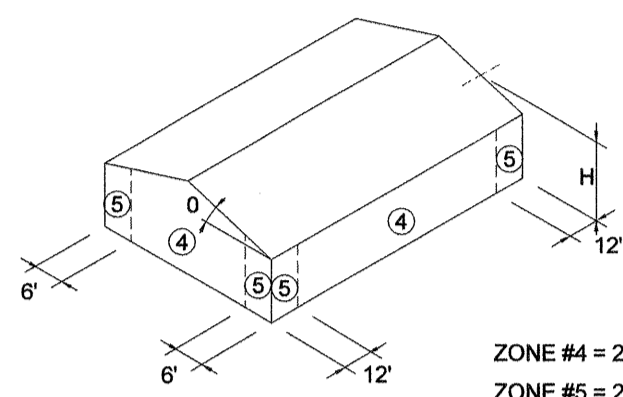


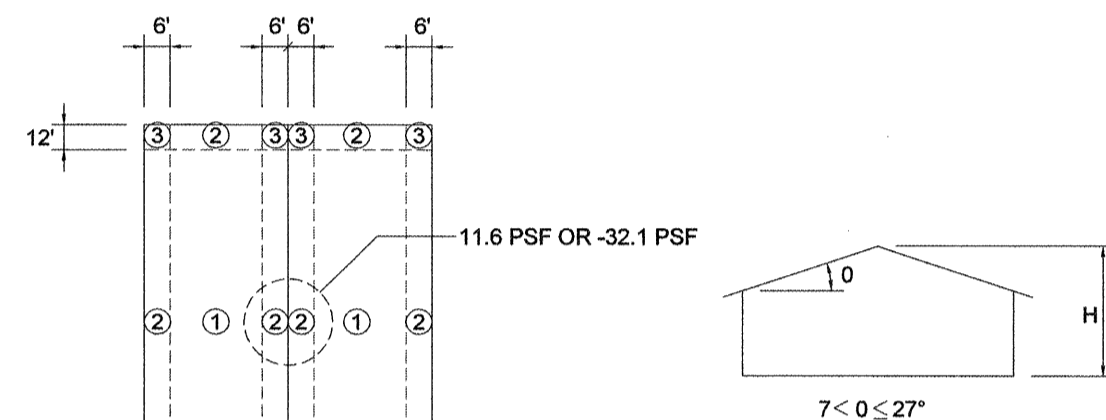
HIP ROOF

ZONE #1 = 11.6 PSF OR -18.5 PSF  
 ZONE #2 = 11.6 PSF OR -32.1 PSF  
 ZONE #3 = 11.6 PSF OR -47.5 PSF



GABLE ROOF

ZONE #4 = 20.2 PSF OR -21.8 PSF  
 ZONE #5 = 20.2 PSF OR -27.0 PSF

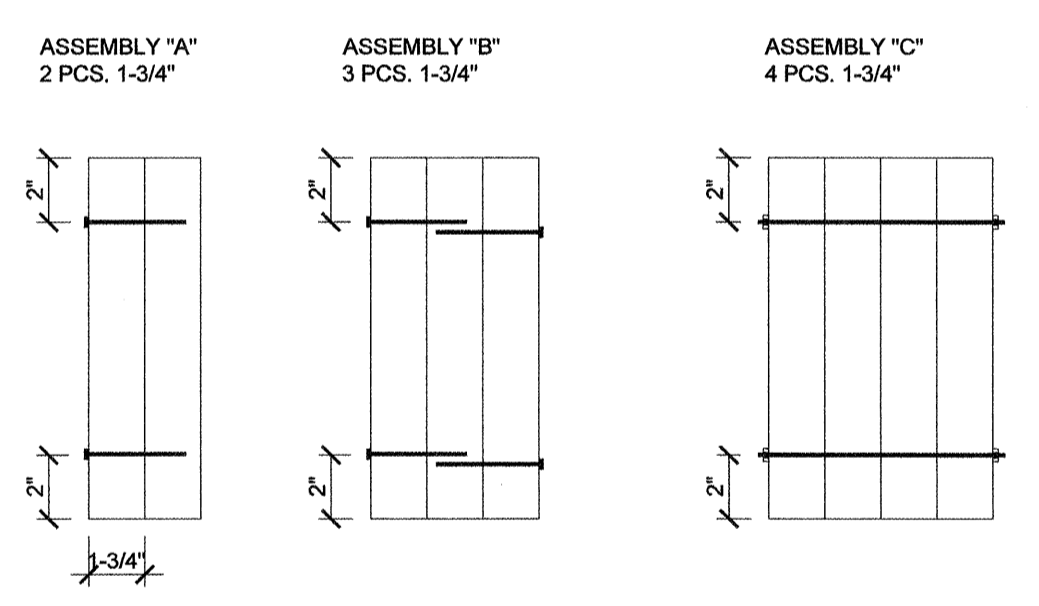


GABLE ROOF

ZONE #1 = 11.6 PSF OR -18.5 PSF  
 ZONE #2 = 11.6 PSF OR -32.1 PSF  
 ZONE #3 = 11.6 PSF OR -47.5 PSF

**4 ROOF COMPONENT AND CLADDING (LOADING DIAGRAM)**

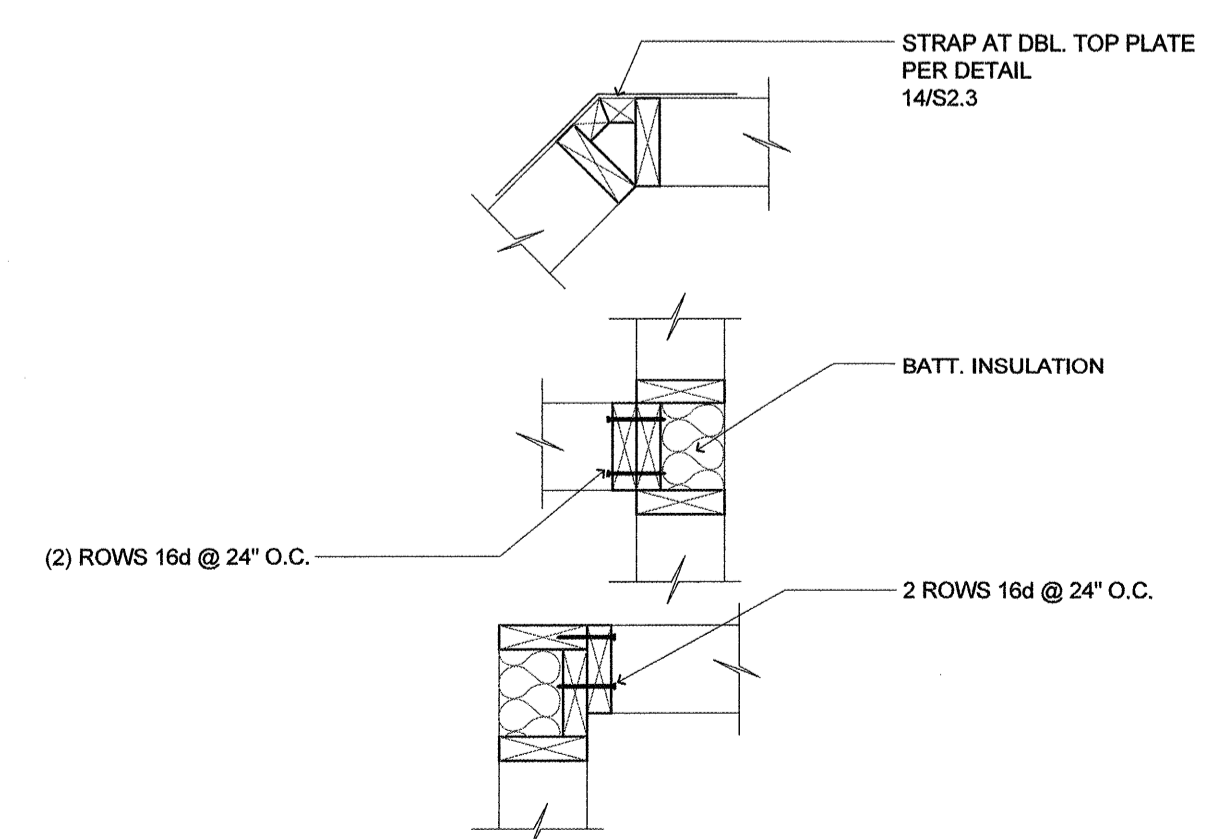
SCALE: N.T.S.



ASSEMBLY NUMBER	NAILED CONNECTION		THROUGH BOLTED CONNECTION	
	2 ROWS 16d COMMON WIRE AT 12" O.C.	3 ROWS 16d COMMON WIRE AT 12" O.C.	2 ROWS 1/2" BOLTS AT AT 24" O.C.	2 ROWS 1/2" BOLTS AT AT 12" O.C.
A	470	705	525	1010
B	355	530	380	760
C	N/A	N/A	340	680

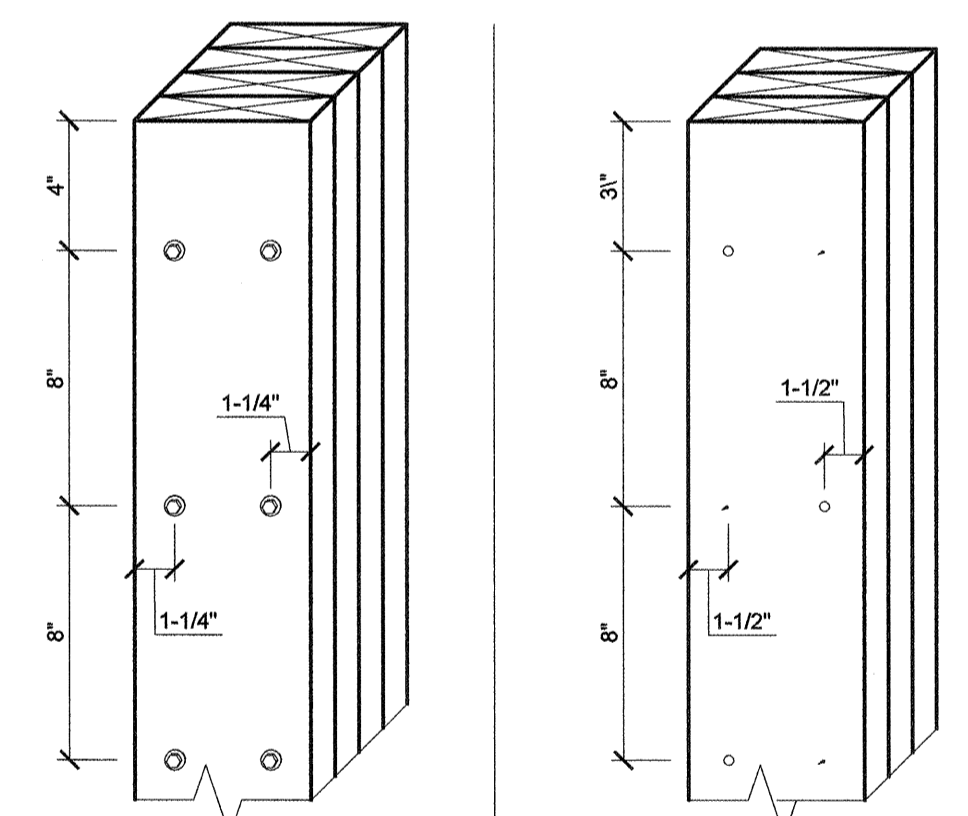
**6 MULTIPLE MEMBER BEAMS (SIDE LOADED CONNECTION)**

SCALE: N.T.S.

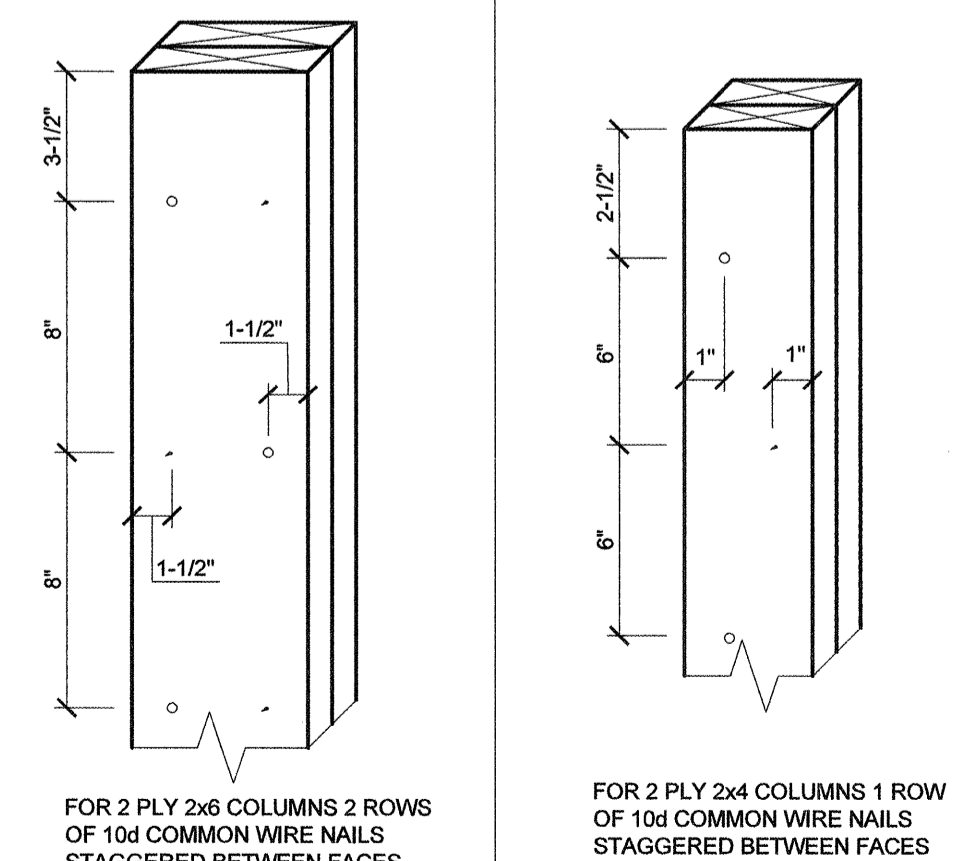


**5 TYPICAL CORNER**

SCALE: 1" = 1'-0"



FOR 4 PLY 2x6 COLUMNS 1/2" DIA. BOLTS POSITIONED AS SHOWN  
 FOR 4 PLY 2x4 COLUMNS 1/2" DIA. BOLTS AT CENTER LINE SPACE AS SHOWN



FOR 2 PLY 2x6 COLUMNS 2 ROWS OF 10d COMMON WIRE NAILS STAGGERED BETWEEN FACES

FOR 2 PLY 2x4 COLUMNS 1 ROW OF 10d COMMON WIRE NAILS STAGGERED BETWEEN FACES

**3 BUILT UP COLUMN (NDS - FIGURE 15C TYP. NAILING FOR BUILT UP COLUMNS)**

SCALE: N.T.S.

GENERAL STRUCTURAL NOTES

CODE: All material and workmanship shall conform to the requirements of the 2009 International Building Code.

- DESIGN LOADS:
- A. Floor live load 40 psf
  - Deck live load 60 psf
  - Common live load 100 psf
  - Storage live load 125 psf
  - B. Roof live load 20 psf
  - C. Roof snow load 40 psf
  - Flat-roof snow load Pf= 40 psf
  - Snow exposure factor Ce= 1.0
  - Snow load importance factor I= 1.0
  - Thermal factor Ct= 1.1
  - D. Basic wind speed 100 mph (3) second gust
  - Importance factor I
  - Occupancy category II
  - Wind exposure B
  - E. Seismic design category B
  - Importance factor I
  - Occupancy category II
  - Spectral response accelerations Ss= 0.316 S1= 0.077
  - Spectral response coefficients C
  - Site class Sds= 0.253 Sd1= 0.087
  - ASCE 7-05 Method 12.8.A.13 & G.1
  - Design base shear V= 0.039 W
  - Seismic response coefficient(s) Cs= 0.039
  - Response modification factor(s) R= 5.5
  - Analysis procedure used Equivalent lateral force procedure

- GENERAL:
- A. Contractor shall be responsible for all construction methods, techniques, sequencing and safety required to complete construction.
  - B. Contractor shall verify all dimensions and details prior to proceeding with construction. All discrepancies shall be approved by the Architect or Engineer of record.
  - C. Contractor shall verify all required openings on Architectural, Mechanical and Electrical plans.

- FOUNDATION:
- A. Footing have been designed for a maximum allowable soil bearing pressure of 4,000 psf on native material or properly compacted structural fill.
  - B. All footings shall be constructed as shown on the plans and in accordance with S.W. Cole Engineering, Inc. report for project 14-1188s dated 11/04/2015.
  - C. No excavation shall be made below any footing closer than one to one slope to the bottom of same.
  - D. All bottom of exterior footings to be a minimum of 54" below finish grade.
  - E. Back fill all pipe trench excavations below footings with lean concrete to the bottom of the footings.

- CONCRETE:
- A. Concrete to develop a unit compressive stress of 3,000 psi minimum at 28 days per I.B.C. section 1905 with 5 sacks of cement/ cubic yd. minimum.

- REINFORCING STEEL FOR CONCRETE:
- A. All reinforcing steel shall be rail steel deformed bars conforming to ASTM A615, grade 60 bars except where welding is required use A706, grade 60 bars.
  - B. Details of reinforcing steel shall conform to ASTM Manual of Standard Practice, Code of Standard Practice for detailing reinforcing materials, by CTSI and WCRSI (latest edition).
  - C. All concrete slab reinforcing steel shall be supported at the required heights by approved bolsters.
  - D. Provide 2'-0" X 2'-0" corner bars for all horizontal wall steel at all corners and intersections.
  - E. Splices shall be lapped 36 bar diameters or 2'-0" minimum unless detailed otherwise.

- REINFORCING PROTECTION:
- A. Concrete deposited against earth = 3 inches
  - B. Concrete formed surfaces exposed to ground or weather: #5 rebar and smaller = 1 1/2 inches. #6 rebar and larger = 2 inches.
  - C. Slabs = 3/4 inches.

- STEEL:
- A. All structural steel plates, and shapes to be ASTM A-36 (Fy=36,000 psi).
  - B. All anchor bolts to be ASTM F1554, grade 36 minimum.
  - C. All structural steel bolts to be ASTM A-307.
  - D. All structural steel beams to be ASTM A-992 (Fy=50,000 psi).
  - E. All steel tube columns to be ASTM A-500 grade B (Fy=46,000 psi).
  - F. All welding to be done by AWS certified welders and shall conform to A.W.S., A.I.S.C., I.B.C., and other applicable codes.
  - G. All wedge anchors to be Simpson Strong-Bolt 2 anchors or approved equivalent.
  - H. Fabrication and erection shall conform to the specifications set forth in the Steel Construction Manual of the AISI and the Standard Code for ARC and Gas Welding in Building Construction.

- STRUCTURAL WOOD:
- A. All sawn lumber, including stud wall framing, to be #1/#2 grade SPF (U.N.O.), except 4x lumber to be No. 2 Douglas Fir Larch, 6x lumber or larger to be No. 1 Douglas Fir Larch, per I.B.C. section 2303.1.1.
  - B. The contractor shall furnish and install all bolts and plates as required to complete the job.
  - C. All bolt heads and nuts bearing on wood to be provided with standard cut washers, except where otherwise shown.
  - D. All wood members in contact with concrete, masonry or exposed to weather shall be preservative treated.
  - E. Fasteners in contact with preservative-treated wood shall be of hot-dipped zinc coated galvanized steel, silicon bronze or copper. Fasteners other than nails, timber rivets, wood screws and lag screws shall be permitted to be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695, Class 55 minimum. Connectors that are used in exterior applications and in contact with preservative-treated wood shall have coating types and weights in accordance with the treated wood or connector manufacturer's recommendations. In the absence of manufacturer's recommendations, a minimum of ASTM A 653, type G185 zinc-coated galvanized steel, or equivalent, shall be used. Exception: Plan carbon steel fasteners in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment shall be permitted.
  - F. All nailing not shown shall be called for in I.B.C. table 2304.9.1, fastening schedule.
  - G. Roof sheathing shall be 15/32" CDX plywood with a span rating of 24/16.
  - H. Floor sheathing shall be 3/4" CDX plywood with a span rating of 40/20.

- GLU-LAM BEAMS:
- A. Beams to be built in accordance with "Standard Specifications for Structural Glued Laminated Members of the American Institute of Timber Construction".
  - B. Glued-laminated members shall be laminated from Coast Region Douglas Fir Lumber and shall be 24F-V4 structural grade for simple span members and 24F-V8 structural grade for continuous and cantilevered members.

- FLOOR JOIST:
- A. Floor joist manufacturer's design shall include required bearing, bracing, blocking, fastening and attaching devices to carry the design loads.
  - B. Floor joist to be designed to carry loads as shown or noted on plans.
  - C. Erection and installation shall be in accordance with the specifications set forth by the manufacturer.
  - D. The joist manufacturer shall supply all joist, associated load transfer blocks, hangers, bracing, and blocking as required to complete the floor joist framing.

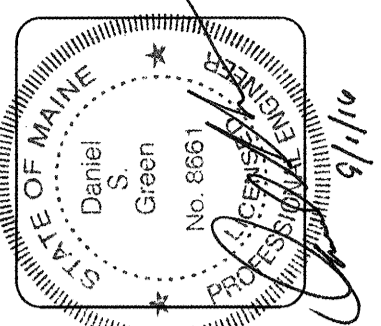
- ROOF TRUSSES:
- A. Roof framing members shall be designed to support the specified loads and limit maximum total load deflection to L/240 of the span.
  - B. Roof truss manufacturer's design shall include required bearing, bracing, blocking, fastening and attaching devices to carry the specified loads.
  - C. Erection and installation shall be in accordance with the specifications set forth by the manufacturer.
  - D. The roof truss manufacturer shall supply all trusses, associated load transfer blocks, hangers, bracing, blocking and beveled plates as to complete the roof truss framing.

- STRUCTURAL INSPECTION AND TESTING:
- A. All construction shall be inspected in conformance with the 2009 Edition International Building Code.
  - B. All items noted as required special inspection per the International Building Code 2009 Edition in accordance with section 1704, shall be performed by a qualified person who can demonstrate competence for the particular type of construction being inspected. The special inspections shall be performed in addition to the inspections required by the International Building Code. The Plans and Specifications, The Architect of Record, and the Building Officials.

ITEM	CONTINUOUS <sup>3</sup>	PERIODIC <sup>3</sup>	COMMENTS
<b>SOILS</b>			
Grading, Excavation & Backfill			By Geotech.
Final Foundation Inspection			By Geotech.
<b>CONCRETE</b>			
Reinforcing Placement		X	
Reinforcing Welding			Ref. Note 6
Anchor Bolts & Inserts		X	
Preparation of Test Specimens			Fc = 2500 psi
Concrete Placement			
Epoxy Anchor Placement	X		
Expansion Anchor Placement		X	
<b>STRUCTURAL STEEL</b>			
High Strength Bolting			A325 <sup>89</sup> A490 <sup>89</sup>
Welding of Anchors & Studs			
Welding Stairs/Railing System			
Embedded Plates			
<b>SHOP WELDING</b>			
Single Pass Fillet Welds ≤ 5/16"		X	Ref. Note 4
Fillet Welds > 5/16"			Ref. Note 4
Partial/Complete Penetration			Ref. Note 5
<b>FIELD WELDING</b>			
Single Pass Fillet Welds ≤ 5/16"		X	Ref. Note 4
Fillet Welds > 5/16"			Ref. Note 4
Partial/Complete Penetration			Ref. Note 5
Prefab. Construction			Ref. Note 7
<b>WOOD</b>			
Plywood Nailing		X	
Holdown Installation		X	

- The items marked with an 'X' shall be inspected in accordance with 2009 I.B.C. Section 1704 by a certified special inspector from an established test agency. For material sampling and testing requirements, refer to the material sampling and testing section of the project specifications and the specific general notes sections. The testing agency shall send copies of all structural testing and inspection reports directly to the Architect, engineer, contractor and building official. Any materials which fail to meet the project specifications shall immediately be brought to the attention of the architect. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority and to the building official. The special inspector shall submit a final signed report stating whether the work requiring special inspection was to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the code. Special inspection testing requirements apply equally to all bidder designed components.
- Special inspection is not required for work performed by an approved fabricator per 2009 I.B.C. section 1704.2.2.
- Continuous special inspection means that the special inspector is on site at all times observing the work requiring the special inspection (2009 I.B.C. section 1704). Periodic special inspection means that the special inspector is on the site at the time intervals necessary to confirm that all work requiring special inspection is in compliance.
- All welds shall be visually inspected.
- All complete penetration welds shall be tested ultrasonically or by using approved method.
- Periodic special inspection is only required for welding of ASTM A706 reinforcing steel not greater than No. 5 used for embedments, provided the materials, qualifications of welding procedures and welders are verified prior to the start of work; periodic inspections are made of work in process; and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.
- Inspection for prefabricated construction shall be the same as if the material used in the construction took place on site. Continuous inspection will not be required during prefabrication if the approved agency certifies the construction and furnishes evidence of compliance.
- Snug tight.
- Turn of the nut method.
- Contractor to retain an approved special inspector to observe and approve all high strength bolt installations.

DETAILS 1, 2 NOT USED



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**STRUCTURAL SPECIFICATIONS**

DATE: 8/28/2015  
 REVISED DATE:  
 9/22/2015  
 2/2/2016  
 7/18/2016

**SHEET**  
 S2.1