

# **PRE-BID Q&A**

North Eugene High School – Bid Set B – Structural Steel & Unit Masonry  
Eugene School District 4J

December 31, 2020  
Lewis Project No PC20051  
Page 1 of 3

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Responses – January 12, 2021

## **NORTH EUGENE HIGH SCHOOL** **Bid Set B – Structural Steel & Unit Masonry –** **ADDENDUM #01 - BID QUESTION/ ANSWER**

### **Overall Updates:**

- 100% CD Specifications and Structural Plans have been updated and posted in BuildingConnected, 95% CD Architectural sets remain for reference
- **Bid Due Date has been extended to: 1/21/21 at 2pm**
- NEHS Bid Set B - Bid Opening via Zoom:  
Time: Jan 21, 2021 02:15 PM Pacific Time (US and Canada)  
<https://zoom.us/j/97235175945?pwd=c0xGdHIYYTBhNktrL0h0NTBtL2hPZz09>  
Meeting ID: 972 3517 5945  
Passcode: 966033  
One tap mobile
  - +12532158782,,97235175945# US (Tacoma)
  - +13462487799,,97235175945# US (Houston)Dial by your location
  - +1 301 715 8592 US (Washington D.C)

### **BP# 04-01 - Structural Steel – Q&A**

1. Q: Please clarify the custom vs. design-build metal stairs – there is some confusion with the labeling of the custom stairs in the spec and plans sheets.
  - a. See attached annotated plan sets and specification. Refer back to bid form for changes of how stairs are to be priced as an alternate.
2. Q: The North Eugene High School schedule has some overlap with zone 2 and theater and zone 4 and Aux Gym. Please confirm if you are looking to have multiple cranes onsite erect structural steel in different areas or utilizing 1 crane. Please also confirm if we can get a crane 6-11/S.9-L line or if you are planning to erect the building from the perimeter of the building (inside the access road).
  - a. Sector D actually starts 18 days after Theater. There is overlap, but when sector D is started, the remaining work should be completed from boom lifts within the theater. A revised schedule showing the change has been sent out.

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### **BP# 05-01 – Unit Masonry – Q&A**

3. Q: Is the structural steel & CMU the only scope portion bidding at this time and veneer is to be bid out at a later date?
  - a. Correct, the veneer scope will be bid at a later date
4. Q: It is unclear what CMU is to be painted and can be CMU-2, please provide interior finishes schedule or advise.

# **PRE-BID Q&A**

- a. CMU-2 is used at the Utility Yard, and at all Auditorium (192) walls except for the bottom 10' of the Auditorium South, West and North walls, which are CMU-1.
  - b. We are revising the specs so that the 10' high Auditorium walls are CMU-1 for their entire length whether exposed or not, since they are mostly exposed.
  - c. The Stage walls inside the Auditorium are CMU-2
5. Q: All walls on the Main, Aux Gym, and the bottom 10ft of Theater walls where exposed to halls H117, H119, and H120 call for CMU-1, it is assumed these walls are not painted as painted walls are called out as CMU-2, please confirm.
- a. They are CMU-1 and not painted on the sides facing the hallways, but the sides facing into Auditorium 192 will be painted.
6. Q: It is interpreted from specification 04 2000 that the entirety of the Main and Aux Gym's are CMU-1 and thus all Rooms/Stairs/Halls sharing gym walls are CMU-1. As well as that only the lower 10ft of the theater walls that share a wall with Halls H117, H119, and H120 are CMU-1. It is interpreted that in these areas where the CMU will be hidden, covered or painted that they are still to be CMU-1. Any and all other CMU walls are understood to be CMU-2 including the walls of the theater above 10ft and walls of the theater below 10ft that do not share a wall with a listed hallway. Please confirm.
- a. See responses to #3 above.
7. Q: The SW corner of Stair S102 is shown to be CMU. This portion of wall is not technically a part of the Main Gym walls. Please confirm if this portion is to be CMU-1 or CMU-2.
- a. This should be CMU-1. We will add this to the spec to clarify.
8. Q: What is the f'm requirement for the CMU Masonry block? Is cement block required or is a medium density block acceptable. If concrete block is required there is concern with schedule due to the increased block weight.
- a. Medium density block is acceptable if it meets the performance requirements. The required F'm of the of the Masonry shall be 3000psi. The CMU is a performance-based specification (similar to concrete) and the combination of the masonry unit strength and density and the grout strength is up to the CMU contractor and needs to provide an F'm = 3000psi. This can be done by the Prism Test Method (test of full system to 3000psi) or the Unit Strength Method (separate tests of block: 4500psi and grout: 3000psi) prior to construction. This requirement will be updated in the specs.
9. Will Lewis have a tower crane onsite?
- a. Lewis will not have a tower crane onsite. All material handling and hoisting is the responsibility of the subcontractor.
10. Q: Structural notes indicate Concrete Masonry Units with a 3,000 PSI FM rating and the use of 4,000 PSI grout, this weight and grout is not typically used.

As previously listed in the 100% DD set, Medium Weight CMU's at 2,000 PSI FM with 2,500 PSI grout is commonly used and would encourage more subcontractors to pursue the work. Additionally, there will be a substantial amount of production loss, cost and schedule impact with the extremely heavy block.

# **PRE-BID Q&A**

North Eugene High School – Bid Set B – Structural Steel & Unit Masonry  
Eugene School District 4J  
Instructions to Bidders

December 31, 2020  
Lewis Project No PC20051  
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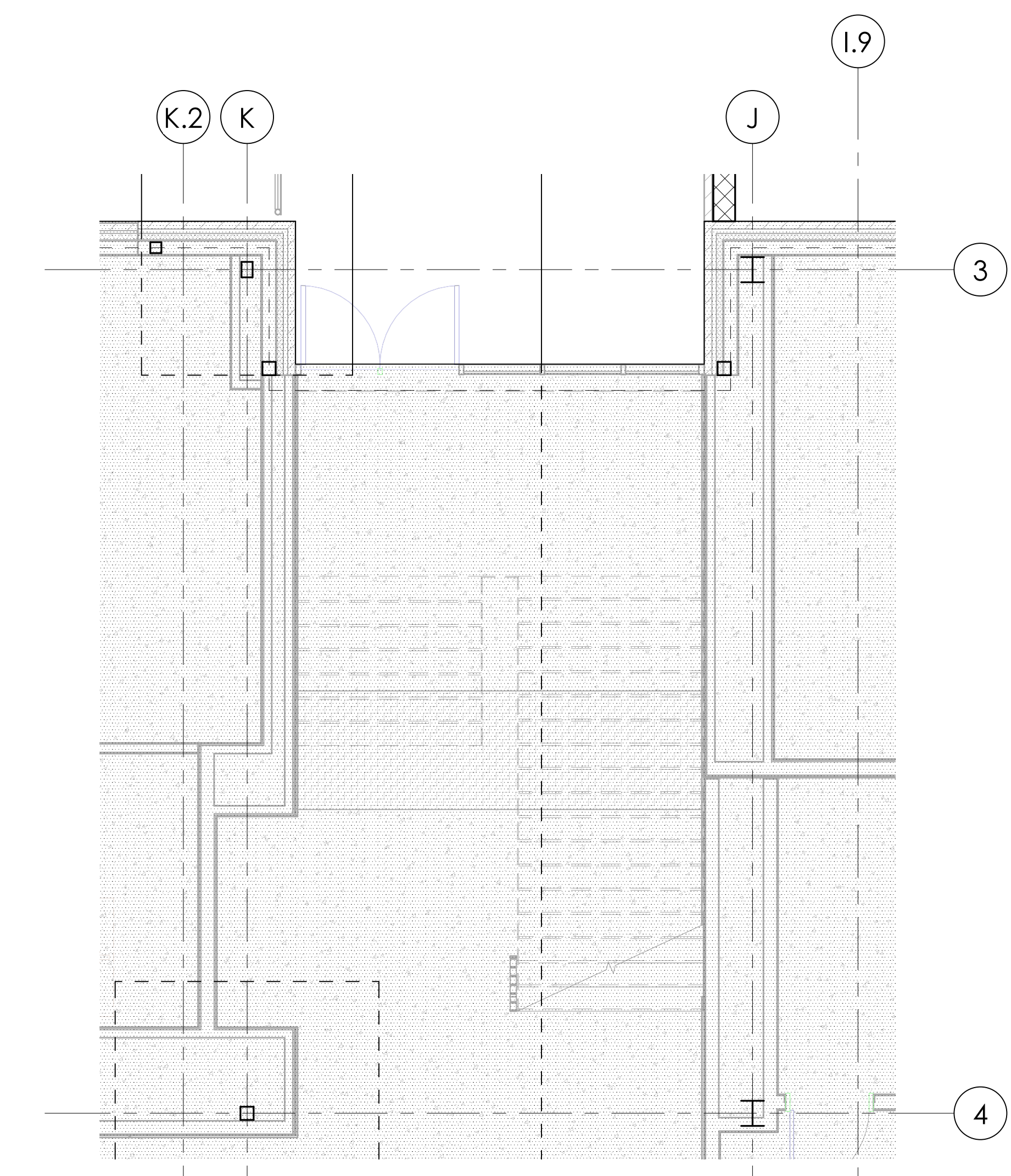
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Lease Crutcher Lewis recently ran into this same issue on a high school project in Portland with 12", 10" and 8" block and was able to exceed the requirements with standard block and grout.

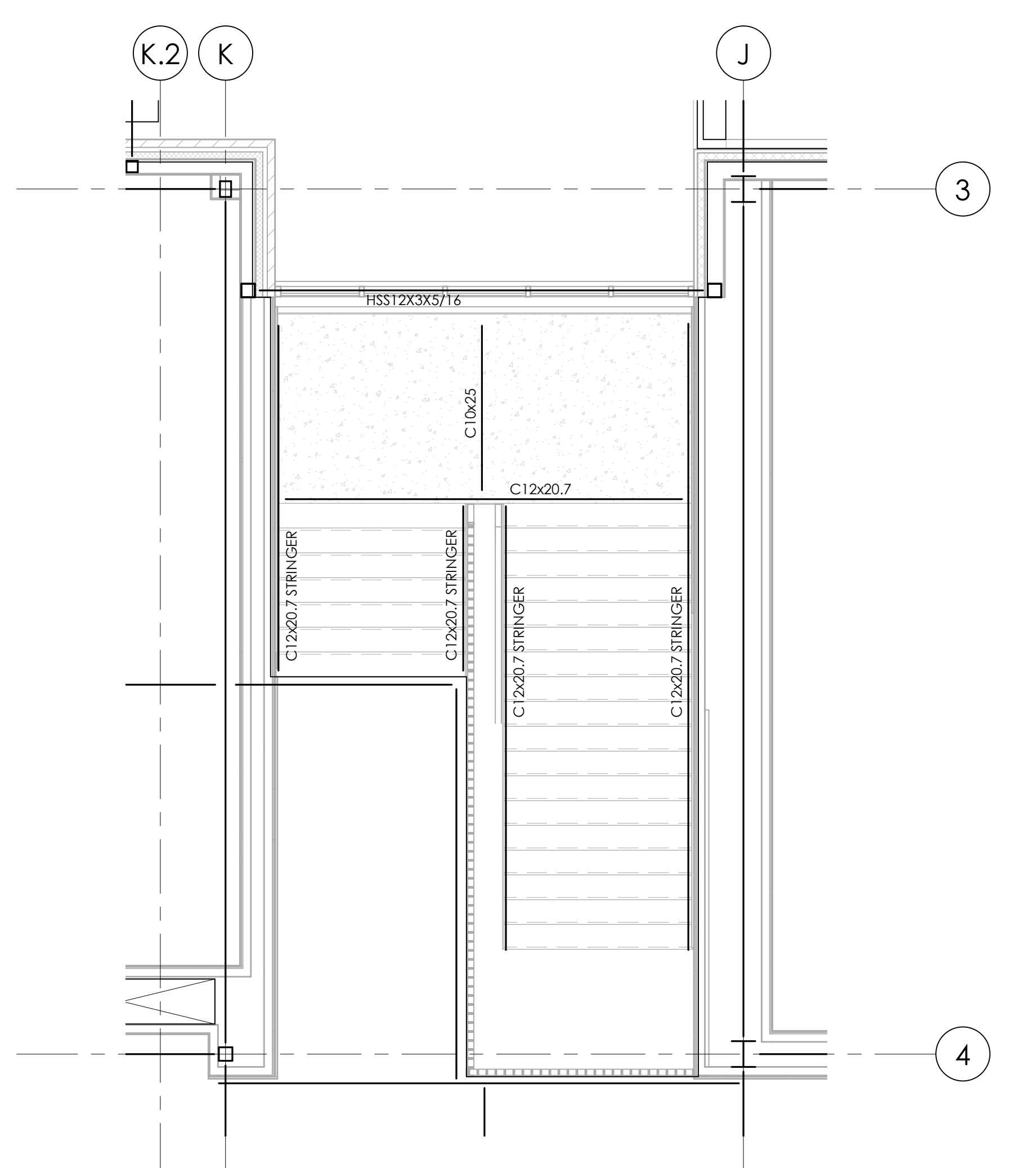
Please confirm that medium weight units with 2,500 PSI grout are acceptable to use on this project. Prism tests can be done to confirm the block & grout assembly PSI if needed, but usually take 28+ days.

- a. Medium weight units with 2500psi would be acceptable if shown to achieve 3000psi as part of an assembly in the Prism test. See above for alternate Unit Strength Method using a higher strength medium weight unit.

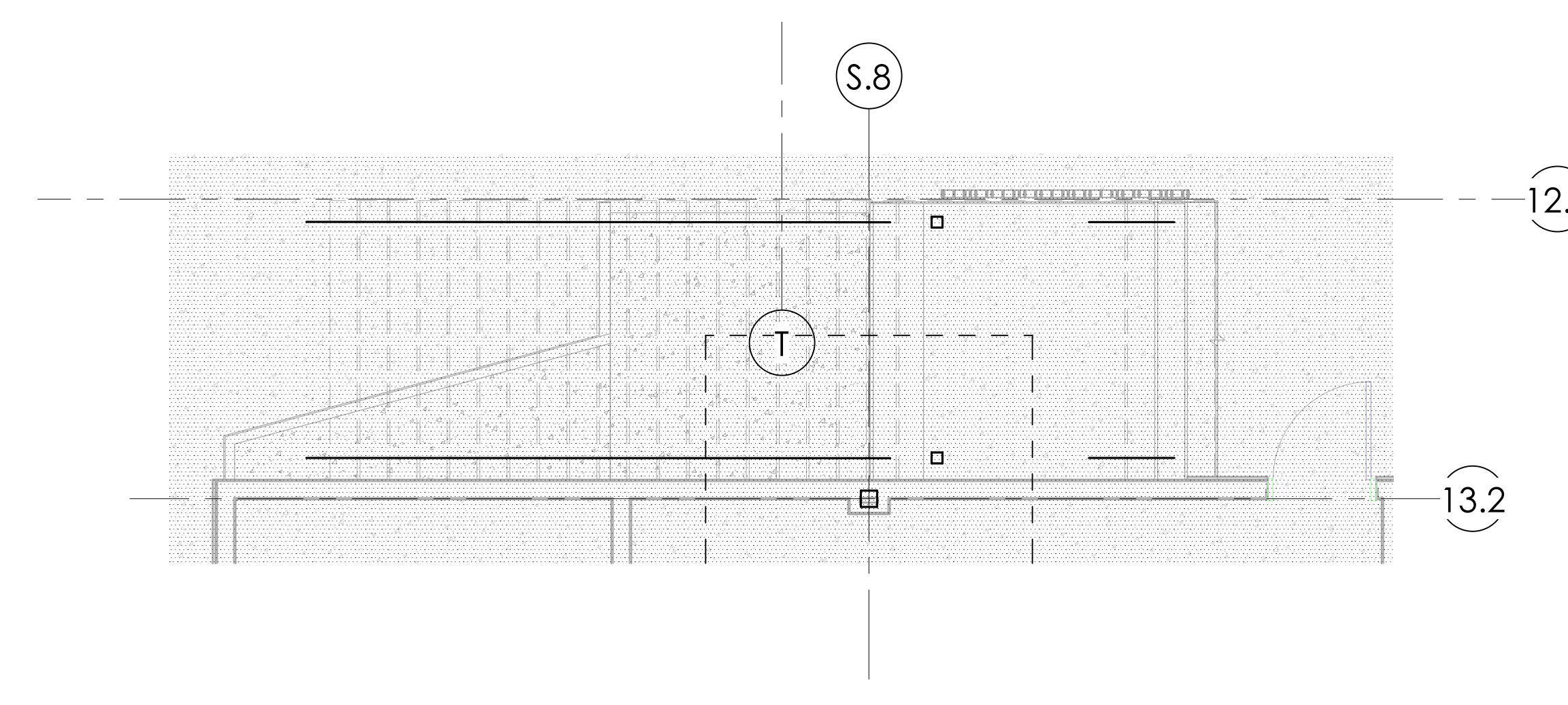
*\*End of Addendum \*The bid form has been updated to reflect any revisions noted within\**



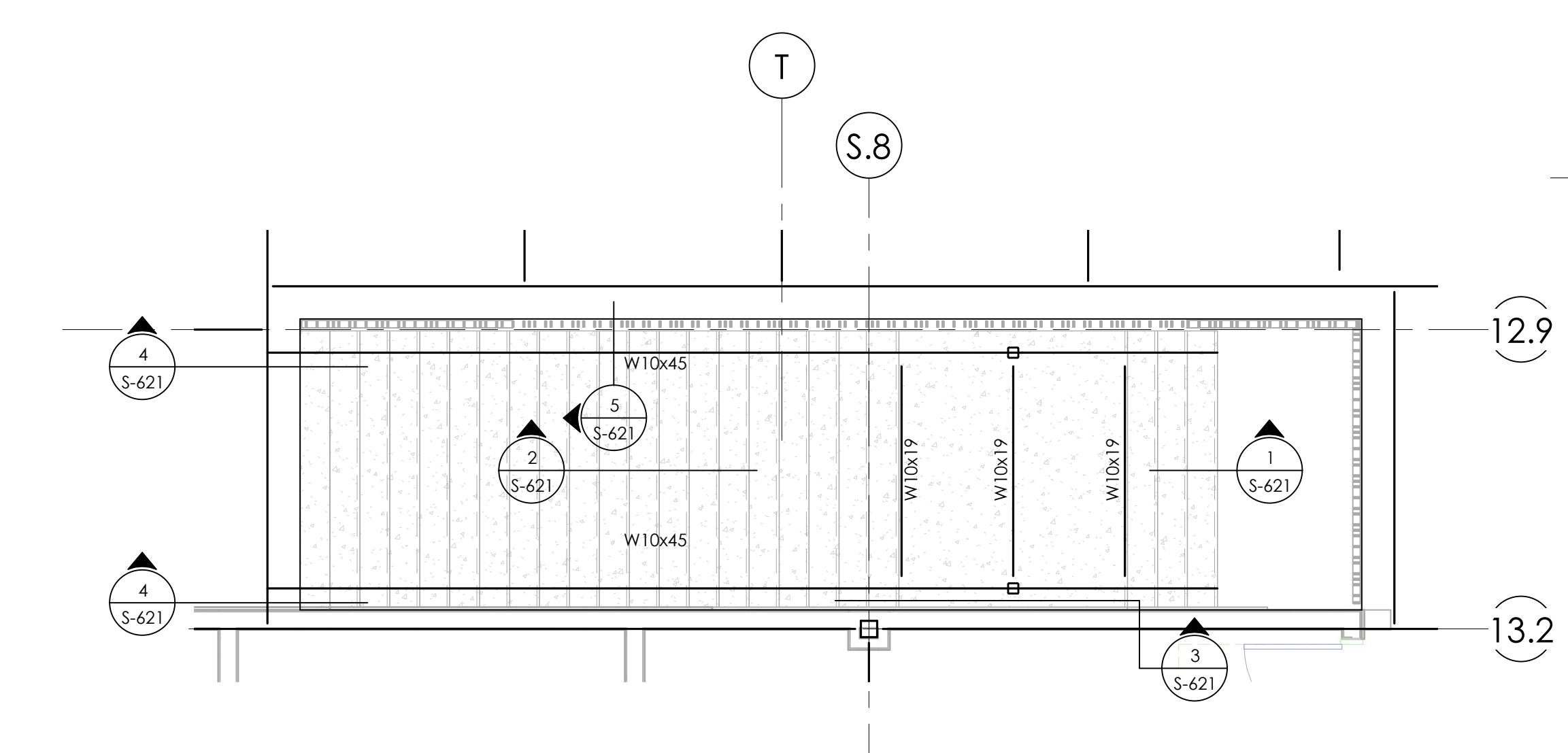
7 STAIR E - LOWER S105  
1/4" = 1'-0"



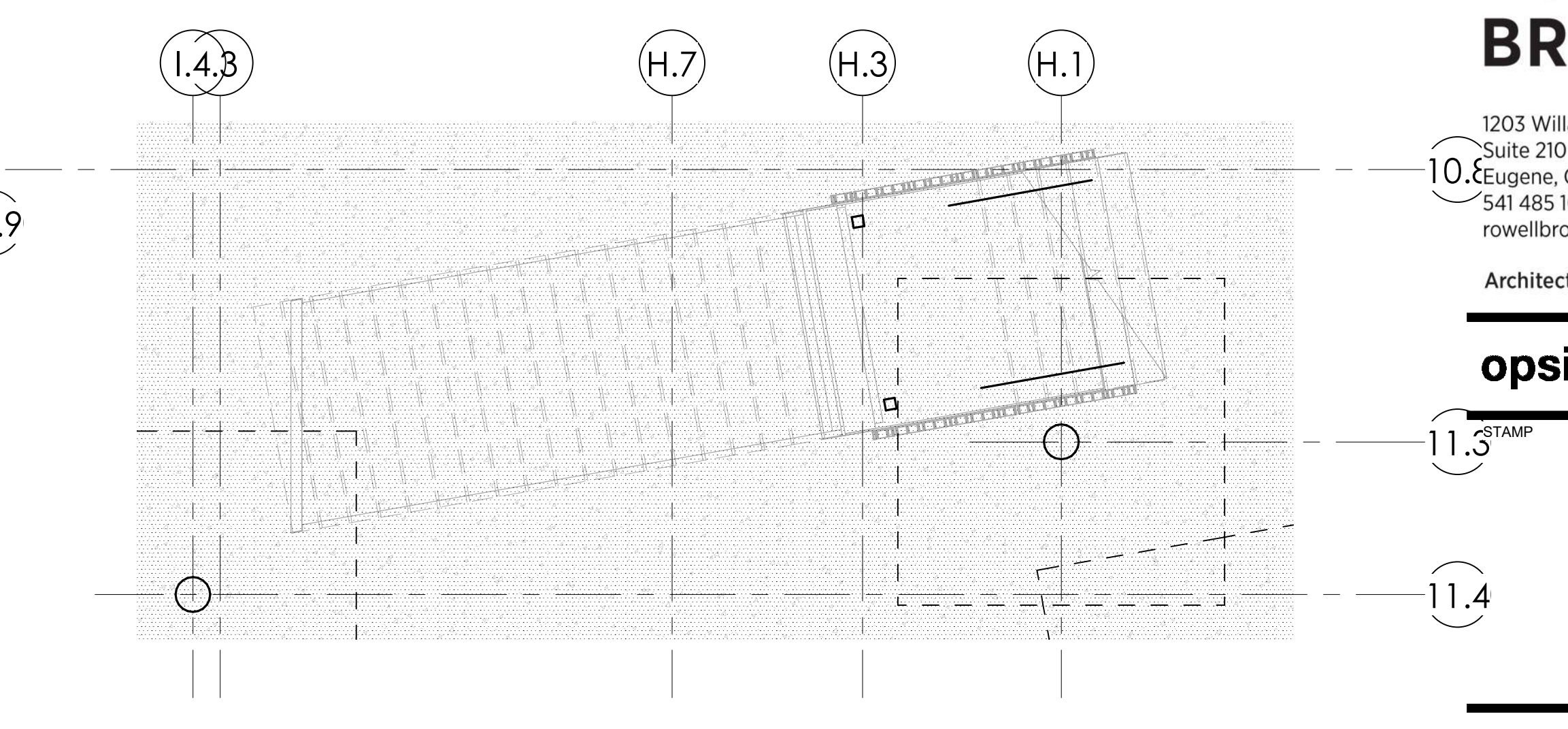
8 STAIR E - UPPER S105  
1/4" = 1'-0"



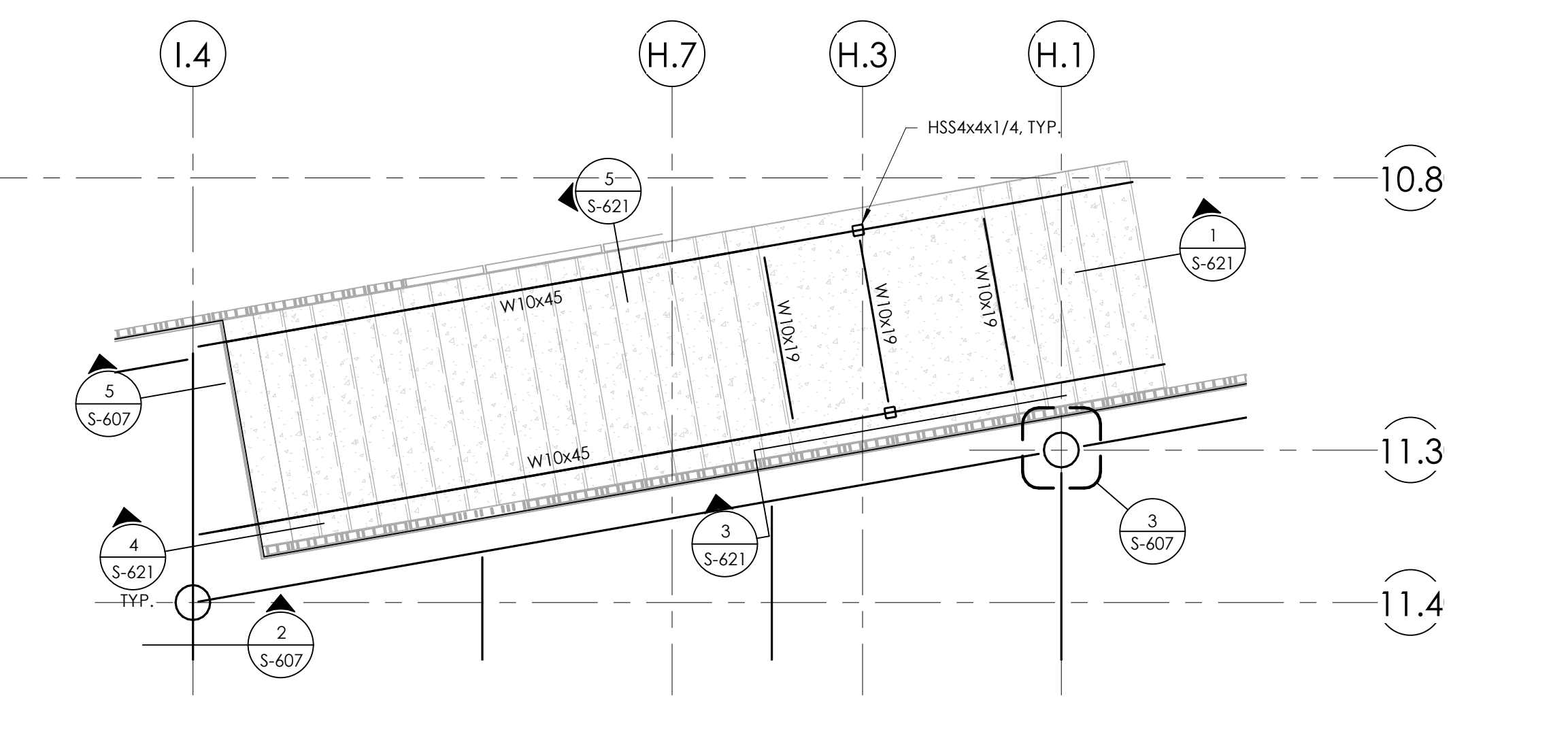
5 STAIR C - LOWER S103  
1/4" = 1'-0"



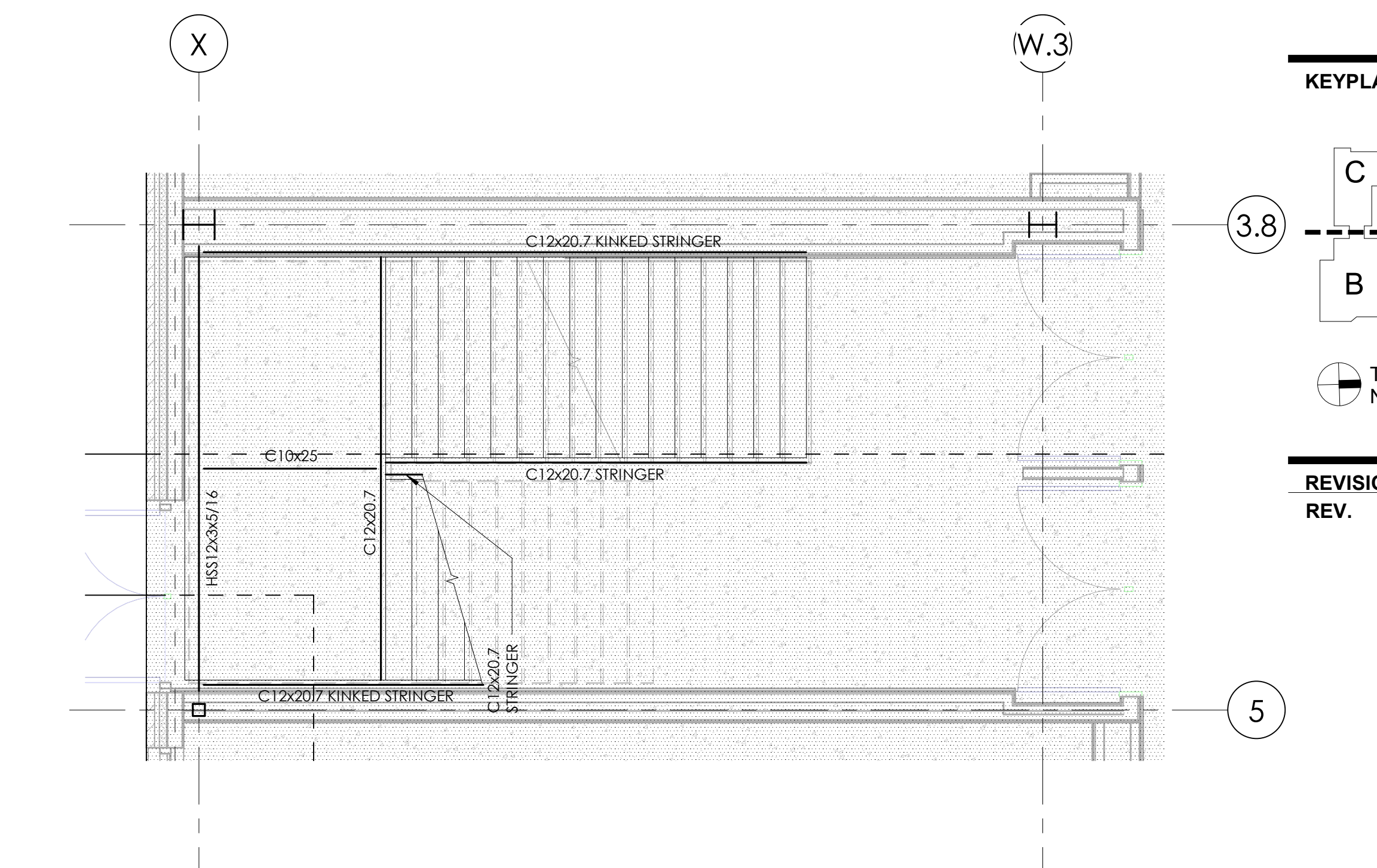
6 STAIR C - UPPER S103  
1/4" = 1'-0"



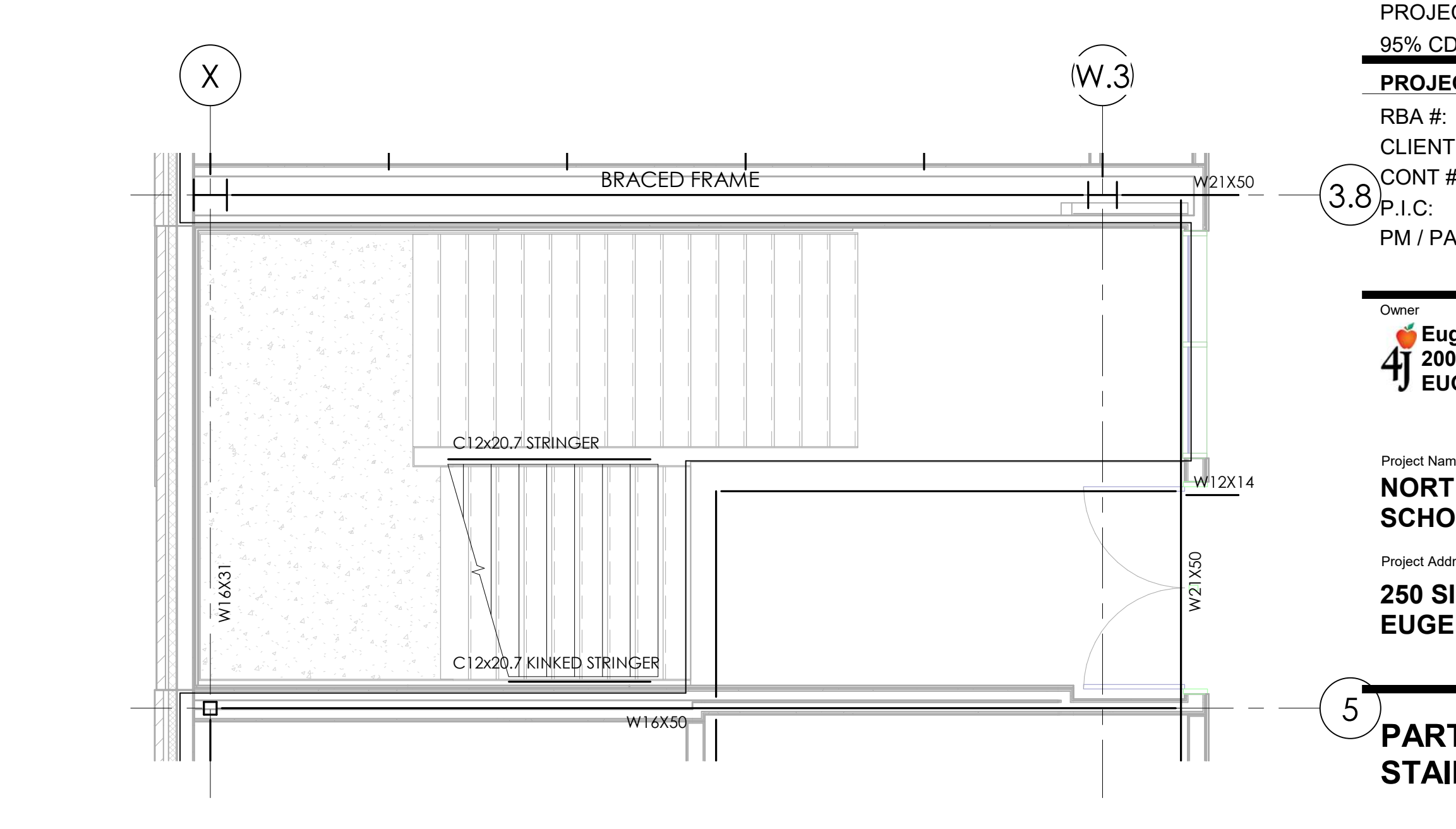
1 STAIR A - LOWER S101  
1/4" = 1'-0"



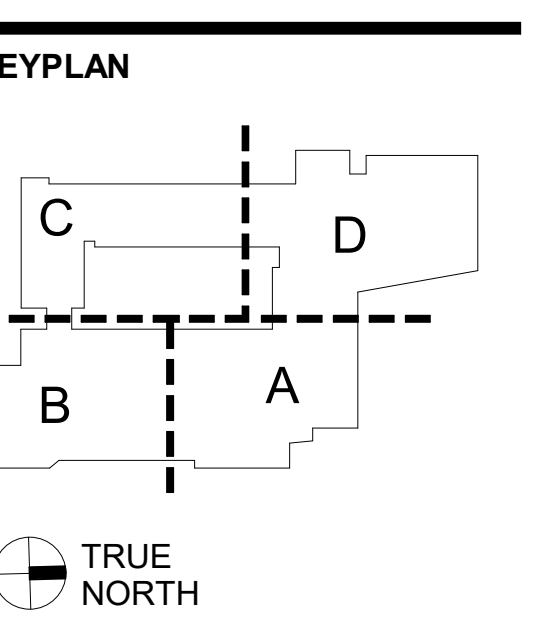
2 STAIR A - UPPER S101  
1/4" = 1'-0"



3 STAIR D - LOWER S104  
1/4" = 1'-0"



4 STAIR D - UPPER S104  
1/4" = 1'-0"



REVISIONS TO THIS SHEET

REV.	DATE

PROJECT TRACKING

SET ISSUE	DATE
100% SD	2/14/20
50% DD	5/8/20
100% DD	7/17/20
50% CD MAIN	9/25/20
PROJECT PACKAGE	
95% CD MAIN	11/04/20
PROJECT PACKAGE	
95% CD	11/24/20

PROJECT TRACKING

RBA #:	4772-01
CLIENT #:	
CONT #:	
P.I.C.:	
PM / PA:	

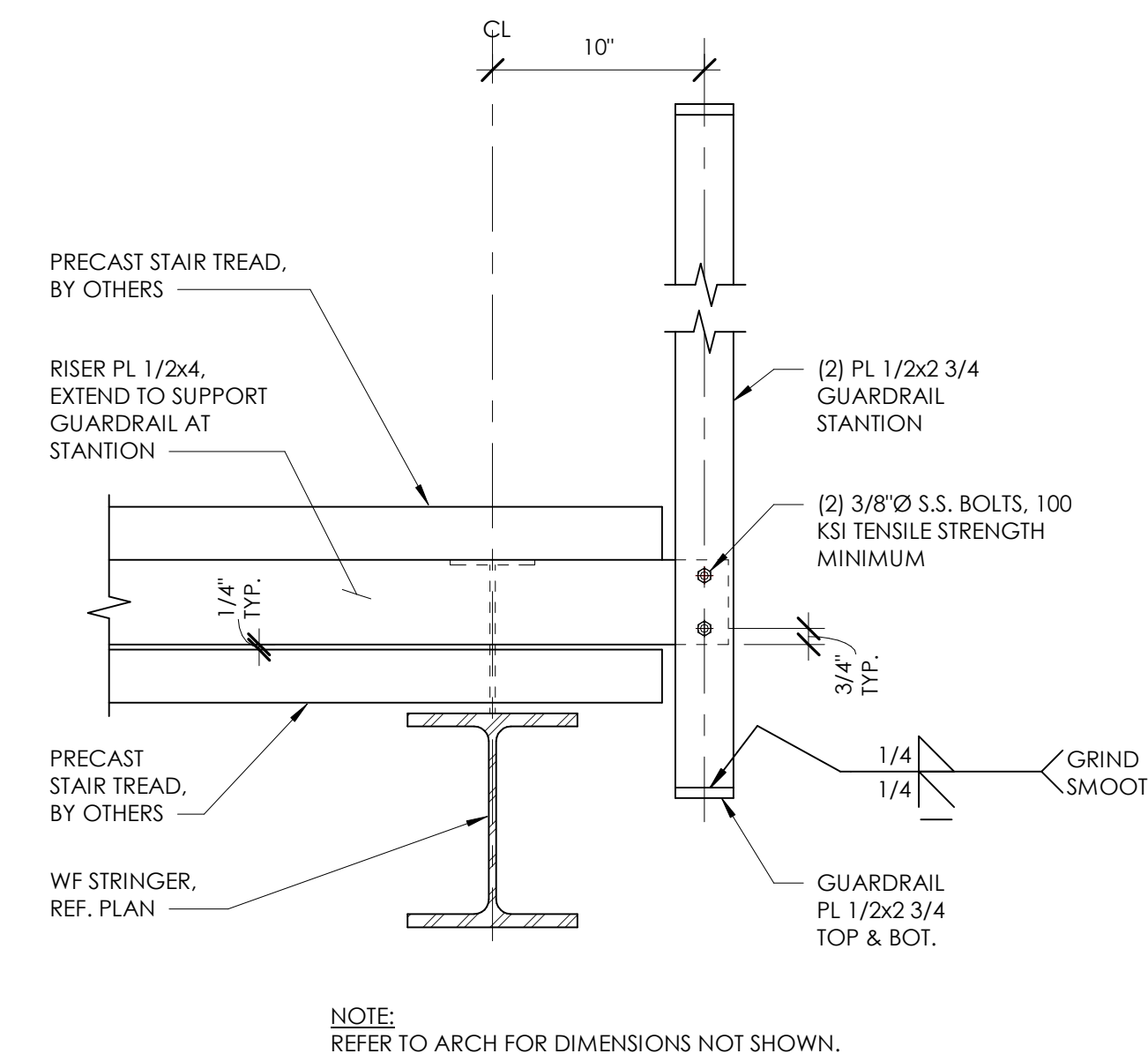
Owner  
Eugene School District 4J  
200 NORTH MOROE ST.  
EUGENE, OR 97402

Project Name  
**NORTH EUGENE HIGH SCHOOL**

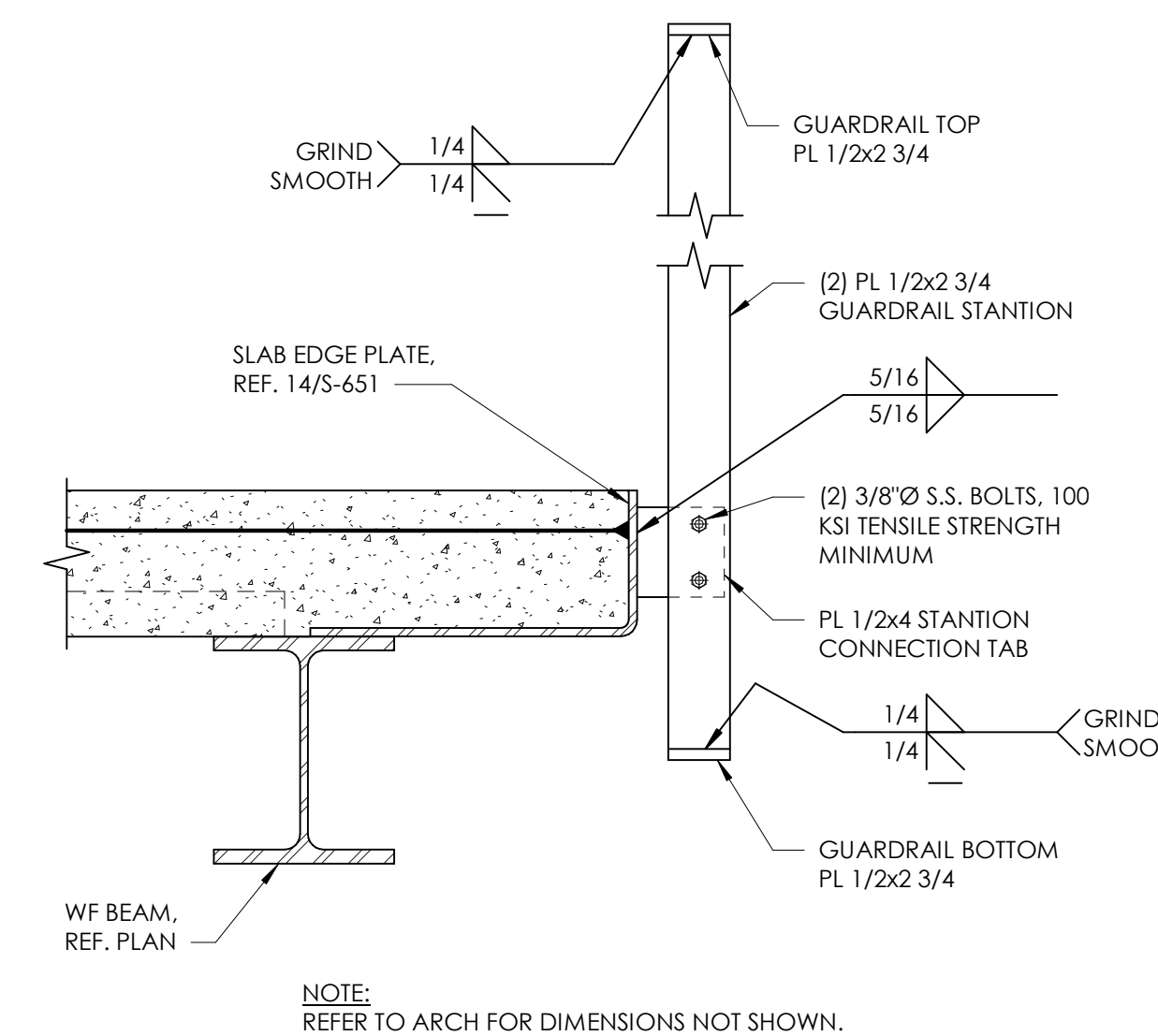
Project Address  
250 SILVER LANE  
EUGENE OR 97404

**Not Shown:**  
Stair B - S102  
Stair F - S106

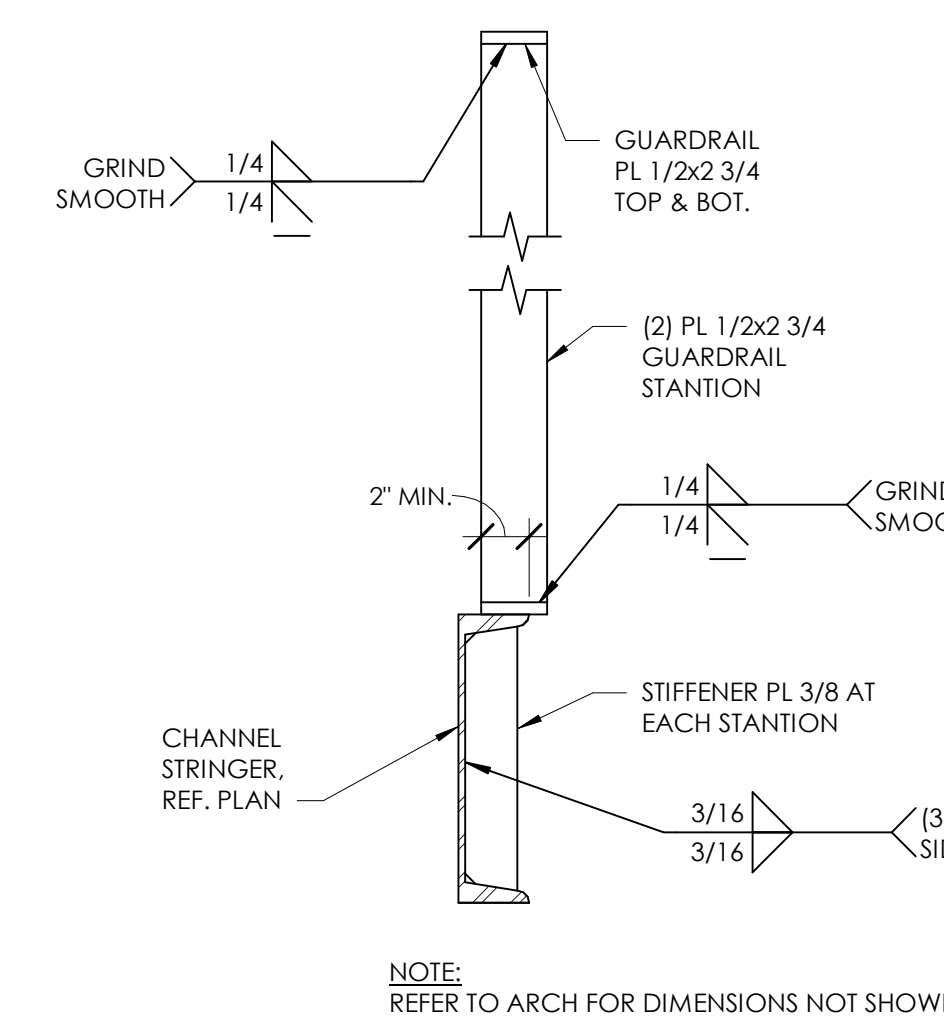
These are Fully Design-Build except for 2nd floor landings, and are shown on A-403 (Stair B) and A-406 (Stair F) for required design intent. (Rowell Brokaw)



5 GUARDRAIL STATION AT WF STRINGER  
1 1/2" = 1'-0"



6 GUARDRAIL STATION AT SLAB EDGE  
1 1/2" = 1'-0"



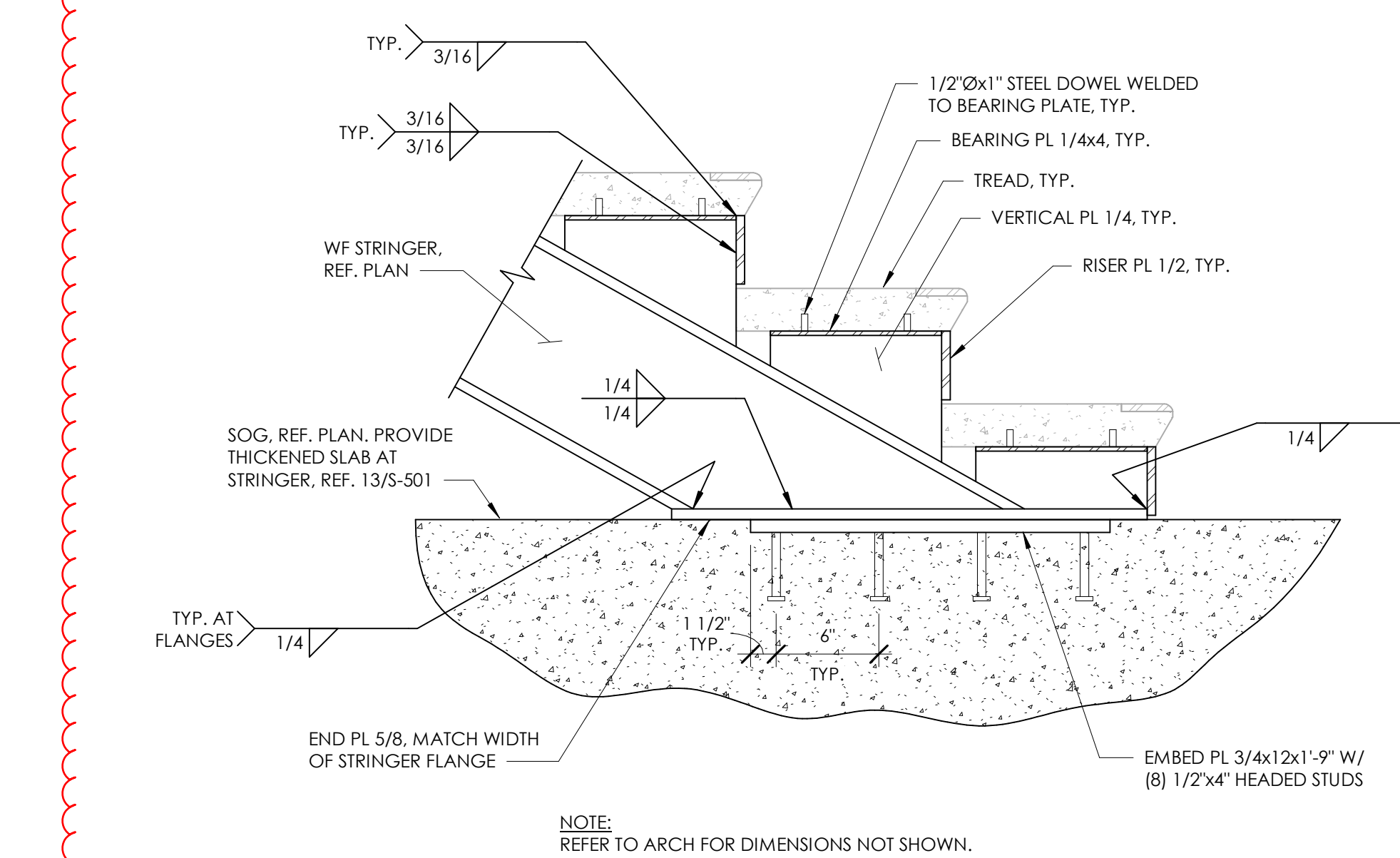
7 GUARDRAIL STATION AT CHANNEL STRINGER  
1 1/2" = 1'-0"

Additional details and information on all stairs are on architectural sheets A-402 through A-409. (Rowell Brokaw)

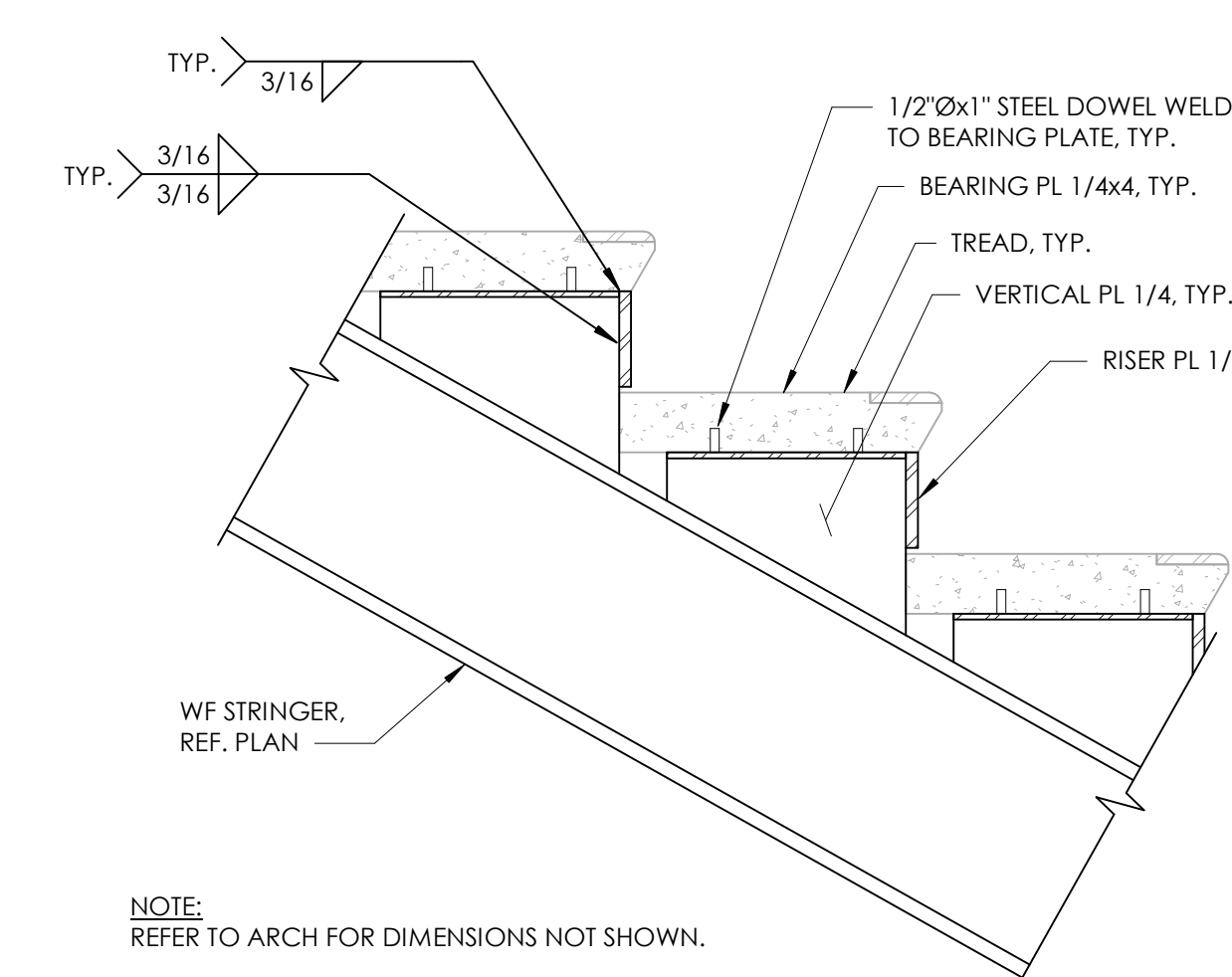
S101 and S102 precast treads, landings and attachment to stair structure are design build. (Rowell Brokaw)

Details For  
Stair A - S101  
Stair C - S103

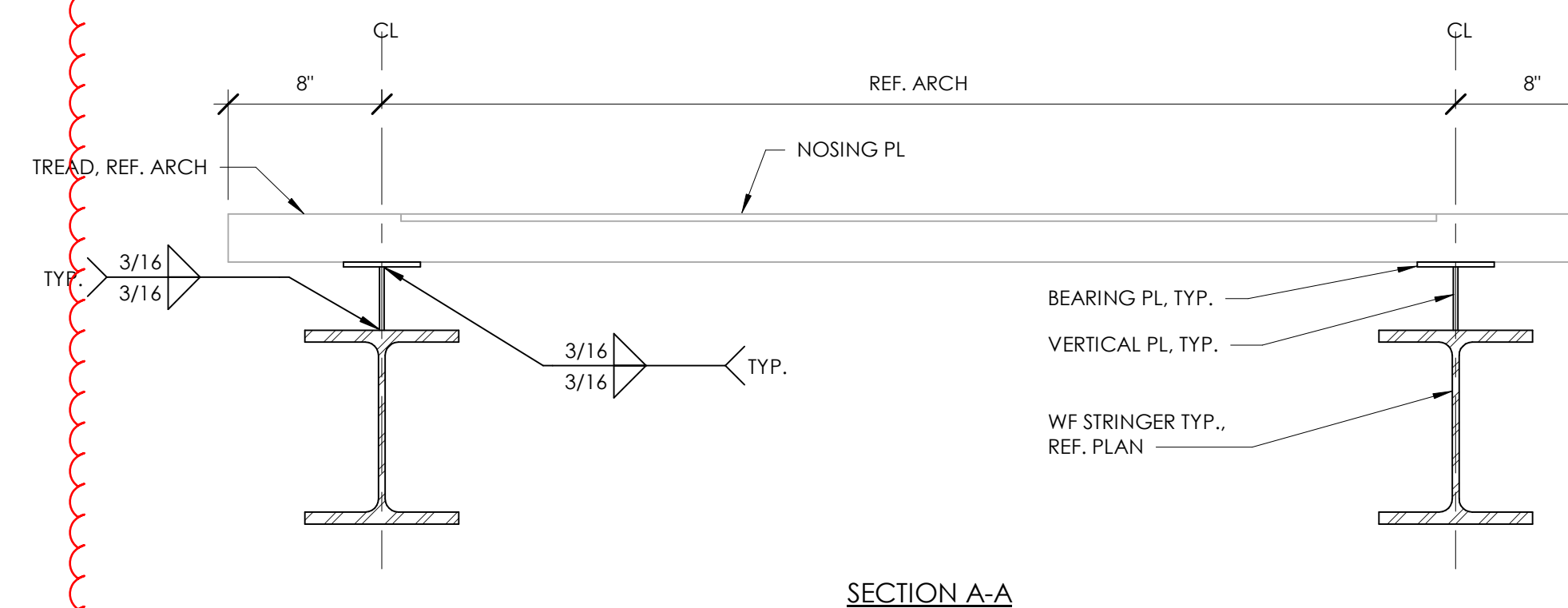
Spec calls for S101 and S103 Treads and tread supports to be Design Build



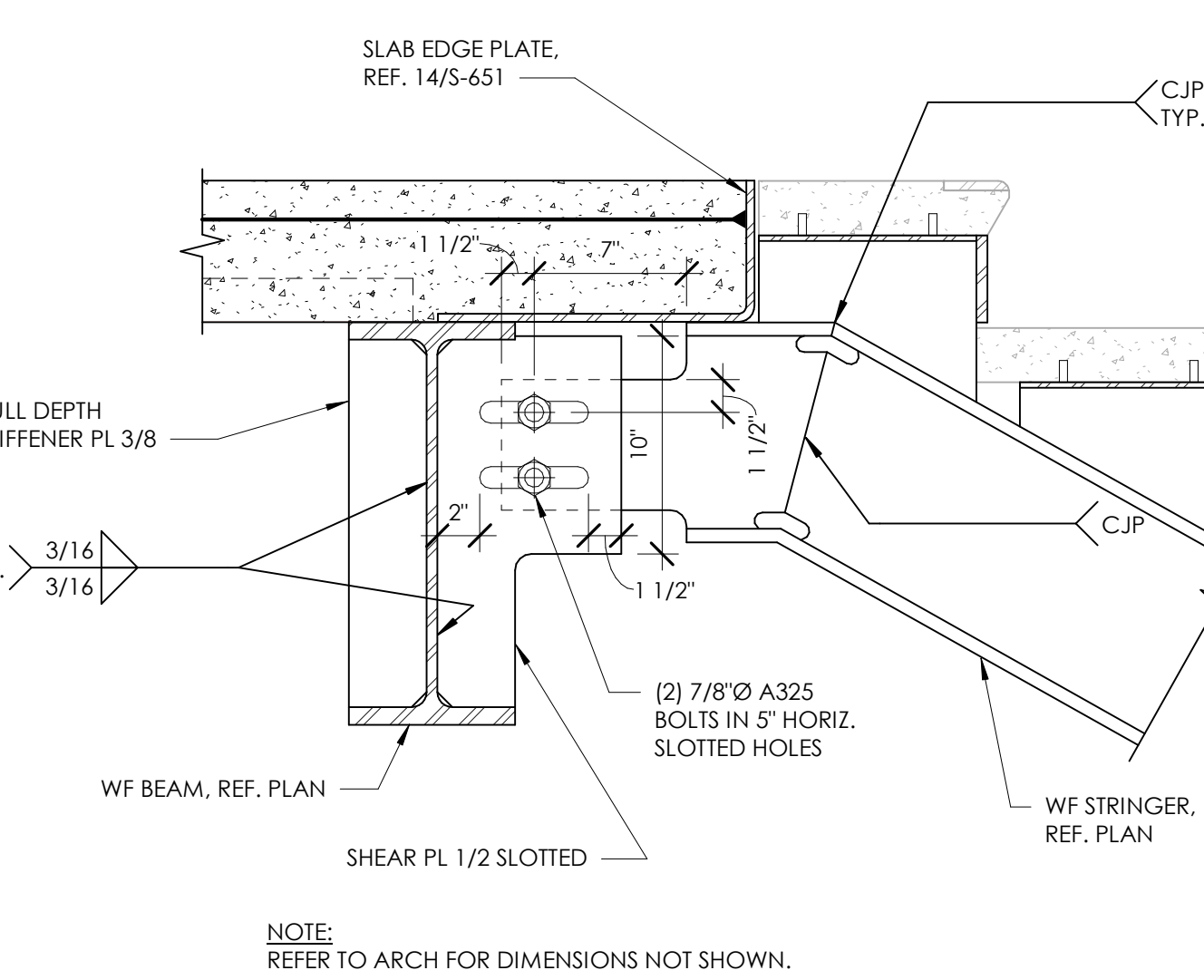
1 STAIR BASE CONNECTION  
1 1/2" = 1'-0"



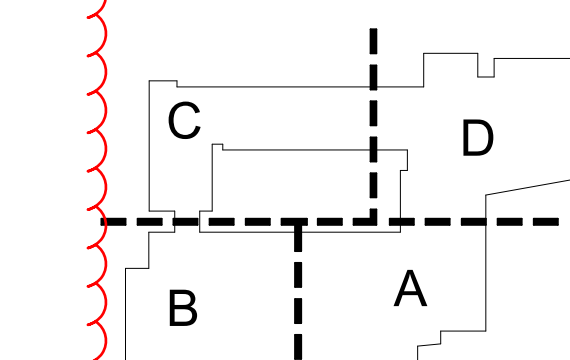
2 TREAD AND RISER CONNECTION  
1 1/2" = 1'-0"



3 INTERMEDIATE LANDING DETAIL  
1" = 1'-0"



4 STAIR TOP CONNECTION  
1 1/2" = 1'-0"



REV.	DATE

SET ISSUE	DATE
100% SD	2/14/20
50% DD	5/8/20
100% DD	7/17/20
30% CD MAIN PROJECT PACKAGE	9/25/20
95% CD MAIN PROJECT PACKAGE	11/04/20
95% CD	11/24/20

RBA #:	4772-01
CLIENT #:	
CONT #:	
P.I.C.:	
PM / PA:	

**SECTION 05 5100**

Design Build: S102, S106, Control Room 192L Stair **METAL STAIRS**  
Custom with Design/Build precast treads and landings: S101, S103  
All Custom: S104, S105

Please confirm which stairs are design build. List does not correspond with sections 2.03 and 2.04 below

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Stairs with metal treads.
- B. Steel stair framing and supports for custom stairs. Stair S101, S103, S104, S105.
- C. Design-build stairs with guardrails and handrails: Stair S102, S106.
- D. Design-build guardrails at Theater access levels.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 3300 - Delegated Design Requirements: Sub-Contractor stair design and engineering procedures for design-build stairs and railings.
- B. Section 03 3000 - Cast-in-Place Concrete: Concrete fill in stair pans; mesh reinforcement for landings.
- C. Section 03 3000 - Cast-in-Place Concrete: Placement of metal anchors in concrete.
- D. Section 03 4500 - Precast Architectural Concrete: Placement of metal anchors in precast concrete.
- E. Section 05 5000 - Metal Fabrications: Guardrails and handrails for custom stairs. Prefabricated ladders and ship ladders.
- F. Section 06 2001 - Interior Finish Carpentry: Wood Treads, and Wood handrails at Atrium Stair and
- G. Section 09 9113 - EXTERIOR PAINTING: Paint finish.

**1.03 REFERENCE STANDARDS**

- A. ASCE/SEI 7 - Minimum Design Loads for Buildings and Other Structures 2016.
- B. ASTM A6/A6M - Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling 2014.
- C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel 2014.
- D. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2018.
- E. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates 2013.
- F. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2013.
- G. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing 2014.
- H. ASTM A786/A786M - Standard Specification for Hot-Rolled Carbon, Low-Alloy, High-Strength Low-Alloy, and Alloy Steel Floor Plates 2015.
- I. AWS D1.1/D1.1M - Structural Welding Code - Steel 2015.
- J. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; International Accreditation Service, Inc. 2011.

**1.04 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories.
  - 1. At design-build stairs, include the design engineer's seal and signature on each sheet of shop drawings.
- C. Design Data: As required by authorities having jurisdiction.

1. Delegated Design Submittal. Comply with Section 01 3316 - Delegated Design.
  2. For Design-build metal stairs, guardrails and handrails indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Welders' Certificates.
- E. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

#### **1.05 QUALITY ASSURANCE**

- A. Structural Designer Qualifications: At design-build stairs.
1. Professional Structural Engineer experienced in design of this work and licensed in Oregon, or personnel under direct supervision of such an engineer.
- B. Welder Qualifications: Show certification of welders employed on the Work, verifying AWS qualification within the previous 12 months.
- C. Fabricator Qualifications: A qualified steel fabricator that is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.

#### **1.06 COORDINATION**

- A. Coordinate installation of anchorages for metal stairs. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project in time for installation.

### **PART 2 PRODUCTS**

#### **2.01 PERFORMANCE REQUIREMENTS**

- A. Delegated Design: At design-build stairs, engage a qualified professional engineer to design stairs, railings and guards, and treads, including attachment to building construction.
1. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
    - a. Uniform Load: 100 lbf/sq. ft. (4.79 kN/sq. m).
    - b. Concentrated Load: 300 lbf (1.33 kN) applied on an area of 4 sq. in. (2580 sq. mm.)
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
    - d. Stair Framing: Capable of withstanding stresses resulting from railing and guard loads in addition to loads specified above.
    - e. Limit deflection of treads, platforms, and framing members to L/360 or 1/4 inch (6.4 mm), whichever is less.
  2. Structural Performance of Railings and Guards: Railings and guards, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
    - a. Handrails and Top Rails of Guards:
      - 1) Uniform Load: 50 lbf/sq. ft. (0.73 kN/sq. m) applied in any direction.
      - 2) Concentrated Load: 200 lbf (0.89 kN) applied in any direction.
      - 3) Uniform and concentrated loads need not be assumed to act concurrently.
    - b. Infill of Guards:
      - 1) Concentrated Load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m.)
      - 2) Infill load and other loads need not be assumed to act concurrently.
    - c. Seismic Performance of Stairs: Metal stairs shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 and as indicated on the Structural Drawings.

- 1) Component Importance Factor: 1.5.

## 2.02 METAL STAIRS - GENERAL

- A. Metal Stairs: Provide stairs of the design specified, complete with landing platforms, vertical and horizontal supports, railings, and guards, fabricated accurately for anchorage to each other and to building structure.
  1. Handrails: Comply with applicable accessibility requirements of ADA Standards.
  2. Dimensions: As indicated on drawings.
  3. Shop assemble components; disassemble into largest practical sections suitable for transport and access to site.
  4. No sharp or rough areas on exposed travel surfaces and surfaces accessible to touch.
  5. Separate dissimilar metals using paint or permanent tape.
- B. Metal Jointing and Finish Quality Levels:
  1. Architectural: All joints as inconspicuous as possible, whether welded or mechanical.
    - a. Welded Joints: Continuously welded and ground smooth and flush.
    - b. Mechanical Joints: Butted tight, flush, and hairline; concealed fastenings only.
    - c. Exposed Edges and Corners: Eased to small uniform radius.
    - d. Metal Surfaces to be Painted: Sanded or ground smooth, suitable for highest quality gloss finish.
    - e. Shop prime and field paint per Section 09 9000 - Painting and Coatings.
  2. Commercial: Exposed joints as inconspicuous as possible, whether welded or mechanical; underside of stair not covered by soffit IS considered exposed to view.
    - a. Welded Joints: Intermittently welded on back side, filled with body putty, and sanded smooth and flush.
    - b. Welds Exposed to View: Ground smooth and flush.
    - c. Mechanical Joints: Butted tight, flush, and hairline.
    - d. Bolts Exposed to View: Countersunk flat or oval head bolts; no exposed nuts.
    - e. Exposed Edges and Corners: Eased to small uniform radius.
    - f. Metal Surfaces to be Painted: Sanded or ground smooth, suitable for satin or matte finish.
    - g. Shop prime and field paint per Section 09 9000 - Painting and Coatings.
  3. Service: Exposed joints tight with face surfaces aligned; underside of stair not covered by soffit is not considered exposed to view.
    - a. Welded Joints: Welded on back side wherever possible.
    - b. Welds Exposed to View: Ground smooth; not required to be flush.
    - c. Bolts Exposed to View: Countersunk flat or oval head bolts; no exposed nuts or screw threads.
    - d. Metal Surfaces to be Painted: Sanded smooth, suitable for satin or matte finish.
- C. Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.
- D. Anchors and Related Components: Same material and finish as item to be anchored, except where specifically indicated otherwise; provide all anchors and fasteners required.

## 2.03 METAL STAIRS WITH PRECAST CONCRETE TREADS

- A. Applications: S101, S103.
- B. Jointing and Finish Quality Level: Architectural, as defined above.
- C. Risers: Closed.
- D. Treads: Metal supports with precast concrete tread.
  1. Precast Concrete Treads: Design-build, as specified in Section 03 4500 Precast Architectural Concrete.
  2. ~~Tread support to Stringers: Design/build connections; Welded or bolted to carrier angles.~~  
Tread Attachment: Design/build connections; welded or bolted

Confirm S101 and S103 to have design build treads and tread supports. Confirm S104 and S105 listed in 2.04 are to be cast in place treads. All listed as "Custom Stair" above



- E. Risers: Steel Plate as indicated in drawings.
  - 1. Nosing Depth: Not more than 1-1/2 inch (38 mm) overhang.
- F. Stringers: As indicated on drawings.
- G. Guardrails and handrails: See Section 05 5000 Metal Fabrications.
- H. Finish: Shop-prime, painted.
  - 1. Painting: Outer coats, See Section 09 9000 - Painting and Coating.

Confirm only treads and tread supports are design build. Risers and stringers per drawings.

CORRECT (Rowell Brokaw)

**2.04 METAL STAIRS WITH CONCRETE FILLED PAN TREADS**

- A. Applications: S102, S104, S105, S106.
- B. Jointing and Finish Quality Level: Architectural, as defined above.
- C. Risers: Closed.
- D. Treads: Metal supports with field-installed concrete fill.
  - 1. Concrete Depth: 1-1/2 inches (38 mm), minimum, or as otherwise indicated on the Drawings.
  - 2. Tread Pan Material: Steel sheet.
  - 3. Tread Pan Thickness: As required by design; 14 gage, 0.075 inch (1.9 mm) minimum, or as otherwise indicated on the Drawings.
  - 4. Tread support to Stringers: Welded to carrier angles welded to stringers, or as otherwise indicated in the Drawings.
  - 5. Pan Anchorage to Stringers: Continuously welded, from top or bottom, or as otherwise indicated on the Drawings.
  - 6. Concrete Reinforcement: As required by design and as may be warranted to mitigate visible shrinkage and/or flexural cracking, or as otherwise indicated on the Drawings.
  - 7. Concrete Finish: Steel troweled with non-slip finish.
- E. Risers: Steel Plate as indicated in drawings.
  - 1. Riser/Nosing Profile: Sloped riser with rounded nosing of minimum radius.
  - 2. Riser/Nosing Profile: Vertical riser with underside of nosing sloped up from bottom of tread pan at not less than 60 degrees from horizontal, with rounded top of nosing of minimum radius.
  - 3. Nosing Depth: Not more than 1-1/2 inch (38 mm) overhang.
  - 4. Nosing Return: Flush with top of concrete fill, not more than 1/2 inch (12 mm) wide.
- F. Stringers: Rolled steel channels.
  - 1. Stringer Depth: 12 inches (305 mm), or as otherwise indicated on the Drawings.
  - 2. End Closure: Sheet steel of same thickness as risers welded across ends.
- G. Landings: Same construction as treads, or using corrugated steel decking, unless otherwise indicated on the Drawings; supported and reinforced as required to achieve design load capacity.
- H. Guardrails and handrails: Fabricate as indicated on drawings and as specified.
  - 1. Guardrails: Shop-prime painted steel bar frame with bar picket infill as indicate on the Drawings. See Section 09 9123 - Interior Painting.
  - 2. Handrails: Stainless steel pipe, brushed finish.

S102 & S106 are listed as design build above and S104 & S105 as custom, this section does not mention design build. Should S102 and S106 be in a separate section. We will create a separate section for S102 & S106 to clarify they are Design-build (Rowell Brokaw)

**2.05 METAL STAIRS WITH METAL TREADS**

- A. Applications: Theater access stairs.
- B. Jointing and Finish Quality Level: Service, as defined above.
- C. Risers: Closed.
- D. Treads: Checkered steel plate.
  - 1. Tread Thickness: 1/4 inch (6 mm), minimum.
  - 2. Anchorage to Stringers: Welded or bolted to carrier angles welded or bolted to stringers.
- E. Risers: Steel sheet.
  - 1. Riser Thickness: As required by design; 14 gage, 0.075 inch (1.9 mm) minimum.

This section is no longer relevant. Theater access stairs at Tech levels will be custom Metal Stairs with Concrete Filled Pans. Theater Control Rm 192L stair will be design build.

Additional details and information on these stairs are on architectural sheets A-402 through A-409. (Rowell Brokaw)

Spec says as indicated on the drawings, S102, S104, S105, S106 do not have details in the drawings. Only S102 and S106 called to be design build above but not in the section. Please provide detail for S104 and S105 and breakout S102 and S106 into separate section

Please confirm which stairs are the theater access stairs in drawings

2. Riser/Nosing Profile: Sloped riser with rounded nosing of minimum radius.
- F. Stringers: Rolled steel channels.
  1. Stringer Depth: 10 inches (250 mm).
  2. End Closure: Sheet steel of same thickness as risers welded across ends.
- G. Stair Dampening: Install under all treads.
  1. Products:
    - a. Soundcoat: GPDS/Foam Damping Sheet.
    - b. Pacific Stair Corporation: Quiet Tread.
    - c. Substitutions: See Section 01 6000 - Product Requirements.
- H. Railings and Guards: Delegated design.
- I. Finish: Shop- or factory-prime painted. Paint per Section 09 9123 - Interior Painting.

## **2.06 HANDRAILS AND GUARDS FOR DESIGN-BUILD STAIRS**

- A. Handrails: Stainless steel round pipe or tube rails unless otherwise indicated.
  1. Outside Diameter: 1-1/4 inch (32 mm), minimum, to 1-1/2 inches (38 mm), maximum.
- B. Guards: Steel bar frame with bar picket infill as shown on Drawings. Shop prime, paint per Section 09 9123 - Interior Painting

## **2.07 DESIGN-BUILD HANDRAIL AND GUARDS FOR THEATER ACCESS WALKWAYS AND STAIRS**

- A. Provide fabricated steel components as detailed in Architectural and Structural Drawings.
- B. Fabricate in sections that can be powdercoated and bolted to walkways and stairs.
- C. Finish: Powdercoat black.

## **2.08 MATERIALS**

- A. Steel Sections: ASTM A 36/A 36M, unless otherwise indicated on the Structural Drawings..
- B. Steel Tubing: ASTM A500/A500M or ASTM A501/A501M structural tubing, round and shapes as indicated.
- C. Steel Plates: ASTM A6/A6M or ASTM A283/A283M, unless otherwise indicated on the Structural Drawings.
- D. Stainless Steel Pipe: ASTM A276/276M.
- E. Pipe: ASTM A 53/A 53M Grade B Schedule 40, [\_\_\_\_\_].
- F. Checkered Plate: ASTM A786/A786M, rolled steel floor plate; manufacturer's standard pattern.
- G. Concrete Fill: Portland cement Type I, 3000 psi (20 MPa) 28 day strength, 2 to 3 inch (50 to 75 mm) slump.
- H. Concrete Reinforcement: Mesh type as detailed, galvanized.

## **2.09 SHOP FINISHING**

- A. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- B. Do not prime surfaces in direct contact with concrete or where field welding is required.
- C. Prime Painting: Use specified shop- and touch-up primer.
  1. Preparation of Steel: In accordance with SSPC-SP 6 Commercial Blast Cleaning..
  2. Preparation of Galvanized Steel: In accordance with SSPC-SP2 Hand Tool Cleaning.
  3. Number of Coats: One.
  4. Verify compatibility with top coat as specified in Section 09 90000 - Painting and Coating.
- D. Powercoated: See section 09 9123 - Interior Painting.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field conditions are acceptable and are ready to receive work.

### **3.02 PREPARATION**

- A. When field welding is required, clean and strip primed steel items to bare metal.

- B. Supply items required to be cast into concrete and embedded in masonry with setting templates.

### **3.03 INSTALLATION**

- A. Install components plumb and level, accurately fitted, free from distortion or defects.
- B. Provide anchors, plates, angles, hangers, and struts required for connecting stairs to structure.
- C. Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- D. Provide welded field joints where specifically indicated on drawings. Perform field welding in accordance with AWS D1.1/D1.1M.
- E. Other field joints may be either welded or bolted provided the result complies with the limitations specified for jointing quality levels.
- F. Obtain approval prior to site cutting or creating adjustments not scheduled.
- G. After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.
- H. File and ease all edges exposed to the reach of occupants and maintenance staff. Sharp edges and corners will be inspected during construction, and will need to be repaired to Owner's approval.

### **3.04 TOLERANCES**

- A. Maximum Variation From Plumb: 1/4 inch (6 mm) per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

### **END OF SECTION**