

COLD-FORMED STEEL (LIGHT GAGE METAL FRAMING)

1. ALL LIGHT GAGE METAL FRAMING CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 2211A OF THE CODE AND AISI S100-07 "SPECIFICATIONS FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS".
2. MEMBER IDENTIFICATION SHALL BE AS SHOWN:
 - (A) MEMBER DEPTH:
(EXAMPLE: 6" = 600/100 INCHES)
ALL MEMBER DEPTHS ARE TAKEN IN 1/100 INCH INCREMENTS. FOR "T" SECTIONS, MEMBER DEPTH IS THE INSIDE TO INSIDE DIMENSION.
 - (B) STYLE:
(EXAMPLE: STUD OR JOIST SECTION = "S")
THE FOUR ALPHABETIC CHARACTERS USED TO DESIGNATE THE TYPE OF SECTION ARE:
 - S = STUD OR JOIST SECTIONS
 - T = TRACK SECTIONS
 - U = CHANNEL SECTIONS
 - F = FURRING CHANNEL SECTIONS
 - (C) FLANGE WIDTH:
(EXAMPLE: 1 5/8" = 1.625" = 162/100 INCHES)
ALL MEMBER FLANGE WIDTH ARE TAKEN IN 1/100 INCH INCREMENTS.
 - (D) MATERIAL THICKNESS:
(EXAMPLE: 0.054" = 54 MIL = 54/1,000 INCHES)
MATERIAL THICKNESS IS THE MINIMUM BASE METAL THICKNESS IN MILS. MINIMUM BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.

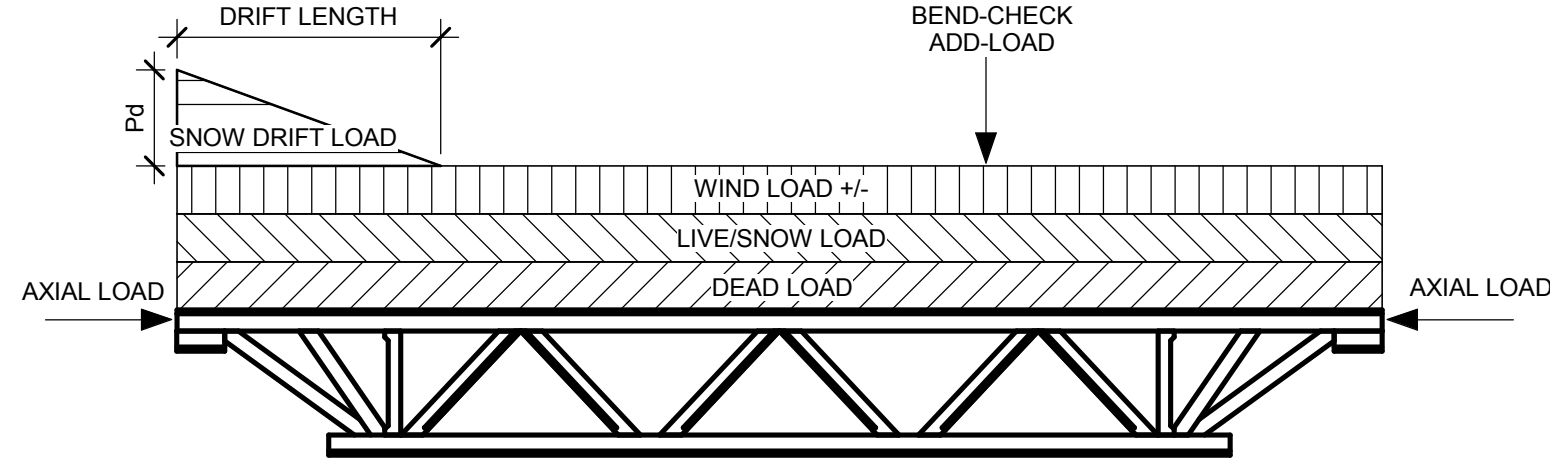
3. ALL CALCULATED MEMBER PROPERTIES PER AISI SPECIFICATIONS ARE BASED ON THE FOLLOWING THICKNESSES:

MINIMUM THICKNESS	REFERENCE GAGE	DESIGN THICKNESS
33 MIL	20 GA - STRUCTURAL	0.0346"
43 MIL	18 GA	0.0451"
54 MIL	16 GA	0.0566"
68 MIL	14 GA	0.0713"
97 MIL	12 GA	0.1017"
118 MIL	10 GA	0.1242"

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|----|---|--|
| 4. | ALL LIGHT GAGE METAL FRAMING SHALL CONFORM WITH THE FOLLOWING: | |
| | GALVANIZED STUDS & TRACKS: | ASTM A653 SQ. GR 50
(Fy = 50,000 PSI) |
| | 12 (97), 14 (68) OR 16 (54) GAGE (MILS) | |
| | GALVANIZED STUDS & TRACKS: | ASTM A653 SQ. GR 33
(Fy = 33,000 PSI) |
| | 18 (43), 20 (33) GAGE (MILS) | |
| | GALVANIZED BACKING PLATES: | ASTM A653 SQ. GR 50
(Fy = 50,000 PSI) |
| | | |
| | GALVANIZED END CLOSURES,
BRIDGING AND ACCESSORIES | ASTM A653 SQ. GR 33
(Fy = 33,000 PSI) |
| 5. | ALL LIGHT GAGE METAL FRAMING SHALL BE GALVANIZED. | |
| 6. | DOUBLE VERTICAL STUDS SHALL BE STITCH WELDED TOGETHER ON BOTH FLANGES WITH 1/16" GROOVE WELDS x 1" LONG AT 12" ON CENTER, U.N.O. ON DRAWINGS. | |
| 7. | TOP AND BOTTOM TRACK GAGE THICKNESS SHALL MATCH THE GAGE THICKNESS OF THE WALL STUDS. U.N.O. | |
| 8. | ALL SHEET METAL SCREWS SHALL PROTRUDE 1/4" MIN THROUGH METAL FRAMING. | |
| 9. | THE CONTRACTOR IS PROHIBITED FROM USING TORCHES TO BURN HOLES IN TRACKS OR STUDS. | |

OPEN WEB STEEL JOISTS:

1. DESIGN, DETAILING, FABRICATION, AND ERECTION OF OPEN-WEB STEEL JOISTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DESIGN SHALL COMPLY WITH THE CURRENT BUILDING CODE AND WITH LOADS SHOWN ON THE GENERAL NOTES AND ON SHEET S1.02 S.1, 02.8, 01.3.
2. SHOP DRAWINGS (STAMPED AND SIGNED BY A LICENSED STRUCTURAL OR CIVIL ENGINEER IN THE STATE OF IDAHO) AND CALCULATIONS FOR OPEN-WEB STEEL JOISTS SHALL BE SUBMITTED FOR APPROVAL TO THE ARCHITECT OR STRUCTURAL ENGINEER PRIOR TO FABRICATION.
3. NON-COMPOSITE LONGSPAN STEEL JOISTS, NOTED AS TYPE "LH", SHALL COMPLY WITH SJI-LHDLH-2010 STANDARD SPECIFICATION FOR LONGSPAN STEEL JOISTS, 2010. DO NOT CAMBER NON-COMPOSITE STEEL JOISTS.
4. MAXIMUM BEARING SEAT DEPTH FOR ALL OPEN WEB STEEL JOISTS IS 5".



JOIST SCHEDULE										
JOIST DESIGNATION	JOIST DEPTH	DESIGN LOADS, PLF					CONCENTRATED DESIGN LOAD, LB			
		DEAD LOAD ¹	LIVE/SNOW LOAD	SNOW LOAD ⁶			WIND UPLIFT ²	BEND-CHECK ³	ADD-LOAD ⁴	AXIAL ⁵
				P _f PLF	P _d PLF	DRIFT LENGTH				
OWSJ-01	10"	220	175	98	282	9'-6"	197			
OWSJ-01M	10"	220	175	98	282	9'-6"	197	200	400	
OWSJ-02	18"	220	175	98	197	7'-0"	197			
OWSJ-02M	18"	220	175	98	197	7'-0"	197	200	400	
OWSJ-03	32"	220	175	98	212	7'-6"	275			
OWSJ-03A	32"	220	175	98	212	7'-6"	275			45,000
OWSJ-03M	32"	220	175	98	212	7'-6"	275	225	225	
OWSJ-04	18"	220	175	98	187	6'-6"	197	100	100	
OWSJ-05	18"	220	175	98	154	5'-0"	197	100	100	

1. DEAD LOADS LISTED ARE SUPERIMPOSED LOADS. SELF-WEIGHT OF JOISTS ARE NOT INCLUDED
2. WIND UPLIFT VALUES PROVIDED ARE SERVICE-LEVEL WIND PRESSURES FROM ASCE 7-10, SECTION 30.4. NET UPLIFT SHALL BE DETERMINED USING THE APPROPRIATE LOAD COMBINATIONS OF ASCE 7-10.
3. FOR ADD-LOAD, DESIGN JOIST FOR CONCENTRATED LOADS LOCATED AT ANY ONE PANEL POINT ALONG THE JOIST. ADD LOADS SHOULD BE CONSIDERED AS DEAD LOADS.
4. FOR BEND-CHECK, DESIGN JOIST TOP CHORD FOR ADDITIONAL BENDING STRESSES RESULTING FROM CONCENTRATED LOADS LOCATED AT ANY LOCATION ALONG CHORD.
5. AXIAL LOADS PROVIDED ARE FROM WIND PRESSURE.
6. COMBINE FLAT ROOF SNOW LOAD (P_f) AND DRIFT LOAD (P_d). DRIFT LOADS INDICATED SHOULD BE APPLIED TO BOTH ENDS OF JOIST U.N.O.

STRUCTURAL STEEL

- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH AISC 360-10 AND CHAPTER 22 OF THE CODE.

2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (UNO):

W SHAPES, WT SHAPES	A992
ANGLES, CHANNELS	A36
PLATES (UNLESS OTHERWISE NOTED ON DRAWINGS)	A36
PIPE COLUMNS	A53, GR B
HSS SECTIONS	A500, GR B
HIGH STRENGTH BOLTS (AS NOTED ON DRAWINGS)	A325/F1852, A490SC/F2280SC A325SC/F1852SC
ANCHOR RODS (AS NOTED ON DRAWINGS)	F1554 GR36/55/105 A354 GR BD
COMMON/MACHINE BOLTS	A307 GR A

3. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL FOR REVIEW AND APPROVAL BY THE AOR AND SEOR PRIOR TO FABRICATION.

4. BOLT HOLES USED IN STEEL SHALL BE 1/16" LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, EXCEPT AS NOTED.

5. ALL STRUCTURAL STEEL SURFACES THAT ARE ENCASED IN CONCRETE, MASONRY, SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED, EXCEPT AS REQUIRED FOR DESIGNATION OF PROTECTED ZONES.

6. PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED TO REINFORCED CONCRETE USING POST-INSTALLED ANCHORS, CONTRACTOR SHALL LOCATE ALL REINFORCEMENT AND CONFIRM CONSTRUCTABILITY OF ANCHOR LOCATIONS. SHOULD CONFLICTS WITH REINFORCEMENT OCCUR, CONTRACTOR SHALL COORDINATE AND SUBMIT ALTERNATE ANCHOR LOCATIONS AND REVISED STEEL FABRICATIONS TO SEOR FOR REVIEW AND APPROVAL. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT.

7. ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, UNLESS CALLED OUT TO BE PAINTED ON THE CONSTRUCTION DOCUMENTS. PROTECT FIELD WELDS EXPOSED TO THE WEATHER VIA PRIME AND PAINT OR BRUSH / COLD GALVANIZING. REFER TO ARCH DRAWINGS FOR STEEL FINISH. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL CONFORM TO REQUIREMENTS OF AISC 303-10.

8. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). ALL WELDS SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS AND THE CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1-10) OF THE AMERICAN WELDING SOCIETY. SEE SPECIAL INSPECTIONS SECTION FOR WELDING INSPECTION REQUIREMENTS. ALL WELDING FOR ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM SHALL PER AWS D1.8-09.

9. THE CONTRACTOR SHALL SUBMIT ALL WELDING PROCEDURE SPECIFICATIONS FOR REVIEW AND APPROVAL BY SEOR. THE SUBMITTED WELDING PROCEDURES SHALL INCLUDE ONLY THOSE PROCEDURES RELEVANT TO THIS PROJECT. ALL WELDED JOINTS SHALL BE PREQUALIFIED PER AWS OR BE QUALIFIED BY TEST PER AWS. A PROCEDURE QUALIFICATION RECORD (PQR) SHALL BE INCLUDED WITH THE WPS IF THE WELDING PROCEDURE OR JOINT IS QUALIFIED BY TESTING. THE ELECTRODE MANUFACTURER AND PRODUCT/TRADE NAME SHALL BE IDENTIFIED IN THE WPS IN ADDITION TO THE AWS ELECTRODE CLASSIFICATION NAME. A COPY OF THE ELECTRODE MANUFACTURER'S TECHNICAL DATA SHEETS WITH THE RECOMMENDED WELDING PARAMETERS SHALL BE SUBMITTED WITH THE WPS.

10. ALL WELDING OF DESIGNATED LATERAL FORCE RESISTING SYSTEM MEMBERS (INCLUDING DRAG AND CHORD BEAMS) IS TO BE PERFORMED AND INSPECTED IN ACCORDANCE WITH AWS D1.8-09, IN ADDITION TO ALL OTHER REQUIREMENTS NOTED IN THIS SECTION.

11. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC 360-10 SECTION J2.2b.

12. THE USE OF E70-T4 WELDING WIRE IS NOT ALLOWED FOR ANY APPLICATION.

13. 100 PERCENT ULTRASONIC TESTING IS REQUIRED FOR ALL COMPLETE JOINT PENETRATION GROOVE WELDS.

14. IF INTERMIXING OF WELD FILLER MATERIAL IS REQUIRED AT SPECIFIC WELDED JOINTS, AND IF ONE OF THE FILLER METALS IS FCAW-S, SUBMIT A WELDING PROCEDURE SPECIFICATION (WPS) AND QUALIFY BY TESTING.

15. BACKUP BARS MAY REMAIN IN PLACE UNLESS NOTED ON PLANS, OR WHEN ULTRASONIC TESTING INDICATES A POSSIBLE WELD DEFECT. IF DEFECTS ARE INDICATED BACKGUP BAR IS TO BE REMOVED AND THE ROOT INSPECTED. IF IMPERFECTIONS ARE FOUND, THEY ARE TO BE REMOVED BY BACKGUPPING TO SOUND MATERIAL & CLEANED BY GRINDING IF BACKGUPPED BY AIR ARC METHOD. THE BACKGUPPED AREA OF THE WELD IS TO BE REWELDED.

16. ALL INTERIOR EXPOSED WELDS, WHICH ARE LOCATED WITHIN A HEIGHT OF 6'-0" FROM THE INTERIOR FINISH FLOOR ELEVATION, SHALL BE GROUND SMOOTH AND FREE OF BURS AND SURFACE IRREGULARITIES. SEE SPECIFICATIONS FOR ADDITIONAL PAINTING AND FINISH INFORMATION.

HEADED STUDS

1. ALL HEADED STUDS WELDED TO BEAMS OR CONCRETE CONNECTIONS SHALL BE TRU-WELD STUDS PER ICC-ESR 2577, OR NELSON STUDS PER ICC-ESR 2856, OR APPROVED EQUAL.
2. ALL HEADED STUDS SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER OF STUDS IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE. WELDING SHALL BE DONE ONLY BY QUALIFIED WELDERS APPROVED BY AN AWS CERTIFIED WELD INSPECTOR.
3. STEEL SHEAR STUD MATERIAL, WELDING AND INSPECTION SHALL BE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE", AWS D1.1-10. ALL STUDS SHALL BE 3/4" DIAMETER X 5" LONG, SPACED AT 12" O.C. MAXIMUM, UNO.

STEEL DECK

1. ROOF AND FLOOR DECK SHALL BE AS NOTED ON THE DRAWINGS. MINIMUM PROPERTIES ARE AS FOLLOWS:

DECK PROFILE AND GAGE	I (IN4)	+S(IN3)	-S(IN3)	FY (KSI)
3" x 18GA DECK	1.213	0.752	0.768	50
HSB-36 x 18GA DECK	0.304	0.318	0.331	40

2. DESIGN OF ALL STEEL DECK AND COMPOSITE SLABS ON STEEL DECK SHALL BE IN ACCORDANCE WITH SECTION 2210 OF THE CODE.
3. THE AMERICAN IRON AND STEEL INSTITUTE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" SHALL COVER THE DESIGN OF ALL DECK UNITS. ALL STEEL DECK, CLOSURES AND FLASHINGS SHALL CONFORM TO ASTM A653 SS OR ASTM A1063 SS.
4. UNITS SHALL BE CONTINUOUS OVER THREE OR MORE SPANS, EXCEPT WHERE THE FRAMING DOES NOT PERMIT. SHORING MAY BE REQUIRED AT NON-CONTINUOUS SPANS. DECK SHOP DRAWINGS SHALL INDICATE WHERE SHORING WILL BE REQUIRED. DECK SHALL BEAR 2" MINIMUM AT ALL SUPPORTS.
5. ALL WELDING OF STEEL DECK SHALL BE DONE BY CERTIFIED LIGHT GAGE WELDERS IN ACCORDANCE WITH "SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES", AWS D1.3-08.
6. FOR COMPOSITE SLABS CONSISTING OF CONCRETE FILL OVER STEEL DECK, THE SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BETWEEN SUPPORTS BY BUTTON PUNCHING AT 36" O.C. MAX. OR PER SPACING INDICATED IN DECK SCHEDULE, WHICHEVER IS LESS. CONTRACTOR MAY DECREASE SPACING OF SIDE LAP ATTACHMENTS TO ACCOMMODATE CONSTRUCTION LOADING AS REQUIRED.
7. PROVIDE FLASHING AND CLOSURE PLATES AT ENDS OF ALL UNITS, AROUND COLUMNS, AND AT ALL PERIMETER LOCATIONS REQUIRING CONCRETE.
8. ALL DECKS USED FOR COMPOSITE SLABS CONSISTING OF CONCRETE FILL OVER STEEL DECK SHALL HAVE VENT TABS FOR CONCRETE VENTILATION. UNO. ALL BARE STEEL DECKS SHALL BE A NON-VENTED TYPE, UNO.
9. ALL STEEL DECK SHALL BE GALVANIZED.
10. ALL SHORING OF STEEL DECK SHALL BE PER MANUFACTURER'S RECOMMENDATIONS, UNO.

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PROJECT INFORMATION



City of Boise Fire Station #8

3575 W. Overland Rd. Boise, ID 83705

REVISIONS

MARK	DATE	DESCRIPTION
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PROJECT PHASE	75% CD
PROJECT NUMBER	114747.2
PROJECT MANAGER	R. TeBeau
PROJECT ARCHITECT	R. TeBeau
DESIGN	B. Harris/R. TeBeau
DRAWN BY	Author

SHEET NAME

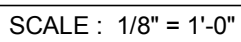
GENERAL STRUCTURAL NOTES

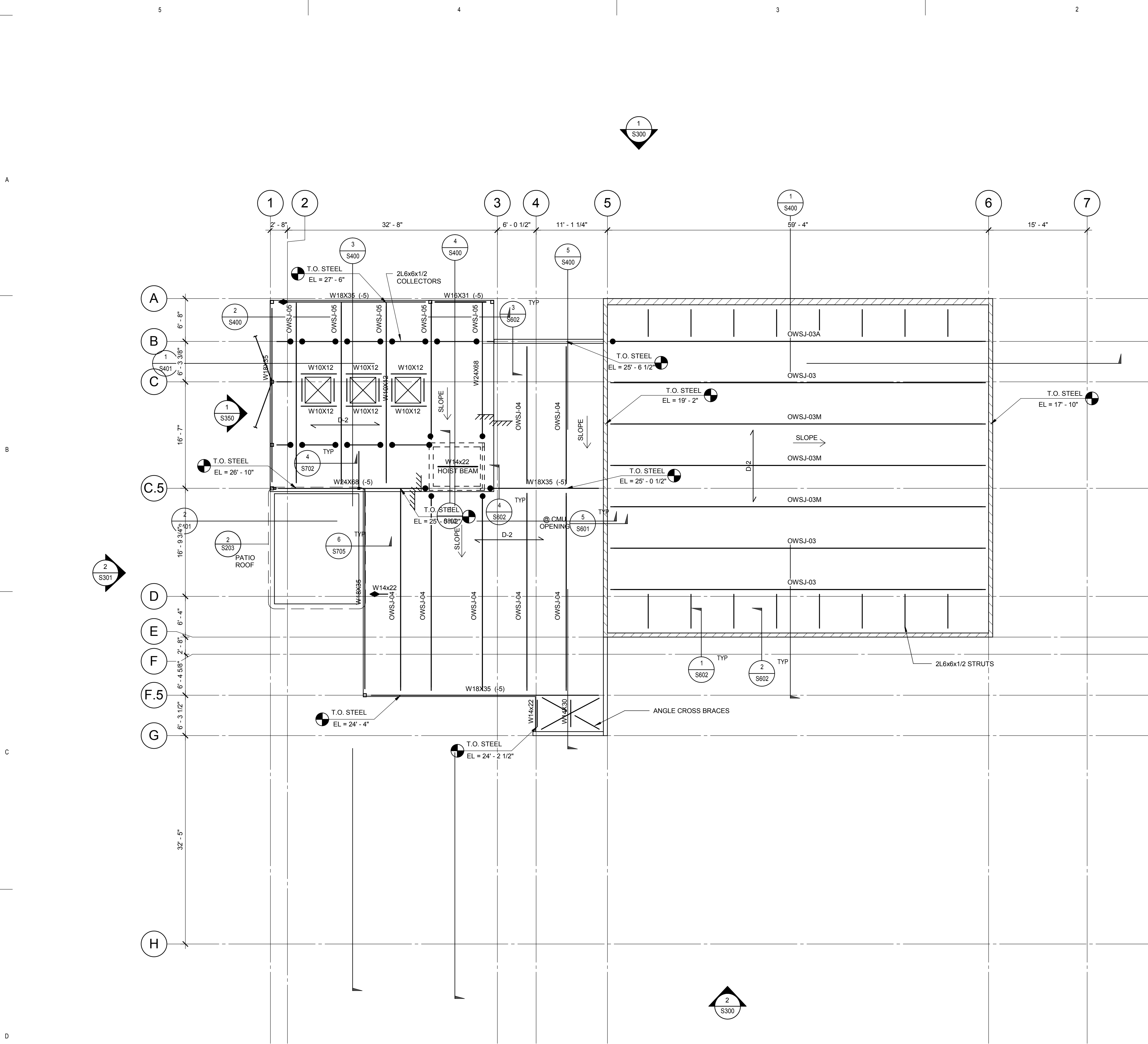
SHEET NUMBER

S002

11.09.18

17. ##LH INDICATES OPEN WEB STEEL JOIST BY CONTRACTOR. SEE GENERAL NOTES FOR LOAD CRITERIA AND DESIGN REQUIREMENTS.

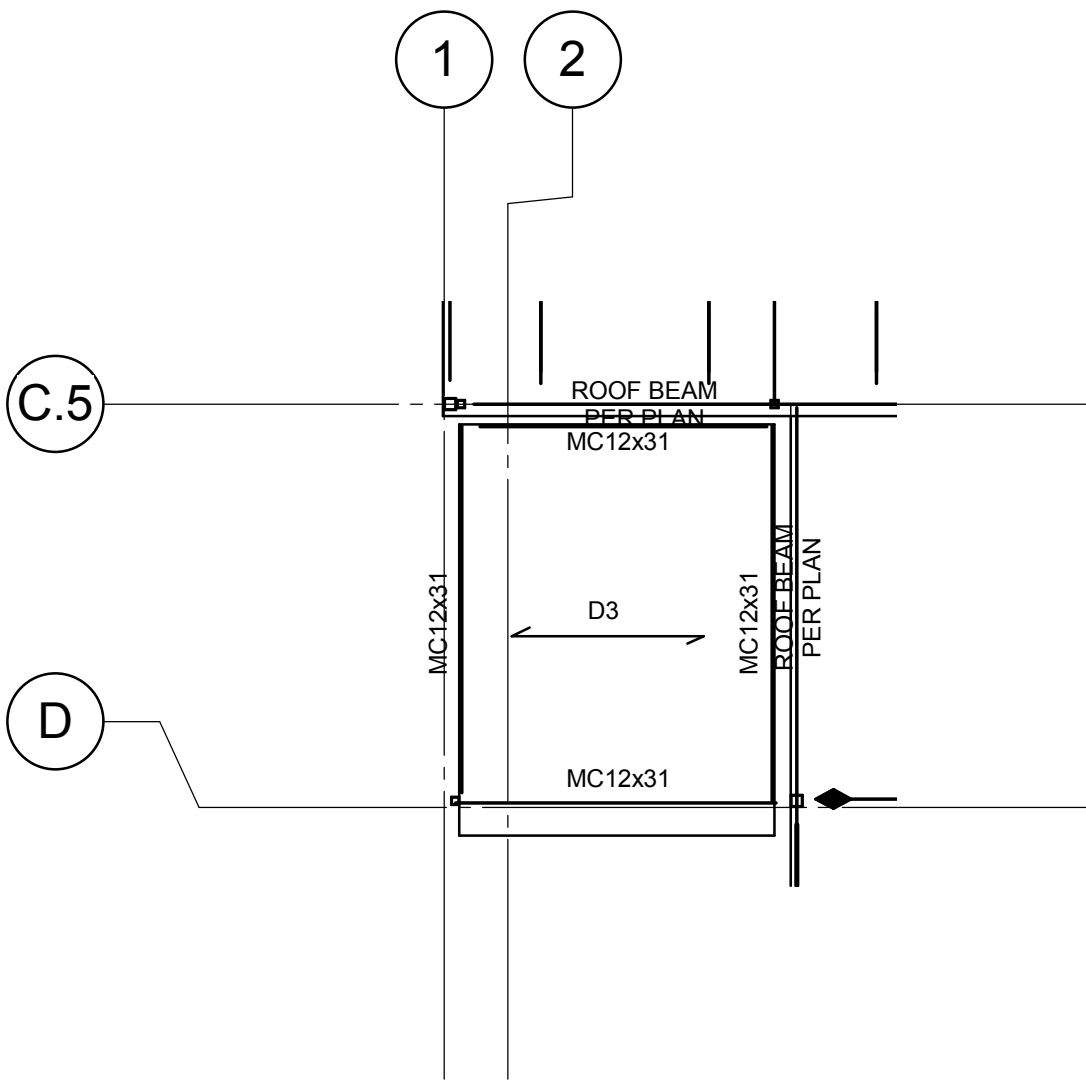




1 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

TYPICAL STEEL FRAMING NOTES:

- 1. SEE ARCH SHEETS FOR GRID DIMENSIONS & HORIZONTAL CONTROL.
- 2. SEE S000 SHEET SERIES FOR GENERAL NOTES.
- 3. SEE S501 SHEET SERIES FOR TYPICAL CMU DETAILS.
- 4. SEE S601 SHEET SERIES FOR TYPICAL STEEL DETAILS.
- 5. ALL BEAMS SHALL BE EQUALLY SPACED BETWEEN COLUMNS UNLESS NOTED OTHERWISE.
- 6. BEAMS AROUND OPENING ARE 1'-0" FROM EDGE OF OPENING. UNO. BEAMS AT EDGE OF SLAB ARE LOCATED AT 1'-0" FROM EDGE OF SLAB UNO.
- 7. T.O. SLAB EL = X'-X" INDICATES TOP OF SLAB OR DECK ELEVATION
- 8. (-/+X") INDICATES TOP OF STEEL BEAM RELATIVE THE REFERENCED T.O. STEEL ELEVATION.
- 9. INDICATES FLOOR ELEVATION CHANGE.
- 10. D-1 INDICATES DECK TYPE. SEE DETAIL 1/S705.
- 11. [XX] INDICATES NUMBER OF REQUIRED HEADED STUDS PER 5/S704.
- 12. <X-Y> INDICATES UPWARD BEAM CAMBER AT MIDSPAN.
- 13. INDICATES DRAG CONNECTION SEE SCHEDULE ON DETAIL 1/S702. FOR OWSJ SEE 5/S703.
- 14. INDICATES FULL HEIGHT STIFFENER PER DETAIL B ON 1/S701.
- 15. INDICATES MOMENT CONNECTION SEE DETAILS 2/S702.
- 16. INDICATES BEAM LATERAL BRACE PER DETAIL 1/S704.
- 17. LFRS INDICATES LATERAL FORCE RESISTING SYSTEM MEMBERS.
- 18. FOR TYPICAL REINFORCING AT STRUCTURAL CMU WALLS SEE 1/S601.
- 19. #LH1 INDICATES OPEN WEB STEEL JOIST BY CONTRACTOR. SEE GENERAL NOTES FOR LOAD CRITERIA AND DESIGN REQUIREMENTS.



2 PATIO ROOF FRAMING
SCALE: 1/8" = 1'-0"

ARCHITECT:

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PROJECT INFORMATION:

BOISE
CITY OF TREES

BOISE FIRE
DEDICATION

City of Boise Fire Station #8
3575 W. Overland Rd. Boise, ID 83705

REVISIONS:

MARK	DATE	DESCRIPTION
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PROJECT PHASE75% CD

PROJECT NUMBER114747.2

PROJECT MANAGERR. TeBeau

PROJECT ARCHITECTR. TeBeau

DESIGNB. Harris/R. TeBeau

DRAWN BYNLP

SHEET NAME:

ROOF FRAMING PLAN

SHEET NUMBER:

S203

11.09.15