



The City of Seattle

## Landmarks Preservation Board

Mailing Address: PO Box 94649 Seattle WA 98124-4649  
Street Address: 700 5th Ave Suite 1700

**Name:** Alaska-Yukon-Pacific Exposition Foundry,  
UW Engineering Annex

**Year Built:** 1909

**Street and Number:** 3902 E Stevens Way NE (parcel address: 4000 15<sup>th</sup> Avenue NE)

**Assessor's File No:** 1625049001 (portion of)

**Legal Description:** Those portions of Government Lots 2, 3 and 4, lying west of Montlake Blvd NE, north of NE Pacific Street and north of NE Pacific Place; the west ½ of the northwest ¼, and the northwest ¼ of the southwest ¼, lying east of 15<sup>th</sup> Avenue NE and south of NE 45<sup>th</sup> Street and north of NE Pacific Street; all in Section 16, T25N, R4E, W.M.

**Plat Name:** N/A

**Block:** N/A

**Lot:** N/A

**Present Owner:** University of Washington

**Present Use:** Offices and laboratories

**Address:** Julie Blakeslee, Environmental and Land Use Planner  
Capital Planning & Development  
University Facilities Building, Box 352205  
Seattle, WA 98195-220505

**Original Owner:** University of Washington

**Original Use:** Foundry

**Architect:** Washington N. G. Place

**Submitted by:** Katie Pratt and Spencer Howard, Northwest Vernacular  
on behalf of Julie Blakeslee, UW Capital Planning & Development

**Address:** 3377 Bethel Rd SE, Suite 107 #318, Port Orchard, WA 98366

**Phone:** (360) 813-0772

**Date:**

**Reviewed:**

**Date:**

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(Historic Preservation Officer)

# Foundry (Engineering Annex)

UNIVERSITY OF WASHINGTON



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NORTHWEST VERNACULAR

April 2019

# Table of Contents

<b>1. Property Data</b>	<b>4</b>
<b>2. Architectural Description</b>	<b>5</b>
<i>Campus Setting and Site</i>	5
<i>The Building and Changes through Time</i>	5
<b>3. Historic Context and Significance</b>	<b>21</b>
<i>Early Development of the University</i>	21
<i>Olmsted Plan &amp; Alaska-Yukon-Pacific Exposition</i>	22
<i>Post-AYPE Campus</i>	23
<i>Construction &amp; Use of the Building</i>	24
<i>Architects and Builders</i>	26
<b>4. Bibliography</b>	<b>27</b>
<b>5. List of Figures</b>	<b>29</b>
<i>Site Plan and Aerial Views</i>	29
<i>Photographs</i>	32
<i>Drawings</i>	34
<b>6. Endnotes</b>	<b>35</b>

## 1. Property Data

<b>Historic/Current Name:</b>	Alaska-Yukon-Pacific Exposition Foundry, UW Engineering Annex
<b>Address:</b>	3902 E Stevens Way NE (parcel address: 4000 15 <sup>th</sup> Avenue NE)
<b>Site Location:</b>	Located on the east side of the campus along Jefferson Road NE, immediately north of Snohomish Lane. The building is east of the Mechanical Engineering Building, south of Loew Hall and west of the Power Plant.
<b>Tax Parcel Number:</b>	1625049001 (portion of)
<b>Legal Description:</b>	Those portions of Government Lots 2, 3 and 4, lying west of Montlake Blvd NE, north of NE Pacific Street and north of NE Pacific Place; the west ½ of the northwest ¼, and the northwest ¼ of the southwest ¼, lying east of 15 <sup>th</sup> Avenue NE and south of NE 45 <sup>th</sup> Street and north of NE Pacific Street; all in Section 16, T25N, R4E, W.M
<b>Original Construction Date:</b>	1909
<b>Original/Present Use:</b>	Foundry (original), Laboratories and offices (present)
<b>Original Architect:</b>	Washington N. G. Place
<b>Structural Engineers:</b>	NA
<b>Landscape Architect:</b>	NA
<b>Building Size:</b>	28,128 gross square feet, 63 by 217 feet plan
<b>Original/Present Owner:</b>	University of Washington
<b>Owner's Representative:</b>	Julie Blakeslee, Environmental and Land Use Planner Capital Planning & Development University Facilities Building, Box 352205 Seattle, WA 98195-2205
<b>Owner's Consultant:</b>	Katie Pratt and Spencer Howard Northwest Vernacular 3377 Bethel Rd SE, Suite 107-318 Port Orchard, WA 98366



## 2. Architectural Description

For contemporary and historic images, see **Figures 22 through 68**.

### CAMPUS SETTING AND SITE

Located in the southeast portion of the central campus, the Engineering Annex extends along Jefferson Road NE. The three-story building has a rectangular plan and its primary facades are the east and west sides. The site slopes downward from west to east with a steep bank along the east edge above Jefferson Road NE. The grade rises to the north and at the northwest corner it is above the first-floor line, requiring a narrow areaway at windows on the west and north facade. (**Figures 1 through 3**)

A narrow, paved service court space (just over 30 feet wide, and also used as parking area C15) separates the building from the Mechanical Engineering Building (1959) to the west, the southeast wing of which connects to the south facade of the Engineering Annex. The Power Plant (1909, expanded in 1932) and Plant Operations Building (1929) are located across Jefferson Road NE, east of the Engineering Annex. Loew Hall (1969) is immediately north.

Stylistically, the building was built as a typical commercial foundry, but with a few key differences, since it was constructed for the Alaska-Yukon-Pacific Exposition (AYPE), Seattle's first world's fair. A 1909 article in *The Foundry*, a report of the proceedings of the sixth annual meeting of the British Foundrymen's Association, noted a few key differences: the placement of the cupola at the south end rather than centered (to improve visibility for spectators at the Alaska Yukon Pacific Exposition), the unusually large windows, and end wall doors large enough to accommodate a box car.<sup>1</sup> During the AYPE, the main two-story center volume was the molding floor with exhibits located in the side bays.

### THE BUILDING AND CHANGES THROUGH TIME

The two- and three-story building's rectangular plan is oriented lengthwise north-south. It comprises a 63-foot-wide by 144-foot-long central portion (interior dimensions) constructed in 1909, with north and south additions constructed in 1920, measuring nearly 37 feet and just over 38 feet, respectively. This industrial building is generally characterized by its brick cladding, square pilasters along the east and west facades, expansive divided-lite wood windows in a variety of configurations, and various roof forms dominated by a main gable roof that generally runs the length of the building.

Brick cladding, along with some horizontal wood siding and stucco at upper walls, clads the building's braced frame structure. The gable roof includes two different clerestories and a monitor. The 1909 interior structure is braced frame, with post and pier construction at the north and south 1920 additions. The interior consists of three floors at the north end, a central two-story open volume, and two floors at the south end. Upper floors contain offices with workshop space throughout the first floor. Multi-lite fixed and operable windows provide day lighting for interior spaces. The building was built as a foundry then

operated as facility shops building before shifting to use as an academic and engineering laboratory building. **(Figure 31)**

### **Landscape**

The landscape consists of small beds at the north end of the site, and a narrow 15-foot-wide, steeply sloped strip along the east facade that runs the length of the building. The service court space along the west side of the building is paved up to the foundation. **(Figure 78)**

The north end planting areas include several small birch trees off the northwest corner along with two small shrubs, Vinca minor (periwinkle) ground cover, and several large basalt (or similar) rocks. **(Figure 32)**

The sloped east planting area (five- to eight-foot grade difference from top to bottom) includes a narrow gravel path (approximately two feet wide) along the top against the building foundation. The base of the slope along Jefferson Road NE has a low concrete curb. Concrete storage facilities at the north and south ends extend into the area, along with a paved motorcycle parking area towards the north end. The north end of the planting area consists of a steeply sloped lawn with a mature deciduous tree. The central area consists of (from north to south) a birch, evergreen, several Japanese maples, low shrubs, ferns, and ground cover. **(Figures 41 through 45)**

The north concrete storage facility provides space for the former liquid nitrogen tank servicing the building. The area consists of reinforced concrete retaining walls with a chain link guard rail along the top. **(Figure 44)**

The south area is for hydrocarbon storage and consists of a reinforced concrete storage area with a flat roof and metal railing around the perimeter of the roof. A pair of top hung metal sliding doors provide access to the storage area. **(Figures 45)**

### **Foundation and Structure**

A board formed, reinforced concrete perimeter foundation and footings support the building's braced framing. The building's braced frame structure carries all the exterior wall, floor, and roof loads with the single wythe of brick cladding serving only to enclose the exterior building envelope. All structural items detailed below are heavy timber construction. Original drawings indicate footings in the north three bays that consist of a concrete pad supporting a granite block that was pinned with a one-inch dowel to the post base. Footings in the south bay feature concrete footings with cast iron lugs connecting to the post base. **(Figure 69)**

The footings are evenly distributed (east to west) on 21-foot-4-inch centers. In contrast, the south six bays have 31 feet of clear space between the posts down the center for a greater work area, and only 16-foot-6-inch-wide spacing between the posts and the outer walls.

### *1909 building, north three bays*

Designed as a two-story portion of the building, these bays have 6-by-10-inch outer posts set on a sill plate bedded in the concrete foundation wall, with 8-by-10-inch interior posts carried on footings. A double top plate runs the length of the outer walls to support the outer rafter ends. Beams, approximately 10 by 20 inches, span east to west to support the 8-by-12-inch joists for the second floor.<sup>2</sup> Above the second floor, secondary beams run north to south to brace between the posts and carry the upper ends of the lower roof rafters. Collar ties span east to west between the posts. King posts extend up from the collar ties to the ridgeline. A third set of beams runs along the top of the inner posts below the clerestory roof rafters.<sup>3</sup> **(Figures 72 and 73)**

There is an added layer of bracing to both support the beam ends and reinforce the beam/post connection. This bracing at the first floor consists of posts (4 by 10 inch) paired with the outer and interior posts to pick up the beam ends. Diagonal bracing (knee bracing) occurs at these same connections. At the second floor, smaller members are used at the post and secondary beam connections, with diagonal bracing extending east to west to the rafters, ridgeline, and north-south diagonal bracing. Clerestory walls consist of posts, supported on the lower roof rafters with a single header along the top of the posts to carry the rafters.

Wood studs frame the walls between the posts at each story and the clerestory. A wood frame gypsum board, originally plaster clad, wall separates these north bays from the south bays. **(Figure 50)**

The sub flooring at the second floor consists of 2-by-6-inch tongue-and-groove decking below contemporary finish flooring. The first floor has a concrete slab on grade floor.

### *1909 building, south six bays*

Designed with a single open central volume and smaller side bays, the structure for this portion consists of 3-by-6-inch outer posts set on a sill with 8-by-10-inch interior posts, which extend into the clerestory just above the lower roofline. A cross beam (8 by 10 inch) runs north to south along the top of these inner posts just below the height of the clerestory window sills. This beam carries the track for the 10-ton crane. Diagonal bracing extends from the posts to this cross beam. **(Figures 50 through 53, 72 and 73)**

A double header runs the length of the outer walls and above the windows. Wood studs frame the walls between the posts at each story and the clerestory, with diagonal bracing between the studs.

The inner posts have 6-by-10-inch posts attached (through-bolted with 5/8-inch bolts) to their outer face. A 6-by-10-inch beam spans the upper portion of the inner posts to support the rafter ends for the lower roof and the clerestory wall framing. Diagonal bracing runs between the mid portion of the posts and the rafters over the side bays, allowing the bracing and rafters to provide some mid-height rigidity to the tall inner posts.

A smaller beam runs along the top of the clerestory to support the outer ends of the upper rafters. Collar ties bear on these beams and span east–west with diagonal bracing between them and the inner posts. The outer ends of the rafters are notched to receive the collar tie ends, and the joint is bolted. King posts extend up from the collar ties to the ridge line.

At the southernmost bay, a cross beam (approximately 16 by 20 inches) spans east–west between the inner posts, notched to receive the beam ends, with smaller cross beams extending across the side bays. These support joists carry the mezzanine level. Vertical wood ties connect the outer beams with the rafters above for added support. **(Figure 55)**

These bays have concrete floors.

### *1920s additions*

Two bays on the north and two bays on the south were added in this period. **(Figures 74 through 77)**

Heavy timber was consistently used in constructing the south bays, with outer (8 by 10 inch) and inner (6 by 10 inch) posts bearing on cast iron plates at the footings. Framing for the second floor consists of 3-by-16-inch joists. Heavy timber composite trusses span east–west across each addition and support the roof. These consist of 10-by-12-inch bottom and top chords, with through-bolted vertical steel truss tension rods and diagonal 6-by-10-inch compression members let into the top and bottom chords to prevent slippage. The outer top and bottom chords and innermost diagonal compression member/bottom and top chord joints are through-bolted.

The north bay at the first story utilizes 14-by-14-inch outer and 14-by-20-inch inner posts to support two east–west 10-by-20-inch beams carrying the second floor.<sup>4</sup> At the second story, 8-by-10-inch beams run north–south to carry the clerestory roof framing above.

### **Exterior Walls**

Brick, stucco, and wood siding clad the building over 1-by-6-inch horizontal sheathing. **(Figures 32 through 38, 40, 44 and 45)**

The 1909 portion utilizes sand-struck red brick with rounded shoulders (edges) as the veneer. The brick cladding steps out slightly at the base of the walls to create a plinth, with a rowlock course along the top of this step. Mortar joints are struck and have a light color with dark aggregate. There is textured stucco at the inner faces of the building's end walls and below the clerestory windows—the texture is much more pronounced on the end walls. Drop lap siding clads the third story and one of the clerestories. **(Figure 48)**

The 1920 additions utilize a red, high fired brick with rounded shoulders and corners. Mortar joints are struck and have a light color. There is slightly smoother, but well matched, brick at the connection with the Mechanical Engineering Building. Sheet metal sheaths the inner face of the north end wall. Drop lap siding clads the clerestory. **(Figure 49)**

End wall parapets on both the 1909 and 1920 portions have sheet metal flashing and caps. The caps occur at the outer piers and include a molding (painted wood or sheet metal with a convex profile) wrapping the top of the pier.

The three-story north extension of the building utilizes a slightly different type of brick from the 1920s addition. Clapboard siding clads the first story portion and part of the second story.

Wall-mounted conduit, emergency lighting, wall mounted signage, and exterior lighting occur on the north, east, and west facades.

## Roof

The building has a complicated roof structure, particularly with the additions. Overall, the building has a gable roof with a centered clerestory rising above the main roof's ridgeline. The clerestory has windows on the east and west sides that daylight the interior. There is a small monitor (raised structure straddling the ridgeline with windows) providing additional daylighting towards the middle. A gable roof shelters the third story in the north third of the building. The taller clerestory at the middle of the building corresponds to a full height interior volume, whereas the narrow clerestory at the north end of the building corresponds with day lighting of the second floor. **(Figures 35 through 39)**

Asphalt composition shingles clad the roof, with membrane type roofing on the north projection. Fall safety hooks occur along the ridge line. The third story gable roof features flush eaves and gable ends with a convex rake molding and short returns that match the parapets. The north projection features a low sloped gable roof behind low parapets. Coping along the parapets matches the end walls. Modest eave overhangs are present along the rest of the roofline. Exposed rafter ends are decoratively cut.

Sheet metal gutters extend along the lower edges of all eaves and connect to round metal leaders attached to the building facade. Multiple sheet metal vents project up through the roof.

## Windows

Building windows consist of multi-lite wood sash in a variety of configurations. Window sizes generally correspond to interior functions, with the larger sash windows used at the open work areas and smaller sash windows used at upper story office locations. **(Figures 32 through 37, 40, 44 through 47, 50, 52, and 61)**

### *1909 portion*

Window sashes feature narrow muntins with a decorative interior profile and include the following types:

- 30-lite fixed sash, each approximately 11 feet tall and just over 4 feet wide. These occur as single windows and in groups of three along the east and west sides of the first floor. Wood brick moldings wrap the masonry window openings, which have a wood sill and a rowlock brick sub sill with a mortar wash (sloped layer of mortar)

applied to help shed water) along the top of the sub sill. A steel lintel serves as the header at each bay of windows.

- 20-lite horizontal center pivot sash (steel pivot, bottom swings out). These occur at the tall clerestory in groups of four with wood mullions between windows. Pulley cords operate the sash. The fascia along the top of the clerestory wall serves as a continuous header over the openings. The window openings have wood jambs that abut the stucco wall cladding and projecting wood slip sills.
- 12-lite sash. These occur as singles in groups of four at the second story. The fascia along the top of the wall serves as a continuous header over the openings. The window openings have wood jambs that abut the stucco wall cladding and projecting wood slip sills.
- 20-lite fixed relites. These occur along the east side of the first story with wood mullions supporting and separating the sash.

#### *1920 addition*

This addition features a wide range of window types. All are generally wood sash, multi-lite windows. Muntins on these are generally wider than the 1909 sash. Steel L-lintels (4 by 4 inch) are used as window opening headers.

- 12:12 wood, double hung sash. In groups of three and four at the second story in the south end of the building. Wood mullions separate the sashes. Wood brick moldings wrap the masonry openings. The windows have a wood sill and a rowlock brick sub sill. Window openings have painted interior casings.
- 24-lite side-hinged and horizontal center pivot wood sash. These occur as single sash and groups of four at the first story. Wood brick moldings wrap the masonry openings. The windows have a wood sill and a rowlock brick sub sill.
- 20-lite horizontal center pivot sash. This type occurs, single and paired, on the second story of the north facade. Wood mullions separate the paired windows. The openings have a wood sill and rowlock brick sub sill and brick moldings with a flat steel lintel header.
- 18-lite sash. These occur on the east side of the south addition in pairs. The window openings have a wood sill and rowlock brick sub sill with brick molding around the masonry opening. Wood mullions separate the windows. A flat steel lintel serves as the header.
- 12-lite sash. This window occurs on the north facade. The window opening has a wood sill and rowlock brick sub sill with brick molding around the masonry opening. A flat steel lintel serves as the header.
- 15-lite sash. This window occurs in a pair, separated by a wood mullion, on the second story of the north facade. The masonry window opening has brick molding around it and a wood sill and rowlock brick sub sill. A flat steel lintel serves as the

header. These windows were from 1909, relocated to the new north facade as part of the 1920 addition.

- 20-lite sash with an 8-lite transom. This window occurs on the north facade second story as a pair with a wood mullion in between. The openings have a wood sill and rowlock brick sub sill and brick moldings with a flat steel lintel header. These were 1909 windows relocated to the new north facade as part of the 1920 addition.
- 16-lite wood sash. These occur in groups of two and four at the first story on the north façade, on the second story in the north 1920s addition, and on the north end of the 1909 building. Wood mullions separate the windows. Wood brick moldings wrap the masonry openings; the windows have a wood sill and a rowlock brick sub sill.
- 6-lite wood sash. These occur at the third story addition, which spans the north 1920s addition and part of the north end of the 1909 building. The windows are regularly spaced in loose groupings of three. The fascia along the top of the wall serves as a continuous header over the openings, which have projecting wood slip sills and wood jambs that abut the drop lap wood siding.
- 8-lite paired casement sash. These occur on the north end of the 1920s addition. Narrow brick moldings wrap the masonry openings. The windows have a wood sill and rowlock brick sub sill. A wood astragal laps the joint between the two sash.
- Single-lite clerestory windows. These occur in the north 1920s addition and part of the north end of the 1909 building. The fascia along the top of the wall serves as a continuous header over the openings, which have wood mullions between each window.
- Louvered vent at the gable end of the north facade and at the second story of the north facade projection. All louvers have rowlock brick sills.

## Entrances

Several personnel and larger garage door service entrances provide access to the building interior. The north and south ends of the building originally served as the main entrances. When the building shifted to shops and then academic uses, the north end of the building became the main entrance for both the first and second floors. An elevated walkway, later removed, connected the north end of the building to the former Shops Building (current Loew Hall site) to the north. Today the north end remains the main entrance for the building, with secondary access along the west side to the exterior service court space and at the south end to the Mechanical Electrical Building. Doorways on the east side serve mainly egress functions.

### *1909 building*

#### *South, Second Story*

Accessed via an exterior metal stairway, this flush-panel doorway (added in 1961) on the south end of the second story serves as an emergency egress route for the second-floor



offices. The doorway has plain wood casings with an emergency light mounted to the wall above the opening. The metal stairway has open risers and steel supporting posts. **(Figure 37)**

West, South, First Story

A roll-up wood door with a transom above provides access to the building interior at this location. A single 30-lite sash is located adjacent to the doorway within the same overall masonry opening, which is wrapped with wood brick moldings. T1-11 covers the transom. **(Figures 35 and 54)**

West, Central, First Story

A flush panel door with an upper lite provides access to the interior. Painted plywood extends above and to the side of the doorway to fill out the opening.

East, South, First Story

A personnel doorway set within a window bay and consisting of a wood door with five raised panels. The door opens to an exterior concrete landing with a metal railing. The side lite consists of five raised wood panels.

*1920 additions*

West, South, First Story

There are two entrances that provide access to the building at this location:

- Pair of personnel doors with a 14-lite hopper transom. Wood brick moldings wrap the opening with a plain transom bar above the doorway. Doors consist of two tall raised lower panels with two tall lites and a single horizontal raised panel above the lites. A steel plate astragal laps the connection between the two doors. Hardware consists of a round metal knob, deadbolt, escutcheon, and hinges.
- Group of three personnel doors, two paired and a single. A two-sash transom with a mullion between the sashes spans the doorways. The south portion retains a 10-lite sash and T1-11 cladding added at the north sash. Wood brick moldings wrap the masonry opening, which has a plain transom bar above the doorway. The paired doors each have a lower recessed panel with six upper lites. The single door has a recessed lower panel with nine upper lites. A wide mullion separates the single from the paired doors. A wood astragal laps the gap between the lock stiles on the paired doors. Hardware consists of a round metal knob, deadbolt, escutcheon, and hinges, as well as a contemporary push button lockset and lever handle on the single door. **(Figures 34, 57 and 62)**

East, South, First Story

A personnel doorway set within a window bay. The door consists of two lower raised panels with two upper lites. The doorway has a nine-lite transom separated by a mullion from the adjacent windows. The doorway opens to the roof deck of the concrete hydrocarbon storage facility. **(Figure 45)**



### North, First Story

A concrete ramp leads up to this entrance, recessed below the north extension. A pair of heavy wood plank doors relocated here from the north facade of the 1909 building, as part of the 1920 addition, provides access to the interior. Each door has an upper single lite with a lower personnel doorway within the larger sliding door. **(Figures 40 and 60)**

### North, Second Story

A metal stairway off the north side of the building access this entrance, and a pair of aluminum sash doors with tall lites provide access to the interior. A fixed side lite flanks the doorways. The transom above the doorway is clad with clapboard. **(Figure 64)**

## Interior

The interior layout generally consists of first floor work spaces with upper story offices. Sprinklers extend throughout the building.

### *First Floor*

The first floor consists of work spaces in the north two-thirds, with the south third containing the open work volume and smaller workshop areas along the south end. **(Figures 56 through 57, 59 and 60)**

The open volume consists of exposed framing (painted, originally with a lime wash) at the clerestory and a bead board ceiling attached to the underside of the roof framing. **(Figures 50 through 55, and 58)**

Painted gypsum board clads the framing for the south end of the second-floor offices on the north side of the space. Several large sheet metal ducts for ventilating workshop areas extend into and up through the north end of the volume to exit at the roof and the east clerestory louvers.

### *Mezzanine Level*

The mezzanine projects out into the open work volume of the first floor at the south end. A doorway on the south wall connects to the second-floor corridor. The space consists of painted (originally lime washed) exposed structure with a variety of materials stored in this area.

### *Second Floor*

The second floor occupies the north two-thirds and south quarter of the building, with the mezzanine and open central volume separating the two areas. For the north two-thirds area, the exterior west stairwell provides an egress route from the south end. Internal stairwells at the north and near the south end connect to floors above and below. Layout generally consists of offices around the perimeter walls, with a series of double loaded corridors subdividing the middle of the floor to provide windowless inner storage and work areas. Interior finishes consist of painted gypsum board walls and ceiling, exposed conduit, and carpet flooring. Exposed trusses are painted. The stairwell serving the south office consists of rubber tread and risers, metal railing, painted gypsum board walls and ceiling

along with the painted 1909 south facade brick at the first story level. **(Figures 62 through 66)**

The spaces in the south quarter of the floor consist of offices along the outer walls with a central double-loaded corridor. A stairwell at the north end of the corridor descends to the first-floor west entrance. The south end of the corridor connects to the first-floor corridor in the Mechanical Engineering Building. A doorway on the north end of the corridor provides access to the mezzanine level. Interior finishes consist of painted gypsum board walls, acoustical tile ceilings, fluorescent lighting fixtures, exposed conduit, raceways in the corridors, and vinyl composition tile flooring and rubber base. Stairwells between the second and third floor consist of Douglas fir tread and risers, with painted gypsum board walls and ceilings and wood railings.

### *Third Floor*

The third floor occurs within the gable roof story along the north two-thirds of the building. It is a double loaded corridor with offices on either side and a restroom in the south end. Stairs at the north and south ends connect to the floor below. Interior finishes consist of painted gypsum board walls and ceiling, fluorescent lighting fixtures, exposed conduit, vinyl composition tile flooring with a rubber base. **(Figures 67 through 68)**

### **Alterations**

Dates provided for alterations are based on drawing dates and not completed work. Original design drawings and specifications for the building are undated, though the contract for construction of the building is dated February 27, 1909. Depending on the scope and complexity of the projects some extended for a couple of years, while others were completed the same year as the drawings were prepared. **(Figure 31)**

Below are key changes for the building:

- 1920: North and south end wall additions
- 1922-1935: Third story addition
- 1937-1947: North addition
- 1959: Connection of the Mechanical Engineering Building to the south facade

Overall alterations tended to occur in the north and south ends of the building in response to programming changes, with fewer changes occurring in the open two-story central volume. Both interior and exterior changes are addressed in the following chronological list of alterations. Changes for which the specific date are not known are identified by ranges based on available background information.

### *1909*

The building was originally designed to be clad with stucco rather than brick. The original specifications, drawings, and contract with the contractor identified "cement plaster" as the cladding material, with a rough troweled finish. Based on ca. 1909 historic photographs the building was constructed with the existing brick cladding.

*1920*

This work added two bays to either end of the building. At the north end this extended the same basic fenestration pattern (using four horizontal lites rather than five) and continued the narrow clerestory band above the second-floor spaces. This same two-story design (without the clerestory) was used at the south end to support programming. A short, six-lite skylight was included on the south portion.

At the north end wall, the brick was removed (except for the two outer posts) and the 1909 windows were reused—what remain as of 2018 are the side bay windows at the first and second story. The 1909 doors were also pulled forward and remain in use. The original five-panel personnel door was reused, and a doorway was added at the second story into the lower portion of one of the former elliptical arched header windows, to create exterior access. Sheet metal was installed on the back side of the parapet. The new north end wall includes a projecting landing connected to a new stairway for second story access.

The north portion also spans a utility tunnel. New concrete steps descending to the road were added off the northeast corner of the building and were later removed as part of Loew Hall landscaping. At the time two additional stairs on the east facade connected with the road from the existing doorways.

The south end wall was removed at the second story but retained at the first story, with new 6-by-6-inch posts added to the north side of the wall to reinforce it.

North end uses on the first floor included an open-volume machine shop, and on the second floor an open-volume wood working shop.

South end alterations included adding the existing stairway that leads down from the second floor for exterior egress and connection to the first floor. On the first floor, the addition included a pipe shop in the southwest portion, a washroom (including toilets) and lockers in the southeast portion, and a narrow storage area along the north side of the addition. The second floor functioned as a drafting room, with skylights below the monitor. The floor was split into two large volumes, each with a small enclosed corner office. There was a small hallway enclosed at the top of the stairway down to the first floor.

*1922-1935*

This period includes a third story addition with a gable roof and windows at the north end of the building and south expansion of the second floor with a middle gable roof section between the third story addition and the clerestory over the main two-story volume. No drawings were located to confirm when they were constructed, but they are evident in a 1936 King County aerial photograph. These additions are not shown in the 1920 drawings. In 1923 the Carpenter Shop moved into the second floor, per UW Facilities 1922 drawing number B36.08 File Number 180.101.

*1937-1947*

North second story brick addition. This is attributed to the former elevated walkway that extended north to the former Shops Building. Drawings were located for the elevated walkway, but none for the alterations to the north end of the Engineering Annex.

*1957*

Work prior to 1957 included constructing an elevated covered walkway off the north end of the building over to the facility Paint Shop (at current Loew Hall location). **(Figure 79)**

*1958*

Work included connecting the Mechanical Engineering Building to the south end of the Engineering Annex. Interior work included a new toilet room with tile floors; concrete block walls; plumbing, mechanical, and electrical; and painted gypsum board ceiling on the first floor to support an existing classroom. Building systems upgrades included new electrical services for the first-floor workshop and laboratory areas and adding existing classroom and central corridor partitions in the south end of the second floor, which included associated building systems and gypsum board furring at trusses. **(Figures 80 through 81)**

Connecting the Mechanical Engineering Building's southeast wing to the south end of the Engineering Annex required removal of the south end wall, and approximately 5 to 8 feet of the side walls, of the Engineering Annex. A new reinforced concrete block wall and associated foundation was built as the new south end wall for the Engineering Annex with a six-inch air space between this end wall and the concrete structure of the Mechanical Engineering Building. The location for the new south wall of the Engineering Annex was shifted slightly north of its original location in order to accommodate the Mechanical Engineering Building. Existing wood framing and roof structure for the Engineering Annex were anchored to this new end wall. Stepped wall projections along the north wall of the Mechanical Engineering Building transition to the counter flashing over the cavity between the two buildings and the parapet of the new end wall. Brick cladding on the side walls of the Engineering Annex was rebuilt and the southernmost windows at each floor were removed and replaced with solid, brick clad walls.

A doorway was added at the first and second floors of the new end wall to connect the buildings.

*1961*

Work included alterations to the building designed by Richard Bouillon. This included installing the existing west exterior metal stairway up to the second story and modifying a bank of three 12-lite sash windows by removing one to install the flush panel egress door and covering another with cedar siding. Work also included a new restroom; installation of glue-lam beams in the north end of the building to reinforce existing framing; framing out the south expansion of the second story offices; upgrades to building systems in the north end of the building (first, second, and third floors); construction of existing office partitions within the second floor at the north end; conversion of some first and second floor

windows to awning operation; remodeling the third story to function as offices; new aluminum entrance doors at the north second floor entrance; new wood tread at the upper story stairs; insulation, gypsum board, and new wood sills added at the first floor perimeter walls; and insulation and gypsum board added at the upper floor perimeter.

*1963*

Work included installation of an exterior dust collection system (west side of building) supporting the wood working shop on the first floor. This included extending a duct through an existing window to connect with work stations on the building interior.

*1964*

Work included improvements to the building's interior lighting system on the first floor.

*1966*

Work included constructing a reinforced concrete hydrocarbon storage space off the east side of the building, designed by Tman & Sanders and Associates. This consisted of an 11-foot-deep 13 1/2-foot-wide 8-foot-tall storage area with a flat roof and a metal railing around the perimeter of the flat roof. A pair of top hung metal sliding gates provided access to the storage area.

Work also included removing some second-floor partitions at the north end of the building to create larger offices and a new reception counter.

*1967*

Work included the remodel of rooms 201 and 203, including enlarging the window opening and installing a pair of new 18-lite sash windows, relocating doors and lighting, and new partitions. Work also included new electrical work for the first floor Heat Treat Area, which comprises the main two-story volume, Sand Lab, and the Pattern and Wood Shop.

*1968*

Work included connecting the building to the chilled water air conditioning equipment in the Mechanical Engineering Building to deliver cooling to the second-floor offices.

*1969*

Work included conversion of room 242 to a student lounge and an interior first floor renovation, including new gypsum board cladding, wood base, window casings along the exterior walls, exhaust vents and booths for the welding area, and a new air handling unit for the Sand Lab.

Landscape alterations were made along the north side of the building as part of the construction of Loew Hall (1969). This work was designed by Richard Haag Associates, Inc. and established the planting areas along the north facade and on the brick landing and associated steps. The new work added asphalt paving between the two buildings and down from the north side of the Mechanical Engineering Building to the landing and steps above Jefferson Road NE. **(Figure 78)**

- Vinca minor (periwinkle) was specified as the ground cover at both the north and east planting areas. Trees specified for the northwest area were Malus floribunda (Japanese flowering crabapple) and Malus cashmere (Cashmere crabapple). These do not exist as of 2018.
- Trees in the northeast area start to blend between foundation plantings and trees associated with the landing and steps. They included Malus floribunda (Japanese flowering crabapple), Malus cashmere (Cashmere crabapple) and a Gleditsia triacanthos var. inermis 'Moraine' (Moraine honey locust). The honey locust does not appear to exist as of 2018 and the other two relate to the landing and steps that are part of Loew Hall landscaping. The specifications also included Parthenocissus tricuspidata (Boston ivy) for this area, which does not exist as of 2018.
- The planting area along the east side of the building was also in the Loew Hall project contract and included a Gleditsia Triacanthos var. inermis 'Moraine' (Moraine honey locust), which does not exist as of 2018.

*1972*

New exterior door numbers were added.

*1976*

The second-floor north offices for the Institute of Environmental Studies were remodeled. This included combining multiple second floor rooms into larger teaching labs and laboratory space for public archaeology, upgrades to building systems, new interior cabinetry and vinyl asbestos tile flooring, and a fume hood requiring an exterior metal chimney for venting.

*1978*

Work included upgrades to the building's fire alarm system, including new emergency lights, alarms, and sensors throughout the building.

*1979*

Work included insulating the floor of the north addition and structural modifications to the third-floor framing of this area, adding new joists and columns. Structural improvements were also made to the second and third floor areas; this included adding a C channel along the inner posts at the third story with rod hangers extended down to joist hangers at the second-floor framing and installing a new C channel east-west between the first-floor inner posts to support the second-floor framing.

*1980*

Improved exterior exhaust systems for the steel melt furnace stack and corrected electrical deficiencies in the first floor Machine Shop.

*1984*

The building's fire alarm system was upgraded, including new sprinklers for the north end of the first-floor and new plumbing and ventilation systems along with building systems upgrades for the Microelectronic Laboratory.

*1985*

Work included the relocation of electrical systems within the central two-story work volume and the south end of the first floor, including furring out the walls below the window sills to run utilities; adding the existing overhead roll-up wood garage door on the west side of the building (which entailed removing two existing windows); covering over beams, posts and diagonal bracing on the first floor north end with gypsum board; installing a crushed stone pathway along the east side of the building along the top of the slope and a new concrete stoop at the east entrance; installing a new concrete slab in the north end of the building; constructing the northernmost concrete enclosure with a chain link fence along the top along Jefferson Road NE for onsite liquid nitrogen tank storage (included relocating the existing northeast tree to its current location); and an addition was made to the north entrance for a microsensor lab waste processing facility. This addition consists of a wood frame structure off the east side of the north addition.

*1986*

Work included upgrades to the second and third floor alarm systems; and power upgrades to room 127 for computer equipment.

*1987*

Work included revisions to the microelectronics lab for a new fan room.

*1989*

Work included updating exterior building numbers.

*1992*

Work included alterations to rooms 215 and 239 (outlets, light fixtures, and fume hood); and upgrades to room 202 (new counters, outlets, and shelving).

*1993*

Work included upgrades to room 232, including air balance and exhaust, door, carpeting, and partition additions.

*1994*

Building was reroofed, adding new roofing, a metal parapet and parapet pier coping caps and moldings; new metal flashing along the back side of the north end wall; and fall restraints along ridgeline.

*1996*

Work included remodel for the MEEP integrated learning factory; upgrades to the building's communication systems, including installation of raceway trays in the second and third story corridors; first floor lighting and outlet upgrades (north end); and modification to welding booths on the first floor.

*1998*

Work included upgrades to the building's fire alarm and emergency lighting system (on each floor, included lighting fixtures in corridors and stairwells, and asbestos and PCB abatement, all raceways and the surface-mounted conduit painted to match wall color); and replacement of the two doors connecting the building to the MEB, repainting the second floor corridor and new flooring and metal handrailing in the stairway between the first and second floor at the south end of the building.

*1999*

Work included upgrades to the building's fire alarm system.

*2000*

Work included modifying the exhaust system for an existing welding booth.

*2003*

Work included installing low flow fume hood monitors on the second floor.

*2004*

Work included modifications to the chilled water coils on the second and third floors.

*2005*

Work included replacement of the exterior north ramp with the existing stairs, railings, concrete footings, and landings. The project also installed diagonal bracing at the east side of the north addition's first story.

*2011*

Work included upgrades to the building's communication system at the second-floor offices.

*2015-2018*

Work included completion of a Resource Conservation Program audit report for the building in 2015 and window repairs and in-kind replacement of several failed windows on the east facade through 2018 (**Figure 31**).



### 3. Historic Context and Significance

#### EARLY DEVELOPMENT OF THE UNIVERSITY

The University of Washington began as the Washington Territorial University in 1861 when the Washington Territorial Legislature incorporated the school. The university, the first in the territory, opened its doors to 30 students on November 4, 1861. The original campus was located on a ten-acre parcel in present-day downtown Seattle, then the outskirts of Seattle. That property was donated by Arthur and Mary Denny, Charles and Mary Terry, and Edward Lander.<sup>5</sup> The university did not maintain consistent student enrollment over the next decade, opening and closing depending upon enrollment numbers.<sup>6</sup> The first graduate, Clara A. McCarty, graduated in June 1876. By the early 1880s, the university was more financially stable, through private donations and appropriations from the Legislature, and had steadily increasing student enrollment. In 1889 the university became the University of Washington as Washington gained statehood.

As the university flourished, the original campus became increasingly inadequate to support the growing institution. In 1891 the state legislature looked to a new site along Union Bay, initially purchasing 160 acres, and then another 580-acres in 1894.<sup>7</sup> The university hired architect William E. Boone (1830-1921) in 1891 to create a comprehensive plan for the new campus, but the Boone Plan, as it was called, was deemed too extravagant and not implemented. Not only did the new site dramatically increase the size of the campus, but the university's move to the site removed the school, at the time, from city life.

The university hired architect Charles W. Saunders (1857-1935) to design the first building for the new campus. The Administration Building, now called Denny Hall, was completed in 1895 and classes began on September 4, 1895. The Observatory, constructed from leftover stone from the Administration Building, was also completed in 1895. No plan was utilized in siting these two buildings.

At its new location, the university once again desired to create a campus plan to guide development. Engineer professor A.H. Fuller developed a plan for the campus, called the Oval Plan, in 1898. The Oval Plan only included the northern portion of the campus. At the time the Oval Plan was developed, four buildings were present on campus: the Administration Building, Observatory, a men's dormitory (Meriwether Lewis Hall, 1896), and a women's dormitory (William Clark Hall, 1896). Fuller's Oval Plan made sense of the four buildings' locations and recommended future buildings be grouped in an oval around an open space. Science Hall (known today as Parrington Hall) was the first building constructed in accordance with this plan, followed by a power house. Science Hall was located south and west of the Administration Building. Fuller's plan also established the basic circulation relationship between the street grid west of 15th Avenue NE and the campus.

## OLMSTED PLAN & ALASKA-YUKON-PACIFIC EXPOSITION

In August 1903, the Regents of the University hired the Olmsted Brothers, renowned landscape architecture firm based in Brookline, Massachusetts, to design a new campus plan for the university. The Olmsted Brothers worked on this plan for the University while they were also working on a Seattle Parks Plan (1903) for the City of Seattle. In correspondence with John C. Olmsted, the Regents asked the firm to propose design improvements to the University of Washington campus in harmony with their proposed park system for the city. The Olmsted design for the campus converted the Oval Plan's oval circulation to an arts quadrangle and added a science quadrangle, incorporating land south of the Oval Plan's campus. The Olmsted Plan was submitted to the Regents in early 1905.

In the midst of this design work, an opportunity arose for Seattle to host a world's fair. Numerous world's fairs were held around the world during the latter half of the 19th century. After witnessing the success of the 1905 Lewis & Clark Exhibition held in Portland, Oregon, Seattleites William M. Sheffield, James A. Wood, and Godfrey Chealander began to promote the idea that Seattle could also host a world's fair.<sup>8</sup> The initial 1907 date was postponed to 1909 to avoid conflicts with the Jamestown, Virginia tricentennial celebration and allow time for proper fund raising and planning.<sup>9</sup> The proposal received an appropriation from the Washington State Legislature and plans moved forward to host the fair on property leased from the University of Washington. The U.S. Congress also appropriated funds for constructing the fair campus.<sup>10</sup>

A board of trustees was assembled to plan the fair, coined the Alaska-Yukon-Pacific Exposition (AYPE). The fair was to highlight Seattle's ties to Alaska, northwestern Canada, and the Pacific Rim, hence the name. In 1906, the Board of Trustees retained the Olmsted Brothers again to layout the fairgrounds at the University of Washington campus, on the southern two-thirds of the campus. The current scenic vistas, such as the central axis of Rainier Vista, and scenic vistas on the lower campus largely date from this period. The AYPE layout differed from the Olmsted's general layout for the campus particularly with its emphasis on outward vistas.<sup>11</sup> **(Figures 8 through 12)**

In addition to landscape elements and circulation networks, 25 buildings were constructed for the AYPE, including the subject property (the Foundry/Engineering Annex). Many of these buildings were constructed of lath and plaster as empty shells (i.e. finished exteriors with open, unfinished interiors), anticipated to last only as long as the fair. A handful of buildings were intended as permanent structures and were funded by an appropriation from the Washington State Legislature. The state-funded buildings were to be turned over to the university after the fair ended: the Forestry Building, Auditorium, Fine Arts Building, Washington State Building, and the Foundry.<sup>12</sup> The Regents hired Howard & Galloway, architects and engineers from San Francisco, to be the supervising architects for the construction of AYPE buildings for the university (funded through a \$600,000 appropriation from the State Legislature).<sup>13</sup> As the fair ended in October 1909, recommendations were made to the Regents by a buildings committee on how to reuse 15 exposition buildings for the university. Those 15 buildings and several more were reused by the university; see

**Figures 4 and 5** for a map and table of the buildings that were reused. Of the purpose-built AYPE buildings five remain on campus (Architecture Hall, Cunningham Hall, Foundry, Michigan Building, and the [altered] Power Plant).

The fair opened on June 1, 1909, and extended through the summer and into the fall, concluding on October 16, 1909. Nearly 80,000 visitors toured the fairgrounds on opening day. Over 3 million people in total visited the fair during its tenure.<sup>14</sup> The success of the fair lived on well after its closure as the city leased the exposition grounds from the University through 1915. This allowed city residents and visitors continued to enjoy the fairgrounds, maintained by the Seattle Parks Department, and the additional miles of streetcar tracks.<sup>15</sup>

## POST-AYPE CAMPUS

Following the conclusion of the AYPE, the University began the process of moving beyond the fair and planning for its newly enlarged campus. The following is a list of the plans created for the university, largely summarized from the 2017 “Historic Resources Survey and Inventory of the University of Washington Seattle Campus”.

- Regents Plan of 1915. Local architect and founder of the university’s newly formed architecture department, Carl F. Gould designed this new plan. This plan became the guiding document for the university for the next two decades. The Regents Plan followed a simplified version of the Beaux Arts-design of the Olmsted’s plan. Collegiate Gothic was established as the predominant architectural style for new construction, which persisted into the 1950s. The plan established groupings of buildings on campus with the liberal arts programs on the Upper Campus, administrative and library facilities on a quadrangle at the center of campus and science and engineering programs along Rainier Vista and southern campus.<sup>16</sup> **(Figure 13)**
- 1920 Revised Campus Plan. This plan laid out an estimated 100 acres which were previously submerged but exposed following the completion of the Lake Washington Ship Canal. This plan did not substantially affect the main campus. **(Figure 14)**
- 1934 Regents Plan. This plan, adopted during the Great Depression, called for new dormitories near the north and northeast parts of the campus. This plan retained many elements of the 1915 Regents Plan within the core campus. **(Figure 16)**
- 1948-49 Plan by Bindon & Jones. This plan reflected the university’s growing enrollment, recommending the acquisition of additional acreage southwest of the original campus (the Northlake area) and the creation of additional student housing (dormitories and married student housing). **(Figure 18)**
- 1960 University of Washington Master Plan. Developed from a series of master plans prepared by Paul Thiry and Lawrence Halprin, this plan sought to provide an organized framework for both an ambitious program of development during the

1960s, and long-range development goals. This plan sought to extend campus axis east toward Montlake Boulevard NE. **(Figure 19)**

- 1962 General Development Plan and 1965 General Planning and Development Plan. These plans, designed by Paul Thiry (1962) and Walker & McGough (1965), recommended the introduction of larger developments on the campus including the plaza garage, Red Square and surrounding buildings, additions to Suzzallo Library, and a range of new buildings (science, medical, professional, recreation, and residential).<sup>17</sup> These plans also substantially reconfigured the northwest portion of the campus. **(Figures 20 and 21)**

## CONSTRUCTION & USE OF THE BUILDING

The subject building was constructed in 1909 for use as a foundry with exhibit space for the AYPE. A foundry is a workshop or factory where metal is heated to a molten state and cast. The building opened to the public on July 22, 1909. According to the September 1909 edition of *The Foundry*, the AYPE foundry was “the first attempt to hold an exhibition of foundry supplies and equipment at any point west of the Mississippi River.”<sup>18</sup> **(Figures 22 through 29)**

During the AYPE, the building exhibited foundry supplies and equipment in the side bays with the central bay utilized as the molding floor for demonstrations. Exhibits displayed in the Foundry included:

- A 26-inch Whiting cupola, Whiting Foundry Equipment Co., Harvey, Illinois
- One roll-over and one stripping plate molding machine, Henry E. Pridmore, Chicago
- Adams squeezer molding machine, Adams Co., Dubuque, Iowa
- Sand blast apparatus, Detroit Foundry Supply Co., Detroit
- Cinder mill, dust arrester, and tumbling mill, W. W. Sly Manufacturing Co, Cleveland
- Oil-burning melting furnace and oil-fired core oven, Monarch Engineering & Manufacturing, Co., Baltimore
- Corliss engine, Murray Iron Works, Burlington, Iowa
- Pressure gas producer designed for burning bituminous coal, lignites, soft wood and mill refuse, Northern Gas & Power Co., Vancouver, B. C.
- Chinese pig iron, Han Yang Iron & Steel Co., through its distributor, E. P. Jamison & Co., Seattle
- Wilkeson Coal & Coke Co., manufacturers of foundry coke in Pierce County, Washington
- Cedar Mountain Coal & Coke Co., miners of molding sand
- E. P. Jamison & Co., dealers in foundry supplies

In September 1909 a fire, started from a gas generator within the building, damaged the Foundry building during the world’s fair. Charring to the roof and window sashes cost an estimated \$2,000 to repair.<sup>19</sup>

This building was one of the few fair buildings intended as a permanent structure, constructed for the AYPE with a post-fair use in mind. The building was constructed for use by the mechanical engineering department of the university; and, mechanical engineering professor O. E. Eastwood ran the foundry during the AYPE.<sup>20</sup> Prior to the fair, the Regents began discussions by 1908 about establishing a permanent foundry operation on the campus with a committee of two individuals (John P. Hartman and Dr. Thomas F. Kane) conferring with the United Metal Trades Association.<sup>21</sup>

After the fair ended, the building continued to have a utilitarian function. It showed up on various plans as “Shops” (1915 and 1920 plans) and “Buildings & Grounds Shops” (1949 plan). In 1920, additions were made to the foundry building to extend it to the north and the south. Sometime after this renovation, the Mechanical Engineering department fully took over the building—which housed classrooms, offices, shops and study spaces—or at least its use of the building was more clearly documented on campus plans.<sup>22</sup>

The building, now known as the Engineering Annex, continues to house the Mechanical Engineering Department, along with environmental studies and the Industrial & Systems Engineering’s Integrated Learning Factory. The Mechanical Engineering Building (MEB) is immediately adjacent to the Foundry/Engineering Annex to the west.

### **Mechanical Engineering Department**

The Foundry has had a connection with the Mechanical Engineering Department since its inception, from Professor O. E. Eastwood’s operation of the facility during the AYPE to its current use hosting mechanical engineering classes and labs. The former Machinery Building, built in 1909 as part of the AYPE and replaced in 1959 by the Mechanical Engineering Building, stood just 28 feet to the west of the Foundry. The Machinery Building was designed by Howard & Galloway, funded by the State of Washington, and constructed by the Westlake Corporation of St. Louis. During the AYPE, the Machinery Building housed machinery exhibits, including a timber-testing plant and a stone-testing plant which tested the breaking points of wood and stone, respectively. Like the Foundry, the Machinery Building was intended to serve the Mechanical Engineering Department after the fair ended.<sup>23</sup>

The Engineering Department got its start at the University with the School of Mines in 1894 and sub-departments for Civil Engineering and Electrical Engineering were then established. At this time, mechanical and electrical engineering were grouped together in the Electrical Engineering Department and classes were held in the Administration Building (now Denny Hall). Mechanical Engineering became its own department in 1905 and was chaired by O. E. Eastwood until 1947. Eastwood, a 1902 MIT graduate, also went on to establish the university’s first master’s degree program (in mechanical engineering) and helped found the Aeronautical Engineering Department in 1921. The Power House was converted for lab use by the electrical and mechanical engineering departments in 1905.

The 1910-1911 catalogue for the College of Engineering describes the facilities for the various engineering departments. Mechanical engineering classes and labs are listed as

held in the Engineering Building (former 1909 Machinery Building) and a “new shop building.”<sup>24</sup> The shop building, likely the Foundry, contained the department’s wood shop, machine shop, forge shop, and foundry. The building had about 13,000 square feet for these shops. The catalogue details the range of equipment used in the shops:

- Wood Shop: lathes, benches, band saws, circular saws with boring attachment, planer, wood trimmer, and necessary accessories;
- Machine Shop: modern high-speed lathes with turret attachment, planer, sharper, drill press, a universal milling machine, a universal grinding machines, metal shop saw, emery wheels, and complete equipment for bench and vise work;
- Forge Shop: power hammer and down draft forges with suitable blower and necessary accessories; and
- Foundry: cupola with two tons of capacity, brass melting furnace, core oven, moulding machines, riddles, shakers, cinder mill, rattler, gas furnace, and a traveling crane.<sup>25</sup>

The 1920 expansion of the building provided increased student work spaces. At the north end, the addition included a machine shop on the first floor with an open wood working shop above on the second floor. Spaces in the south end contained a pipe shop and lockers on the first floor with drafting rooms on the second floor. A later third story addition further expanded the building’s usable spaces.

The Mechanical Engineering Department has continued to grow and flourish over the last several decades. When the Engineering Hall was demolished in 1957, a new building for mechanical engineering was erected in its place in 1959. Subsequent alterations to the Foundry/Engineering Annex connected these two buildings via the south end wall of the Foundry, creating a small complex for mechanical engineering. Additional engineering buildings were constructed in this part of the campus, including More Hall (1946), Loew Hall (1965), the Engineering Library (1969), Electrical Engineering Building (1998), and the Paul G. Allen Center for Computer Science and Engineering (2003). This area, centered around the former Washington Circle in the AYPE plans, remains the epicenter of the University’s College of Engineering. **(Figures 6 through 7, 15, 17, and 30)**

## ARCHITECTS AND BUILDERS

The original building was designed by Washington N.G. Place (variously listed as G. Washington Place or W. M. G. Place or W. G. N. Place). The building has had two significant additions: one in 1920 designed by architect F. W. Elwell adding the north and south additions, and another constructed between 1922 and 1935 adding the third story for which there are no drawings or archival records.

### Washington Place

Washington Place (1850-1916) was born in New Hampshire on November 5, 1850.<sup>26</sup> Place was a Civil War veteran, briefly serving as a private in the 4th New Hampshire Volunteer



Infantry Regiment, Company D; he enlisted when he was only 14 years old.<sup>27</sup> He married Julia Sanborn in 1869. They had a daughter, Bessie M. Place (born 1872), but eventually divorced. He married his second wife, Nellie M. (Mary) Morris, in 1880 and together they had two children: Annette and Linton. It is unclear exactly when the family moved to Washington State, but Place is listed in the Seattle city directories beginning in 1889. His occupation is listed as contractor, carpenter, and builder over the years. He eventually became a building inspector for the City of Seattle. Place's career as a building inspector began as early as 1900; he worked under City Engineer R. H. Thomson. By spring 1908, Place was no longer working as the building inspector for the city.

Place formed an architectural firm with J. L. McCauley—Place and McCauley. They dissolved the firm in July 1910, each going their own way and Place maintaining an office at 2802 East Valley Street.<sup>28</sup> As a designer and builder, Place designed a two-story apartment building for Henry Gobel at the southwest corner of Rainier Avenue and Walker Street.<sup>29</sup> Place is also credited with designing an apartment building in the Central Area, three cottages in the University District, and an industrial building near Lake Union.<sup>30</sup> Place died in 1916.

### **F.W. Elwell**

Frederick (F.W. or Fred) W. Elwell (1891-1954) served as the University's Superintendent of Buildings and Grounds during the 1920s; Elwell served for 10 years until his resignation in August 1929.<sup>31</sup> He was also a member of the University's Building Committee. Elwell was listed on the construction drawings for the 1920 addition to the Engineering Annex (then referred to as the Shops Building). O.H. was listed as the draftsman. Numerous projects were constructed on campus under Elwell's watch as superintendent, including Suzzallo Library (1923-1927), Hec Edmundson Pavilion (1928), and Physics Hall (1928), as well as smaller projects like tennis courts. He also managed construction of the university's Biology Station at Friday Harbor and work at Meany Auditorium.<sup>32</sup>

According to the 1930 U.S. Census, Elwell was born in Iowa in 1891. By 1910, he had moved to Seattle and was listed in the U.S. Census that year as a boarder in the household of Eliza Everett. His occupation was listed as an architectural draftsman. In 1920, Elwell married his wife Blanche (Golay) in Pierce County. The couple had at least one child, a daughter, Barbara. Elwell died in 1954.

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<http://www.lib.washington.edu/specialcollections/research/uw-chronology/>. Accessed November 30, 2018)

## 5. List of Figures

### SITE PLAN AND AERIAL VIEWS A.1

Figure 1. Aerial view showing the University of Washington Seattle campus and its immediate surroundings. North is up, and the footprint of the building is shaded in red. A.1

Figure 2. Nominated property map showing the nomination boundary with the building shaded in red. A.2

- Figure 3. Site Plan. This map shows the nominated building (in red) and nomination boundary. A.3
- Figure 4. Reused AYPE buildings map, including short-term buildings utilized immediately after the fair but not planned for long-term reuse. A.4
- Figure 5. Reused Alaska-Yukon-Pacific Exposition Buildings Table. The present building name/use appears in **bold** in the column "University Reuse." This table was compiled from "Disposition of Exposition Buildings," *Pacific Builder and Engineer* 8, no. 43 (October 16, 1909): 414; and the Pacific Coast Architecture Database, <http://pcad.lib.washington.edu/> (accessed October 24, 2018). A.5
- Figure 6. A 1937 aerial photograph of the nominated property's vicinity with the building outlined in red. A.7
- Figure 7. A 1969 aerial photograph of the nominated property's vicinity with the building outlined in red. A.8
- Figure 8. 1906 preliminary Alaska Yukon Pacific Exposition (AYPE) plan with the future site of the Engineering Annex outlined in red. Source: University of Washington. A.9
- Figure 9. 1907 revised preliminary AYPE plan with the future site of the Engineering Annex outlined in red. Source: University of Washington. A.9
- Figure 10. 1909 rendering of the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: University of Washington. A.10
- Figure 11. 1909 official ground plan of the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: University of Washington. A.10
- Figure 12. 1909 Sanborn Fire Insurance map for the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: Seattle Public Library. A.11
- Figure 13. 1915 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. The purple section shows a connecting wing proposed as part of this plan. Source: University of Washington. A.11
- Figure 14. 1920 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington. A.12
- Figure 15. 1926 aerial of the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington. A.12

- Figure 16. 1934 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington. A.13
- Figure 17. 1936 aerial, the Engineering Annex in red and the former Machinery Building in blue. Source: King County Map Assessor, IMAP. A.13
- Figure 18. 1949 master plan for the campus, the Engineering Annex in red and the planned future site of the Mechanical Engineering Building in blue, and proposed additions to the Engineering Annex in green. Source: University of Washington. A.14
- Figure 19. 1960 master plan for the campus, the Engineering Annex in red and the Mechanical Engineering Building (MEB) in blue. In this plan the service court space between the buildings would be built out as an addition. Source: University of Washington. A.14
- Figure 20. 1962 landscape master plan for the campus, the Engineering Annex in red and the Mechanical Engineering Building (MEB) in blue. In this plan the service court space between the buildings would be built out as an addition. Source: University of Washington. A.15
- Figure 21. 1962 master plan for the campus, the Engineering Annex in red and the Mechanical Engineering Building (MEB) in blue. In this plan the service court space between the buildings would be built out as an addition. Source: University of Washington. A.15
- Figure 22. 1909 view looking northeast towards the Foundry Building with Machinery Hall just out of frame to the left. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW17235. A.16
- Figure 23. Ca. 1908 view during construction of the Foundry taken from east of Power House #1 (in the foreground) and looking west with the northeast end of the Foundry Building visible in the background and a portion of Machinery Hall visible behind the Foundry. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number Nowell x769. A.16
- Figure 24. Foundry Building motors and boilers exhibit, Alaska Yukon Pacific Exposition, Seattle, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28514z. A.17

- Figure 25. Foundry interior under construction, Alaska-Yukon-Pacific-Exposition, Seattle, Washington, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28519z. A.17
- Figure 26. Foundry machinery exhibit, Alaska-Yukon-Pacific-Exposition, Seattle, Washington, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28509z. A.18
- Figure 27. Foundry tools on display, Foundry, Alaska-Yukon-Pacific-Exposition, Seattle, Washington, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28511z. A.18
- Figure 28. 1909 views of the Foundry interior. Source: "The Foundry" Volume 35, Number 1, British Foundrymen's Convention: Report of the proceedings at the sixth annual meeting of the British Foundrymen's Association held at Birmingham. A.19
- Figure 29. 1909 views of the Foundry interior. Source: "The Foundry" Volume 35, Number 1, British Foundrymen's Convention: Report of the proceedings at the sixth annual meeting of the British Foundrymen's Association held at Birmingham. A.19
- Figure 30. Aerial of eastern portion of campus taken from the south, University of Washington, ca. 1948. Photographed by James O. Sneddon. University of Washington Libraries, Special Collections, Negative Number UW2363. A.20
- Figure 31. Additions chronology. A.21

## PHOTOGRAPHS A.22

- Figure 32. Northwest corner. A.22
- Figure 33. West facade looking south along the service court space. The Mechanical Engineering Building (MEB) is visible at right and across the south end of the service court space. A.22
- Figure 34. West facade looking north. A.23
- Figure 35. Looking southeast from the second floor of the MEB. A.23
- Figure 36. Looking northeast from the roof of the MEB. A.24
- Figure 37. Looking northeast from the second floor of the MEB. A.24
- Figure 38. North addition roof detail. A.25
- Figure 39. South end wall connection with MEB detail. A.25
- Figure 40. North facade. A.26

- Figure 41. North passageway between the Engineering Annex (left), MEB (left, background), and Loew Hall (right), looking west. A.26
- Figure 42. Northeast corner of the north facade. A.27
- Figure 43. Northeast corner. A.27
- Figure 44. Looking south along Jefferson Road NE, with the Power Plant at left. A.28
- Figure 45. East facade, looking northwest. A.28
- Figure 46. West facade, south end, details of 1958 brick rebuild and window removal as part of the MEB end wall connection. A.29
- Figure 47. 1909 window sill and sub sill detail with cement wash (above left) and 1920 window sill and sub sill detail (above right). A.29
- Figure 48. 1909 brick with light sand texture on surface (above left) and 1920 brick with smoother face and more uniform color (above right). A.30
- Figure 49. 1920 brick (left of dotted line) and north addition brick (right of dotted line). Note the difference in color between the two brick. A.30
- Figure 50. Main volume looking north from the mezzanine. The solid wall in the background is the original location of the wall separating the second floor from this area. A.31
- Figure 51. Main volume looking north from the first floor. A.31
- Figure 52. Main volume, looking northeast along the east facade. A.32
- Figure 53. Main volume crane details from the mezzanine level. A.32
- Figure 54. Main volume, looking west towards the garage door entrance. A.33
- Figure 55. Main volume, looking south, the mezzanine level is visible along the top of the photograph. A.33
- Figure 56. 1920 addition, south end, first floor. A.34
- Figure 57. 1920 addition, south end, first floor, looking west. A.34
- Figure 58. Main volume looking northwest. A.35
- Figure 59. First floor, north end. Note the added gypsum board cladding at the timber elements. A.35
- Figure 60. 1909 doors at the north end wall. A.36
- Figure 61. Main volume relites. A.36

- Figure 62. 1920 addition, south end, second story, corridor looking south towards MEB (above left), and stairwell down to west doorway (above right). A.37
- Figure 63. 1920 addition, south end, second story office space looking southwest. A.37
- Figure 64. Second story, north end, main entrance, looking north. A.38
- Figure 65. Second story, north end, typical corridor detail (above left), and typical stairway to third floor (above right). A.38
- Figure 66. Second floor, north end, typical office. A.39
- Figure 67. Third floor, north end, typical corridor configuration. A.39
- Figure 68. Third floor, north end, typical corridor configuration. A.40
- Figure 69. Foundation plan. A.41

## DRAWINGS A.41

- Figure 70. North facade. A.42
- Figure 71. South facade. A.43
- Figure 72. East facade. A.44
- Figure 73. Building section. A.45
- Figure 74. 1920 addition, north and west facades, floor plans. A.46
- Figure 75. 1920 addition, sections, south facade. A.47
- Figure 76. 1920 addition, walls and entrances. A.48
- Figure 77. 1920 addition, east facade and trusses. A.49
- Figure 78. Loew Hall landscape plan (1967), with landscape changes in front of the Engineering Annex circled. A.50
- Figure 79. 1957 site plan. A.51
- Figure 80. 1958 Mechanical Engineering Building showing the new south end wall for the Engineering Annex. A.52
- Figure 81. 1958 Mechanical Engineering Building plan showing the new south end wall. A.53
- Figure 82. Area map showing adjacent buildings. A.54
- Figure 83. 1909 view of Machinery Hall. University of Washington Libraries, Special Collections, Order Number AYP792. A.55

## 6. Endnotes

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1. H. Cole Estep, "Seattle Foundry Equipment Exhibit," *The Foundry* 35, no 1 (1909).
2. The original drawings called for a slightly smaller six by twenty-inch girder at the north end wall since it was only loaded on the south side.
3. The above description based on comparing original drawings with existing conditions; however, due to interior finishes covering the framing in the upper stories the as-built conditions could be slightly different.
4. Posts from the 1909 building were reused as part of framing the 1920 north end wall, based on notes in the May 1920 drawing, sheet B-22.11, sheet 1 of 3.
5. University of Washington Libraries' Special Collections and Preservation Division, "I. The University of Washington's Early Years."
6. University of Washington Special Collections, "University Chronology," *University of Washington Special Collections*.
7. Jennifer Ott, "University of Washington Board of Regents;" University of Washington Libraries' Special Collections and Preservation Division, "VII. Campus Plans, 1891-1915."
8. Chrisanne Beckner and Natalie K. Perrin, Historic Research Associates (HRA), "Seattle's Olmsted Parks and Boulevards (1903-68)," National Register of Historic Places Multiple Property Documentation (2016), Section No. E, page 36.
- 9 "The 1909 Alaska-Yukon-Pacific Exposition," *Seattle Municipal Archives*, <https://www.seattle.gov/cityarchives/exhibits-and-education/digital-document-libraries/the-1909-alaska-yukon-pacific-exposition> (accessed October 30, 2018).
- 10 University of Washington Digital Collections, "Architects," *When the World Come to Campus, AYPE 1909*, <https://content.lib.washington.edu/exhibits/aype/architects.html> (accessed November 30, 2018).
11. Jennifer Ott, "University of Washington Board of Regents;" Connie Walker Gray, Susan Boyle, Sonja Molchany, Mimi Sheridan, and Rachel Gleeson, "Historic Resources Survey and Inventory of the University of Washington Seattle Campus," 24-26.
12. "The University and the Exposition," *Pacific Builder and Engineer* 8, no. 39 (September 1909): 371.
13. "Board of Regents of the University of Washington agreement with Architects and Engineers Howard & Galloway, to act as supervising architects for the Alaska Yukon Pacific Exposition, May 21, 1907," University of Washington Libraries, Special Collections, Digital ID PAM0164.
14. Paul Dorpat, "Alaska-Yukon-Pacific Exposition, 1909 – A Slideshow of Seattle's First World's Fair," *HistoryLink.org Online Encyclopedia of Washington State History*, <http://www.historylink.org/File/7082> (accessed October 30, 2018).

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15. "The 1909 Alaska-Yukon-Pacific Exposition," *Seattle Municipal Archives*, <https://www.seattle.gov/cityarchives/exhibits-and-education/digital-document-libraries/the-1909-alaska-yukon-pacific-exposition> (accessed October 30, 2018).
  16. Walker Gray, et al, "Historic Resources Survey and Inventory," 27.
  17. "Appendix D: Campus Planning at the University of Washington," University of Washington Campus Plan (March 1999), 5.
  18. H. Cole Estep, "Seattle Foundry Equipment Exhibit," *The Foundry* (Cleveland, Ohio, September, 1909), Vol 35, No. 1, Whole No. 205, pgs. 28-30, pg. 29.
  19. "Building News: Seattle, Public," *Pacific Builder and Engineer* 8, no. 40 (September 25, 1909): 6.
  20. Estep, 29, 30.
  21. "Seattle, Foundry," *Pacific Builder and Engineer* 6, no. 36 (September 5, 1908): 12, 14.
  22. BOLA Architecture + Planning, "AYPE Foundry / Engineering Annex Building," UW Historic Resources Addendum (July 2012), 9.
  - 23 Alan J. Stein, Paula Becker, and the HistoryLink Staff, *Alaska-Yukon-Pacific-Exposition, Washington's First World's Fair: A Timeline History* (Seattle: University of Washington Press, 2009), 152.
  24. Engineering Hall was designed by Howard and Galloway and constructed in 1909 for the AYPE as Machinery Hall. It was renamed after AYPE ended, but was demolished in 1957 to make way for the Mechanical Engineering Building, which was completed in 1959.
  - 25 College of Engineering, 25-26.
  26. 1920 U.S. Federal Census; "Washington Death Certificates, 1907-1960," database, *FamilySearch* (<https://familysearch.org>), Washington N G Place, 09 May 1926; citing Washington Veteran's Home Hospital, Retsil, Kitsap, Washington, reference 129, Bureau of Vital Statistics, Olympia; FHL microfilm 2,022,313.
  27. "Civil War Veteran Gets Harding Letter," *The Seattle Daily Times*, August 21, 1923: 9.
  28. "Architects Dissolve Partnership," *The Seattle Daily Times*, July 3, 1910: Classified Advertising Section, 11.
  29. "Architects Planning Many New Structures," *The Seattle Daily Times*, July 18, 1909: Section III, 6.
  30. *Seattle Post-Intelligencer*, May 15, 1910; May 22, 1910.
  31. "F. W. Elwell Resigns as U. of W. Caretaker," *The Seattle Daily Times*, August 24, 1929: 2.
  32. BOLA Architecture + Planning, "AYPE Foundry / Engineering Annex Building," 7.



SITE PLAN AND AERIAL VIEWS



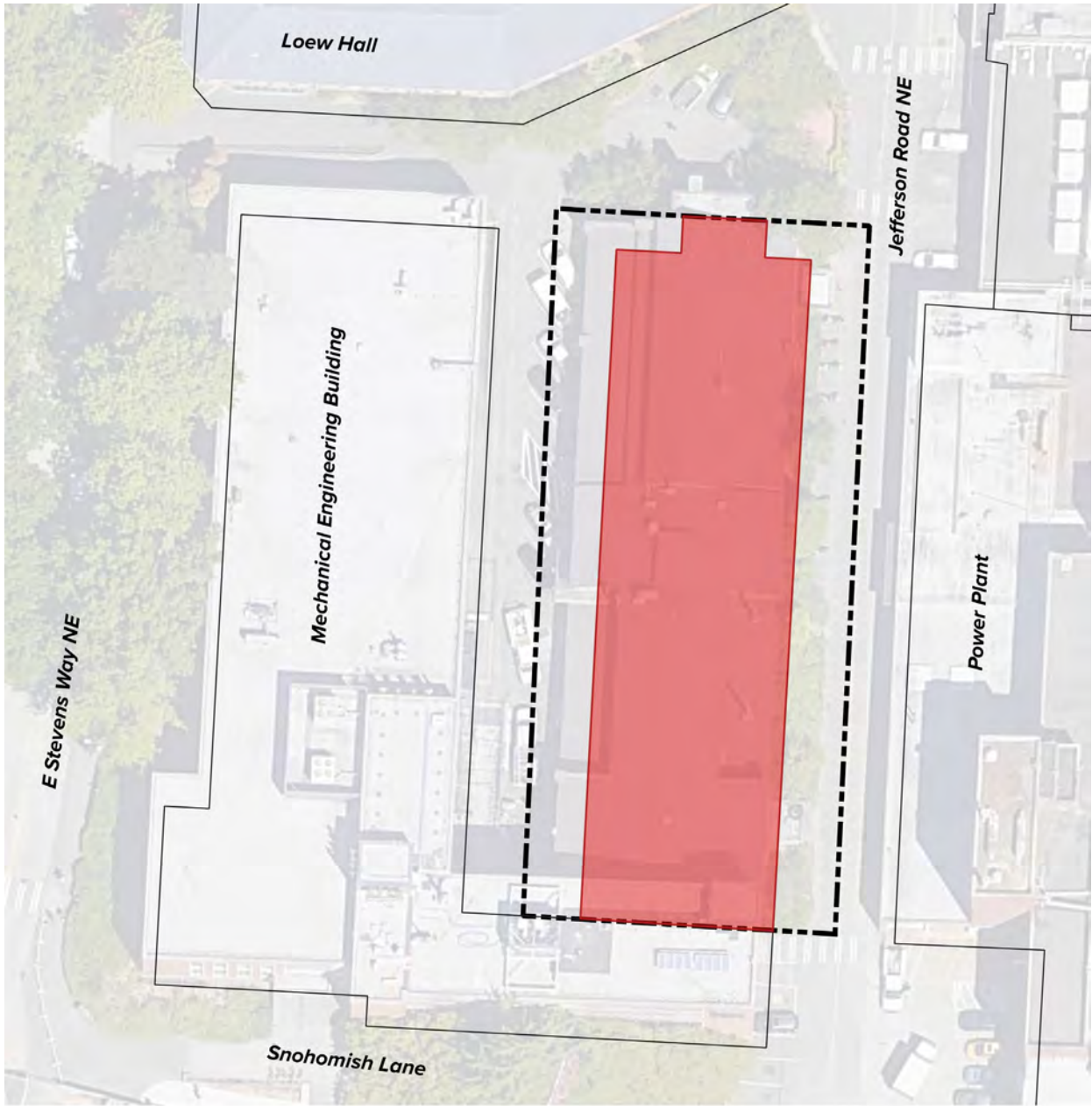
Campus Map

- Engineering Annex
- Nominated property
- University of Washington
- ▬ Campus boundary
- King County Tax Parcel
- King County parcel 1625049001




Base 2018 aerial courtesy  
Google.



Figure 1. Aerial view showing the University of Washington Seattle campus and its immediate surroundings. North is up, and the footprint of the building is shaded in red.



**Nominated Property Map**

- Engineering Annex Boundary
-  Nominated property (20-foot offset from building)
- Engineering Annex
-  Nominated property
-  Existing University of Washington Buildings

Base 2018 aerial courtesy of Google.



**Figure 2.** Nominated property map showing the nomination boundary with the building shaded in red.







- Existing University of Washington Buildings
- AYPE Buildings**
- Reused AYPE Buildings
- Extant AYPE Buildings

**Reused AYPE Buildings**

Base 2018 aerial courtesy Google.  
1909 Sanborn Fire Insurance map  
overlay.



**Figure 4.** Reused AYPE buildings map, including short-term buildings utilized immediately after the fair but not planned for long-term reuse.

**Figure 5.** Reused Alaska-Yukon-Pacific Exposition Buildings Table. The present building name/use appears in **bold** in the column “University Reuse.” This table was compiled from “Disposition of Exposition Buildings,” *Pacific Builder and Engineer* 8, no. 43 (October 16, 1909): 414; and the Pacific Coast Architecture Database, <http://pcad.lib.washington.edu/> (accessed October 24, 2018).

BUILDING	ARCHITECT	UNIVERSITY REUSE	STATUS
Administration Building	David Chambers Lewis	UW Law School	Demolished (1917)
American Women's League	Unknown	Practice Cottage Residence	Demolished (unknown date)
Arctic Brotherhood Building	Edelsvard and Sankey	Club rooms	Demolished (1929)
Auditorium	Howard and Galloway	Meany Hall (auditorium)	Demolished (1965)
Baptists Building/Head-quarters (dormitory addition)	Unknown	Residence	Demolished (unknown date)
California Building	E.C. Hemmings and George Sellon	Storage and exhibition space for ethnographic items held by the Washington State Museum	Demolished (1917)
Educational building	Unknown	Journalism department and classrooms	Unknown
Fine Arts Building	Howard and Galloway	Bagley Hall, Chemistry & Pharmacy departments (1910-37) Physiology Hall (1937-1950) <b>Architecture Hall</b> (1950-present)	Extant
Forestry Building	Saunders and Lawton	Museum	Demolished (1930)
Foundry (training in engineering)	W. N. G. Place	Training in engineering Shops building <b>Engineering Annex</b>	Extant
Good Roads Building	Unknown	Highway Engineering Air Force ROTC	Demolished (1961)
Hoo Hoo House/Club	Ellsworth Storey	Faculty club	Demolished (1959)
Machinery Building	Howard and Galloway	Engineering Hall	Demolished (1957)
Masonic Building	Fay, Russell and Babcock	Y.M.C.A.	Demolished (1922)

BUILDING	ARCHITECT	UNIVERSITY REUSE	STATUS
Michigan State Building	James C. Teague	Engineer's Residence Physical Plant Office Facilities Services Adminis- tration Building	Extant, altered
Model Dairy/Dairy barn	Saunders and Lawton	Carpenter Shop	Demolished (un- known date)
New York Building	Unknown	President's Residence School of Music	Demolished (1950)
Oregon State Building	David Chambers Lewis	UW Law School	Demolished (1917)
Oriental Building	Schack and Hunting- ton, Architects	Armory	Demolished (1920)
Philippines Building	Unknown	Mines Rescue Training Station	Demolished (1921)
Power House/Plant	Unknown	Power House/Plant	Extant, altered
U.S. Lifesaving Station	Unknown	Used by crew	Demolished (un- known date)
Washington State Build- ing	Bebb and Mendel	Library (1909-mid-1920s) Washington State Museum	Demolished (front in 1961, back in 1988)
Women's Building		Bureau of Mines Chemistry annex Air Force ROTC Architecture building <b>Cunningham Hall</b> (1983-present)	Extant, relocated (2009)



Engineering Annex  
[Red Outline] Nominated property

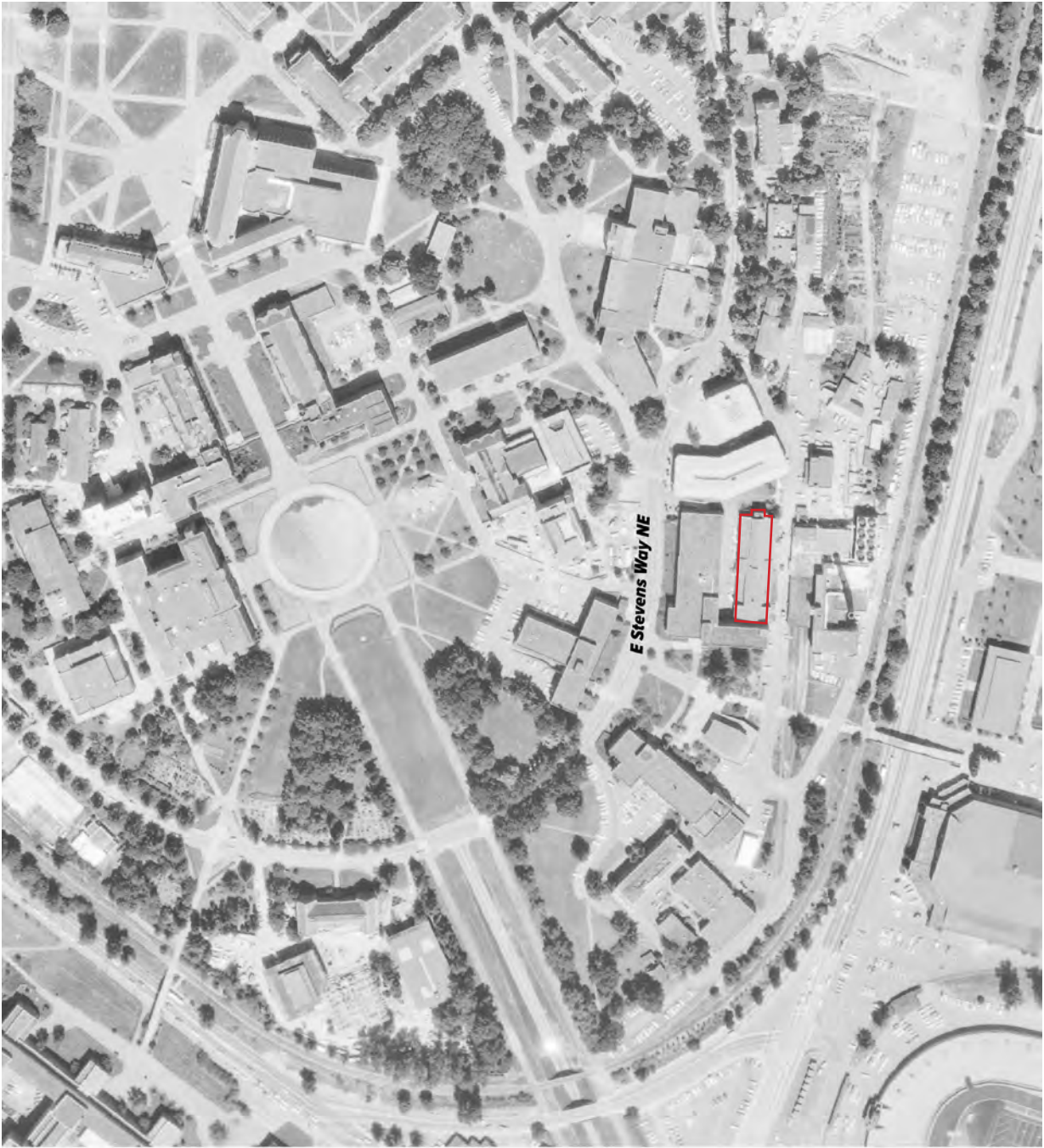
Vicinity Map | 1937 Aerial

Base aerial courtesy of King  
County Map Vault.



**Figure 6.** A 1937 aerial photograph of the nominated property's vicinity with the building outlined in red.





Engineering Annex  
[Red Outline] Nominated property

Vicinity Map | 1969 Aerial

Base aerial courtesy of  
USGS.



**Figure 7.** A 1969 aerial photograph of the nominated property's vicinity with the building outlined in red.



North @ Left

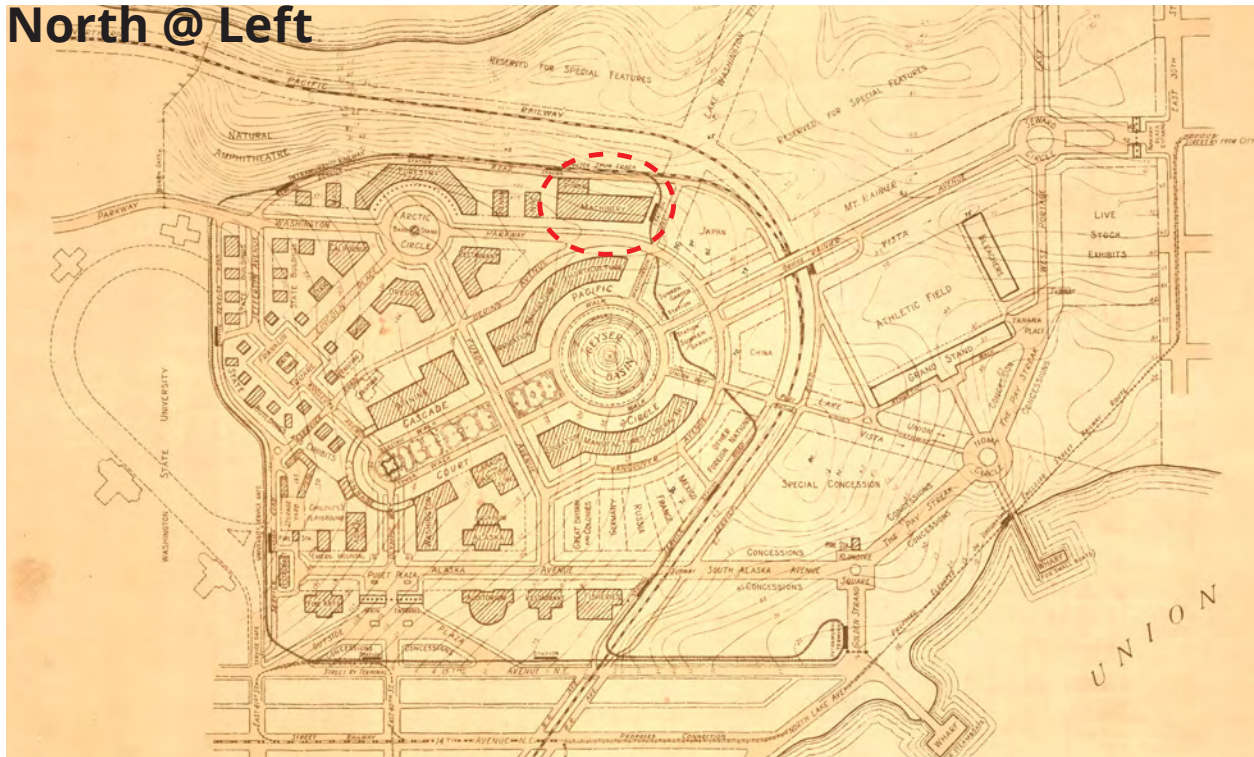


Figure 8. 1906 preliminary Alaska Yukon Pacific Exposition (AYPE) plan with the future site of the Engineering Annex outlined in red. Source: University of Washington.

North @ Left

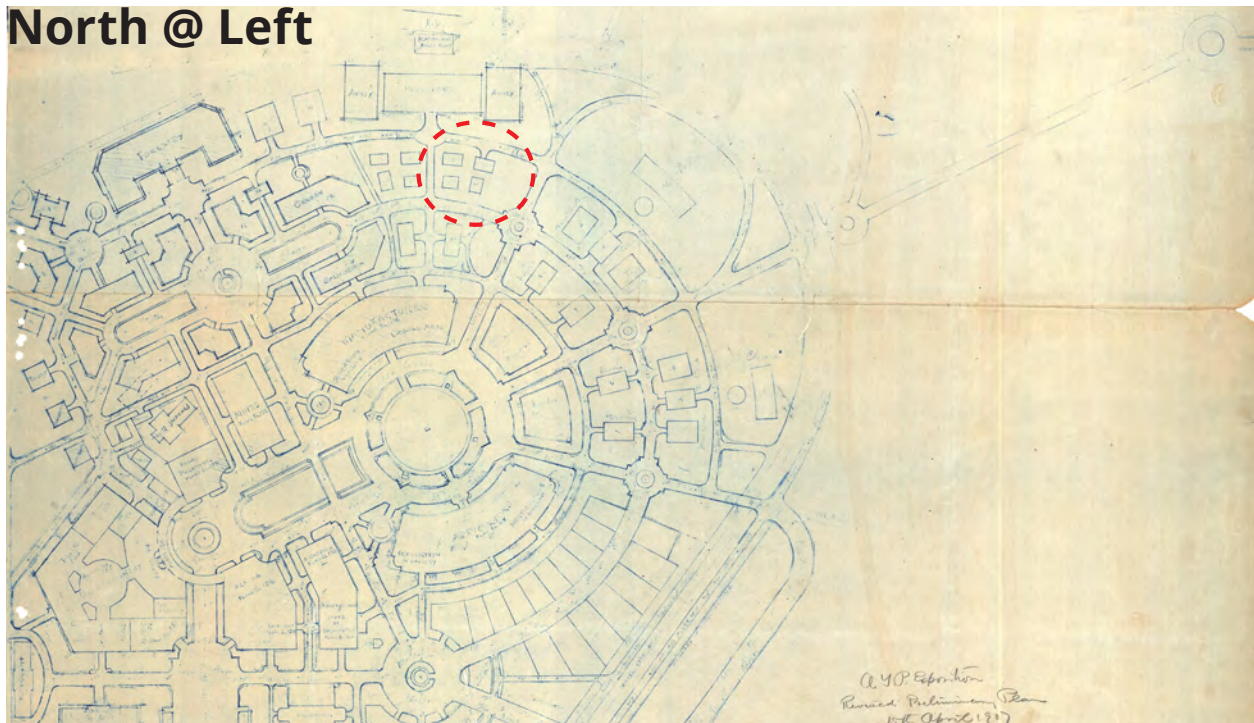


Figure 9. 1907 revised preliminary AYPE plan with the future site of the Engineering Annex outlined in red. Source: University of Washington.

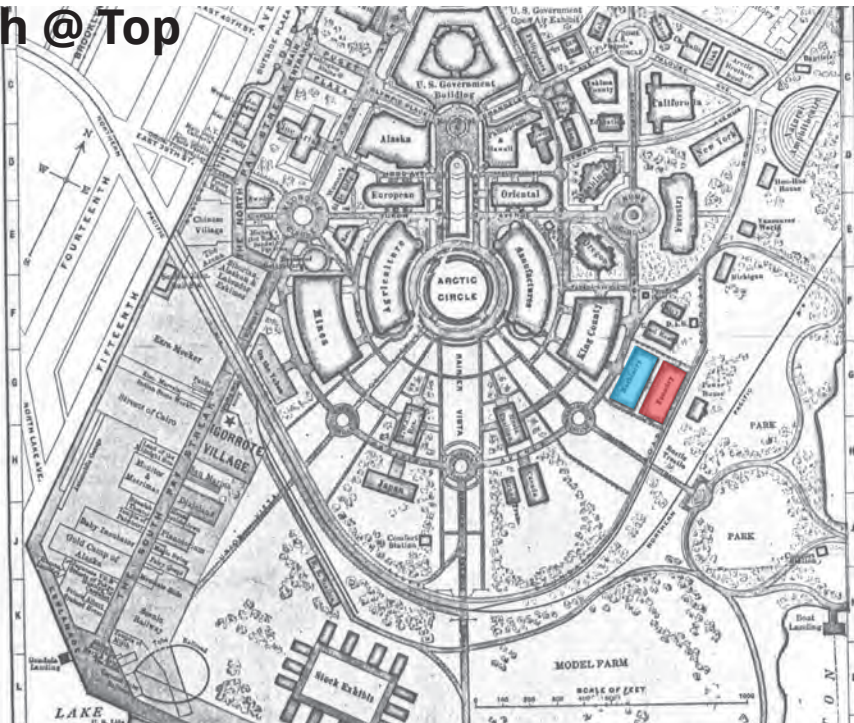


### North @ Top



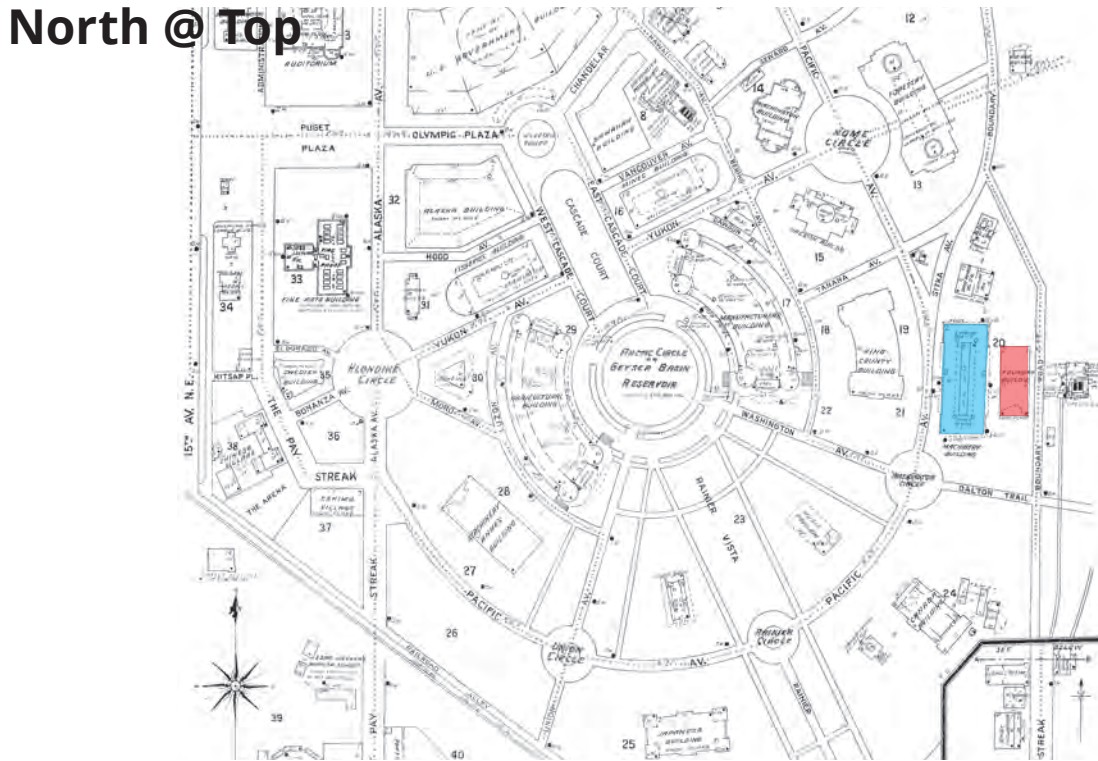
**Figure 10.** 1909 rendering of the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: University of Washington.

### North @ Top

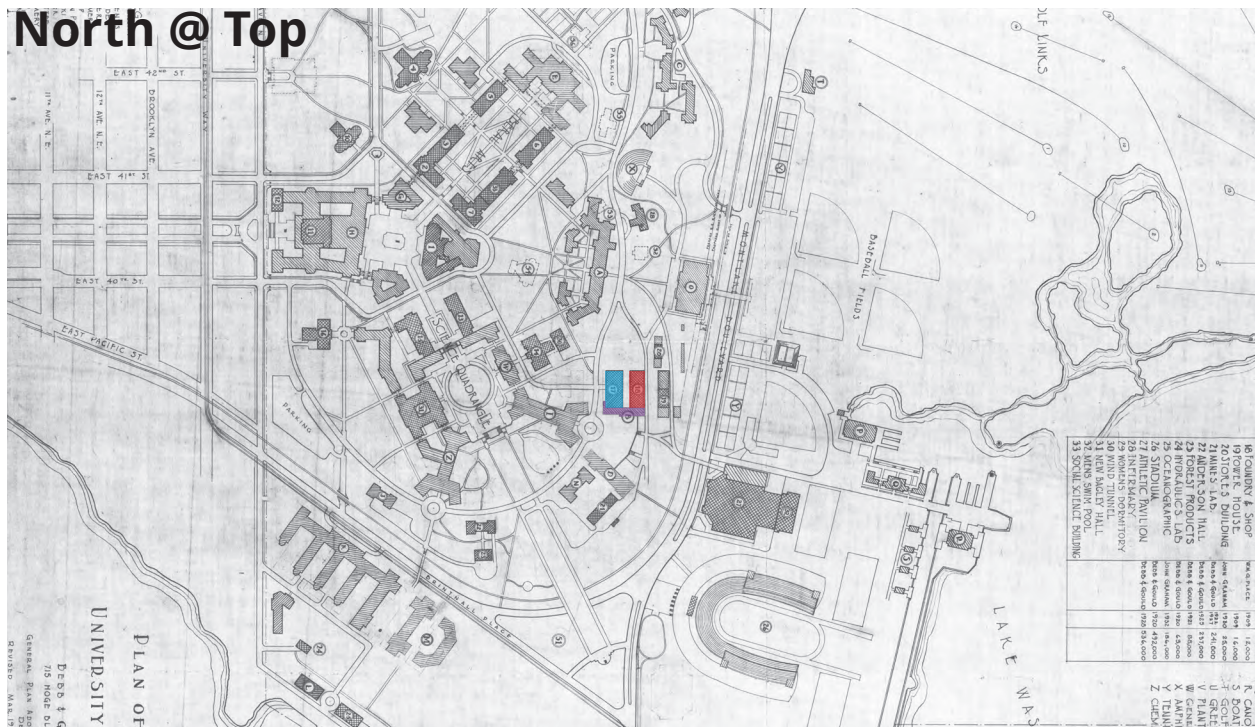


**Figure 11.** 1909 official ground plan of the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: University of Washington.



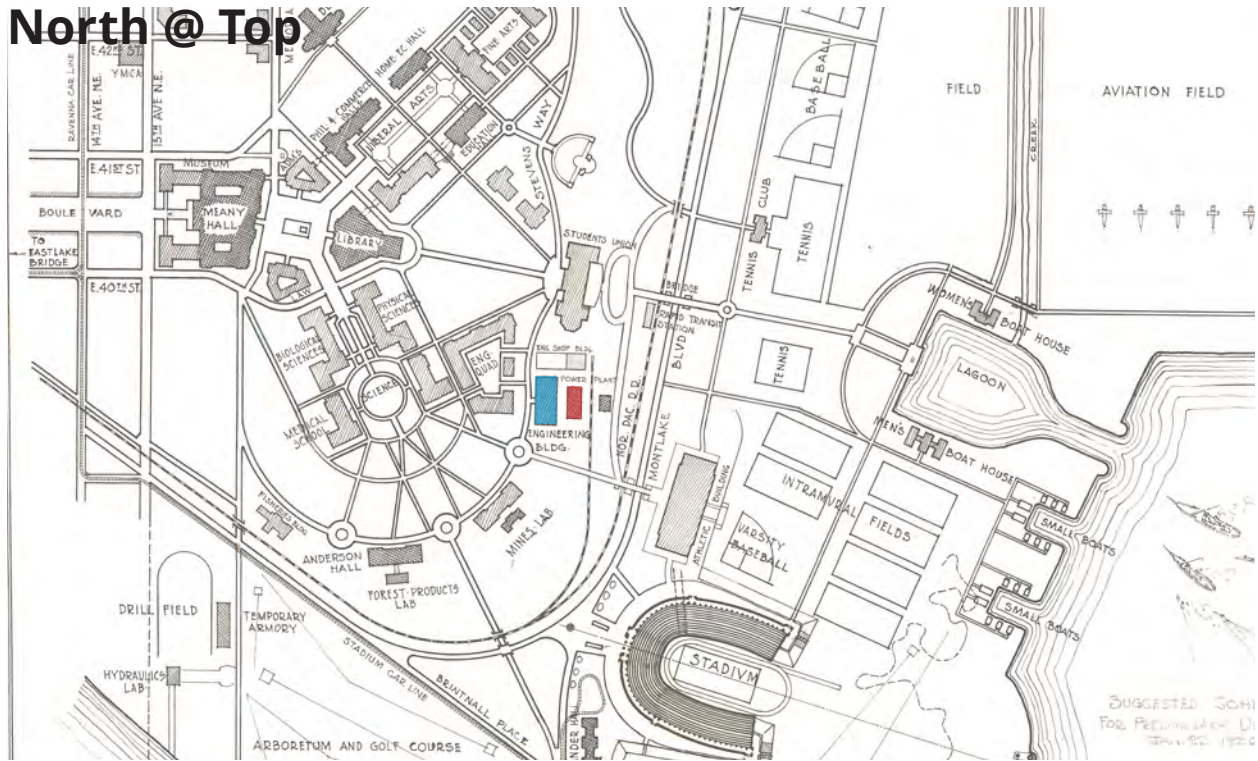


**Figure 12.** 1909 Sanborn Fire Insurance map for the AYPE, the Foundry (Engineering Annex) in red and the Machinery Building in blue. Source: Seattle Public Library.

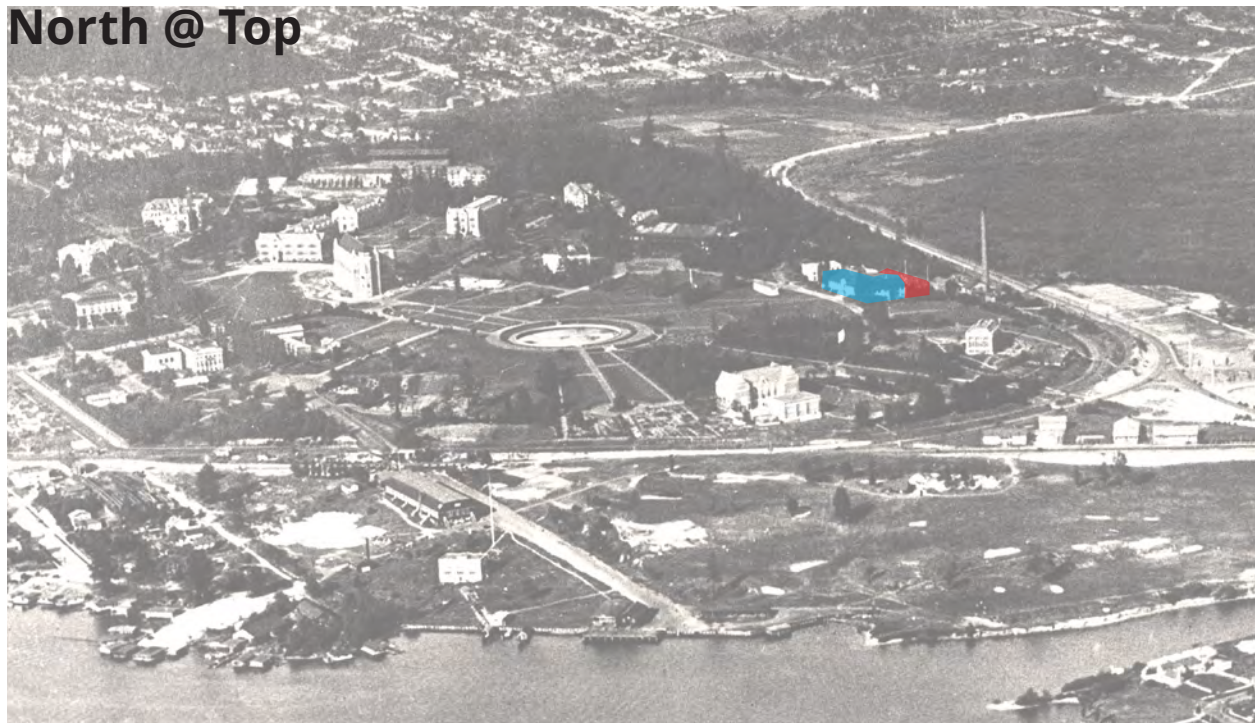


**Figure 13.** 1915 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. The purple section shows a connecting wing proposed as part of this plan. Source: University of Washington.



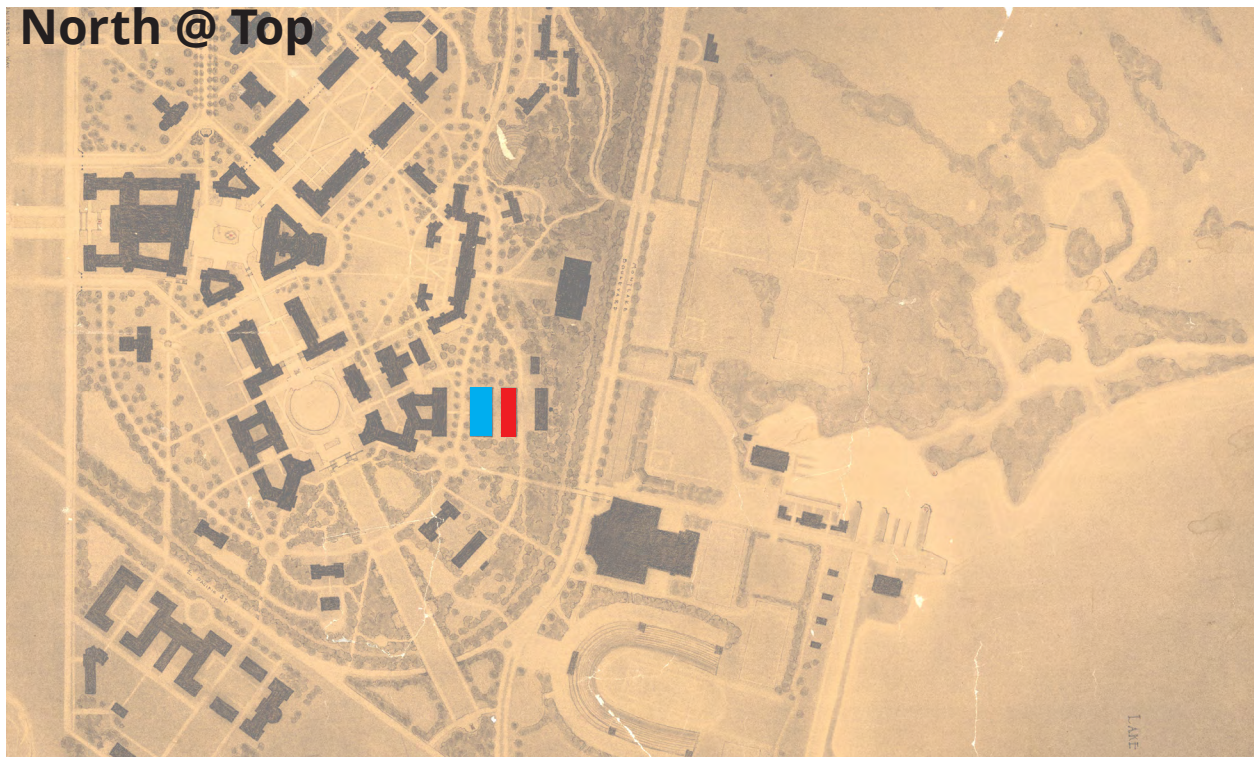


**Figure 14.** 1920 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington.

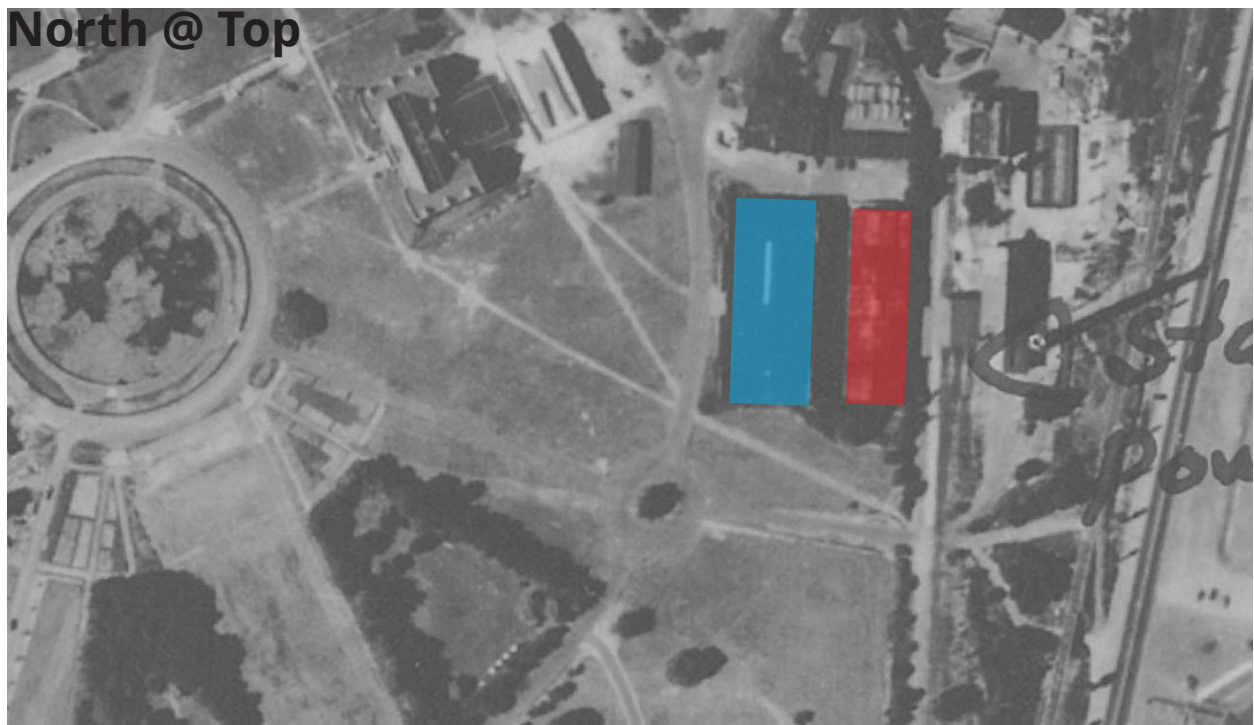


**Figure 15.** 1926 aerial of the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington.



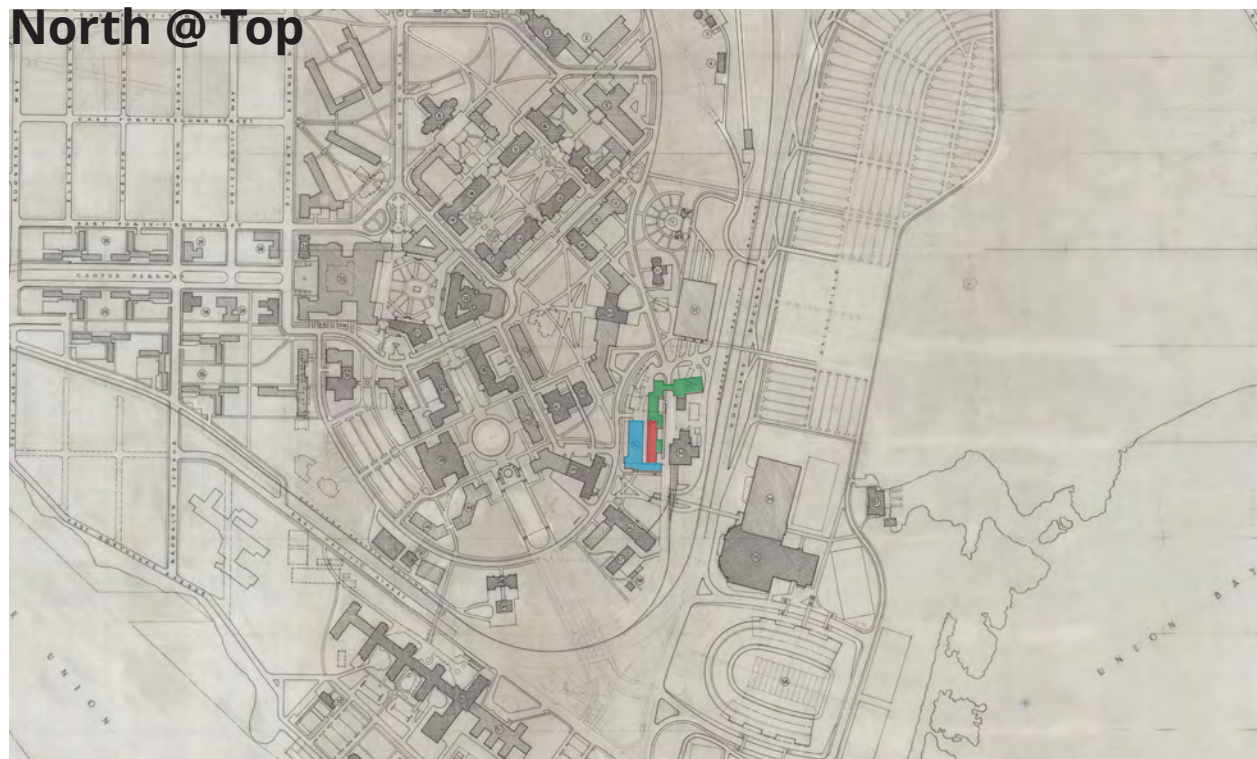


**Figure 16.** 1934 master plan for the campus, the Engineering Annex in red and the former Machinery Building in blue. Source: University of Washington.

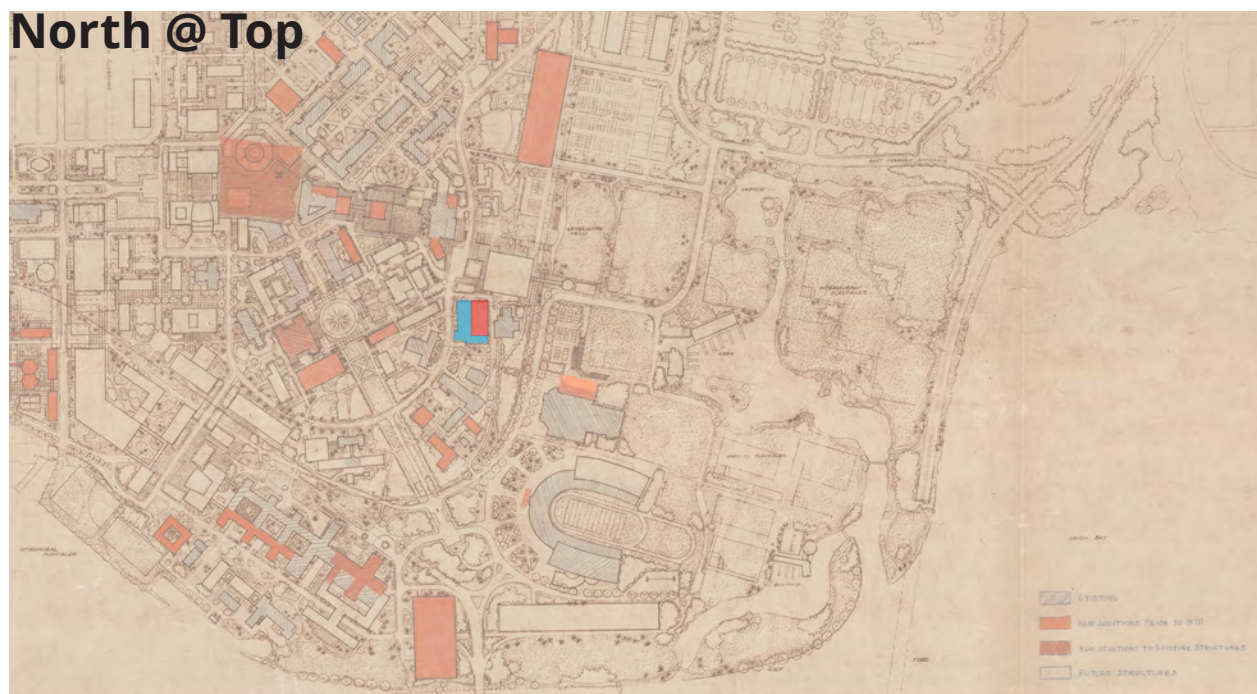


**Figure 17.** 1936 aerial, the Engineering Annex in red and the former Machinery Building in blue. Source: King County Map Assessor, IMAP.





**Figure 18.** 1949 master plan for the campus, the Engineering Annex in red and the planned future site of the Mechanical Engineering Building in blue, and proposed additions to the Engineering Annex in green. Source: University of Washington.

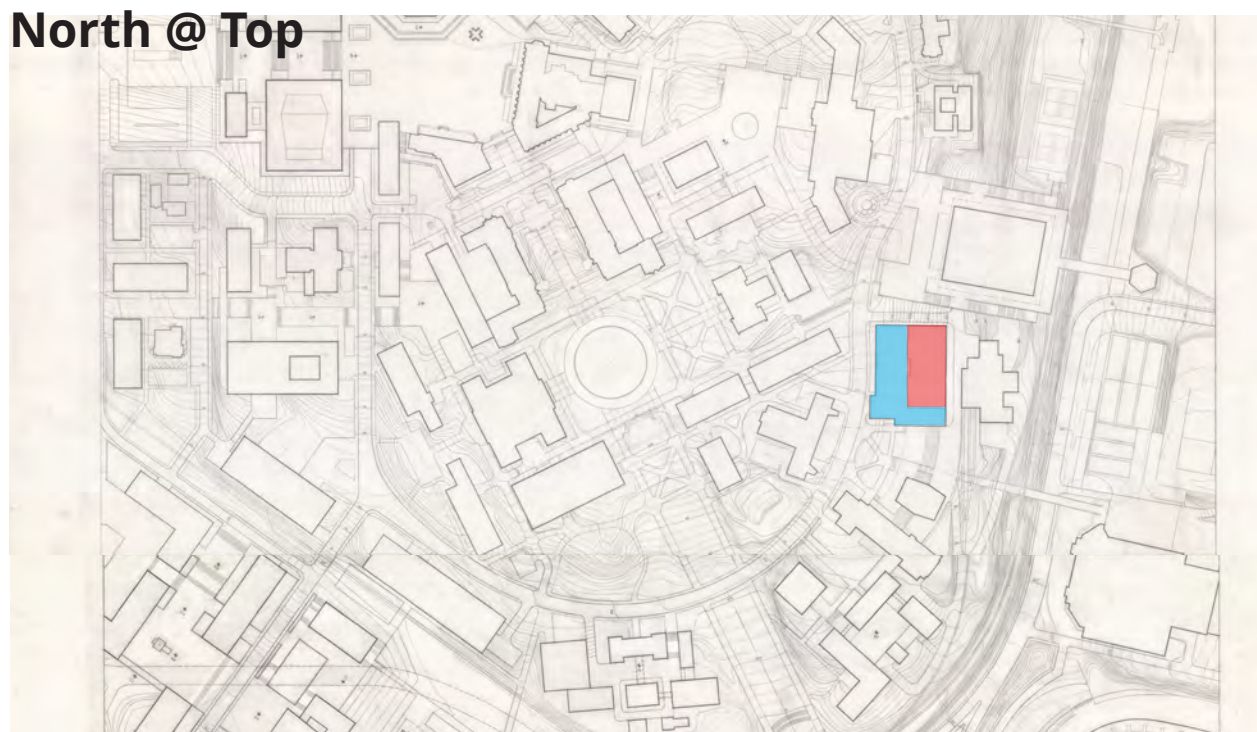


**Figure 19.** 1960 master plan for the campus, the Engineering Annex in red and the Mechanical Engineering Building (MEB) in blue. In this plan the service court space between the buildings would be built out as an addition. Source: University of Washington.





**Figure 20.** 1962 landscape master plan for the campus, the Engineering Annex in red and the Mechanical Engineering Building (MEB) in blue. In this plan the service court space between the buildings would be built out as an addition. Source: University of Washington.



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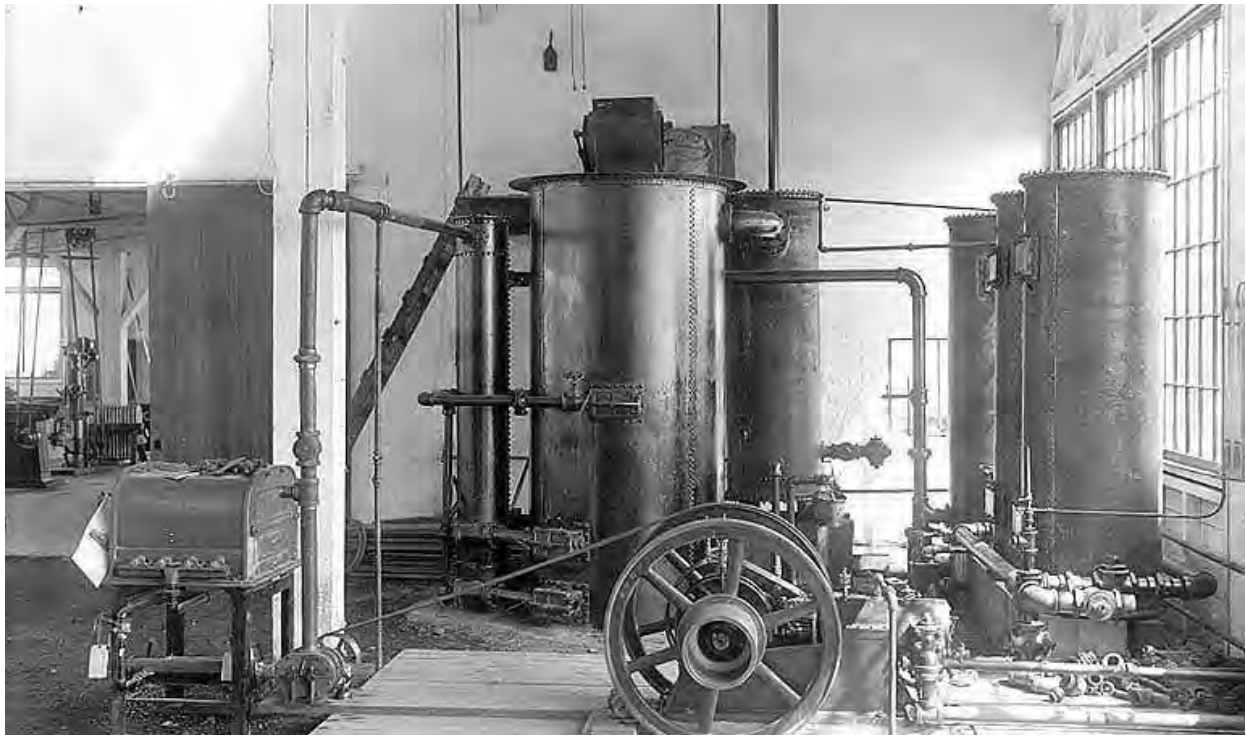




**Figure 22.** 1909 view looking northeast towards the Foundry Building with Machinery Hall just out of frame to the left. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW17235.



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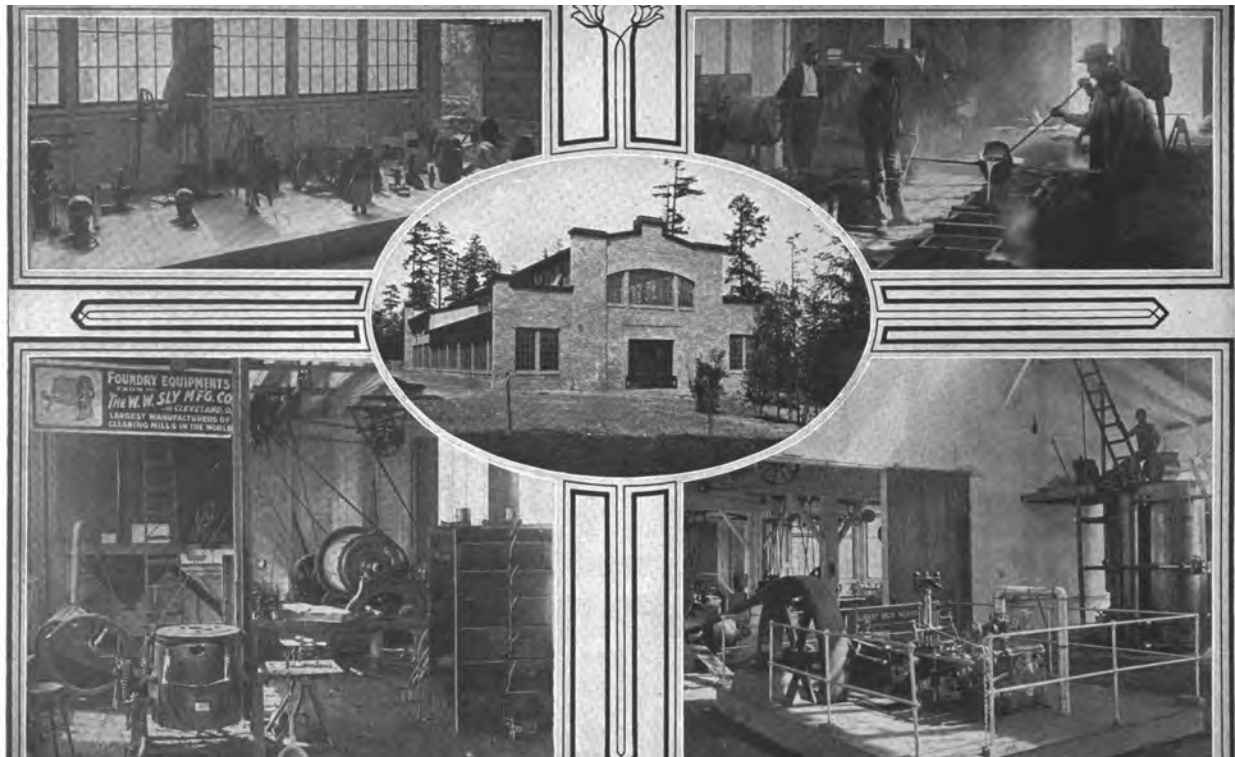




**Figure 26.** Foundry machinery exhibit, Alaska-Yukon-Pacific-Exposition, Seattle, Washington, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28509z.



**Figure 27.** Foundry tools on display, Foundry, Alaska-Yukon-Pacific-Exposition, Seattle, Washington, 1909. Photographed by Frank H. Nowell. University of Washington Libraries, Special Collections, Negative Number UW28511z.



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**Figure 29.** 1909 views of the Foundry interior. Source: "The Foundry" Volume 35, Number 1, British Foundrymen's Convention: Report of the proceedings at the sixth annual meeting of the British Foundrymen's Association held at Birmingham.



**Figure 30.** Aerial of eastern portion of campus taken from the south, University of Washington, ca. 1948. Photographed by James O. Sneddon. University of Washington Libraries, Special Collections, Negative Number UW2363.





West Facade

East Facade

North Facade



PHOTOGRAPHS



Figure 32. Northwest corner.



Figure 33. West facade looking south along the service court space. The Mechanical Engineering Building (MEB) is visible at right and across the south end of the service court space.





Figure 34. West facade looking north.



Figure 35. Looking southeast from the second floor of the MEB.





Figure 36. Looking northeast from the roof of the MEB.



Figure 37. Looking northeast from the second floor of the MEB.





Figure 38. North addition roof detail.



Figure 39. South end wall connection with MEB detail.





**Figure 40.** North facade.



**Figure 41.** North passageway between the Engineering Annex (left), MEB (left, background), and Loew Hall (right), looking west.





**Figure 42.** Northeast corner of the north facade.



**Figure 43.** Northeast corner.





**Figure 44.** Looking south along Jefferson Road NE, with the Power Plant at left.



**Figure 45.** East facade, looking northwest.



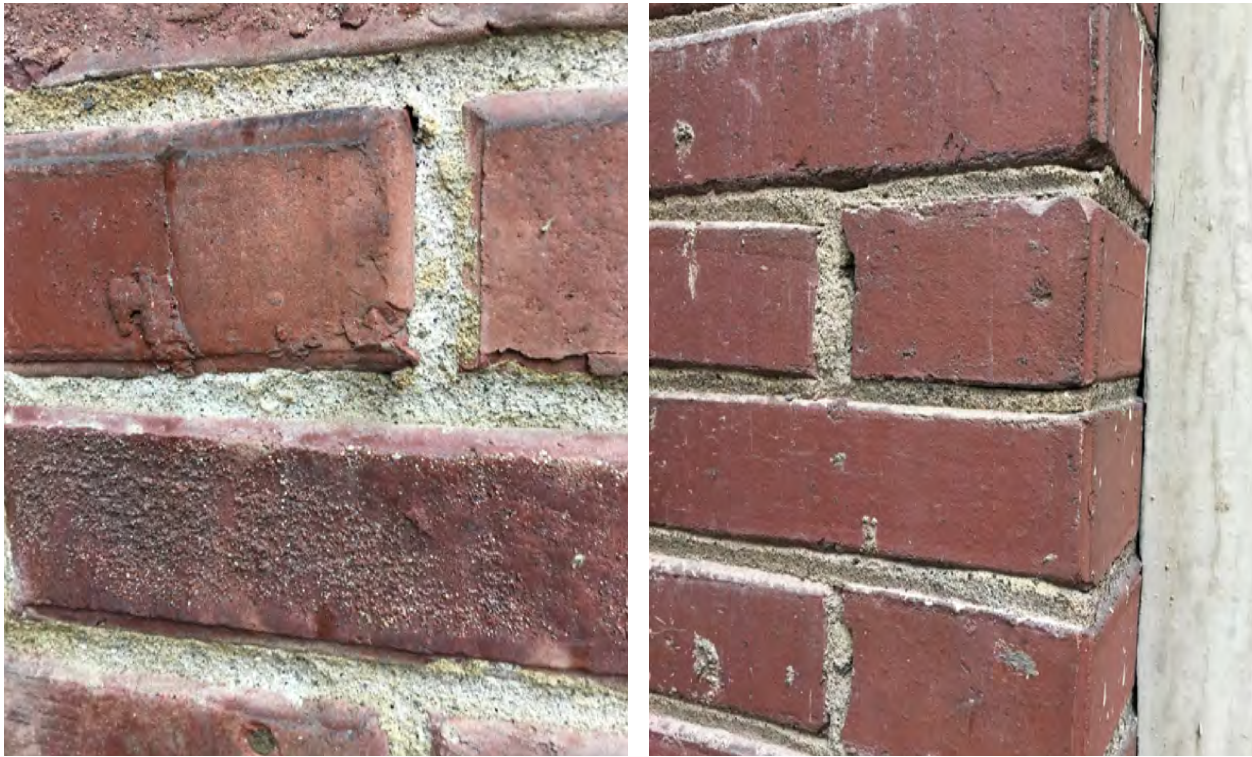


**Figure 46.** West facade, south end, details of 1958 brick rebuild and window removal as part of the MEB end wall connection.

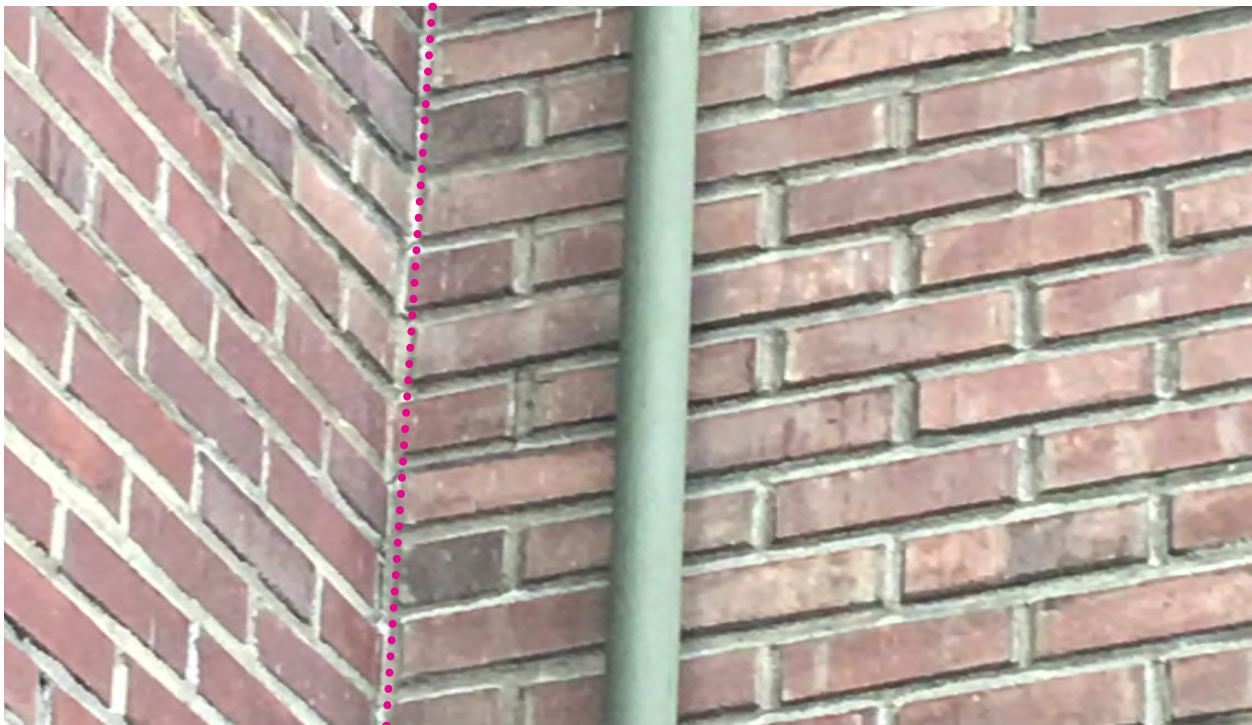


**Figure 47.** 1909 window sill and sub sill detail with cement wash (above left) and 1920 window sill and sub sill detail (above right).





**Figure 48.** 1909 brick with light sand texture on surface (above left) and 1920 brick with smoother face and more uniform color (above right).

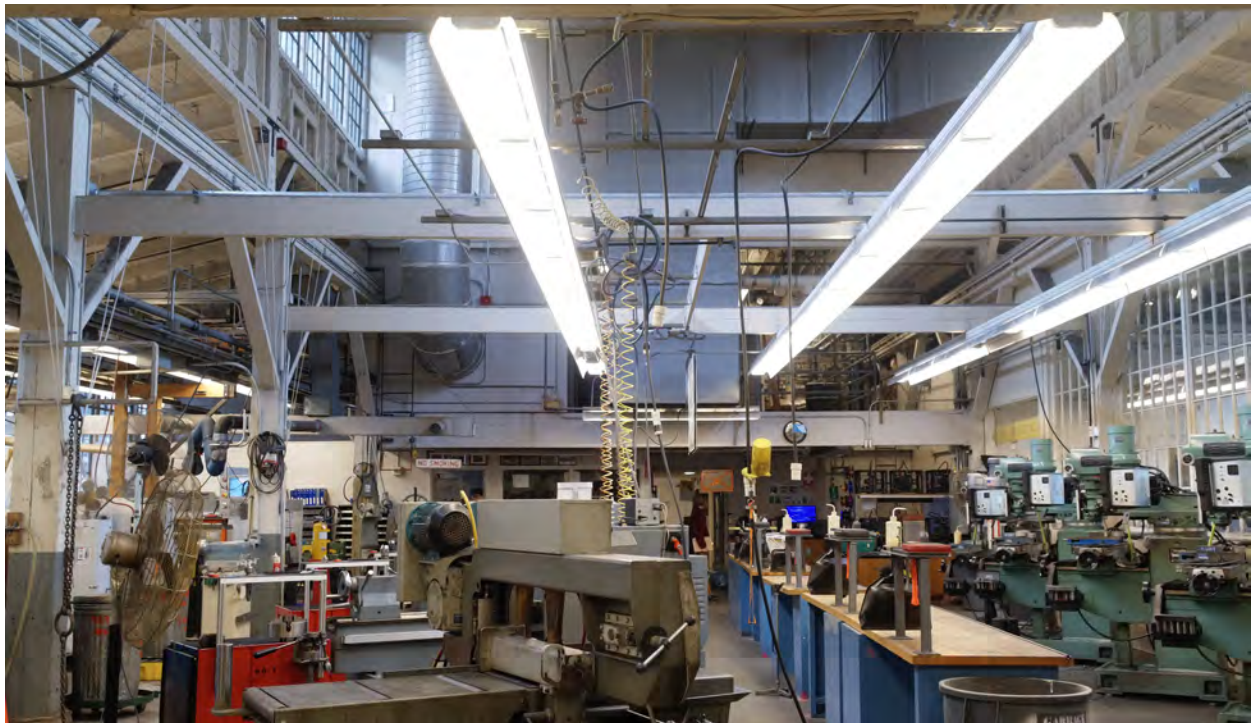


**Figure 49.** 1920 brick (left of dotted line) and north addition brick (right of dotted line). Note the difference in color between the two brick.





**Figure 50.** Main volume looking north from the mezzanine. The solid wall in the background is the original location of the wall separating the second floor from this area.



**Figure 51.** Main volume looking north from the first floor.



Figure 52. Main volume, looking northeast along the east facade.



Figure 53. Main volume crane details from the mezzanine level.





Figure 54. Main volume, looking west towards the garage door entrance.



Figure 55. Main volume, looking south, the mezzanine level is visible along the top of the photograph.



Figure 56. 1920 addition, south end, first floor.



Figure 57. 1920 addition, south end, first floor, looking west.



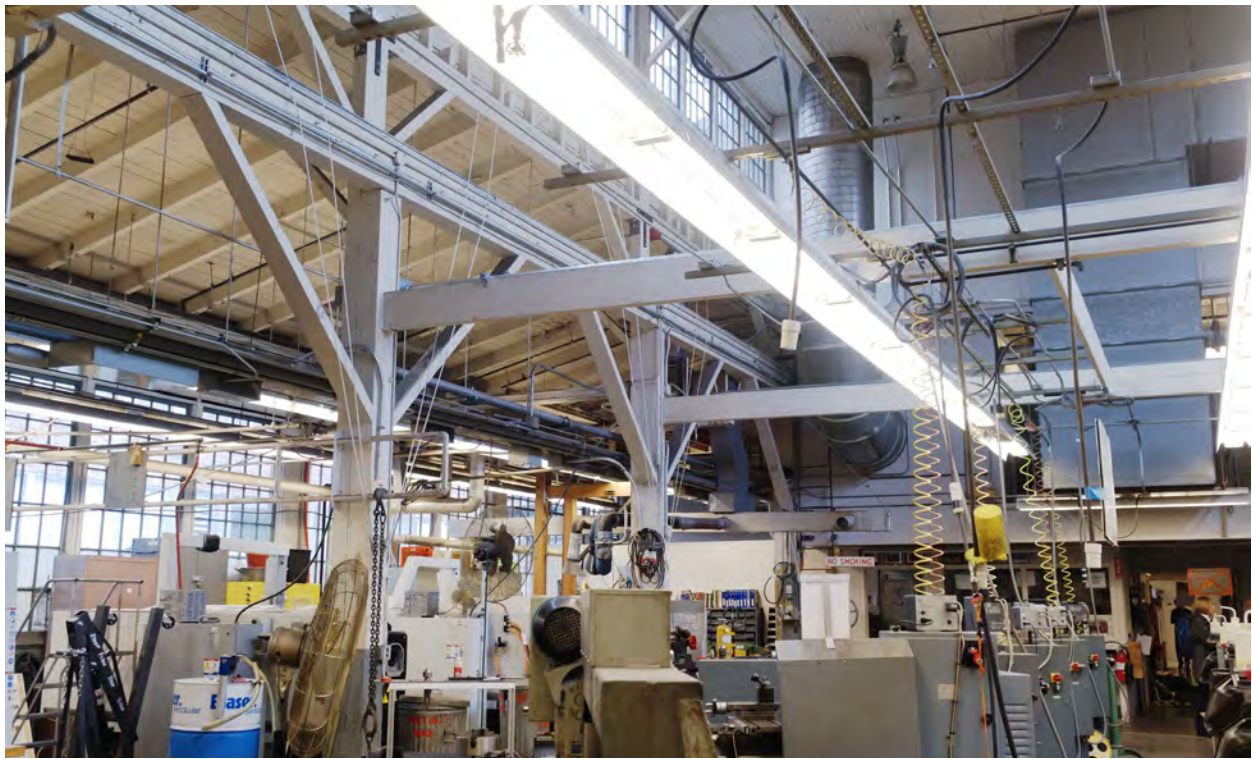


Figure 58. Main volume looking northwest.

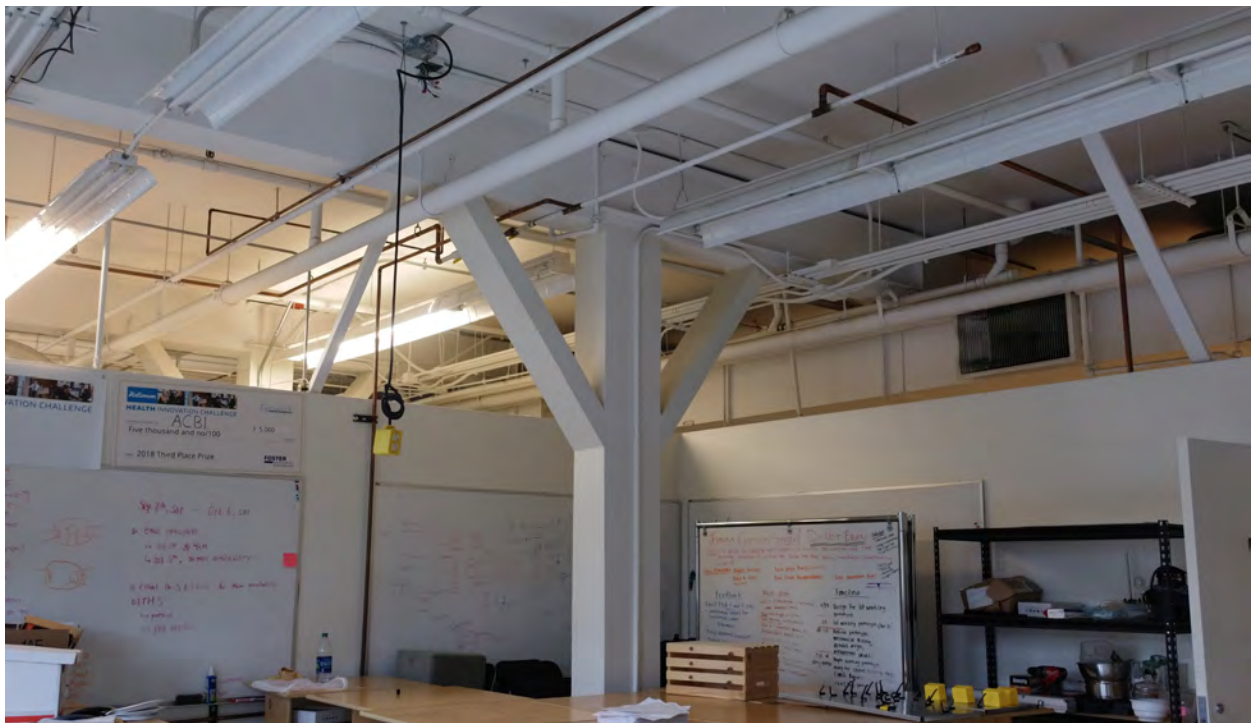


Figure 59. First floor, north end. Note the added gypsum board cladding at the timber elements.

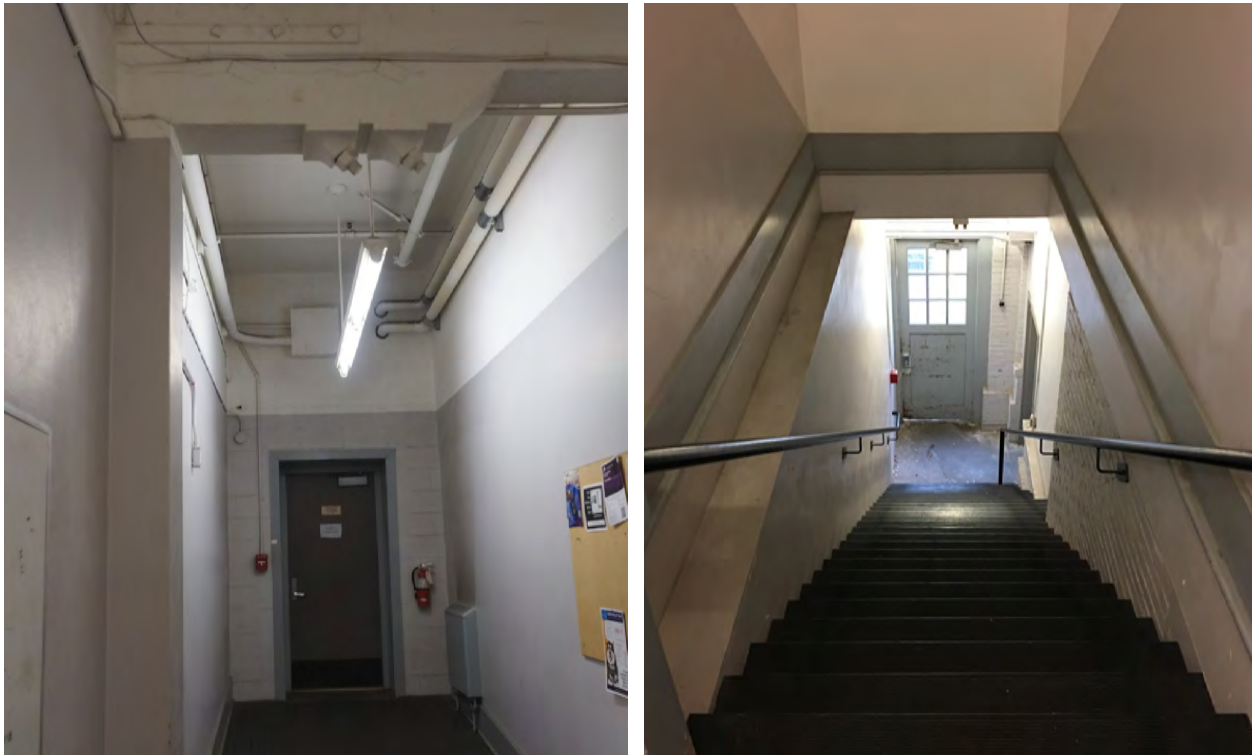




Figure 60. 1909 doors at the north end wall.



Figure 61. Main volume relites.



**Figure 62.** 1920 addition, south end, second story, corridor looking south towards MEB (above left), and stairwell down to west doorway (above right).



**Figure 63.** 1920 addition, south end, second story office space looking southwest.





Figure 64. Second story, north end, main entrance, looking north.



Figure 65. Second story, north end, typical corridor detail (above left), and typical stairway to third floor (above right).



Figure 66. Second floor, north end, typical office.



Figure 67. Third floor, north end, typical corridor configuration.

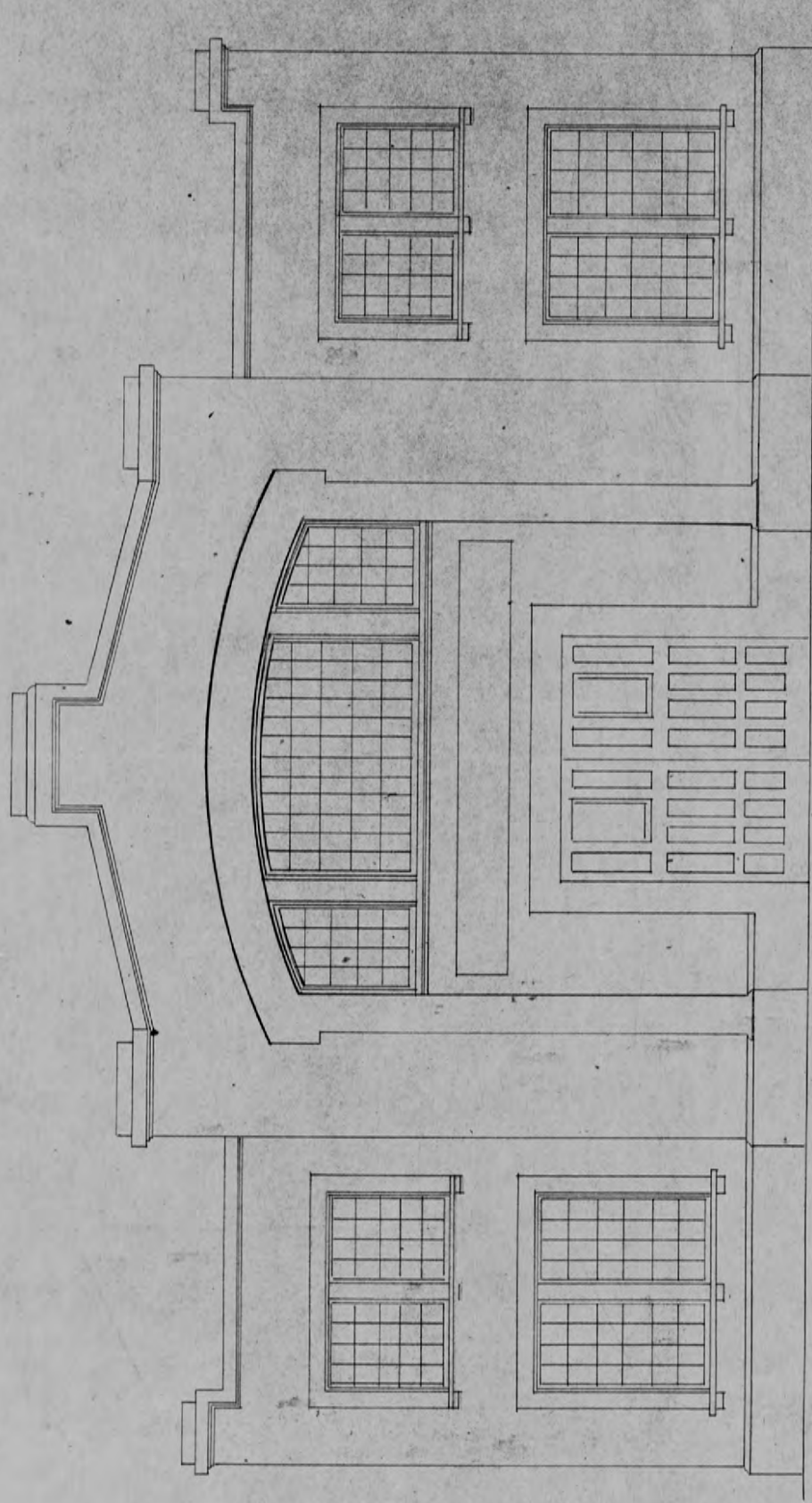




**Figure 68.** Third floor, north end, typical corridor configuration.







NORTH ELEVATION  
Scale  
1/4" = 10"

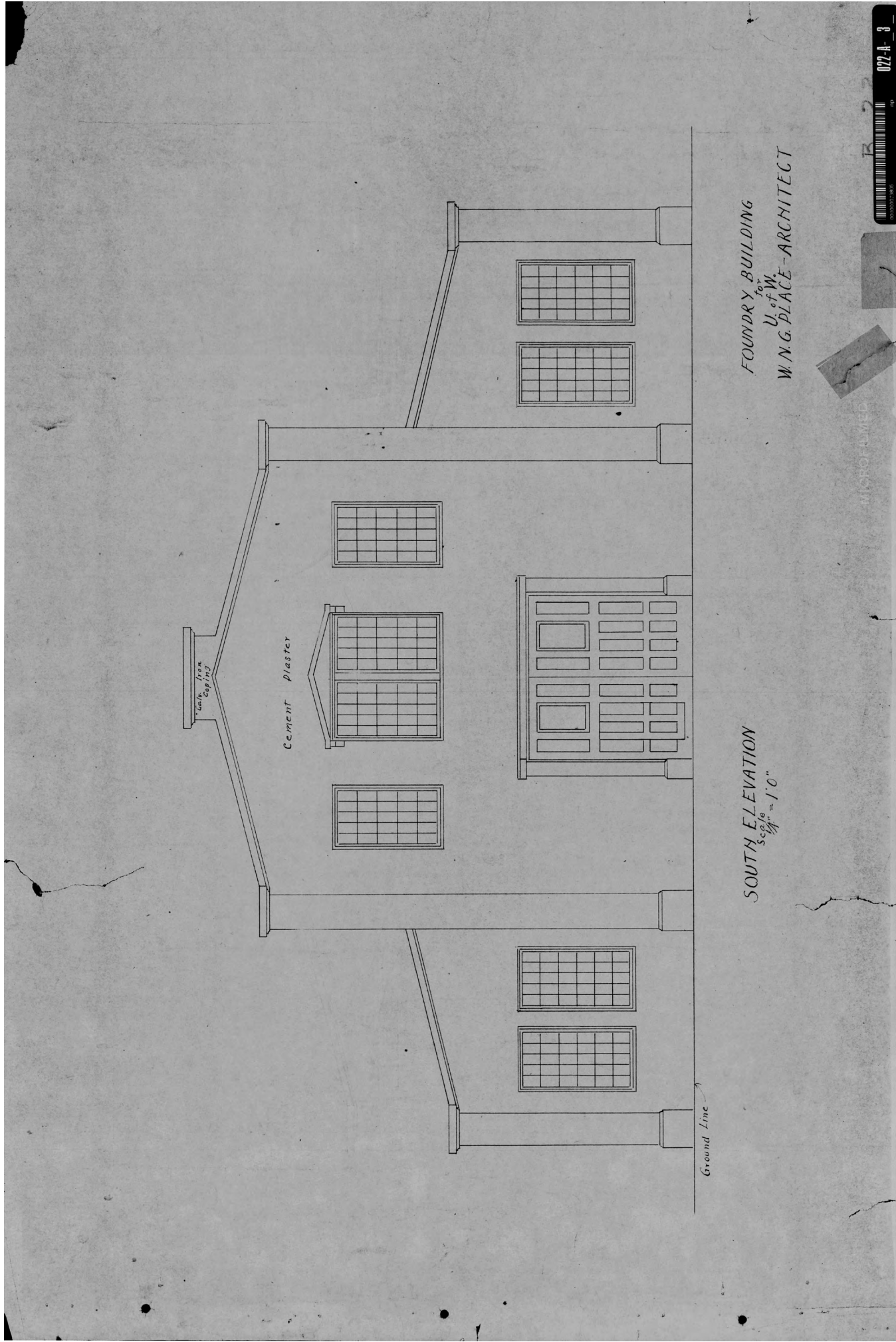
FOUNDRY BUILDING  
for  
U. of W.  
W. A. G. PLACE ARCHITECT

MICROFILMED



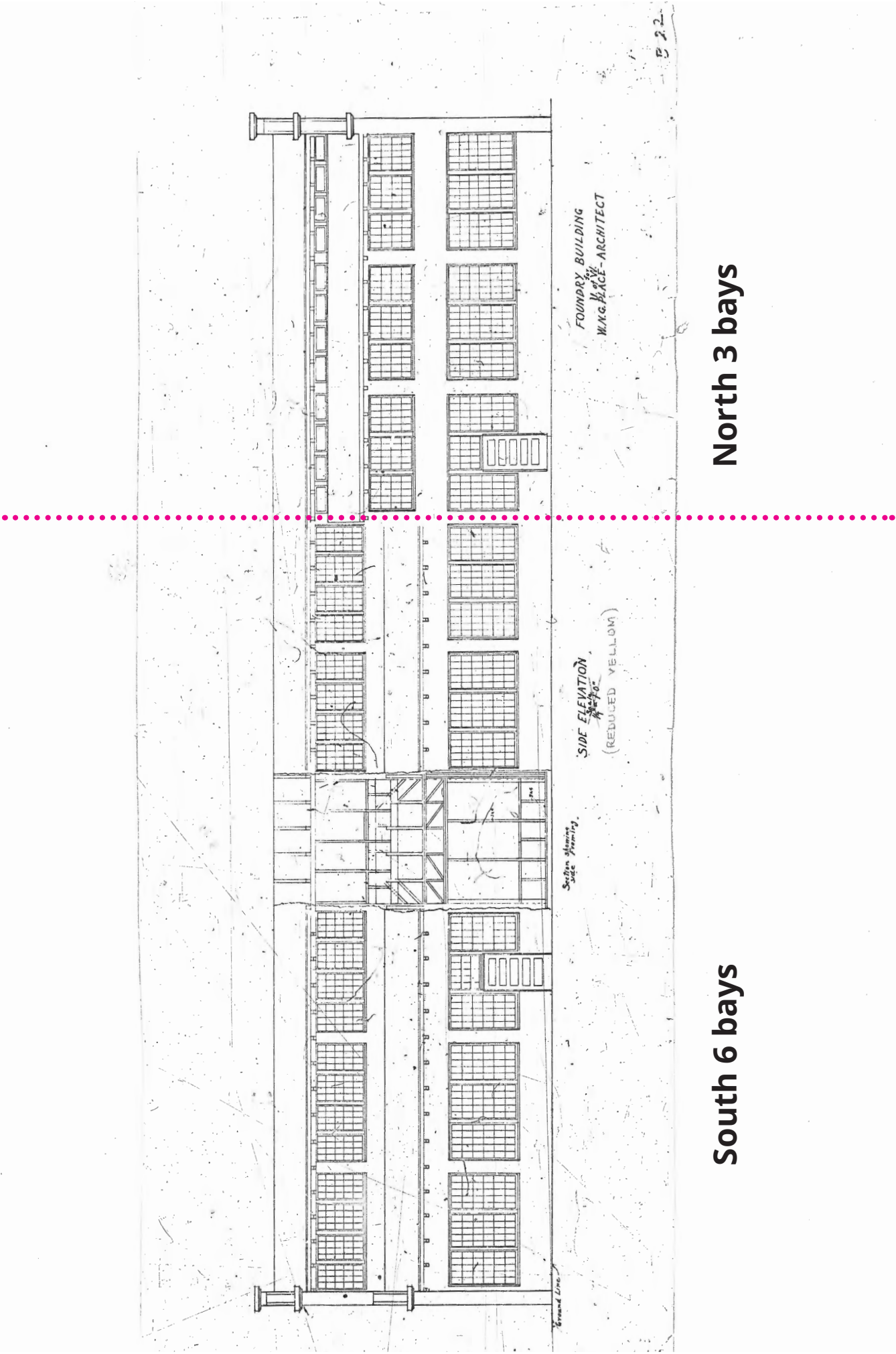
027-A-2





MICROFILMED

022-A-3

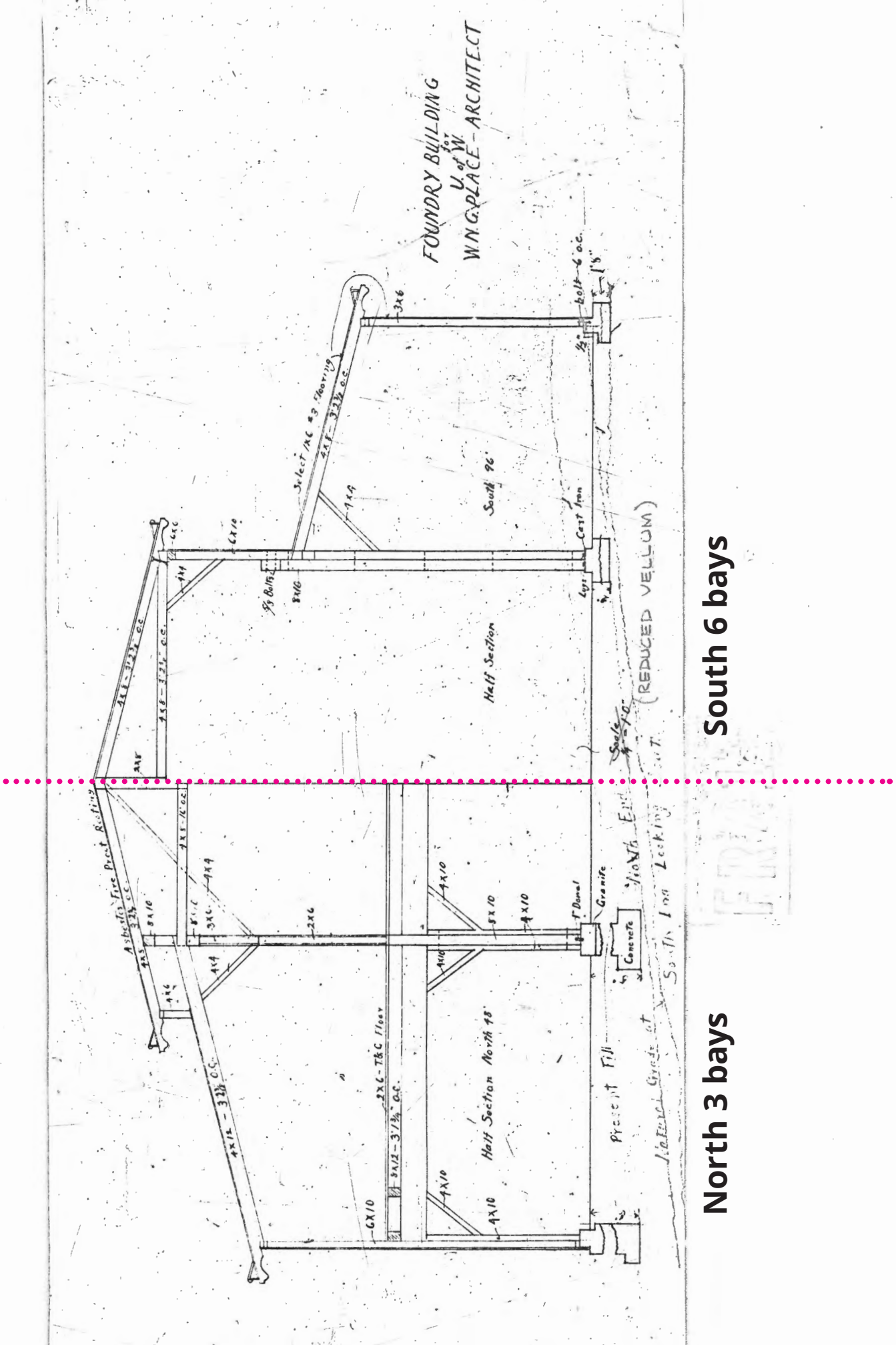


South 6 bays

North 3 bays



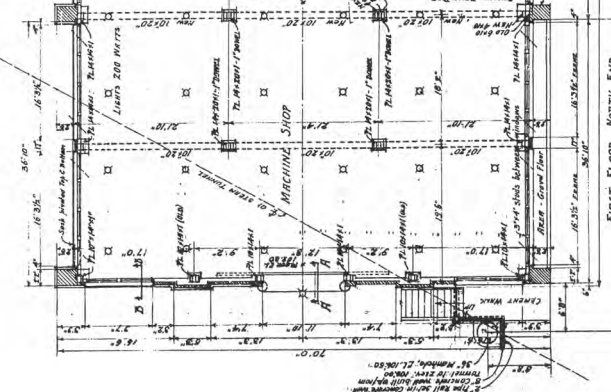
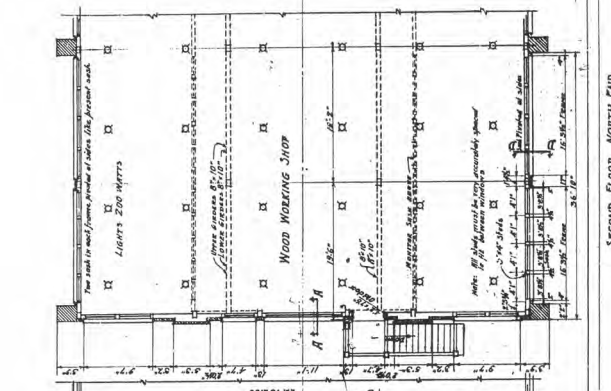
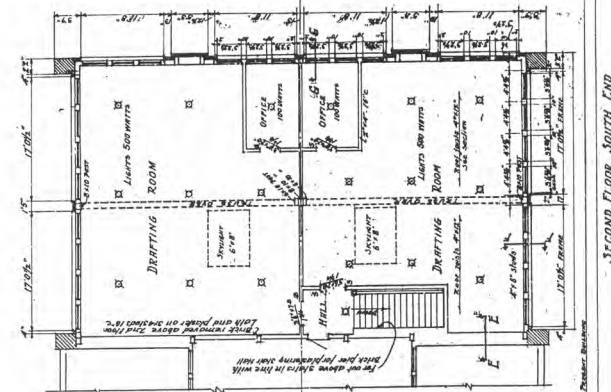
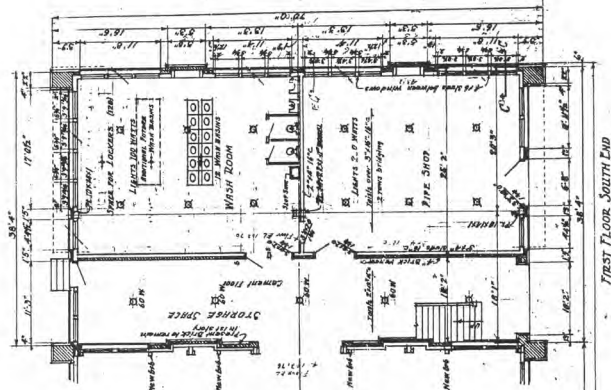
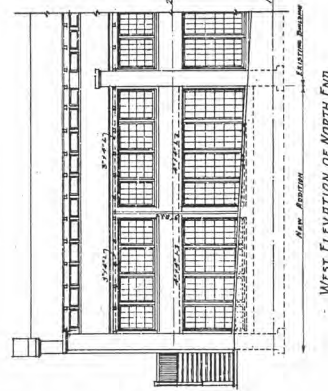
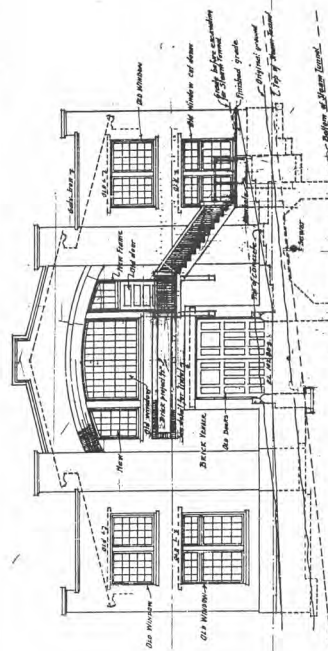
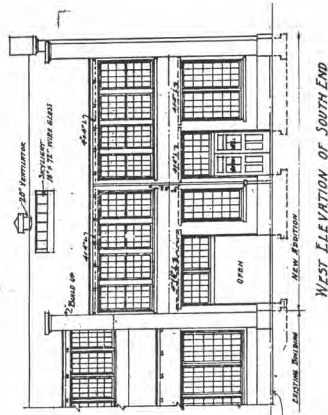




North 3 bays

South 6 bays





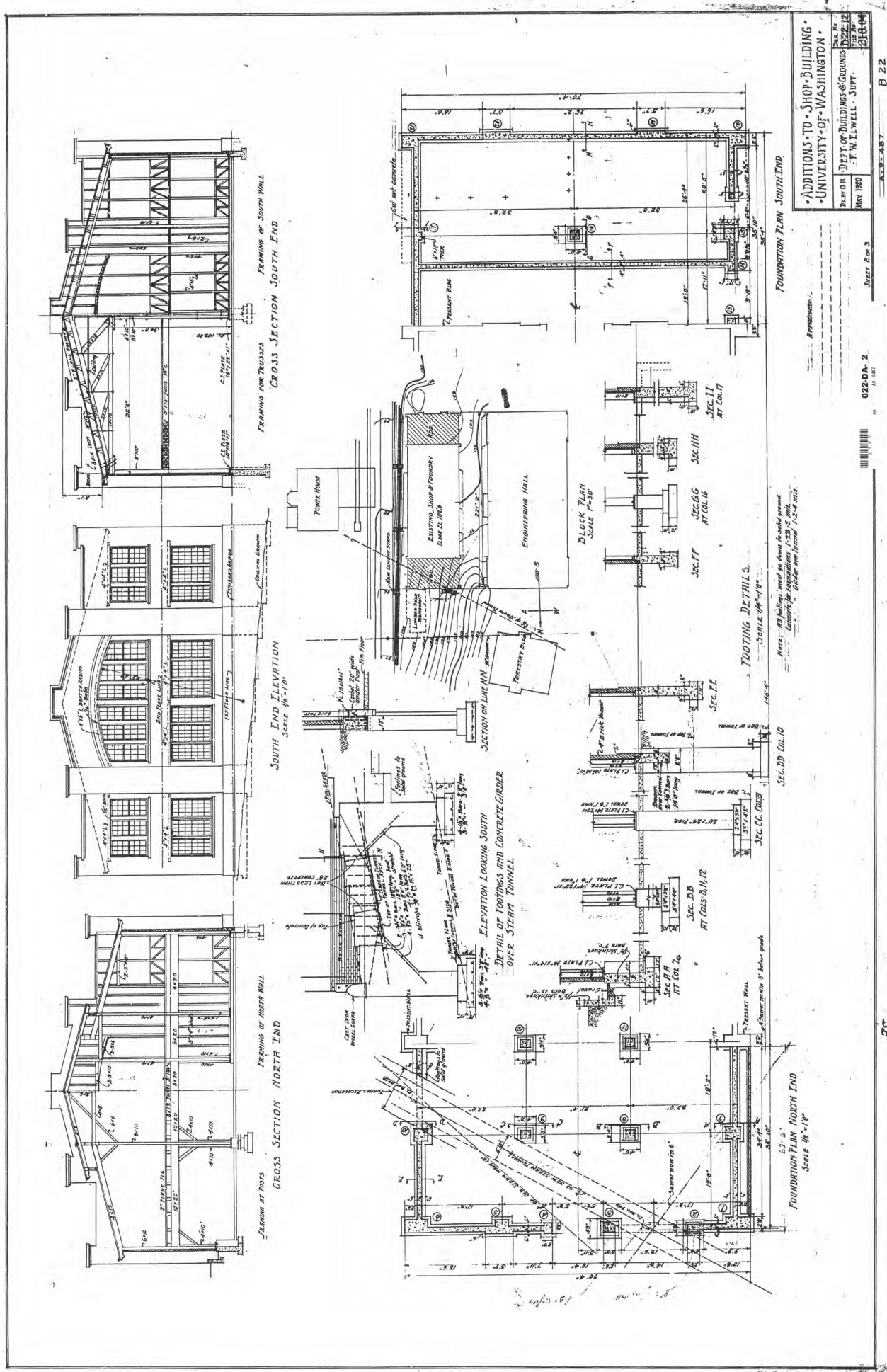
APPROVED: \_\_\_\_\_

- ADDITIONS TO SHOP-BUILDING -  
- UNIVERSITY OF WASHINGTON -

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MAY 1920  
SHEET 1 OF 3  
210.03

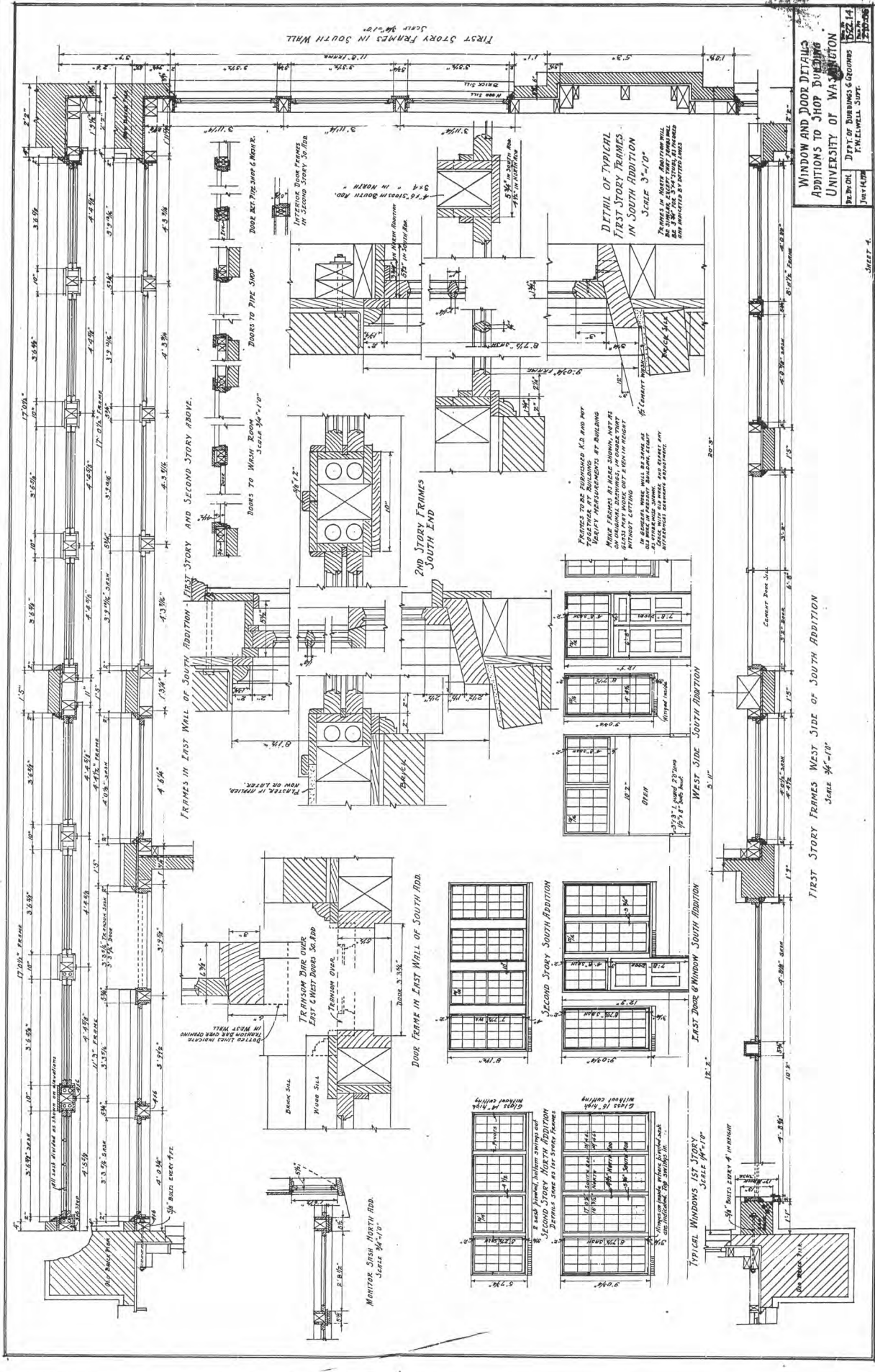
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PL. 100





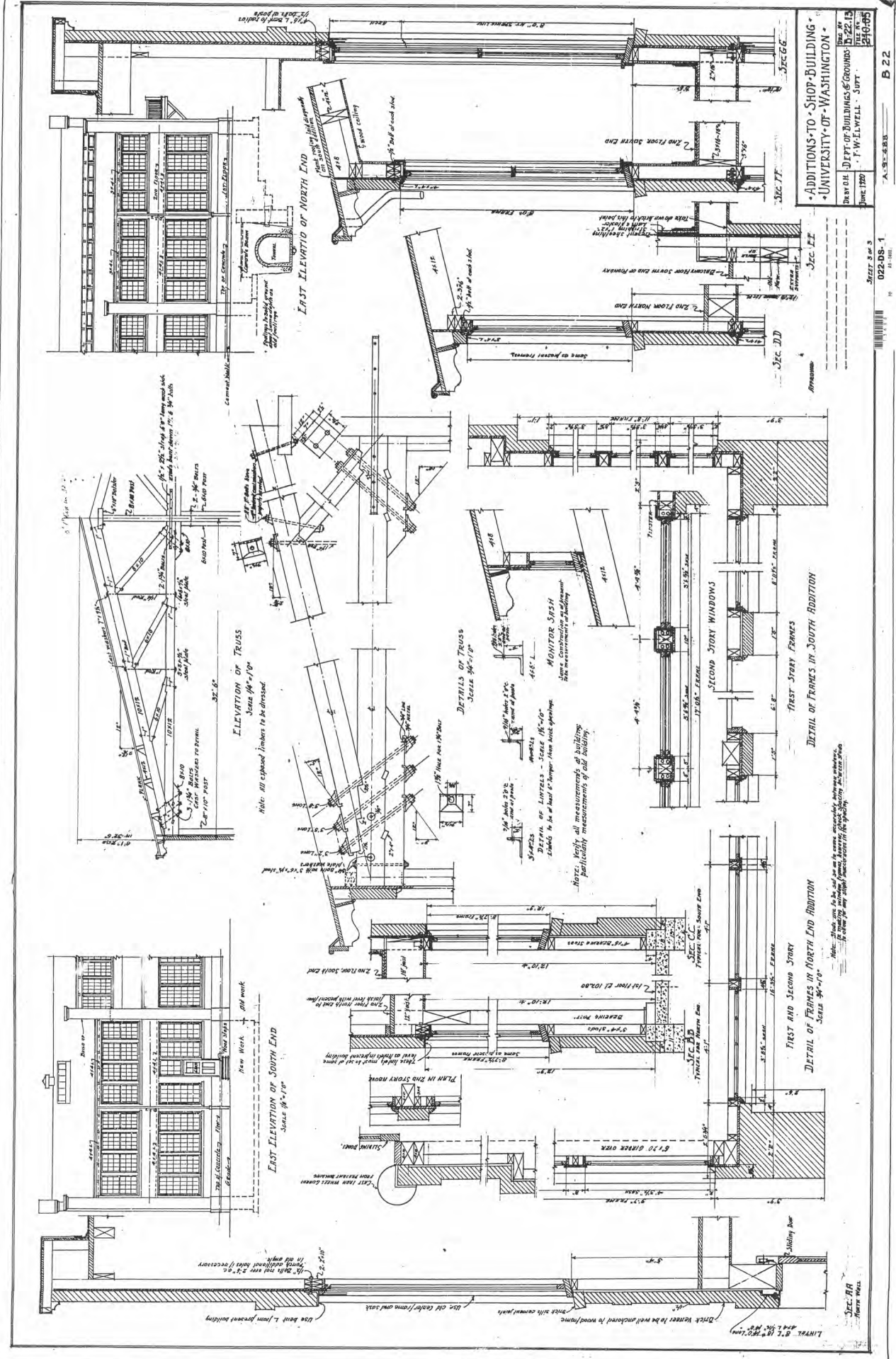
• ADDITIONS TO • SHOP • BUILDING •  
 • UNIVERSITY OF WASHINGTON •  
 DRAWN BY: DEPT. OF BUILDINGS & GROUNDS  
 DATE: MAY 1920  
 T. W. L. WELLS - SUPT.  
 SHEET E.P. 3  
 022-DA-2  
 B 22





WINDOW AND DOOR DETAILS  
ADDITIONS TO SHOP BUILDING  
UNIVERSITY OF WASHINGTON  
PREPARED BY DIETZ & BURNHAM & GERRING  
F.A. LAWELL SURV.  
JULY 14, 1920  
0820DA-3  
SHEET 4  
A-9-488 B 22





• ADDITIONS TO SHOP-BUILDING •  
 • UNIVERSITY OF WASHINGTON •

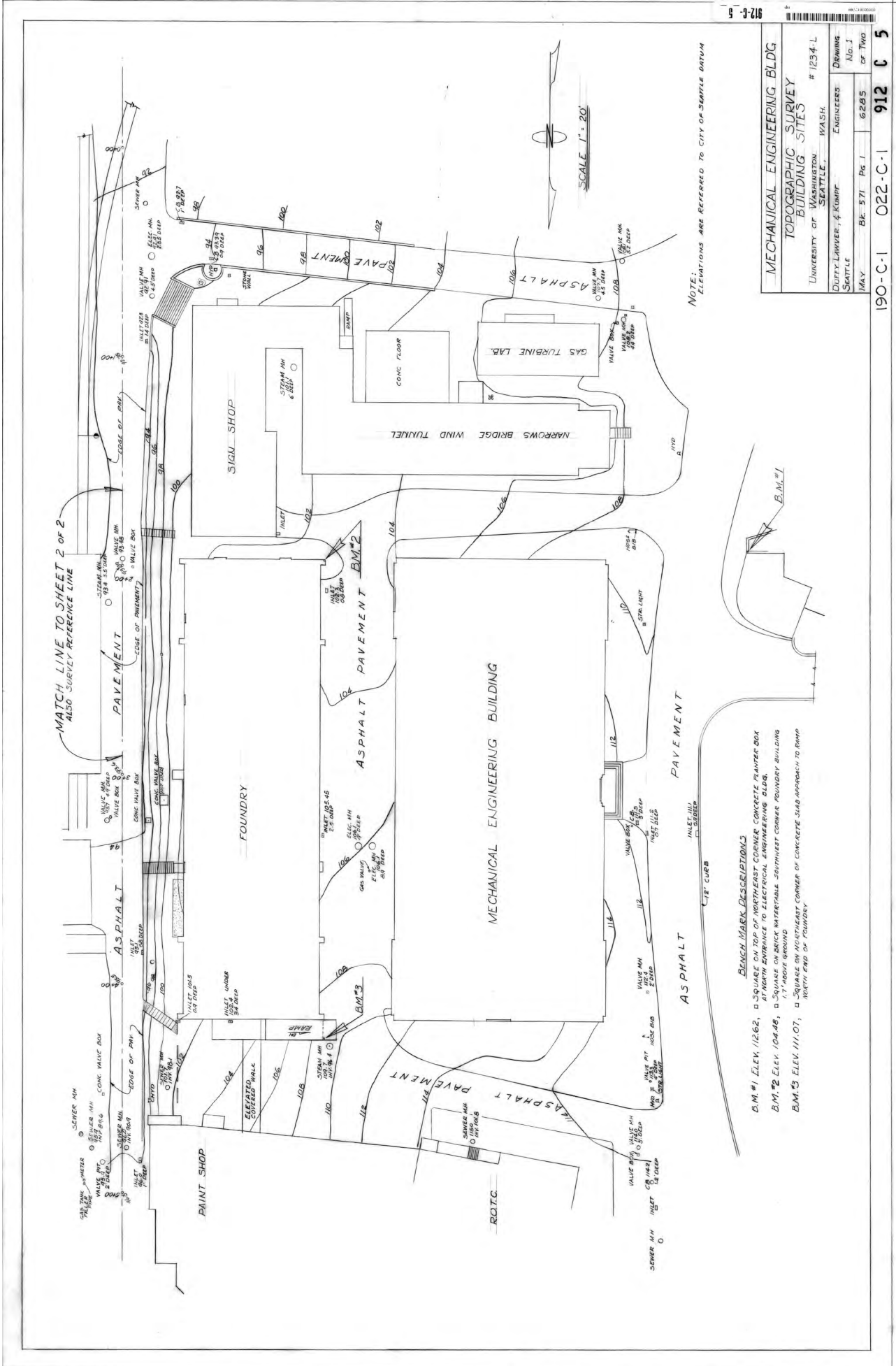
DRY BRIDGE DEPT. OF BUILDINGS & GROUNDWORKS  
 J. W. ELWELL - SUPT.  
 JUNE 1920

DES. NO. 122.13  
 P.L. NO. 3460.05

STREET 3 of 3  
 022-DB-1  
 B 22  
 A-92-888







NOTE: ELEVATIONS ARE REFERRED TO CITY OF SEATTLE DATUM

SCALE 1" = 20'

MECHANICAL ENGINEERING BLDG	
TOPOGRAPHIC SURVEY	
BUILDING SITES	
UNIVERSITY OF WASHINGTON	# 1234-L
SEATTLE, WASH.	ENGINEERS
DURRY LAWYER & KUMPF	DRAWING
MAY BE 571	Pg. 1
6285	of Two
190-C-1	022-C-1
912	C 5

#6285

Date: August 1957

**BENCH MARK DESCRIPTIONS**

B.M.#1 ELEV. 112.62, □ SQUARE ON TOP OF NORTH-EAST CORNER CONCRETE PLANTER BOX AT NORTH ENTRANCE TO ELECTRICAL ENGINEERING BLDG.

B.M.#2 ELEV. 108.48, □ SQUARE ON BRICK INTERIABLE SOUTH-EAST CORNER FOUNDRY BUILDING 1.7' ABOVE GROUND

B.M.#3 ELEV. 111.07, □ SQUARE ON NORTH-EAST CORNER OF CONCRETE SLAB APPROACH TO RAMP NORTH END OF FOUNDRY.



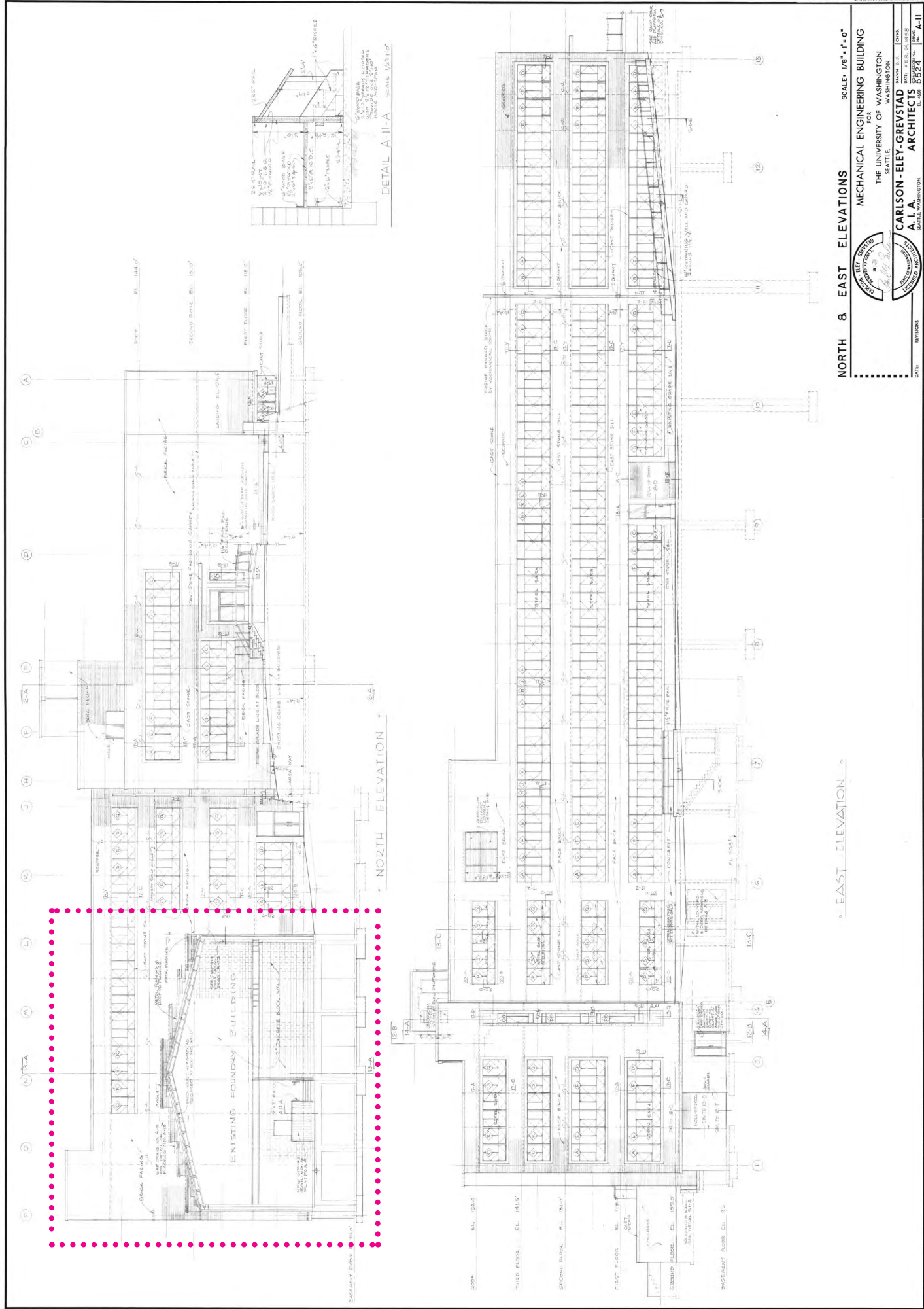
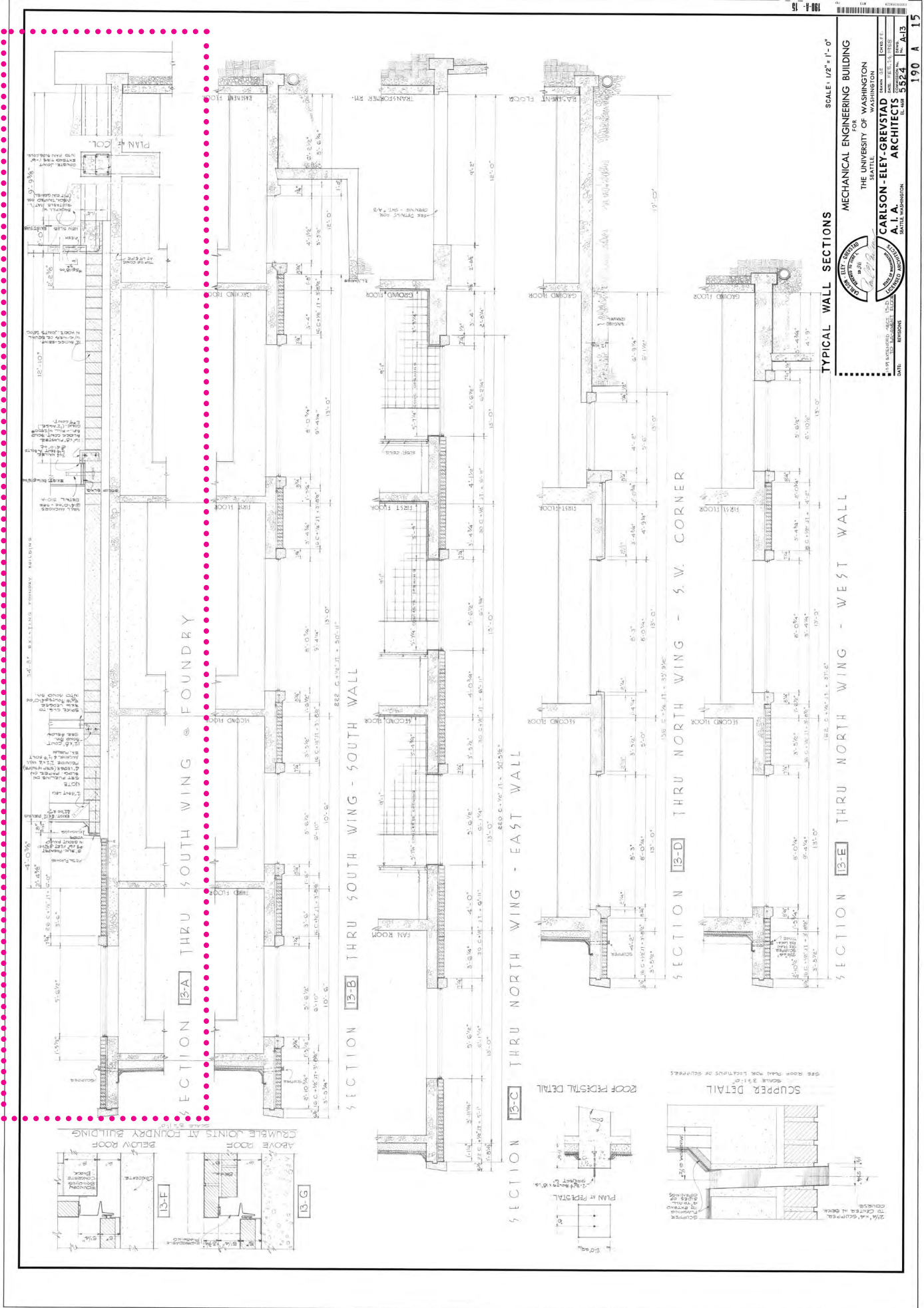


Figure 81. 1958 Mechanical Engineering Building plan showing the new south end wall.



SCALE: 1/2" = 1'-0"

**TYPICAL WALL SECTIONS**

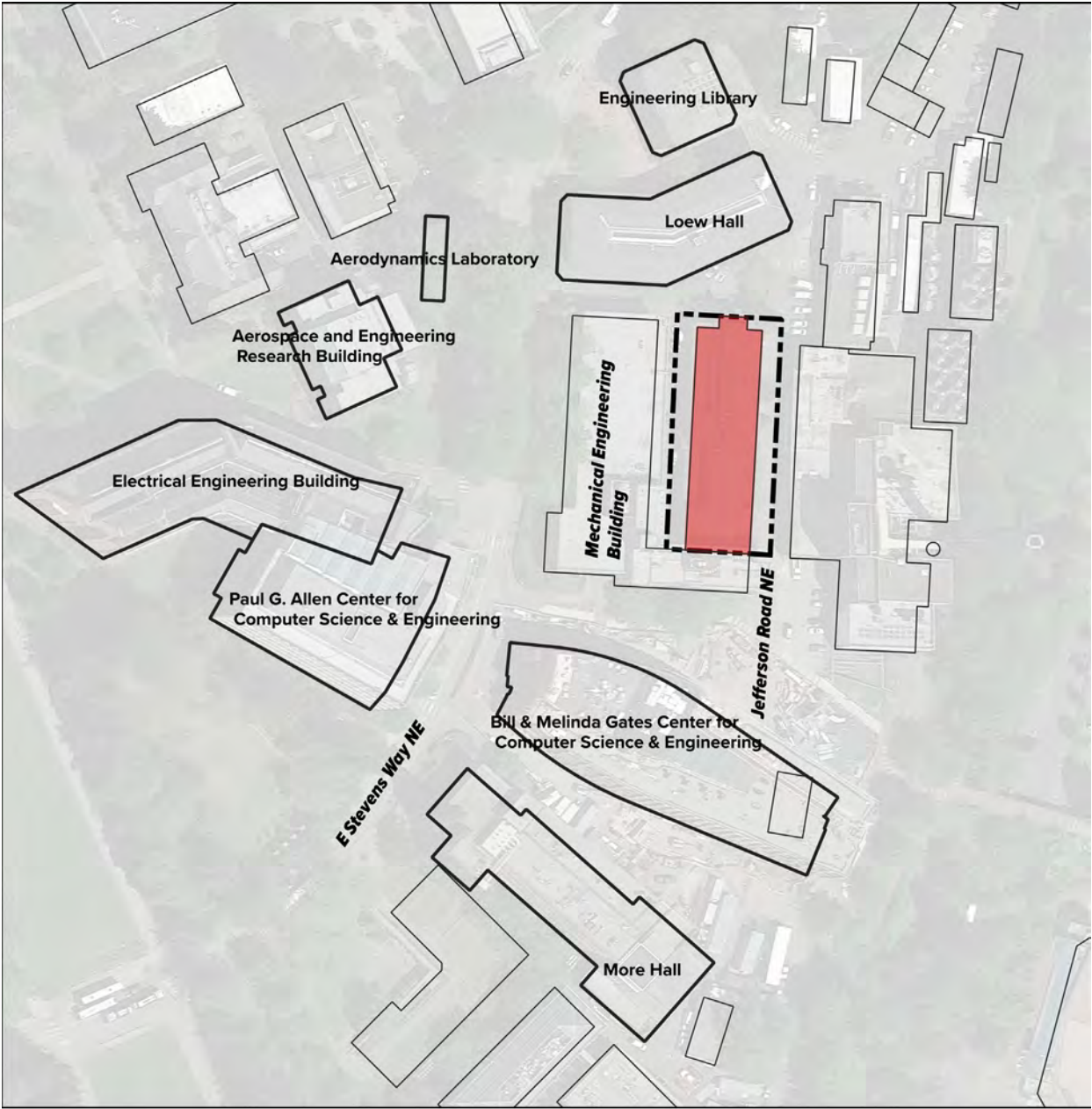
MECHANICAL ENGINEERING BUILDING  
FOR  
THE UNIVERSITY OF WASHINGTON  
SEATTLE

**CARLSON - ELEY-GREVSTAD**  
ARCHITECTS  
A.I.A.  
SEATTLE, WASHINGTON

DATE: 1958  
BY: [Signature]

190 A 15





Area Map

- Engineering Annex
- Nominated property
- Engineering Annex Boundary
- Nominated property (20-foot offset from building)
- Existing University of Washington Buildings



Figure 82. Area map showing adjacent buildings.





University of Washington Libraries, Special Collections Division

**Figure 83.** 1909 view of Machinery Hall. University of Washington Libraries, Special Collections, Order Number AYP792.