of Jefferson Station that survive are readily visible so it is unlikely that the building would yield any potential information that is significant to the history at the local, state, or national levels (Criterion D).

#### Integrity

##### *Setting*

Historically, the location of the Jefferson Substation was occupied by commercial businesses that consisted of brick, cast iron, and concrete buildings. Sometime in the mid-twentieth century the streetcar rails that once occupied Jefferson and First Streets were removed. In the 1950s and 1960s, however, the lots to the north and east of the building were cleared to make way for ramps for the Hawthorne Bridge and Harbor Drive (see photographs in Additional Information). Since that time, the setting has changed dramatically with multiple large office buildings and a parking garage located to the south, west, and north. A one-story building, formerly located on the north party wall, was demolished in 2017. With the addition of the Multnomah County Courthouse building, the setting of the Jefferson Substation is now no longer intact. With the loss of the building's setting, the structure is no longer able to convey its architectural importance as a building originally designed to be compatible with the scale of Portland's urban fabric on a block with similarly sized buildings.

##### *Association*

The Jefferson Substation no longer retains its integrity of association as it no longer retains the physical characteristics of a substation and no longer illustrates the Kahn System of Reinforced Concrete as nearly all of the interior structural concrete has been removed. All remaining electrical equipment previously described in the 1980 nomination, which included electrical cabinets for the switch tanks and the transformer in the basement, and concrete switch gear housing has all been removed. Furthermore, the interior organization of the building no longer conveys how the building evolved over time, particularly with nearly the complete loss of the 1925 addition which demonstrated how the substation was added on to in order to meet the downtown area's need for more electrical power. Its association with the electrification of Portland has also been substantially diminished by the subdivision of interior spaces for the current courthouse offices. The turbine hall volume has been somewhat retained but is former brick infilled concrete superstructure has been either removed or entirely obscured by reinforced concrete.

##### *Design*

Nearly all indications of the building's former use as a substation have been removed and nearly all of the interior reinforced concrete structure (floors, walls, columns) has been demolished thus leaving minimal evidence of its original floorplan, function, and structural design. As a surficial shell, the building no longer conveys how its interior functioned, how it was erected, and how the design of the 1909 part of the building compared to the 1925 part of the building. The interior walls have been nearly entirely obscured with reinforced concrete and/or drywall. The interior floorplan has been further subdivided for office space,

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hearings room space, a bike room and other smaller spaces that fail to convey its former function as a substation which was characterized by larger open spaces filled with electrical switches that are no longer present. Even the turbine hall has been diminished by a mezzanine that occupies 3/7<sup>th</sup> of the former two-story volume. In addition, at least two boxed entries also intrude into the turbine hall on its north side. Lastly, only vestigial remnants of the Kahn system remain with most of the system now almost entirely obscured by drywall or reinforced concrete.

### *Feeling*

Due to the retention of the west and south elevations, the building's exterior feeling has been modestly retained. The loss of the former building situated to the north in 2017 and replacement with the oversized courthouse has diminished the building's ability to convey the feeling of an early 20<sup>th</sup> century substation integrated into the urban fabric of the surrounding neighborhood. The building now stands in a more isolated situation. The interior of the building's feeling has not been retained as it no longer reflects the interior proxemics of a substation.

### *Materials*

The Courthouse project's removal of the building's historic fabric has not been consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties as it resulted in the removal of all interior masonry (brick and concrete) room divisions, all reinforced concrete floors, 40% of the roof, 45% of the exterior walls, and 90% of the vertical and horizontal interior structural framing and flooring in addition to other details associated with its history and evolution as a substation. This has left only 60% of the roof structure, approximately 10% of the east party wall, and the two streetside elevations moderately intact. In addition to these changes during construction, the formerly open plan of the industrial building has been subdivided into office spaces with walls sheathed with drywall and drop ceilings. The main turbine hall now features reinforced concrete walls. The first-floor windows have also been covered over with signage. Due to the project's substantial removal of historic fabric in 2018-2019, as well as alterations to the building that occurred after its construction and through its 1980s rehabilitation, the cumulative alterations to the building have resulted in a loss of its integrity of materials.

### *Workmanship*

Due to the aforementioned removal of interior historic fabric, the building no longer reflects the workmanship that would be associated with the construction of a substation that utilized the Kahn System of Reinforced Concrete. It also no longer reflects the building's evolution as much of the 1925 addition has been removed.

### *Location*

The building has not been moved, it therefore retains its integrity of location.

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## 9. Major Bibliographical References

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

City of Portland, Oregon, Bureau of Development Services Land Use Services. Final Findings and Decision by the Landmarks Commission Rendered on December 12, 2016. Case File Number: LU 16-207720 HRM AD, PC # 16-134597. Also available at <https://www.portlandoregon.gov/bds/article/621972>

Estes, Lewis Alden. *Earthquake-Proof Construction: A Discussion of the Effects of Earthquakes on Building Construction with Special Reference to Structures of Reinforced Concrete*. Detroit, MI: Trussed Concrete Steel Company, 1911. Available at <https://books.google.com/books?id=LV9BAQAAIAAJ&printsec=frontcover&dq=Earthquake-Proof+Construction:++A+Discussion+of+the+Effects+of+Earthquakes+on+Building+Construction+with+Special+Reference+to+Structures+of+Reinforced+Concrete&hl=en&sa=X&ved=0ahUKEwi26K3Jt6PgAhVTJ30KHUYmC1EQ6AEIKTAA#v=onepage&q=Earthquake-Proof%20Construction%3A%20%20A%20Discussion%20of%20the%20Effects%20of%20Earthquakes%20on%20Building%20Construction%20with%20Special%20Reference%20to%20Structures%20of%20Reinforced%20Concrete&f=false>

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*Oakland Tribune*. "Felix Kahn, Noted Contractor, Dies." June 6, 1958.

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Siry, Joseph M. "The Architecture of Earthquake Resistance: Julius Kahn's Trucson Company and Frank Lloyd Wright's Imperial Hotel." *Journal of the Society of Architectural Historians*. Vol. 67, No. 1 (March 2008), pp 78-105.

Wollner, Craig. *Electrifying Eden: Portland General Electric 1889-1965*. Portland, OR: Oregon Historical Society Press, 1990.

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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:**

- State Historic Preservation Office
  - Other State agency
  - Federal agency
  - Local government
  - University
  - Other
- Name of repository: \_\_\_\_\_

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Historic Resources Survey Number (if assigned): N/A

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**10. Geographical Data**

**Acreage of Property** Less than one

(Do not include previously listed resource acreage; enter "Less than one" if the acreage is .99 or less)

**Latitude/Longitude Coordinates**

Datum if other than WGS84: N/A

(enter coordinates to 6 decimal places)

1	<u>45.513851°</u>	<u>122.675487°</u>	3	<u></u>	<u></u>
	Latitude	Longitude		Latitude	Longitude
2	<u></u>	<u></u>	4	<u></u>	<u></u>
	Latitude	Longitude		Latitude	Longitude

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

The property is bounded to the west by SW 1<sup>st</sup> Avenue, to the south by SW Jefferson Street, and to the north and east by the new (2019) Multnomah County Courthouse Building. The property was formerly referred to including "Lot 5, South 34 feet of Lot 6, Block 8" in the 1980 nomination. The property dimensions are roughly 100 feet by 84 feet and do not include the remaining part of the block now occupied by the Multnomah County Courthouse.

**Boundary Justification** (Explain why the boundaries were selected.)

The property includes all components of the building previously listed on the National Register and that formerly contributed to its significance.

**11. Form Prepared By**

name/title Kirk Ranzetta date 12/14/2020  
organization  telephone 503-636-0253  
street & number 9 Bernini Court email kranzetta@gmail.com  
city or town Lake Oswego state OR zip code 97035

**Additional Documentation**

Submit the following items with the completed form:

- **Regional Location Map**
- **Local Location Map**
- **Tax Lot Map**
- **Site Plan**
- **Floor Plans (As Applicable)**

**Photo Location Map** (Include for historic districts and properties having large acreage or numerous resources. Key all photographs to this map and insert immediately after the photo log and before the list of figures).



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**Photographs:**

Submit clear and descriptive photographs. The size of each image must be 3000x2000 pixels, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

**Photo Log**

**Name of Property:** Jefferson Substation  
**City or Vicinity:** Portland  
**County:** Multnomah **State:** OR  
**Photographer:** Kirk Ranzetta  
**Date Photographed:** December 2018 – December 2020

Description of Photograph(s) and number, include description of view indicating direction of camera:

- Photo 1 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0001  
Photograph of west and south elevations. Original windows have been reinstalled but with interior storms. Metal awnings have been installed on the west and south elevations. New transom windows were installed over the main entrance. All first-floor windows have been covered with signage. October 7, 2020.
- Photo 2 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0002  
Photograph of north and west elevations. Original windows have been reinstalled but with interior storms. Metal awnings have been installed on the west and south elevations. New transom windows were installed over the main entrance. All first-floor windows have been covered with signage. October 15, 2020.
- Photo 3 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0003  
Photograph of north elevation. New windows added to first, second, and third floors. Entire north wall reconstructed with all stretcher bond brick. October 15, 2020.
- Photo 4 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0004  
Photograph of west entrance with boarded up glazed single pane sidelights, glazed Pella doors, and oversized pane transom. October 15, 2020.
- Photo 5 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0005  
Photograph of west elevation in the evening showing the interior of the turbine hall. Note the two boxed entries visible in the third window from the right. December 14, 2020.
- Photo 6 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0006  
Photograph of west and south elevations. Interior of turbine hall is partially visible through second and third floor windows. Note boarded up windows on first floor. December 14, 2020.

**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 100 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.

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National Park Service

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### List of Figures

(Resize, compact, and paste images of maps and historic documents in this section. Place captions, with figure numbers above each image. Orient maps so that north is at the top of the page, all document should be inserted with the top toward the top of the page.)

- Figure 1:** Regional Location Map (Arrow points to location of Jefferson Substation). United States Geologic Survey topographic map. Portland Quadrangle.
- Figure 2:** Local Location Map (Arrow points to location of Jefferson Substation Building). Aerial map courtesy of [www.portlandmaps.com](http://www.portlandmaps.com).
- Figure 3:** Tax Lot Map. Map courtesy of Multnomah County Assessors Office.
- Figure 4:** 1908-1909 map showing future location of Jefferson Substation at the southwest corner of the block. Sanborn Fire Insurance Map Company.
- Figure 5:** c. 1950 map showing the Jefferson Substation located at the southwest corner of the block. The building includes the original 1909 building and 1925 addition. Sanborn Fire Insurance Map Company.
- Figure 6:** Site Plan (Blue arrow points to 1909 portion of building; red arrow points to 1925 addition; orange line indicates party wall between two portions of building. Note: the on ramp to the Hawthorne Bridge has been removed and is now a part of the Multnomah County Courthouse Building.)
- Figure 7:** 1938 aerial view of building, looking north. Note the scale of neighboring buildings. Courtesy of the City of Portland Archives.
- Figure 8:** 1940 aerial photograph showing the Jefferson Substation. Courtesy of the City of Portland Archives.
- Figure 9:** 1963 aerial view of the building after construction of Harbor Drive and several associated ramps for the Hawthorne Bridge, looking southeast. Courtesy of City of Portland, Archives.
- Figure 10:** The Electric Building, located at Broadway and SW Alder Street in Portland. Photo c. 1920. Courtesy of the Oregon Historical Society.
- Figure 11:** The Kahn System, as illustrated in Joseph M. Siry, "The Architecture of Earthquake Resistance: Julius Kahn's Truscon Company and Frank Lloyd Wright's Imperial Hotel," *Journal of the Society of Architectural Historians*, Vol. 67, No. 1 (March 2008) 80. The red arrow points to a haunched transverse beam.
- Figure 12:** Photograph taken of initial demolition activity, looking east. Note removal of third floor floors of 1925 addition. December 6, 2018.
- Figure 13:** Photograph of demolition activity, looking southeast. December 6, 2018. Note the presence of reinforced concrete interior room subdivisions present on the partially demolished third floor.

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- Figure 14:** Photograph of demolition activity, looking east. Note loss of interior supports on third and second floors of 1925 addition. December 28, 2018.
- Figure 15:** Photograph of demolition activity, looking southeast. January 21, 2019. Note the loss of the brickwork between structural columns and beams in 1909 building. Also note the removal of the reinforced concrete flooring in 1909 building. On the 1925 addition, note that only 33% of the exterior walls remain intact and 100% of the interior has been removed.
- Figure 16:** Photograph of demolition activity removing all interior fabric of 1925 addition, looking southeast. January 22, 2019.
- Figure 17:** Detail photograph of demolition activity, showing removal of brick masonry walls of 1925 addition (red arrow), intervening brickwork between structural columns of 1909 building (blue arrow), interior room divisions, floors (green arrow) as well as structural beams, looking southeast. January 22, 2019.
- Figure 18:** Photograph of interior of 1909 Building. Red arrows show complete or total loss of lateral concrete supports. Circles indicate ghosts of 10 haunched transverse beams removed during demolition activities in 1909 building (Note: some of the ghosts are hidden behind the vertical supports in foreground – a total of twelve were removed). All voids between exterior structural columns and beams were formerly filled with five-to-one common bond brickwork. The photograph also confirms the loss of all interior reinforced concrete floors. Five haunched beams remain in the upper floor to carry the weight of the roof. March 24, 2019.
- Figure 19:** Detail view of the interior of the south wall, looking south. Black arrow points to ghost of reinforced concrete floor removed during 2018-2019 demolition activities. Red arrow points to ghost of former transverse beam. March 24, 2019.
- Figure 20:** February 2019 view of Jefferson Station. All interior components of the 1925 addition have been removed to expose the basement level. The basement level was subsequently infilled up to the first floor in April 2019.
- Figure 21:** Photograph of west and south elevations. The windows have been removed from the 1909 part of the building. Original windows appear intact on 1925 addition. January 22, 2019.
- Figure 22:** Photograph of turbine hall interior, looking west. Note that the original vertical structural posts on the north side of the 1909 building are longer visible within the turbine hall and are now incorporated into a poured reinforced concrete wall. From June 28, 2019 article "Central Courthouse project on schedule and on budget one year before opening." See <https://multco.us/multnomah-county/news/central-courthouse-project-schedule-and-budget-one-year-opening>.
- Figure 23:** Photograph of turbine hall and 20-ton Niles Crane during final stages of construction, looking northwest on the mezzanine. Note the intrusion of the new boxed entries and the new poured-in-place, reinforced concrete north wall (formerly original reinforced concrete columns with

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common bond brick infill. Courtesy of <https://pamplinmedia.com/but/239-news/448509-365006-central-courthouse-project-heads-into-final-stretch>.

**Figure 24:** Photograph of turbine hall and 20-ton Niles Crane, looking west. Photograph taken some time after project completion. Courtesy of <https://pacificwro.com/campaigns/courthouse>.



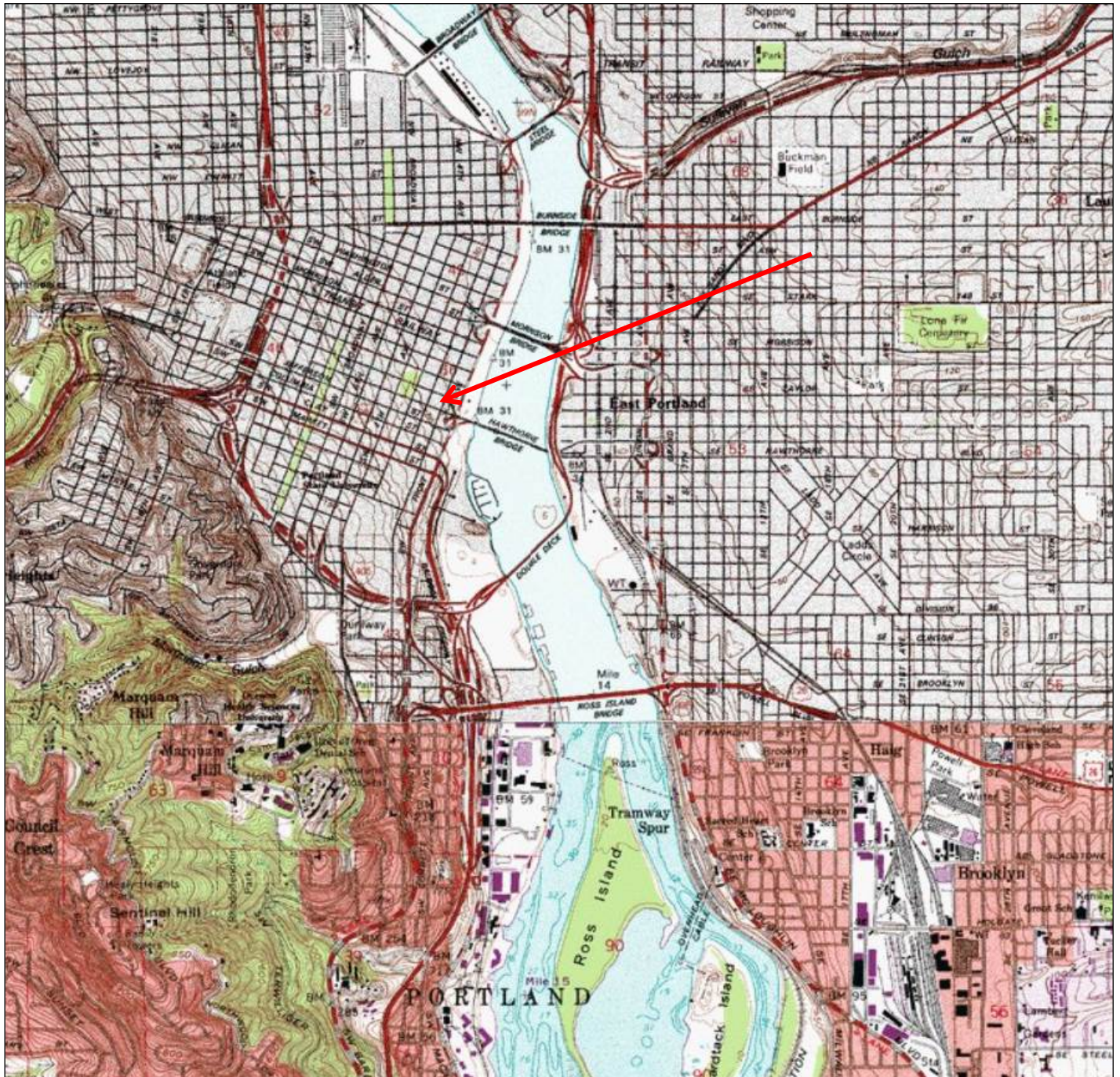
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**Figure 1:** Regional Location Map (Arrow points to location of Jefferson Substation). United States Geologic Survey topographic map. Portland Quadrangle.





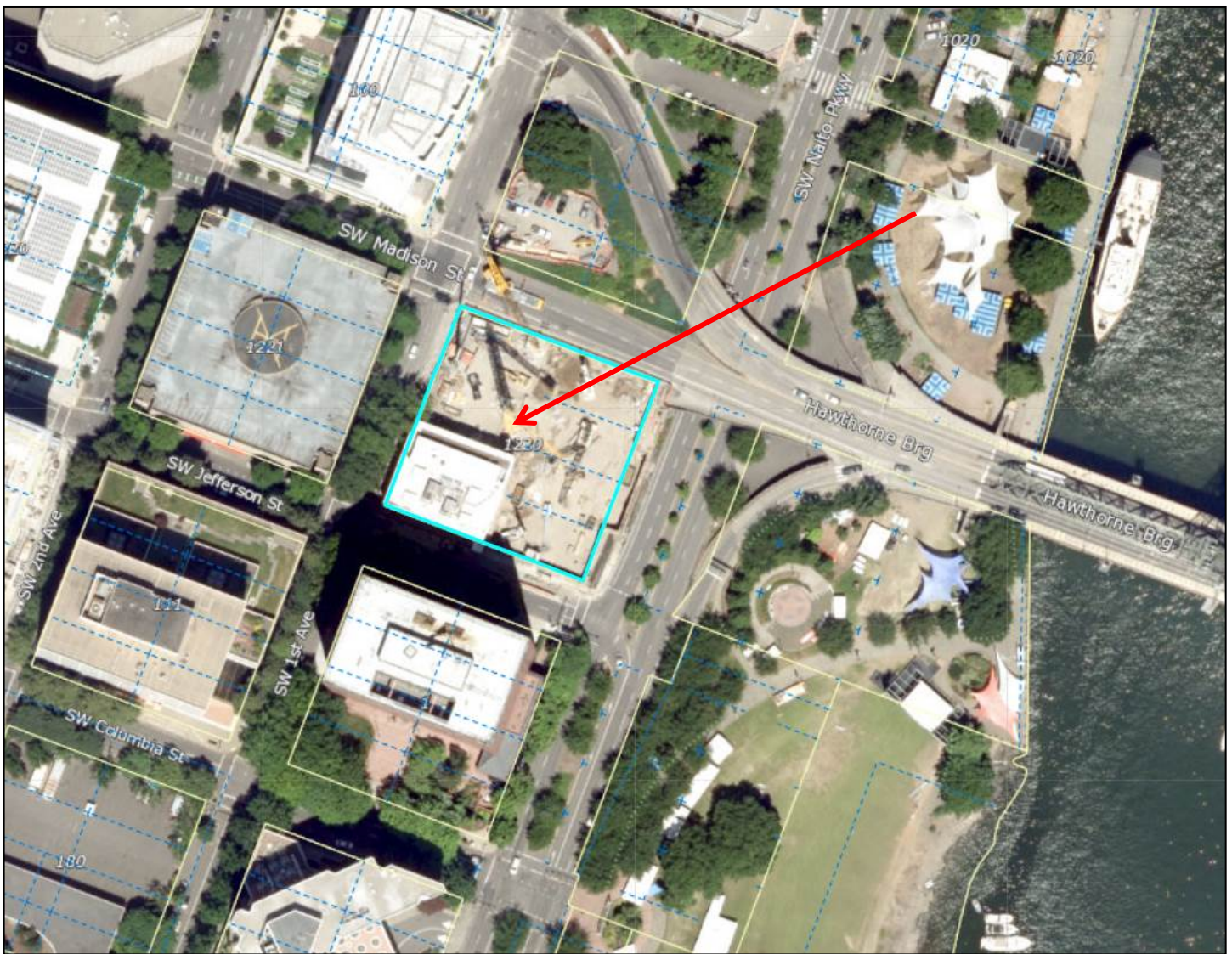
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**Figure 2:** Local Location Map (Arrow points to location of Jefferson Substation Building). Aerial map courtesy of [www.portlandmaps.com](http://www.portlandmaps.com).





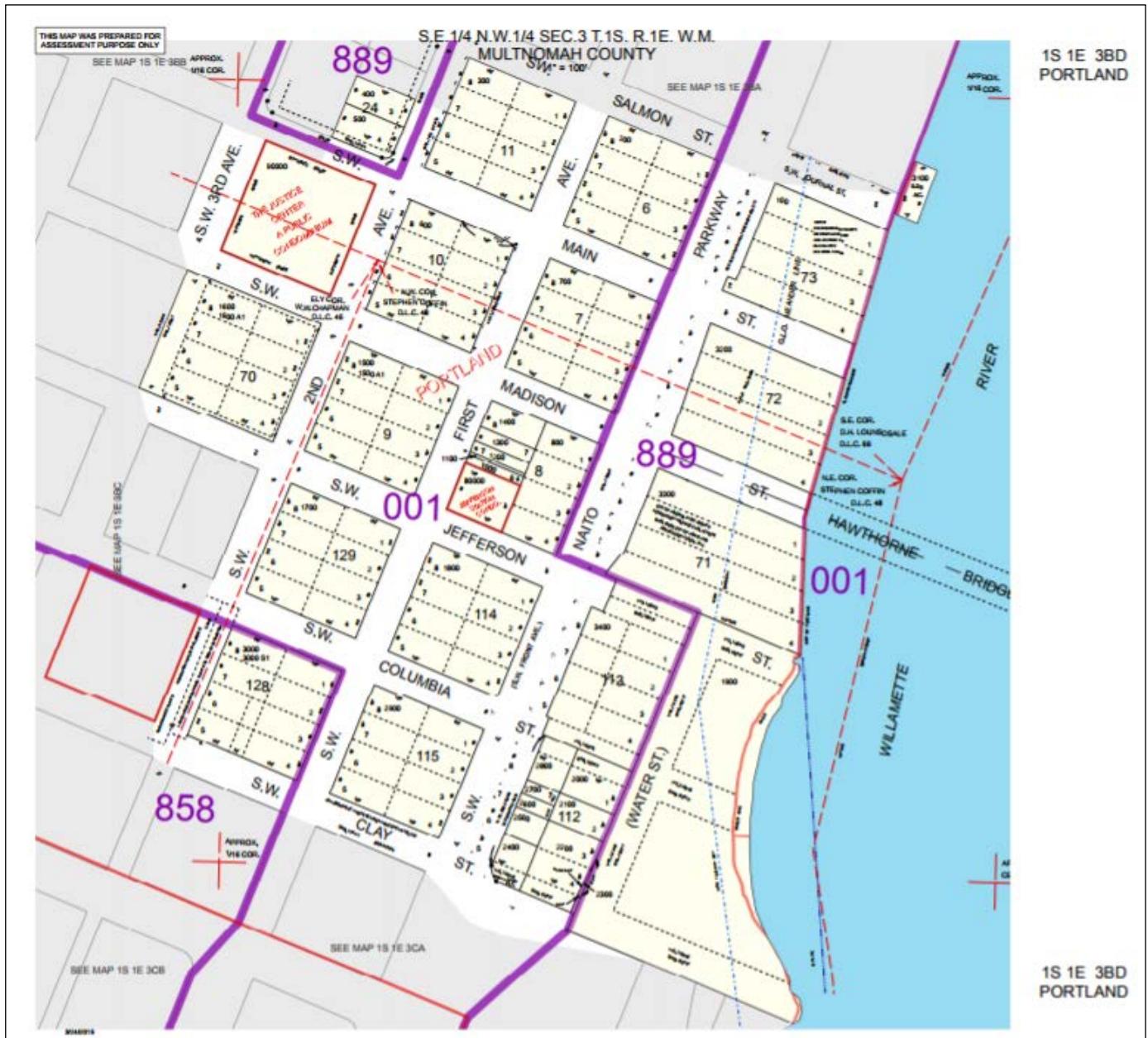
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**Figure 3:** Tax Lot Map. Map courtesy of Multnomah County Assessors Office.





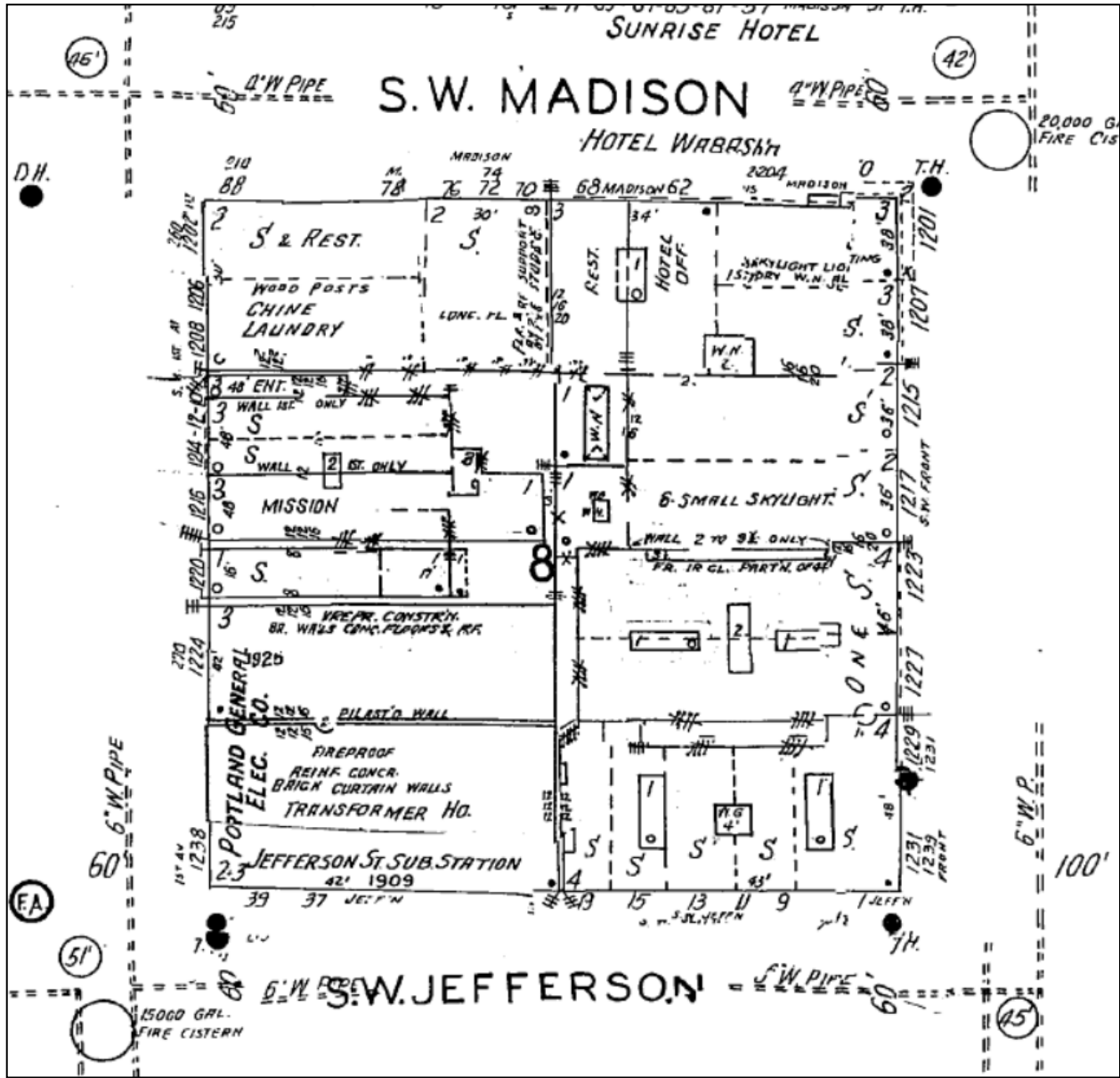
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**Figure 5:** c. 1950 map showing the Jefferson Substation located at the southwest corner of the block. The building includes the original 1909 building and 1925 addition. Sanborn Fire Insurance Map Company.



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**Figure 6:** Site Plan (Blue arrow points to 1909 portion of building; red arrow points to 1925 addition; orange line indicates party wall between two portions of building. Note: the on ramp to the Hawthorne Bridge has been removed and is now a part of the Multnomah County Courthouse Building.)





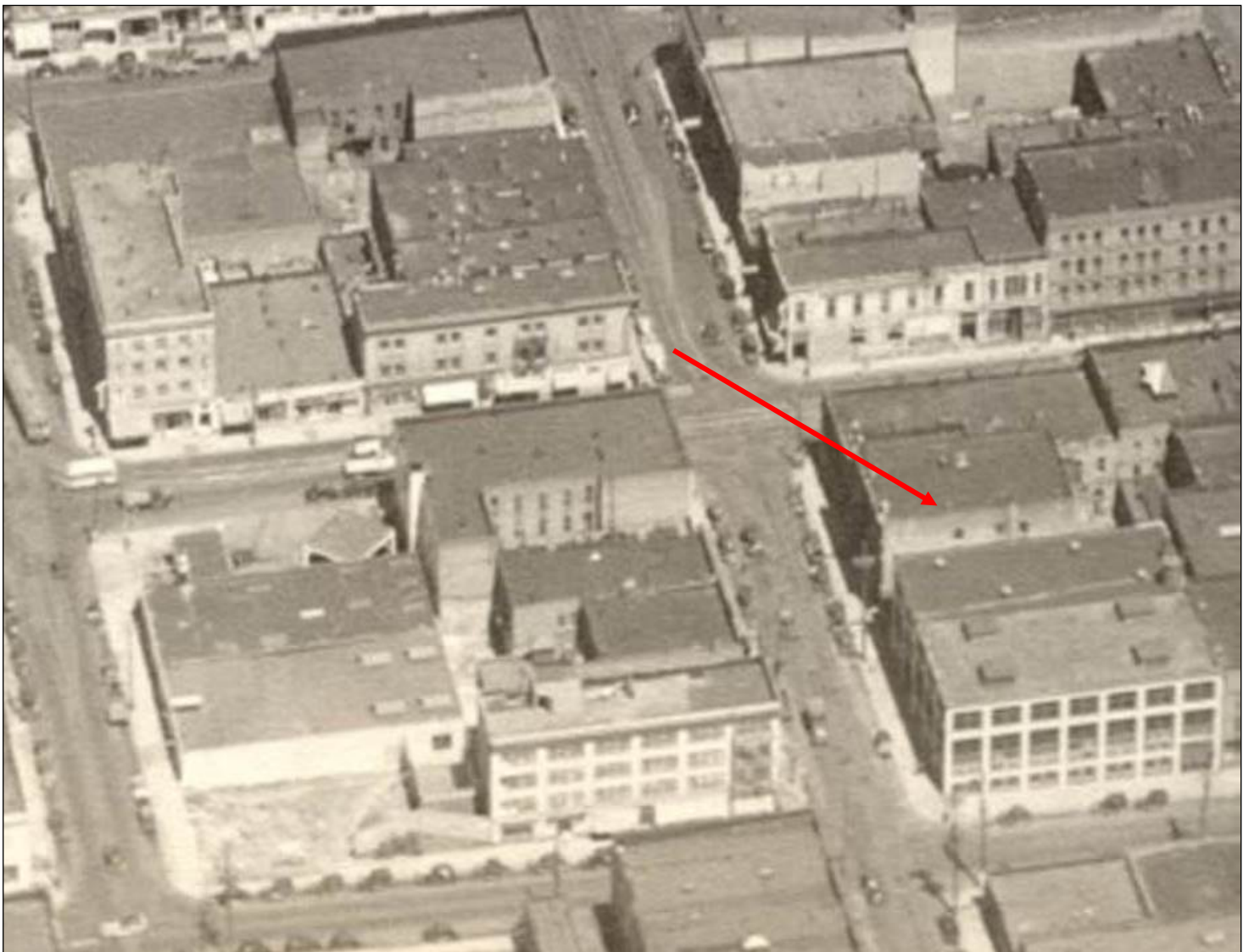
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**Figure 7:** 1938 aerial view of building, looking north. Note the scale of neighboring buildings. Courtesy of the City of Portland Archives.



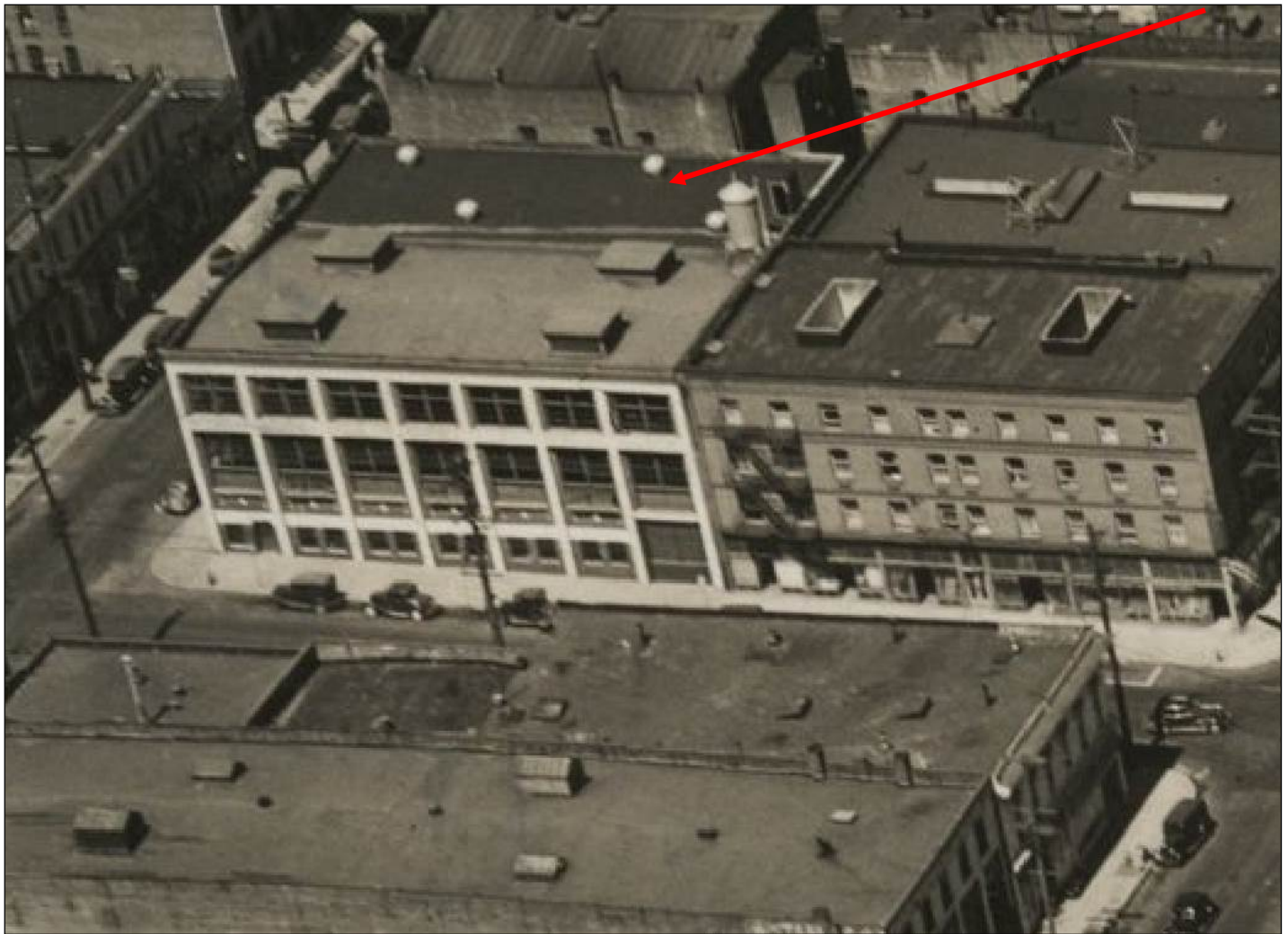
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**Figure 8:** 1940 aerial photograph showing the Jefferson Substation. Courtesy of the City of Portland Archives.



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**Figure 9:** 1963 aerial view of the building after construction of Harbor Drive and several associated ramps for the Hawthorne Bridge, looking southeast. Courtesy of City of Portland, Archives.





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**Figure 10:** The Electric Building, located at Broadway and SW Alder Street in Portland. Photo c. 1920. Courtesy of the Oregon Historical Society.



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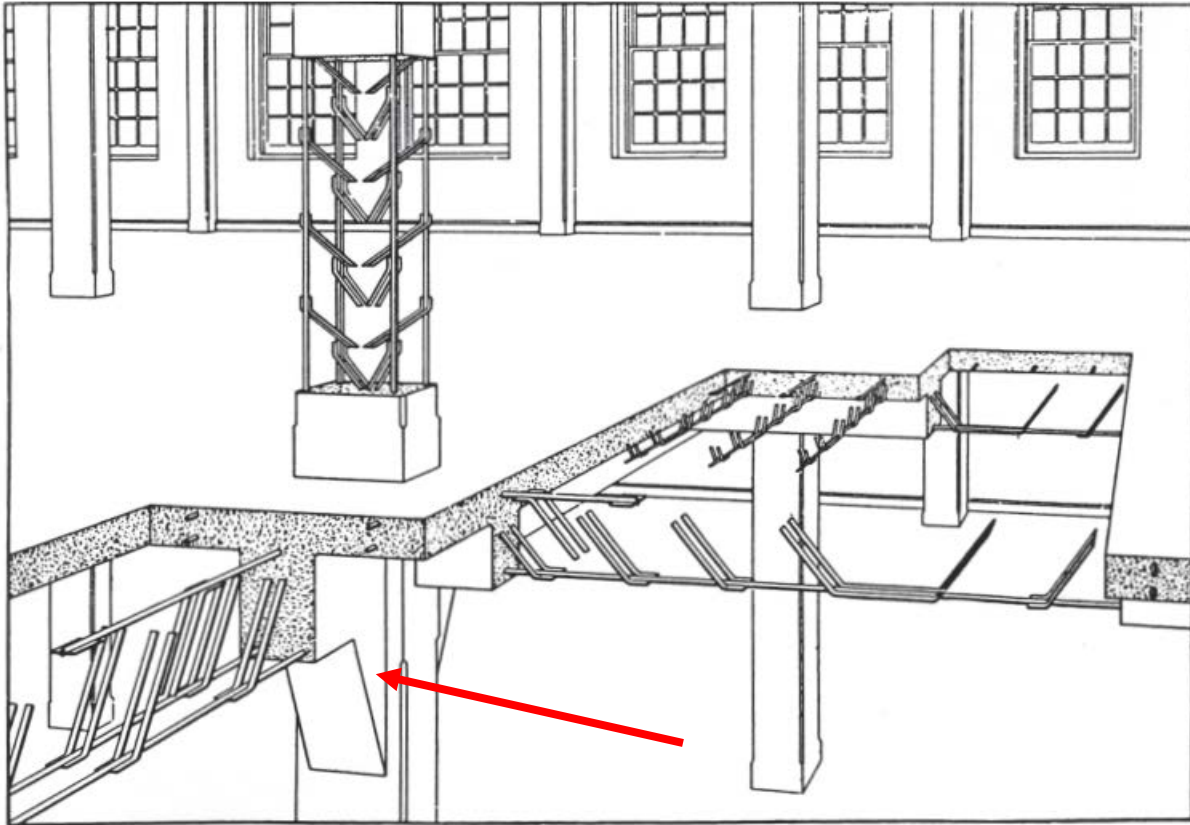
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**Figure 11:** The Kahn System, as illustrated in Joseph M. Siry, "The Architecture of Earthquake Resistance: Julius Kahn's Truscon Company and Frank Lloyd Wright's Imperial Hotel," *Journal of the Society of Architectural Historians*, Vol. 67, No. 1 (March 2008) 80. The red arrow points to a haunched transverse beam.



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**Figure 12:** Photograph taken of initial demolition activity, looking east. Note removal of third floor floors of 1925 addition. December 6, 2018.





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**Figure 13:** Photograph of demolition activity, looking southeast. December 6, 2018. Note the presence of reinforced concrete interior room subdivisions present on the partially demolished third floor.





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**Figure 14:** Photograph of demolition activity, looking east. Note loss of interior supports on third and second floors of 1925 addition. December 28, 2018.



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**Figure 15:** Photograph of demolition activity, looking southeast. January 21, 2019. Note the loss of the brickwork between structural columns and beams in 1909 building. Also note the removal of the reinforced concrete flooring in 1909 building. On the 1925 addition, note that only 33% of the exterior walls remain intact and 100% of the interior has been removed.





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**Figure 16:** Photograph of demolition activity removing all interior fabric of 1925 addition, looking southeast. January 22, 2019.



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**Figure 17:** Detail photograph of demolition activity, showing removal of brick masonry walls of 1925 addition (red arrow), intervening brickwork between structural columns of 1909 building (blue arrow), interior room divisions, floors (green arrow) as well as structural beams, looking southeast. January 22, 2019.





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**Figure 18:** Photograph of interior of 1909 Building. Red arrows show complete or total loss of lateral concrete supports. Circles indicate ghosts of 10 haunched transverse beams removed during demolition activities in 1909 building (Note: some of the ghosts are hidden behind the vertical supports in foreground – a total of twelve were removed). All voids between exterior structural columns and beams were formerly filled with five-to-one common bond brickwork. The photograph also confirms the loss of all interior reinforced concrete floors. Five haunched beams remain in the upper floor to carry the weight of the roof. March 24, 2019.



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**Figure 19:** Detail view of the interior of the south wall, looking south. Black arrow points to ghost of reinforced concrete floor removed during 2018-2019 demolition activities. Red arrow points to ghost of former transverse beam. March 24, 2019.





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**Figure 20:** February 2019 view of Jefferson Station. All interior components of the 1925 addition have been removed to expose the basement level. The basement level was subsequently infilled up to the first floor in April 2019.





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**Figure 21:** Photograph of west and south elevations. The windows have been removed from the 1909 part of the building. Original windows appear intact on 1925 addition. January 22, 2019.



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**Figure 22:** Photograph of turbine hall interior, looking west. Note that the original vertical structural posts on the north side of the 1909 building are longer visible within the turbine hall and are now incorporated into a poured reinforced concrete wall. From June 28, 2019 article "Central Courthouse project on schedule and on budget one year before opening." See <https://multco.us/multnomah-county/news/central-courthouse-project-schedule-and-budget-one-year-opening>.





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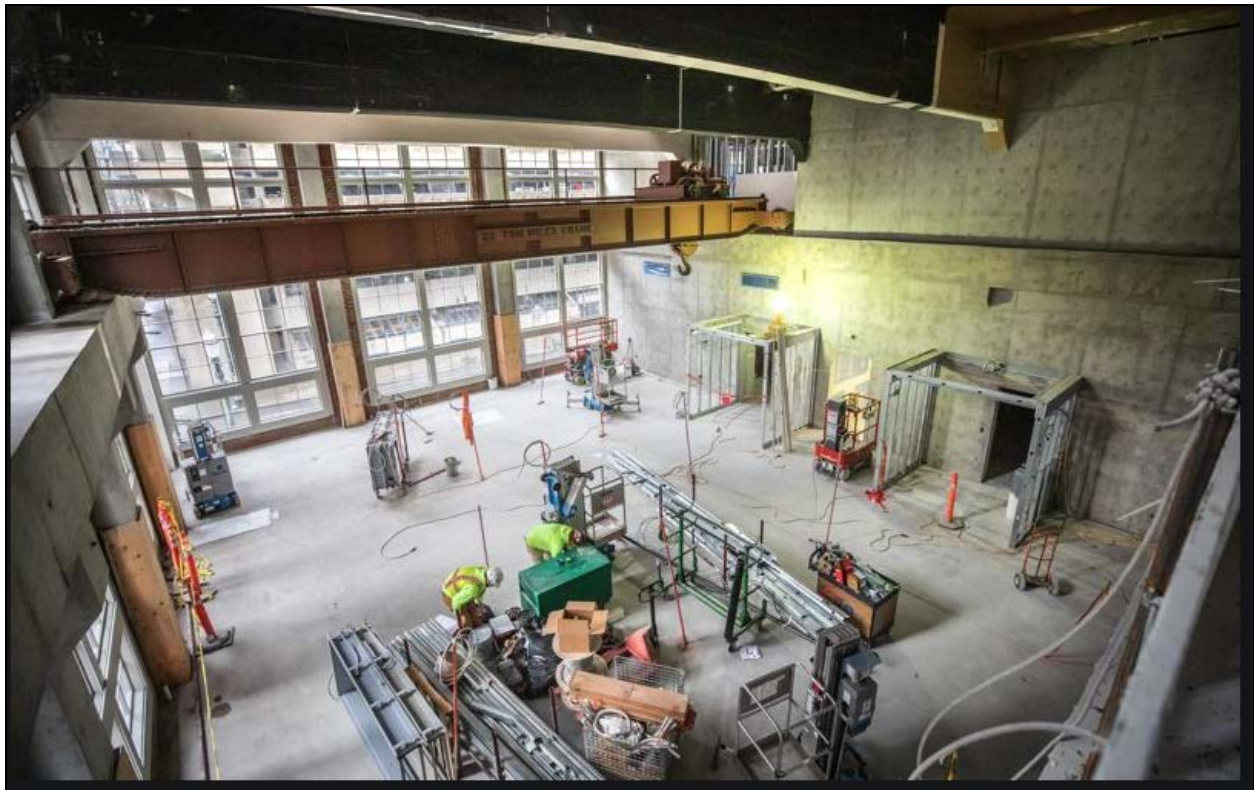
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**Figure 23:** Photograph of turbine hall and 20-ton Niles Crane during final stages of construction, looking northwest on the mezzanine. Note the intrusion of the new boxed entries and the new poured-in-place, reinforced concrete north wall (formerly original reinforced concrete columns with common bond brick infill). Courtesy of <https://pamplinmedia.com/but/239-news/448509-365006-central-courthouse-project-heads-into-final-stretch>.



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**Figure 24:** Photograph of turbine hall and 20-ton Niles Crane, looking west. Photograph taken some time after project completion. Courtesy of <https://pacificwro.com/campaigns/courthouse>.





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**Photo 1 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0001

Photograph of west and south elevations. Original windows have been reinstalled but with interior storms. Metal awnings have been installed on the west and south elevations. New transom windows were installed over the main entrance. All first-floor windows have been covered with signage. October 7, 2020.

**Jefferson Substation  
Multnomah County: OR**



**Photo 2 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0002

Photograph of north and west elevations. Original windows have been reinstalled but with interior storms. Metal awnings have been installed on the west and south elevations. New transom windows were installed over the main entrance. All first-floor windows have been covered with new signage. October 15, 2020.



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**Photo 3 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0003  
Photograph of north elevation. New windows added to first, second, and third floors. Entire north wall reconstructed with all stretcher bond brick. October 15, 2020.



**Photo 4 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0004  
Photograph of west entrance with boarded up glazed single pane sidelights, glazed Pella doors, and oversized pane transom. October 15, 2020.

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**Photo 5 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0005  
Photograph of west elevation in the evening showing the interior of the turbine hall. Note the two boxed entries visible in the third window from the right. December 14, 2020.



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**Photo 6 of 6:** OR\_MultnomahCounty\_JeffersonSubstation\_0006  
Photograph of west and south elevations. Interior of turbine hall is partially visible through second and third floor windows. Note boarded up windows on first floor. December 14, 2020.