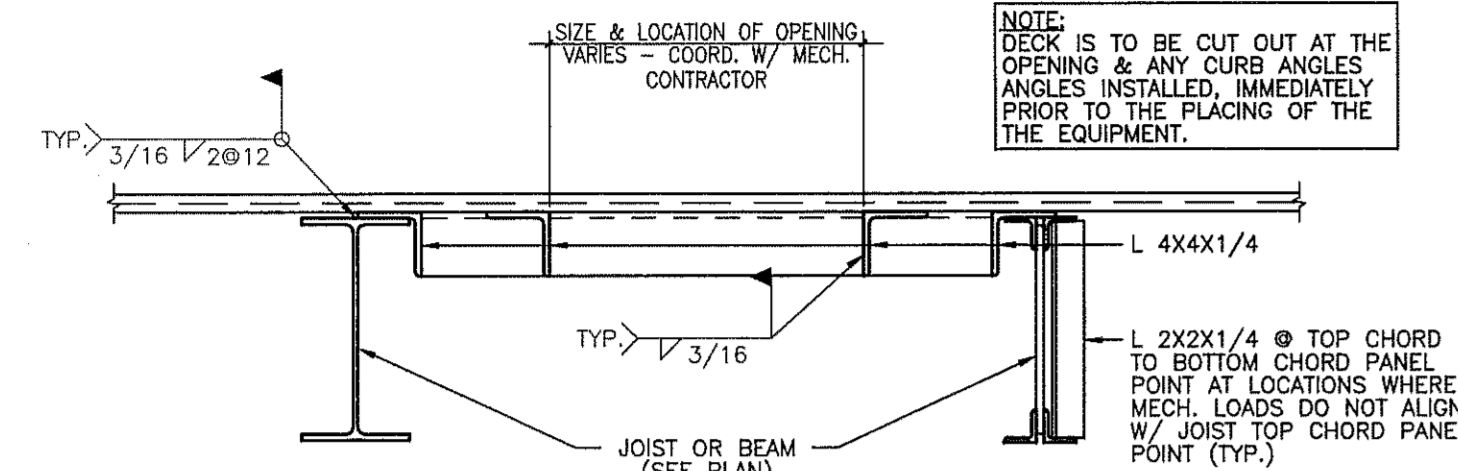


**ROOF NOTES:**

- ROOF TO BE \* RIGID BOARD INSULATION OVER GALVANIZED ROOF DECK. (SEE NOTE #2 FOR DECK SPECIFICATION.) \*RE: ARCH. FOR THICKNESS
- ROOF DECK SPECIFICATION  
METAL DECK SHALL BE TEMPERED COLD ROLLED STEEL SHEET SHALL BE FORMED TO A CORRUGATED RID PATTERN OF VULCRAFT TYPE 1.6222 OR EQUAL. THE STEEL SHALL CONFORM TO ASTM A653, GRADE E ZINC COATING CONFORMING TO ASTM A924, G60 COATING CLASS FOR GALVANIZED MATERIAL. END LAPS AND SIDE LAPS ARE TO BE PER THE MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE METAL DECK SUPPORT AT ALL BUILDING CORNERS, SKEWED FRAMING LINES WHERE SUPPORTING STRUCTURE BEARS PERPENDICULAR AND AROUND ALL BUILT OPENINGS WITH L 4X4X1/4 UNLESS NOTED OTHERWISE. INSTALL 6" WIDE X 12 GA. SHEET METAL COVER PLATES IN VALLEYS, RIDGES OR WHERE DECK CHANGES DIRECTION. SPOT WELD IN PLACE AT 12" O.C. MAXIMUM. CONTRACTOR TO COORDINATE WITH STEEL DECK SUPPLIER TO PROVIDE ALL NECESSARY DECK SUPPORTS REQUIRED TO ADEQUATELY SUPPORT THE METAL DECK.



TYPICAL ROOF OPENING DETAIL

- REFERENCE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION ON OPENINGS, MECHANICAL AND PLUMBING EQUIPMENT AND ROOF SLOPES.
- +XX'-YY" INDICATES TOP OF STEEL ELEVATION GIVEN ABOVE FINISHED FIRST FLOOR.
- WELD DECK TO STEEL SUPPORTS USING 5/8" PUDDLE WELDS IN A 36/4 PATTERN W/ (3) #10 TEK SCREWS PER SIDE LAP SPAN.

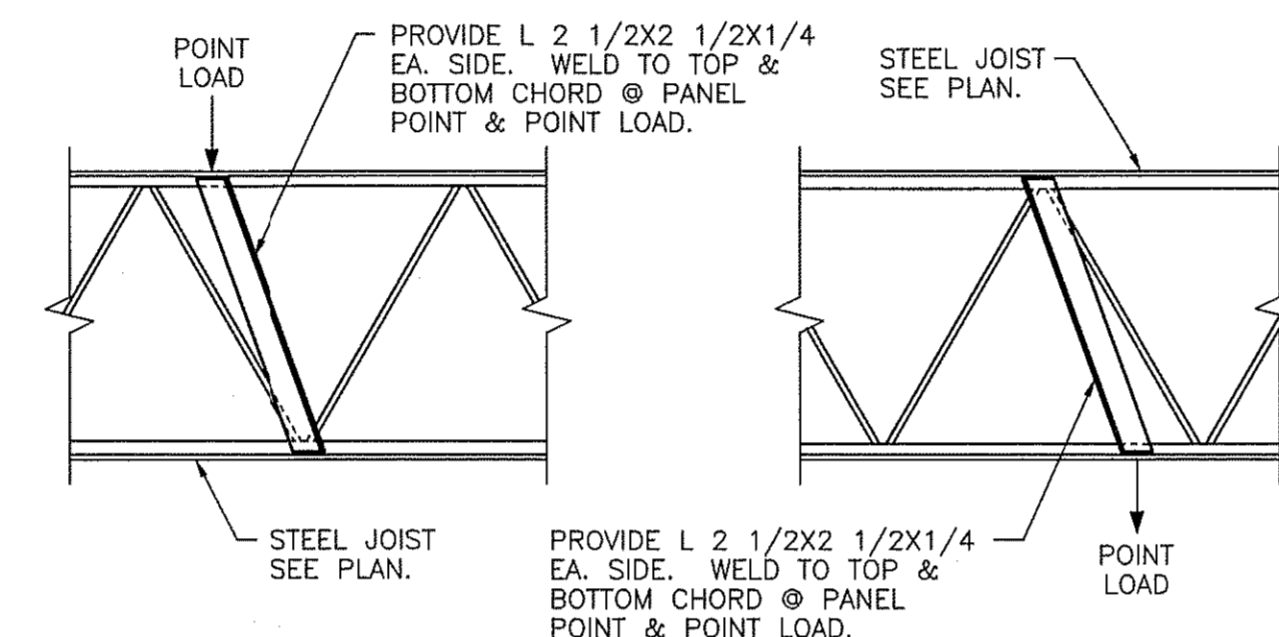
**COLD ROLLED STEEL SPECIFICATIONS (SSMA):**

- ALL STUDS AND/OR JOISTS AND ACCESSORIES SHALL BE OF THE TYPE, SIZE, GAUGE AND SPACING SHOWN ON THE DRAWINGS.
- ALL STRUCTURAL MEMBERS AND CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
- ALL STUDS, RUNNERS, JOISTS AND TRUSSES SHALL BE FORMED FROM GALVANIZED STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A449, WITH A MINIMUM YIELD STRENGTH OF 50 KSI FOR .037, .068, .054 THICK MEMBERS AND 33 KSI FOR .043 AND .033 THICK MEMBERS AND FLAT STRAP BRACING.
- PRIOR TO FABRICATION THE CONTRACTOR SHALL SUBMIT ERECTION DRAWINGS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
- PREFABRICATED PANELS SHALL BE SQUARE, WITH COMPONENTS ATTACHED IN A MANNER AS TO PREVENT RACKING. HANDLING AND LIFTING SHALL BE DONE IN A MANNER SO AS NOT TO CAUSE DISTORTION IN ANY MANNER.
- ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR, AS REQUIRED, FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.
- AXIALLY LOADED STUDS SHALL BE INSTALLED IN A MANNER WHICH WILL ASSURE THAT THEIR ENDS ARE POSITIONED AGAINST THE INSIDE OF TRACK WEB PRIOR TO FASTENING.
- FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS OR WELDS. SCREWS OR WELDS SHALL BE OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED. ALL WELDS SHALL BE TOUCHED-UP WITH A ZINC-RICH PAINT.
- RUNNERS SHALL BE SECURELY ANCHORED TO THE SUPPORTING STRUCTURE. PROPOSED CONNECTION TO BE SUBMITTED FOR APPROVAL.
- ABUTTING LENGTHS OF TRACK SHALL EACH BE SECURELY ANCHORED TO A COMMON STRUCTURAL ELEMENT, BUTT-WELDED, OR SPLICED.
- STUDS SHALL BE PLUMB, ALIGNED AND SECURELY ATTACHED TO FLANGES OF BOTH UPPER AND LOWER TRACKS.
- JACK STUDS OR CRIPPLES SHALL BE INSTALLED BELOW WINDOW SILLS, ABOVE WINDOW AND DOOR HEADERS, AND WHERE NEEDED TO FURNISH SUPPORT, AND SHALL BE SECURELY ATTACHED TO CONNECTING MEMBERS.
- RESISTANCE TO MINOR AXIS BENDING AND ROTATION SHALL BE PROVIDED BY GYPSUM BOARD OR GYPSUM SHEATHING AND BY HORIZONTAL STRAP AND BLOCKING OR COLD-ROLLED CHANNEL BRACING AT THIRD POINTS.
- SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PERMITTED.
- PROVIDE A MINIMUM OF (3) #12 SCREWS FOR ALL STUD TO STUD CONNECTIONS.
- BRIDGING SHALL BE INSTALLED IMMEDIATELY AFTER JOISTS ARE ERECTED AND BEFORE CONSTRUCTION LOADS ARE APPLIED TO PREVENT FLANGE ROTATION AND TO SUPPORT FLANGES IN COMPRESSION.  
BRIDGING SHALL CONSIST OF SOLID BLOCKING PLUS STRAP BRACING OR 1 1/2" COLD-ROLLED CHANNELS SCREW-ATTACHED OR WELDED TO BOTTOM JOIST FLANGES. BRIDGING SHALL BE INSTALLED AT MID SPAN FOR SPANS 16'-0" OR LESS AND AT 8'-0" O.C. MAX. FOR SPANS GREATER THAN 16'-0" U.N.O.
- SOLID BLOCKING, OF FIELD-CUT TRACK OR JOIST SECTION, SHALL BE PROVIDED, WELDED OR SCREW-ATTACHED BETWEEN OUTER JOISTS, OVER ALL INTERIOR SUPPORTS AND ADJACENT TO OPENINGS AT 10'-0" O.C. MAX. COLD-ROLLED CHANNELS OR STRAP BRACING OF 1 1/2" X 33 MIL (0.033") CORROSION-RESISTANT STEEL SHALL BE SCREW-ATTACHED TO BOTTOM JOIST FLANGE BETWEEN SOLID BLOCKING. REFERENCE MANUFACTURER INSTALLATION INSTRUCTIONS.
- SSMA STEEL FRAMING CARRIES A FOUR PART CODE THAT IDENTIFIES THE WEB SIZE, STYLE, FLANGE WIDTH AND STEEL THICKNESS:

WEB SIZE:	362 S	162-43	STYLE:	FLANGE WIDTH	STEEL THICKNESS:
250 - 2 1/2"	600 - 6"	S OR J - STUD/JOIST	125 - 1 1/4"	33	
350 - 3 1/2"	800 - 8"	T - TRACK	137 - 1 3/8"	43	
362 - 3 5/8"	1000 - 10"		162 - 1 5/8"	54	
400 - 4"	1200 - 12"		200 - 2"	68	
550 - 5 1/2"	1400 - 14"		250 - 2 1/2"	97	

**STEEL JOIST FRAMING NOTES:**

- OPEN WEB STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED AND MANUFACTURED TO THE MINIMUM STANDARDS ESTABLISHED BY THE STEEL JOIST INSTITUTE. FOR JOISTS AND JOIST GIRDERS DESIGNED USING AISC-ASD THE 1/3 STRESS INCREASE ALLOWANCE FOR WIND AND SEISMIC LOADING SHALL NOT BE USED. TOP CHORDS OF JOISTS SHALL BE ANGLES OR TEES. BRIDGING SHALL BE DESIGNED (UNLESS NOTED OTHERWISE) IN ACCORDANCE WITH PARAGRAPH 6.4 OF THE STEEL JOISTS INSTITUTE SPECIFICATIONS. SHOP PAINT TO BE PER ARCH. SPECIFICATIONS.
- JOISTS GIRDERS SHALL BE DESIGNED, MANUFACTURED, AND ERECTED PER THE STEEL JOIST INSTITUTE SPECIFICATIONS.
- PROVIDE FLAT BEARING FOR ALL JOISTS. THE ENDS OF ALL JOISTS SHALL HAVE A MINIMUM BEARING OF 2 1/2", EXCEPT FOR LH & DLH JOISTS WHICH SHALL HAVE A MINIMUM BEARING OF 4" WHERE NECESSARY. JOISTS ARE TO BE STAGGERED WHEN BEARING OVER NARROW STEEL SUPPORTS. IF THE MINIMUM BEARING CANNOT BE OBTAINED, SPECIAL ENDS MUST BE SHOWN, NOTED AND DESIGNED BY MANUFACTURER AND SUBMITTED FOR APPROVAL.
- SJ - STRUT JOIST - BOTTOM CHORD TO BE ANGLES EQUAL IN SIZE TO TOP CHORD; DO NOT WELD BOTTOM CHORD TO STABILIZER PLATE.
- JOISTS SHALL BE CONNECTED WITH TWO 1/8" FILLET WELDS 1" LONG OR EQUAL.
- JOISTS SHALL BE FIELD BOLTED AT THE COLUMN LINES TO PROVIDE LATERAL STABILITY DURING CONSTRUCTION. USE TWO 1/2" DIAMETER BOLTS.
- UNLESS PRE-ASSEMBLED INTO PANELS, ALL JOISTS WITH SPANS OF 40'-0" OR MORE, SHALL HAVE EACH END CONNECTED TO THE SUPPORTING STEEL STRUCTURE W/ 1/2" ERECTION BOLTS.
- JOISTS SHALL BE DESIGNED FOR APPLICABLE WIND LOADS, INCLUDING UPLIFT. SEE DESIGN CRITERIA.
- JOIST LOCATIONS ARE SHOWN FOR DESIGN PURPOSE. ACTUAL LOCATIONS MAY NEED TO BE ALTERED SLIGHTLY TO ACCOMMODATE BATHROOM PLUMBING FIXTURES. CONTRACTOR TO COORDINATE STEEL PLACEMENT PRIOR TO SUBMITTING SHOP DRAWINGS.
- WHERE 4 OR 5 ROWS OF BRIDGING ARE REQUIRED, A ROW NEAREST THE MIDSPAN OF THE JOIST SHALL BE DIAGONAL "X" BRIDGING WITH BOLTED CONNECTIONS AT CHORDS AND INTERSECTIONS.



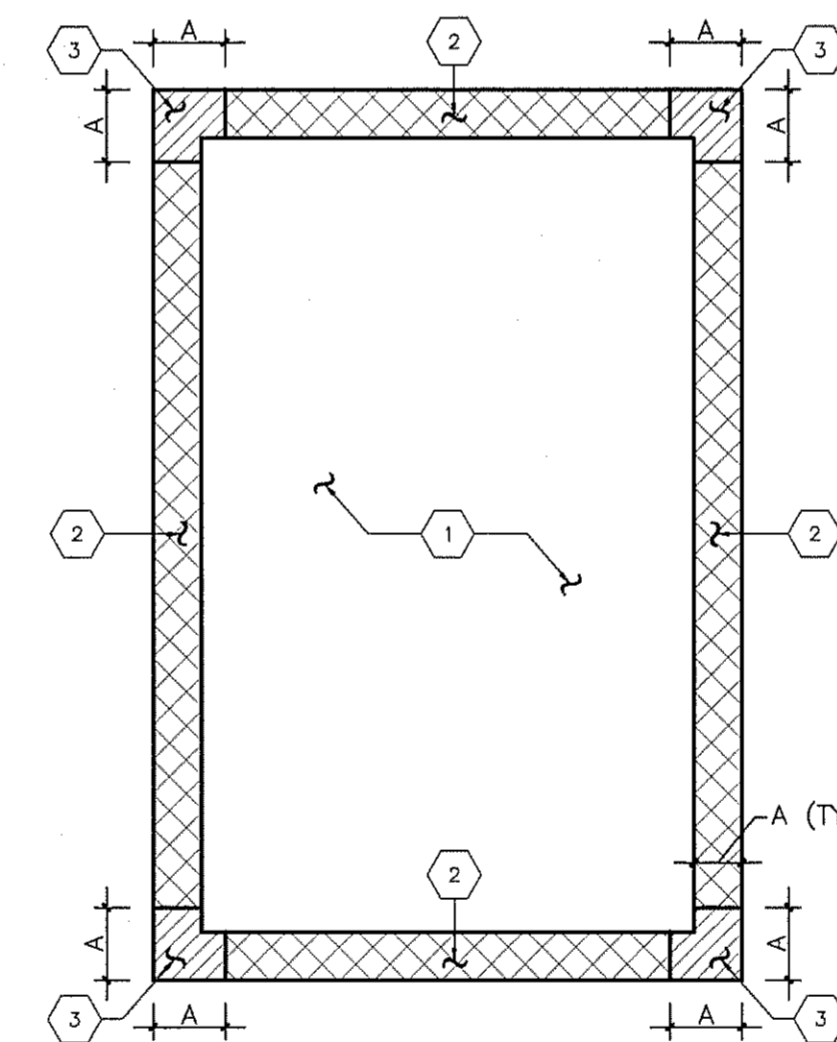
JOIST REINFORCEMENT AT CONCENTRATED LOAD

CHORD SIZE	ERECT. STABILITY SPAN		1 ROW	2 ROWS	3 ROWS	4 ROWS	5 ROWS
	DEPTH	SPAN ≤					
1	8, 10, 12, 14	17, 21, 25, 27	UP THRU 16'	OVER 16'-24'			
2	16	29'	UP THRU 17'	OVER 17'-25'			
3	12, 14, 16, 18, 20	25, 29, 30, 31, 32, 33	UP THRU 18'	OVER 18'-28'	OVER 28'-38'	OVER 38'-40'	
4	14, 16, 18, 20, 22, 24	29, 32, 33, 34, 35, 36	UP THRU 19'	OVER 19'-28'	OVER 28'-38'	OVER 38'-48'	
5	12, 14, 16, 18, 20, 22, 24, 26	25, 32, 33, 34, 35, 36, 38	UP THRU 19'	OVER 19'-29'	OVER 29'-39'	OVER 39'-50'	OVER 50'-52'
6	14, 16, 18, 20, 22, 24, 26, 28	29, 32, 33, 34, 35, 36, 39, 39, 40	UP THRU 19'	OVER 19'-29'	OVER 29'-39'	OVER 39'-51'	OVER 51'-56'
7	16, 18, 20, 22, 24, 26, 28, 30	33, 37, 38, 40, 41, 42, 43, 44	UP THRU 20'	OVER 20'-33'	OVER 33'-45'	OVER 45'-58'	OVER 58'-60'
8	24, 26, 28, 30	43, 44, 44, 45	UP THRU 20'	OVER 20'-33'	OVER 33'-45'	OVER 45'-58'	OVER 58'-60'
9	16, 18, 20, 22, 24, 26, 28, 30	33, 37, 38, 40, 41, 42, 43, 44	UP THRU 20'	OVER 20'-33'	OVER 33'-46'	OVER 46'-59'	OVER 59'-60'
10	18, 20, 22, 24, 26, 28, 30	37, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50	UP THRU 20'	OVER 20'-37'	OVER 37'-51'	OVER 51'-60'	
11	22, 30	45, 50'	UP THRU 20'	OVER 20'-38'	OVER 38'-53'	OVER 53'-60'	
12	24, 26, 28, 30	49, 53, 53, 54	UP THRU 20'	OVER 20'-39'	OVER 39'-53'	OVER 53'-60'	

CHORD SIZE	BRIDGING MATERIAL SIZES - EQUAL LEG ANGLES					
	L 1X7/64	L 1 1/4X7/64	L 1 1/2X7/64	L 1 3/4X7/64	L 2X1/8	L 2 1/2X5/32
1 THRU 9	5'-0"	6'-3"	7'-6"	8'-7"	10'-0"	12'-6"
10	4'-8"	6'-3"	7'-6"	8'-7"	10'-0"	12'-6"
11 & 12	4'-0"	5'-8"	7'-6"	8'-7"	10'-0"	12'-6"

**STRUCTURAL STEEL FRAMING NOTES:**

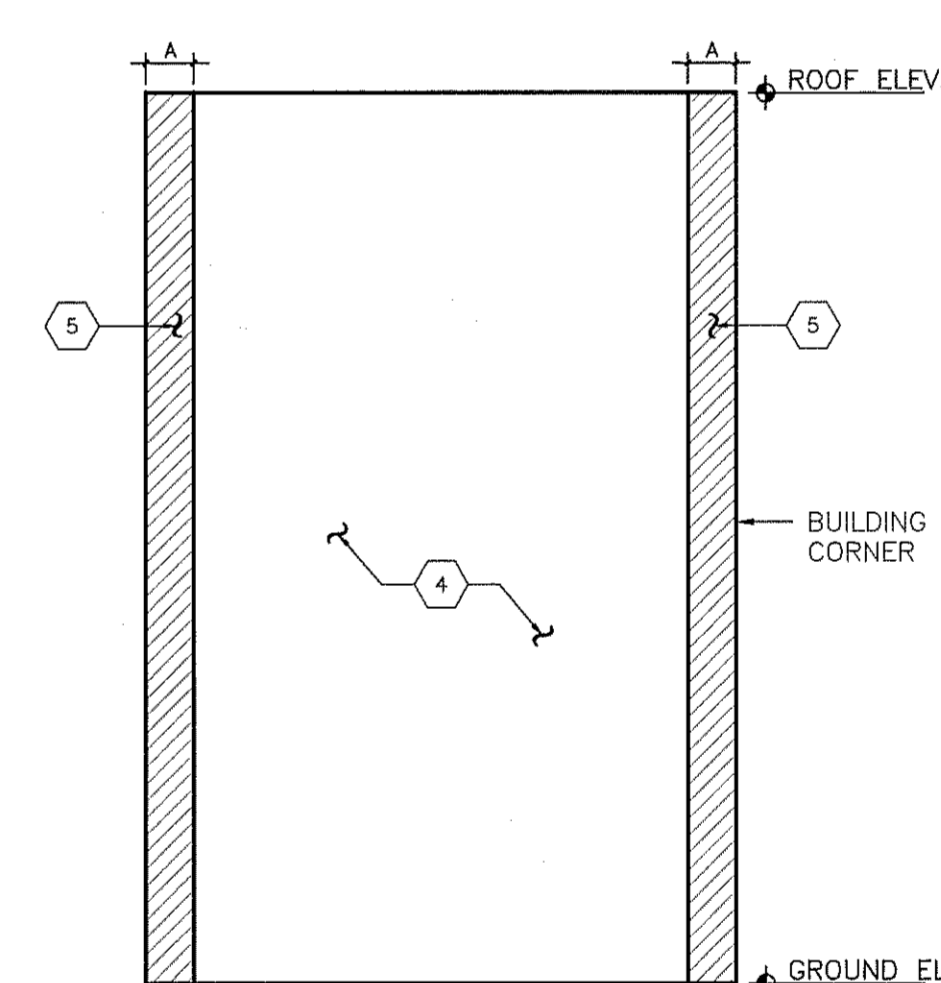
- ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER. DRAWINGS TO HAVE CONTRACTORS STAMP AFFIXED PRIOR TO REVIEW.
- ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE.
- STRUCTURAL SHAPES AND ASTM SPECIFICATIONS:  
A. WIDE FLANGE SHAPES ASTM A992 (50 KSI)  
B. ANCHOR BOLTS ASTM F1554 (36 KSI)  
C. CHANNELS ASTM A36 (36 KSI)  
D. PLATES ASTM A36 (36 KSI)  
E. BARS ASTM A36 (36 KSI)  
F. ANGLES ASTM A36 (36 KSI)  
G. SQUARE AND RECTANGULAR TUBES (HSS) ASTM A500, GRADE B (46 KSI)  
H. STEEL PIPE ASTM A53, GRADE B (35 KSI)  
I. ROUND TUBES (HSS) ASTM 500, GRADE B (42 KSI)
- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH "THE SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AISC NINTH EDITION.
- ALL FIELD CONNECTIONS TO BE BOLTED WITH A325 BOLTS (WELDED WHERE SHOWN). DESIGN SHEAR CONNECTIONS FOR ONE HALF OF THE TOTAL ALLOWABLE UNIFORM LOAD OF BEAMS UNLESS NOTED OTHERWISE ON DRAWINGS, RE: ASC PART 4. ALL CONNECTIONS MUST BE DESIGNED BY A REGISTERED ENGINEER AND, IF REQUESTED, CALCULATIONS MUST BE AVAILABLE FOR REVIEW. BOLTS TO BE LE JEUNE TYPE OR EQUAL.
- BRACING CONNECTIONS SHALL DEVELOP FULL FORCES SHOWN ON DRAWINGS AT EACH END OF MEMBER.
- EXPANSION JOINT CONNECTIONS, WHERE USED, SHALL PROVIDE FREE MOVEMENT. BOLTS SHALL HAVE NUTS FINGER TIGHTENED AND THREADS CRIMPED.
- SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE.
- MC = MOMENT CONNECTION.
- ALL NON-SHRINK GROUTS FOR LEVELING OF BASE PLATES SHALL HAVE A MIN. 5,000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS. GROUT SHALL COMPLY WITH CORPS OF ENGINEERS SPECIFICATION CRD-C 621.
- ALL FIELD CONNECTIONS - WELDED OR BOLTED - TO BE INSPECTED BY AN INDEPENDENT TESTING LAB.
- ALL STRUCTURAL STEEL JOIST GIRDERS AND JOISTS SHALL BE FABRICATED IN ACCORDANCE WITH LATEST OSHA SAFETY STANDARDS FOR STEEL ERECTION. STRUCTURAL DOCUMENTS INDICATE TYPICAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL OSHA REQUIREMENTS ARE MET.
- ALL STRUCTURAL STEEL DESIGNED USING AISC-ASD SPECIFICATION SHALL NOT INCLUDE THE 1/3 STRESS INCREASE ALLOWANCE FOR WIND AND SEISMIC LOADING.
- ALL STRUCTURAL STEEL WHICH IS EXPOSED TO THE ELEMENTS SHALL BE HOT DIPPED GALVANIZED.



FLAT ROOF  
MEAN ROOF HEIGHT LESS THAN OR EQUAL TO 60 FT.

TRIB. AREA FT <sup>2</sup>	WIND PRESSURE		
	ZONE 1	ZONE 2	ZONE 3
10	-22.0 +10	-36.5 +10	-55.0 +10
50	-20.5 +10	-27.5 +10	+33.0 +10
100	-20.0 +10	-23.7 +10	-23.7 +10

A	7'-6"
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WALL ELEVATION

ZONE	WIND PRESSURE		
	10 FT <sup>2</sup> AREA	20 FT <sup>2</sup> AREA	50 FT <sup>2</sup> AREA
4	-23-8 +21-8	-22.7 +21	-21.4 +19.5
5	-29-2 +21-8	-27.2 +21	-24.6 +19.5

**NOTES:**

- ALL BUILDING COMPONENTS, CLADDING, FINISHES AND CONNECTIONS SHALL BE DESIGNED FOR WIND PRESSURES INDICATED FOR THE CORRESPONDING ZONE. CALCULATIONS AND/OR DESIGN DATA MUST BE AVAILABLE FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD IF REQUESTED.
- ZONE LENGTH INCLUDES OVERHANG.
- ALL PARAPETS SHALL BE DESIGNED IN ACCORDANCE WITH THE WIND PRESSURES DETERMINED FROM SECTION 6.5.12.4.4. OF ASCE 7-05.
- ALL ARCHED ROOFS SHALL BE DESIGNED IN ACCORDANCE WITH WIND PRESSURES DETERMINED FROM ASCE7-05.

**COMPONENT AND CLADDING FOR DESIGN WIND PRESSURE**

1



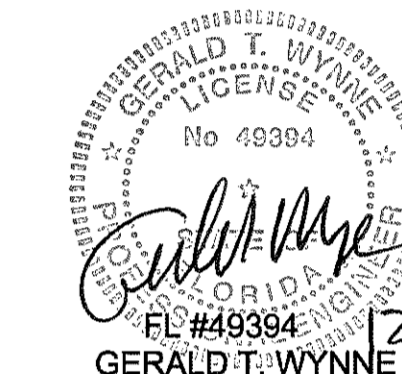
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M/E/P/ ENGINEER:  
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**ISSUE:**

MARK	DATE	DESCRIPTION
10-12-09		PRICING ISSUE
11-23-09		INTERNAL REVIEW
12-02-09		ISSUE FOR PERMIT

**PROJECT NO:**

**09-529.a**

**SPECIFICATIONS**

**S5.2**