PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Structural steel.
2. Grout.

B. Related Sections:

1. Section 014000 "Quality Requirements" for independent testing agency procedures and administrative requirements.
2. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other metal items not defined as structural steel.
3. Section 055100 "Metal Stairs."
4. Section 099113 "Exterior Painting" and Section 099123 "Interior Painting" for surface-preparation and priming requirements.

1.3 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand loads indicated and comply with other information and restrictions indicated.

1. Select and complete connections using schematic details indicated and AISC 360.
2. Use ASD; data are given at service-load level.

B. Construction: Combined system of braced frame and shear walls.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for demand critical welds.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer fabricator testing agency.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

D. Mill test reports for structural steel, including chemical and physical properties.

E. Product Test Reports: For the following:

1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
2. Direct-tension indicators.
3. Shop primers.
4. Nonshrink grout.

F. Source quality-control reports.

1.7 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category ACSE.

C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."

D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

E. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 341 and AISC 341s1.
3. AISC 360.
4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

F. Preinstallation Conference: Conduct conference at Project site.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.9 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than the following:

1. W-Shapes: 60 percent.
2. Channels, Angles-Shapes: 60 percent.
3. Plate and Bar: 25 percent.
4. Cold-Formed Hollow Structural Sections: 25 percent.
5. Steel Pipe: 25 percent.
6. All Other Steel Materials: 25 percent.

C. W-Shapes: ASTM A 992/A 992M.

D. Channels, Angles-Shapes: ASTM A 36/A 36M.

E. Plate and Bar: ASTM A 36/A 36M.

F. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

G. Corrosion-Resisting Cold-Formed Hollow Structural Sections: ASTM A 847/A 847M, structural tubing.

H. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.

1. Weight Class: Standard.
2. Finish: Black Galvanized.

I. Steel Castings: ASTM A 216/A 216M, Grade WCB with supplementary requirement S11.

J. Steel Forgings: ASTM A 668/A 668M.

K. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.

B. Unheaded Anchor Rods: ASTM F 1554, Grade 36.

1. Configuration: Straight.
2. Nuts: ASTM A 563 heavy-hex carbon steel.
3. Plate Washers: ASTM A 36/A 36M carbon steel.
4. Washers: ASTM F 436, Type 1, hardened carbon steel.
5. Finish: Plain.

C. Headed Anchor Rods: ASTM F 1554, Grade 36, straight.

1. Nuts: ASTM A 563 heavy-hex carbon steel.
2. Plate Washers: ASTM A 36/A 36M carbon steel.
3. Washers: ASTM F 436, Type 1, hardened carbon steel.
4. Finish: Plain.

D. Threaded Rods: ASTM A 36/A 36M.

1. Nuts: ASTM A 563 heavy-hex carbon steel.
2. Washers: ASTM F 436, Type 1, hardened.
3. Finish: Plain.

E. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.

2.3 PRIMER

A. Primer: Comply with Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."

B. Primer: SSPC-Paint 25, Type I, zinc oxide, alkyd, linseed oil primer.

C. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.

2.4 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
   1. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
   2. Mark and match-mark materials for field assembly.
   3. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

   1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.

C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning.

F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.

   1. Cut, drill, or punch holes perpendicular to steel surfaces.
   2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
   3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

   1. Joint Type: Pretensioned.

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

   1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-Off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
7. SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
9. SSPC-SP 8, "Pickling."

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

D. Painting: Prepare steel and apply a one-coat, nonasphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils.

2.8 SOURCE QUALITY CONTROL

A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Bolted Connections: Shop-bolted connections will be inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

1. Liquid Penetrant Inspection: ASTM E 165.
2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
3. Ultrasonic Inspection: ASTM E 164.
4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.

1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of baseplate.
3. Pretension anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Do not use thermal cutting during erection.

G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

H. Shear connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer’s written instructions.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug Tight

B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
2. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.

3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.

1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:

    a. Liquid Penetrant Inspection: ASTM E 165.
    b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
    c. Ultrasonic Inspection: ASTM E 164.
    d. Radiographic Inspection: ASTM E 94.

D. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

A. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

B. Touchup Painting: Cleaning and touchup painting are specified in Section 099113 "Exterior Painting" Section 099123 "Interior Painting."

END OF SECTION

PART 1 GENERAL

1.01 RELATED DOCUMENTS:
Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 SCOPE:
This section includes the furnishing of all labor and material and equipment necessary for the complete painting of all surfaces (unless specifically excepted) on both interior and exterior of the project.

1.03 The painting Contractor will be responsible for the inspection of the work of others prior to the application of paint or other finishes. If any surface to be finished cannot be put in proper condition of finishing by customary cleaning, sanding or puttying operations, the Painting Contractor shall immediately notify the General Contractor or Architect in writing or assume responsibility for and rectify and unsatisfactory finish resulting.

1.04 RELATED WORK:
A. Carpentry and Architectural Woodwork
B. Concrete
C. Plastering
D. Structural Steel
E. Miscellaneous Metals

1.05 SUBSTITUTIONS: Paints specified are the products of the PPG as the basis of design, but similar and equal first line products by Coronado, Pratt & Lambert, and Sherwin Williams will also be considered. Exterior structural steel ferrous metal paint is by Tnemec.

1.06 SUBMITTALS:
Submit manufacturer's technical data on proposed paint and a schedule of materials for various applications. See section 01300 for submittal requirements.

PART 2 MATERIALS

2.01 INTERIOR PLASTER& GYP BOARD:
A. One coat 9-2 Pure Performance Latex Interior Zero VOC Primer
B. Two coats 9-300 Pure Performance Eggshell Enamel

2.02 EXTERIOR CONCRETE

A. One coat 4-603 Perma Crete Alkali Resistant Acrylic Masonry Primer

B. Two coats 4-310 Perma Crete Pitt Flex Acrylic Elastomeric Coating

2.03 CONCRETE BLOCK AND INTERIOR CONCRETE:

A One Coat 16-90 Pit Glaze Acrylic Block Filler

B. Two coats 9-300 Pure Performance Eggshell Enamel

2.04 INTERIOR WOOD SURFACES (PIGMENT PAINTED):

A. One coat 17-955 Seal Grip Latex Enamel Undercoater

B. Two coats 6-500 Speedhide Acrylic Latex Semi-Gloss Enamel

2.05 INTERIOR WOOD (STAIN & VARNISH):

A. One coat 77-560 Rez Alkyd/Oil Interior Stain

B. One coat 77-30 Rez Alkyd Clear Sealer & Primer

C. Two coats 77-10 Rez Interior / Exterior Gloss Spar Varnish

2.06 INTERIOR FERROUS METAL:

Sand and touch up abraded and rusted surfaces in shop coat primer.

A. One coat 90-712 Pitt-Tech Waterborne Acrylic DTM Primer

B. Two coats 90-374 Pitt-Tech Waterborne Acrylic Gloss Industrial Enamel

2.07 PAINTED CONCRETE SURFACES:

A. One coat. Tnemec 52 Tneme-Crete

B. Two coat. Tnemec 52 Tneme-Crete

2.08 STAINED CONCRETE FLOORS:

Two coats Perma Crete vertical Concrete Stain VCS 4-5100 Series

2.10 CANVAS COVERED PIPE:

A. One coat 9-2 Pure Performance Latex Interior Zero VOC Primer

B. Two coats 9-300 Pure Performance Eggshell Enamel

2.11 EXTERIOR STRUCTURAL STEEL:

A. Factory primed with TNEMEC prime coat 378, Chemprime 8.5

B. Two coats TNEMEC Series 23 Endurotone (2.3 mils each coat). Any touch up in the field to be done by a TNEMEC Factory representative.

2.12 OTHER EXTERIOR FERROUS METAL

Sand and touch up rusted surfaces with red oxide protective primer.

A. One coat 6-209 Speedhide Galvanized Metal Primer

B. Two coats 6-282 Speedhide Alkyd Gloss Enamel

2.13 EXTERIOR WOOD SURFACES (PIGMENT PAINTED):
A. One coat 6-609 Speedhide Acrylic Latex Wood Primer
B. Two coats 6-2045 Speedhide Exterior Acrylic Latex Satin House Paint

2.14 INTERIOR PLASTER AND GYP BOARD in wet areas (for all kitchens, restrooms and custodial rooms):
A. One coat 6-2 Speed hide Primer
B. Two coats Pitt Glazed 16-551 Series epoxy wall paint

PART 3 WORKMANSHIP

3.01 Properly prepare, fill, sand and clean all surfaces to be painted.

3.02 Apply paint to flow on smoothly and evenly to proper film thickness with brush, roller or spray as indicated for various surfaces and materials. Cut paint neatly at unpainted materials and areas.

3.03 The number of coats specified herein is normally sufficient to obtain a satisfactory finish, but, should the finish not be acquired, it will be the responsibility of the Painting Contractor to apply such additional coats as may be required at no additional expense to the Owner.

3.04 Apply all items under this specification in strict accordance with the Manufacturer's directions. Adhere to specified drying times between coats.

3.05 Sand lightly with 5-0 paper on steel wool between all coats of pigment paint and varnish. Wood fillers shall be rubbed with rough cloth.

3.06 Work only under favorable weather conditions.

3.07 Top and bottom edges of all cabinet and passage doors will be finished same as faces.

3.08 Back prime all millwork before installation.

3.09 Fill all holes after prime coat.

3.10 Protect all hardware, plate accessories, etc., from paint.

3.11 For elastomeric coating, properly clean all surfaces to be coated per spec section 04500. Apply coating with a nylon bristle roller with a ¾" to 1 ½" nap in a fan pattern to achieve uniform millage. Product may also be applied with an airless sprayer. Thickness shall be 10 mils.

3.12 For galvanized steel angles, wash with denatured alcohol before applying primer.

PART 4 SURFACES NOT TO BE PAINTED (all other shal be painted)

4.01 Metal Roofing and Siding.
4.02 Walks, Floor Covering
4.03 Glazed and unglazed tile
4.04 Plastic laminate
4.05 Aluminum and copper surfaces
4.06 Stainless steel surfaces
4.07 Toilet partitions
4.08 Acoustical Ceilings
4.09 Hardware
4.10 Glass
4.11 Stone & Marble
4.12 Flooring (Carpet and Resilient Flooring)
4.13 Brick

ALL OTHER SURFACES UNLESS OTHERWISE DIRECTED BY ARCHITECT ARE TO BE PAINTED.

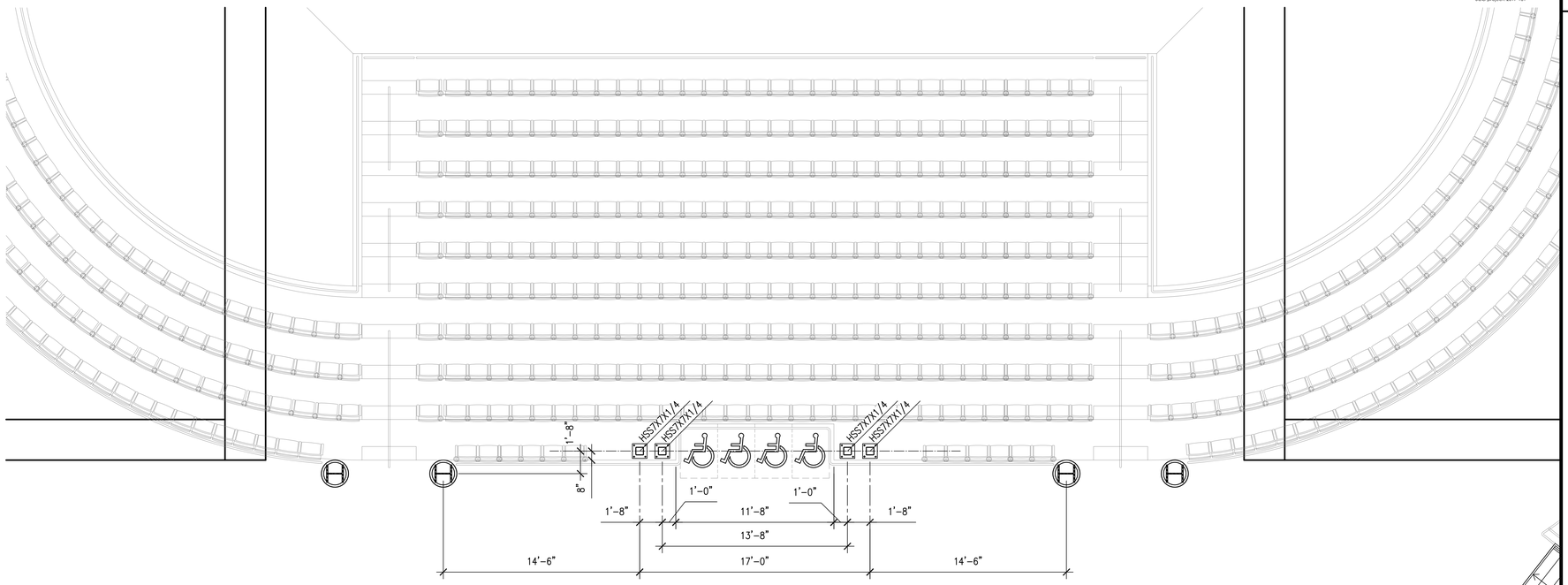
END OF SECTION

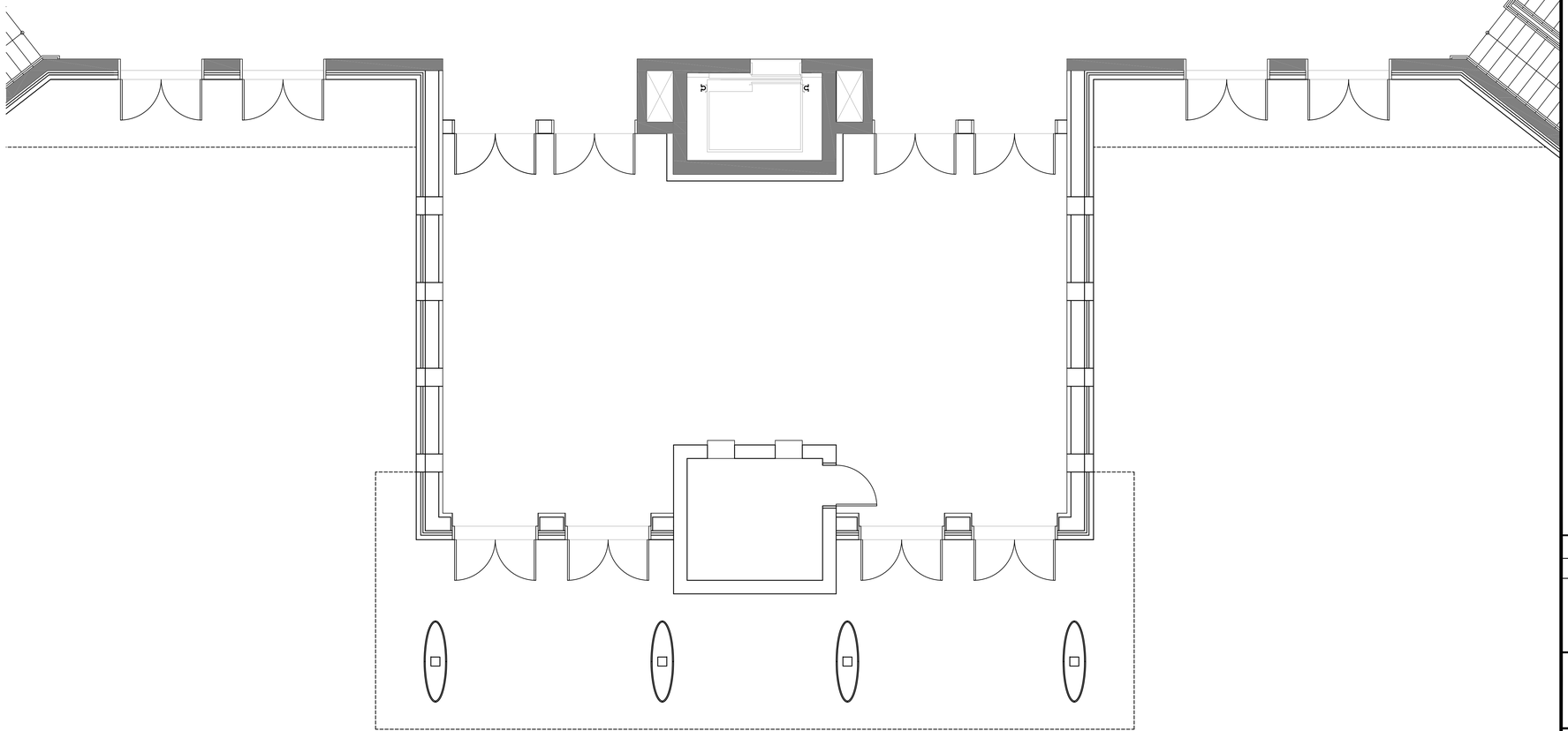
SCHMIDT
CONSULTING · GROUP, INC.
FLORIDA LICENSE NUMBER 00371
901 W. Garden St. | Pensacola, FL 32502
P: 850-438-0050 | F: 800-432-8631
STUART SMITH P.E.
FLORIDA LICENSE NUMBER 49736
SCG project: 2017-161

SAM MARSHALL ARCHITECTS
325 S. PALAFOX STREET
PENSACOLA, FL 32502
(850) 433-7842
(850) 433-0510 fax
FL LIC. # AACOO293

STRUCTURAL STEEL

1. ALL STEEL WORK (INCLUDING FABRICATION AND ERECTION) SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION AND PROJECT SPECIFICATIONS, USE THE FOLLOWING:
   A. ROLLED SHAPES, ASTM A992, GRADE 50.
   B. PLATES BARS A36.
   C. COLD–FORMED STEEL TUBING: ASTM A500, GRADE B.
   D. HOT–FORMED STEEL TUBING: ASTM A501.
   E. STEEL PIPE: ASTM A53, TYPE E OR S, GRADE B.
2. USE STRUCTURAL STEEL THAT IS FULLY WELDABLE WITHIN GRADES AND FROM ANY GRADE TO ANY OTHER GRADE. WELD ALL SHOP CONNECTIONS, U.N.O.
3. ALL SHOP AND FIELD WELDING SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1, LATEST EDITION, PUBLISHED BY THE AMERICAN WELDING SOCIETY (AWS). USE ELECTRODES CONFORMING TO AWS D1.1, E70 SERIES, U.N.O. SHOW ALL SHOP WELDS ON THE FABRICATION DRAWINGS AND ALL FIELD WELDS ON THE ERECTION DRAWINGS.
4. ALL SHOP AND FIELD WELDERS, WELDING OPERATORS, AND TACKERS SHALL BE CERTIFIED ACCORDING TO AWS PROCEDURES FOR THE WELDING PROCESS AND WELDING POSITION USED. CERTIFICATIONS MUST BE CURRENT, LESS THAN ONE YEAR OLD
5. ALL JOINT WELDING PROCEDURES TO BE USED SHALL BE PREPARED BY THE FABRICATOR OR CONTRACTOR AS WRITTEN PROCEDURE SPECIFICATIONS AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR THEIR RECORD. ALL JOINT WELDING PROCEDURES SHALL BE QUALIFIED PRIOR TO USE ACCORDING TO AWS PROCEDURES.
6. A325 BOLTS:
   A. A325 BOLTS SHALL CONFORM TO ASTM A 325 TYPE 1, HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS. DO NOT USE TYPE 2 BOLTS.
   B. PROVIDE HARDENED WASHERS CONFORMING TO ASTM F 436. PLACE HARDENED WASHERS UNDER PART BEING TURNED.
   C. LOAD INDICATOR WASHERS SHALL BE USED ON ALL A325 BOLTS.
   D. ALL BOLTS SHALL BE NEW AND DOMESTICALLY MANUFACTURED. DO NOT REUSE BOLTS. USE ONLY NON–GALVANIZED NUTS AND BOLTS THAT ARE CLEAN, RUST–FREE, AND WELL LUBRICATED. BOLTS AND NUTS SHALL BE WAX DIPPED BY THE BOLT SUPPLIER OR LUBRICATED WITH JOHNSON'S STICK WAX 140.
7. USE F1554, GRADE 36 BOLTS FOR ANCHOR BOLTS OR WHEN SPECIFICALLY CALLED FOR ON THE DRAWINGS.
8. CUT, DRILL, OR PUNCH HOLES PERPENDICULAR TO METAL SURFACES. DO NOT FLAME CUT HOLES OR ENLARGE HOLES BY BURNING.
9. SPLICING OF STRUCTURAL STEEL MEMBERS IN THE FIELD OR IN THE SHOP IS PROHIBITED EXCEPT WHERE INCLUDED ON THE DRAWINGS.
10. PROVIDE TEMPORARY BRACING AS NECESSARY TO INSURE A STABLE STRUCTURE DURING CONSTRUCTION.
11. DO NOT REPRODUCE THE STRUCTURAL DRAWINGS FOR USE AS SHOP DRAWINGS.
12. ERECTOR SHALL SUBMIT A DETAILED ERECTION PROCEDURE INCLUDING BRACING PLAN AND STEP–BY–STEP PROCESS USED BY FABRICATOR/ERECTOR TEAM TO ERECT THE ROOF SYSTEM. PROCEDURE SHALL INCLUDE SHORING DETAILS, SCHEDULE OF BOLTING SEQUENCES, FIELD SPLICE LOCATIONS AND DETAILS, JOIST/JOIST GIRDER ERECTION SEQUENCE, METAL DECK ERECTION SEQUENCE, AND SIMILAR ITEMS.





1 JUMBOTRON LOCATION PLAN
4' 0' 4' 8'
SCALE: 1/4"=1'-0"

ARENA JUMBOTRON
NORTHWEST FLORIDA STATE COLLEGE
NICEVILLE, FL

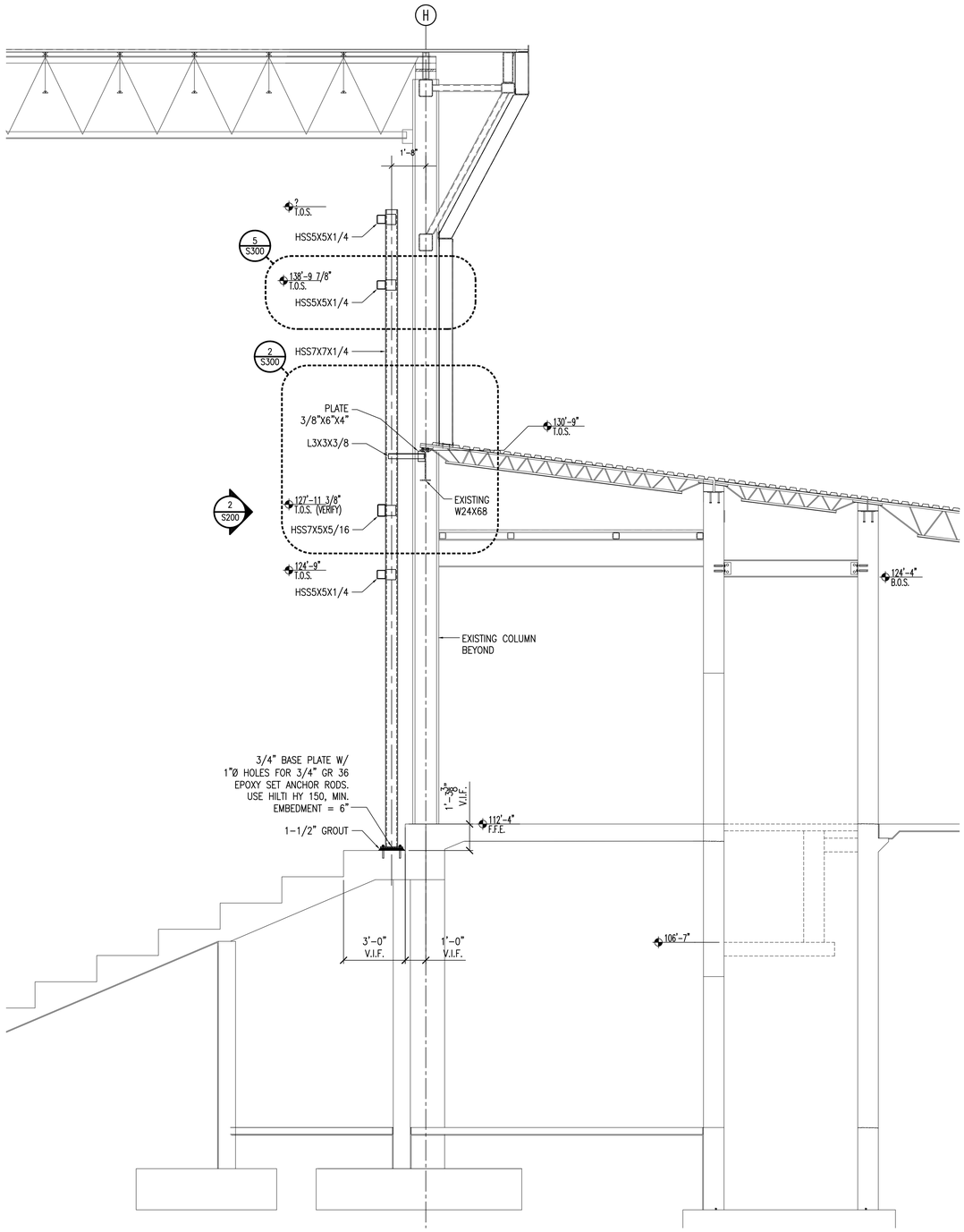
REVISIONS

No.	Description	Date

Title: JUMBOTRON LOCATION PLAN

Scale: As Noted
Date: DECEMBER 12, 2017
Drawn By: JK
Checked By: SCS
Approved By: SCS

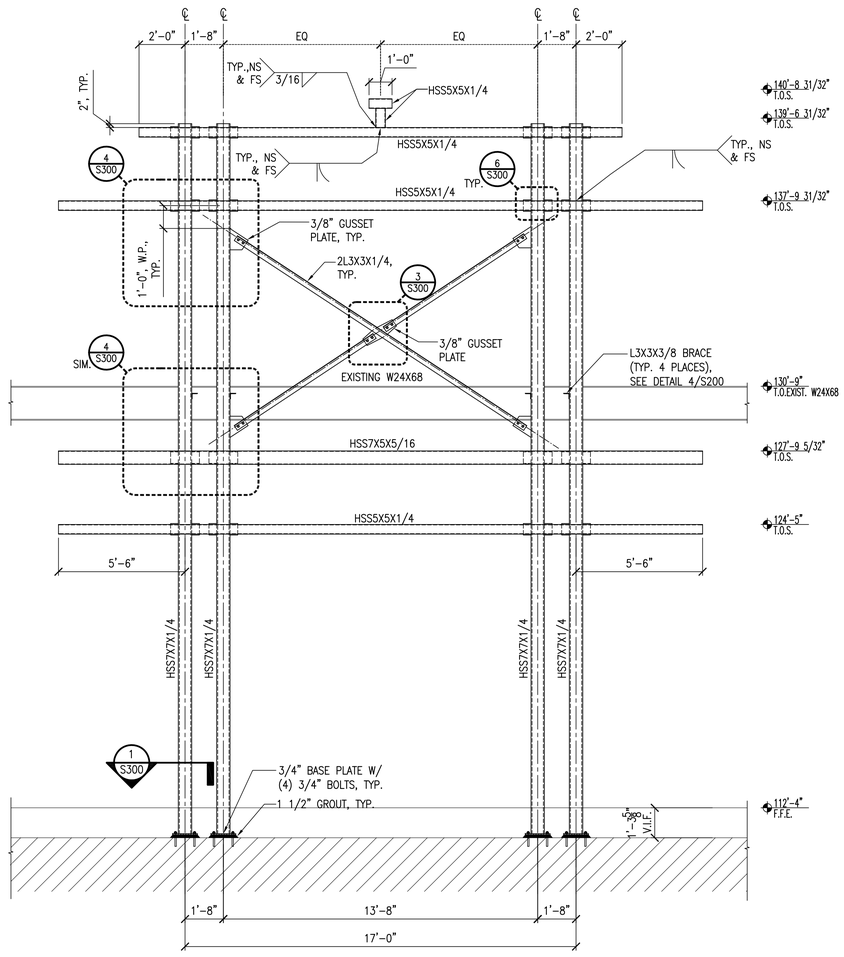
Dwg. No. S100



1 SECTION

2' 1' 0' 2' 4' 6'

SCALE: 3/8"=1'-0"



2 FRAMING ELEVATION

2' 1' 0' 2' 4' 6'

SCALE: 3/8"=1'-0"

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ARENA JUMBOTRON
NORTHWEST FLORIDA STATE COLLEGE
NICEVILLE, FL

REVISIONS

No.	Description	Date

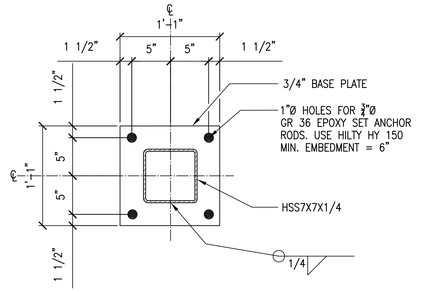
Title:

SECTION & FRAMING ELEVATION

Scale: As Noted
Date: DECEMBER 12, 2017
Drawn By: JK
Checked By: SCS
Approved By: SCS

Dwg. No.

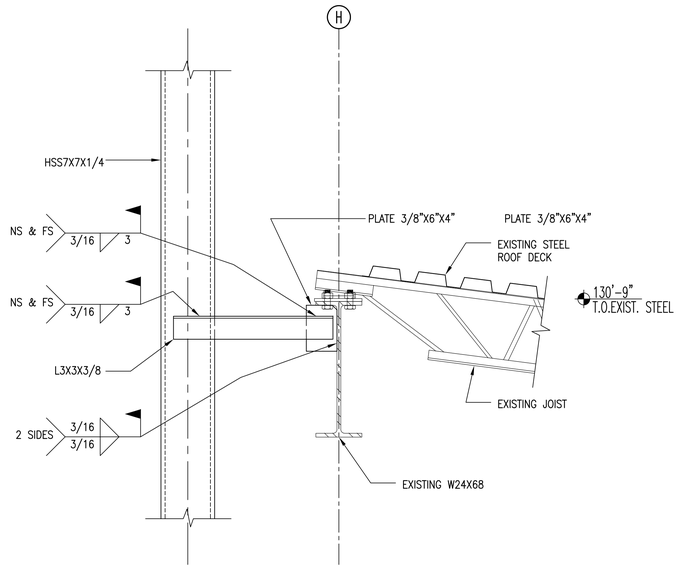
S200



1 BASE PLATE DETAIL

8" 0' 8" 16"

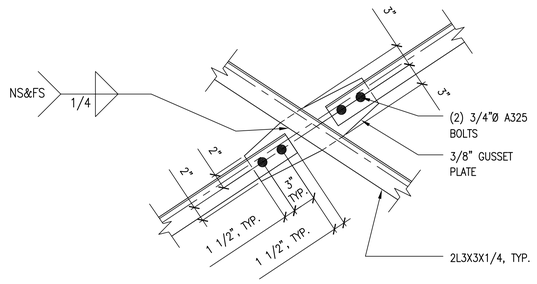
SCALE: 1 1/2"=1'-0"



2 COLUMN CONNECTION TO EXIST. BEAM

8" 0' 8" 16"

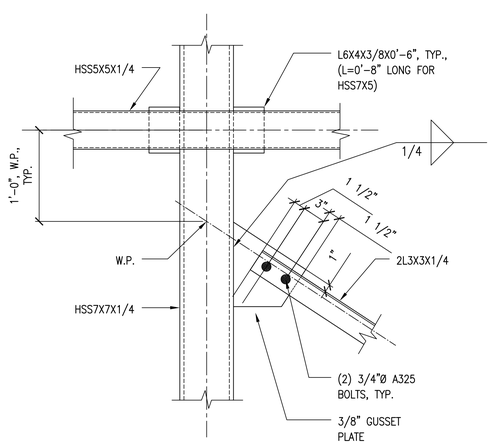
SCALE: 1 1/2"=1'-0"



3 CROSS BRACING CONNECTION DETAIL

8" 0' 8" 16"

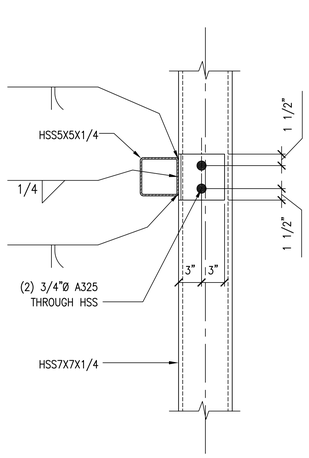
SCALE: 1 1/2"=1'-0"



4 CROSS BRACING CONNECTION DETAIL

8" 0' 8" 16"

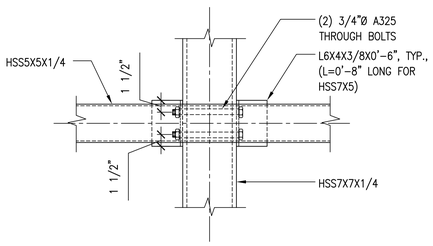
SCALE: 1 1/2"=1'-0"



5 ANGLE CONNECTION DETAIL

8" 0' 8" 16"

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



6 ANGLE CONNECTION DETAIL

8" 0' 8" 16"

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

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REVISIONS

No.	Description	Date

Title: DETAILS

Scale: As Noted
Date: DECEMBER 12, 2017
Drawn By: JK
Checked By: SCS
Approved By: SCS

Dwg. No. S300