

GENERAL STRUCTURAL NOTES

STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THESE DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.

CODE REQUIREMENTS: INTERNATIONAL BUILDING CODE (IBC), AS AMENDED AND ADOPTED BY THE STATE OF OREGON AS 2010 OREGON STRUCTURAL SPECIALTY CODE (OSSC, ACI 318-08, ASCE 7-05, EXCEPT WHERE NOTED OTHERWISE BELOW.

EXISTING CONDITIONS: ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS SHALL BE FIELD VERIFIED. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY SIGNIFICANT DISCREPANCIES FROM CONDITIONS SHOWN ON THE DRAWINGS.

DESIGN CRITERIA: DESIGN WAS BASED ON THE STRENGTH AND DEFLECTION CRITERIA OF THE IBC 2009. IN ADDITION TO THE DEAD LOADS, THE FOLLOWING LOADS AND ALLOWABLES WERE USED FOR DESIGN:

VEHICLE IMPACT LOAD:
6.0 KIIPS APPLIED AT 18" ABOVE FINISH FLOOR. REF. AISC 7.05 ST 4.4.3

WIND CRITERIA: WIND DESIGN WAS BASED UPON THE FOLLOWING:
BASIC WIND SPEED (3-SECOND GUST) = 95 mph, WIND EXPOSURE B, $K_{zt} = 1.0$

EPOXY REPAIR ADHESIVE: EPOXY REPAIR ADHESIVE SHALL CONFORM TO ASTM C881 AND SHALL BE A TWO-COMPONENT LIQUID EPOXY WITH NON-SAG CONSISTENCY AND A LONG POT LIFE. THE EPOXY ADHESIVE SHALL BE SUITABLE FOR USE ON DRY OR DAMP SURFACES. MINIMUM SLANT SHEAR STRENGTH SHALL BE 4000 PSI AND MINIMUM TENSILE STRENGTH SHALL BE 5000 PSI. THE SHEAR AND TENSILE STRENGTH SHALL BE FIELD VERIFIED WITH THE APPROVED ICC REQUIREMENTS. DO NOT CUT REINFORCING IN NEW OR EXISTING CONCRETE DURING INSTALLATION.

STRUCTURAL STEEL:

STRUCTURAL STEEL SHALL BE:

ASTM A992, GRADE 50	WIDE FLANGE SHAPES,
ASTM A572, GRADE 50	PLATES WHERE NOTED,
ASTM A36 (F _y = 36 KSI)	CHANNELS, FLATES AND ANGLES, EXCEPT AS NOTED.
ASTM A500, GRADE B (F _y = 48 Ksi)	HOLLOW STRUCTURAL SECTIONS (TUBES)
ASTM A53, GRADE B (F _y =38 KSI)	PIPES

DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE AISC SPECIFICATION FOR "COMMENTARY" AND THE CODE OF STANDARD PRACTICE, WITH EXCEPTIONS NOTED IN SPECIFICATIONS. WELDS SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE 3/16" MINIMUM, UNLESS OTHERWISE NOTED. WELDING SHALL BE BY AWS CERTIFIED WELDERS

STRUCTURAL OBSERVATION OF RECORD (SER) WILL PERFORM STRUCTURAL OBSERVATION BASED ON THE REQUIREMENTS OF CHAPTER 17 OF OSSC. THE ENGINEER AT THE FOLLOWING STAGES OF THE CONSTRUCTION LISTED BELOW. CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SER TO PERFORM THESE OBSERVATIONS:

STRUCTURAL OBSERVATION PROGRAM

ITEM	PROVIDED BY (2)		REMARKS
	AOR	SER	
DURING INITIAL STEEL ERECTION		X	REF. NOTES 1, 3, AND 4
AS REQUIRED TO ADDRESS STRUCTURAL ISSUES		X	REF. NOTES 1, 3, AND 5

- NOTES:**
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SER IN ADVANCE
 - SER STRUCTURAL NUMBER OF RECORD (AOR) AND DATE OF RECORD
 - A FIELD REPORT WILL BE SUBMITTED TO THE BUILDING DEPARTMENT FOLLOWING EACH SITE VISIT
 - STRUCTURAL OBSERVATION IS INTENDED TO CONFIRM THAT THE STRUCTURE IS BUILT ACCORDING TO THE APPROVED DRAWINGS. SPECIAL INSPECTION IS STILL REQUIRED.
 - AFTER REINFORCING STEEL HAS BEEN INSTALLED.

SPECIAL INSPECTION WILL BE PROVIDED BY THE OWNER BASED ON THE REQUIREMENTS OF CHAPTER 17 OF OSSC AS SUMMARIZED IN THE SPECIAL INSPECTION PROGRAM ON SHEET S3.0. CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR SPECIAL INSPECTION INSPECTION TO PERFORM THESE INSPECTIONS.

STEEL STUDS: STEEL STUDS SHALL BE C-STEELS WITH A MINIMUM YIELD OF 33,000 PSI FOR 18 AND 20 GAUGE AND 50,000 PSI FOR 22 AND 24 GAUGES. STUDS SHALL BE OF THE SIZE GAUGE AND SPACING SHOWN ON THE DRAWINGS. MINIMUM SECTION PROPERTIES SHALL BE AS FOLLOWS. PROVIDE BRIDGING IN CONFORMANCE WITH THE MANUFACTURER'S CONNECTIONS. BRIDGING FOR DEVELOPMENT OF THE FULL MOMENT CAPACITY OF STUDS. FOR LOAD-BEARING STUDS, TRACK SHALL BE OVERSIZE TO PROVIDE FULL STUD BEARING. SCREWS SHALL BE ELCO DRILL-FLEX, HILLTI KWIK-FLEX, OR APPROVED. WELDING SHALL CONFORM WITH AWS D1.3.

PREVISION DESIGNATION	STUD SIZE	I (MIN) IN ⁴	S (MIN) IN ³
3-5/8" X 20 GAUGE	3625125-30	1.275	0.425
3-5/8" X 22 GAUGE	3625125-27	1.160	0.387
3-5/8" X 25 GAUGE	3625125-18	0.778	0.259
6" X 16 GAUGE	6005162-54	2.86	0.953
6" X 18 GAUGE	6005162-43	2.136	0.772
6" X 20 GAUGE	6005162-33	1.793	0.598
	TRACK SECTIONS	I (MIN) IN ⁴	S (MIN) IN ³
3-5/8" X 20 GAUGE	3627125-30	0.395	0.210
3-5/8" X 22 GAUGE	3627125-27	0.358	0.191
3-5/8" X 25 GAUGE	3627125-18	0.237	0.128
6" X 16 GAUGE	6007125-54	2.294	0.685
6" X 18 GAUGE	6007125-43	1.750	0.515
6" X 20 GAUGE	6007125-33	1.297	0.335

SUBMITTALS SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION OF STRUCTURAL ITEMS INCLUDING THE FOLLOWING:

STRUCTURAL OBSERVATION PROGRAM

ITEM	SUBMITTALS (1,4)	DEFERRED SUBMITTALS (2,4)	REMARKS
CONCRETE ANCHORAGES	X		
EMBEDDED STEEL ITEMS	X		X
STRUCTURAL STEEL CONCRETE ANCHORAGES	X		
STEEL WELDING PROCEDURES	X		
STEEL FASTENERS	X		
EXTERIOR LIGHT GAUGE METAL FRAMING		X	
MECHANICAL EQUIPMENT ANCHORAGE AND BRACING		X	NOTE 3

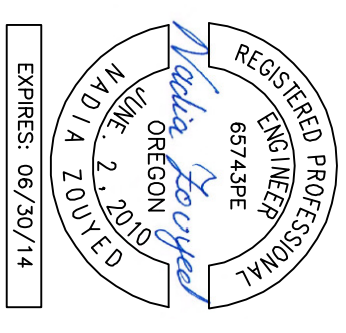
- NOTES:**
- SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION OF STRUCTURAL ITEMS. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL PLANS, THEY SHALL BEAR THE SEAL OF AND THE SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF OREGON. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED THE SER AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE SER.
 - DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF STRUCTURAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION. THE ENGINEER OF RECORD PRIOR TO FABRICATION, CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED ON THE REQUIREMENTS OF OSSC AND AS NOTED UNDER DESIGN CRITERIA.
 - CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT MACHINERY, AND ASSOCIATED PIPING SYSTEMS WITH THE STRUCTURE. CONNECTIONS TO THE STRUCTURE SHALL CONFORM TO ASCE 7-05 CHAPTER 13. THEY SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION.
 - FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE DESIGN SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION. THE ENGINEER REGISTERED IN THE STATE OF OREGON AND SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION.

TABLE: "A" REQUIRED STRUCTURAL SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	INSPECTION			REMARKS
	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY	
FABRICATORS	1704.7		X	SPECIAL INSPECTIONS REQUIRED BY OSSC SECTION 1704 ARE NOT REQUIRED WHERE THE WORK IS PERFORMED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
		STEEL		
FABRICATION OF STRUCTURAL STEEL	1704.2		X	REFER TO INSPECTION OF FABRICATOR REQUIREMENTS
MATERIAL VERIFICATION	1704.3 2203.1	ASTM A6 AISC 360 A3.1	X	CERTIFIED MILL TESTS
MATERIAL VERIFICATION OF WELD FILLER METALS	1704.3	AISC 360 A3.5	X	CERTIFIED TEST REPORTS FROM THE MANUFACTURER
VERIFYING USE OF PROPER WPS			X	COPY OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS			X	COPY OF QUALIFICATION CARDS
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS			X	
MULTIPLE PASS FILLET WELDS	1704.3.1	AWS D1.1 SECTION 6	X	
SINGLE PASS FILLET WELDS GREATER THAN 1/8"			X	ALL WELDS VISUALLY INSPECTED PER AWS D1.1.9
SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 1/8"			X	
VERIFICATION OF FRAME JOINT DETAILS INCLUDING MEMBER AND COMPONENTS	1704.3.1		X	
MATERIAL VERIFICATION OF REINFORCING STEEL FOR WELDING			X	CERTIFIED MILL TEST REPORTS

PROGRAM FOOTNOTES:

- SPECIAL INSPECTION SHALL CONFORM TO 2010 OSSC SECTION 1704, REFER TO TABLE "A" AND "B" FOR SPECIAL INSPECTIONS AND TABLE "C" FOR TESTING REQUIREMENTS.
 - SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E529 (MATERIALS), ASTM D2720 (SOILS), ASTM C1077 (CONCRETE), ASTM A480 (STEEL) AND ASTM E643 (NONDESTRUCTIVE). IN ADDITION, THE INSPECTION AGENCY SHALL BE APPROVED BY THE BUILDING OFFICIAL. THE INSPECTION TESTING AGENCY SHALL FURNISH TO THE ARCHITECT A COPY OF THEIR SCOPE OF ACCREDITATION. WELDING INSPECTORS SHALL BE QUALIFIED PER AWS D1.1 SECTION 6.1.4.11.
 - THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTES IN THE INSPECTION REPORTS.
 - THE SPECIAL INSPECTION SHALL FURNISH REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, SER, ARCHITECT AND ENGINEER OF RECORD. THE SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION. THE SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO FABRICATION AND CONSTRUCTION.
- CONTRACTOR RESPONSIBILITY:**
FOR OCCUPANCY CATEGORY III THE CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION OF THE MAIN WIND-SEISMIC-FORCE RESISTING SYSTEM, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK OR THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:
- ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
 - PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTORS ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND DISTRIBUTION OF THE REPORTS.
 - IDENTIFICATION AND QUALIFICATIONS OF THE PERSONS EXERCISING SUCH CONTROL AND THEIR POSITIONS IN THE ORGANIZATION.



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