T5 Project No.: 17027.0 | Engineer of Record: RMW
CAD Technician: MCW | Project Designer: MCW

CONSTRUCTION SAFETY GENERAL NOTE
THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS, SINCE THESE ARE SOLELY THE CONTRACTOR'S RESPONSIBILITY.

Concrete General Notes

3100.1.
All detailing, fabrication and placing of reinforcing steel shall conform to the ACI Standard "Details and Detailing of Concrete Reinforcement" (ACI 315).

3100.2.
All concrete for foundations, sidewalks, and light pole base foundations shall develop a 28-day minimum compressive strength of 3,000 psi & have a 5" maximum slump. Concrete at sidewalks shall contain 5% to 7% entrained air. All concrete for interior polished slabs shall develop a 28-day minimum compressive strength of 3,500 psi. See Arch. and specifications for mix design requirements. Concrete at trash compactor pad shall develop a 28-day minimum compressive strength of 4,000 psi, and contain min. 5% to 7% entrained air.

3100.3.
Chamfer all exposed external corners of concrete with 3/4" x 45 degree chamfer, unless noted otherwise.

3100.4.
All reinforcing steel shall be deformed bars conforming to ASTM A615, Grade 60.

3100.5.
Reinforcing bar splices shall be 44 bar diameters for #6 and smaller diameter bars. Splices for #7 and larger diameter bars shall be 48 bar diameters.

3100.6.
All reinforcing bar hooks shall be ACI standard 90 degree hook, unless noted otherwise.

3100.7.
Provide (2) #4 x 4'-0" long diagonal bars in top face at all re-entrant corners in slab and other locations denoted on the plan.

3100.8.
Provide corner bars in footings & turn-down slab same size & spacing as longitudinal reinforcing.

3100.9.
Provide (1) #4 hoop with 8" lap in slab around floor drains and slab penetrations greater than 3" in diameter. Also install around electrical conduit groupings 3" in diameter or greater. **Conduit shall not be run underneath spread footings.**

3100.10.
Welded wire fabric shall conform to ASTM A1064. Provide mesh in flat sheets.

3100.11.
Wire fabric reinforcing shall lap 6" and be securely wired at each side and end.

3100.12.
Bar supports at footings & slab-on-grade shall be factory made wire bar supports.

3100.13.
Smooth dowels shall be steel conforming to ASTM A36.

3100.14.
All slots, sleeves and other embedded items shall be set before concrete is placed. See architectural, electrical, mechanical, and vendor's drawings for size & locations.

3100.15.
Allowable net bearing pressure for shallow continuous and spread footings= 2,000 psf. Footings shall bear on properly compacted acceptable structural fill materials at a minimum depth of 18 in. below lowest exterior grade as described in the Geotechnical Report (NOVA Engineering and Environmental, LLC Project No. 10119-2017001, dated February 28, 2017). The Contractor shall throroughly review the project Geotechnical Report for earthworks construction requirements.

3100.16.
The top of all concrete pedestals shall be square, level and smooth to support the metal building base plates.

TYPICAL STRUCTURAL ABBREVIATIONS

A.R.	ANCHOR ROD	FLR.	FLOOR	R	RADIUS
ACI	AMERICAN CONCRETE INSTITUTE	FTG.	FOOTING	REINF	REINFORCEMENT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	GA	GAUGE	REQ'D	REQUIRED
ARCH.	ARCHITECT	GALV	GALVANIZED	RTU	ROOF TOP UNIT
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS	H.S.A.	HEADED STUD ANCHOR	S.O.G.	SLAB ON GRADE
BLDG	BUILDING	HK	HOOK	SCHED	SCHEDULE
BM	BEAM	HORIZ	HORIZONTAL	SECT	SECTION
BOTT.	BOTTOM	J.B.E.	JOIST BEARING ELEVATION	SEOR	STRUCTURAL ENGINEER OF RECORD
BRG	BEARING	JST	JOIST	SIM	SIMILAR
CLR	CLEAR	JT	JOINT	SJI	STEEL JOIST INSTITUTE
COL.	COLUMN	L	ANGLE	SPA	SPACING
CONC.	CONCRETE	LG	LONG	SPECS	SPECIFICATIONS
CONN	CONNECTION	LLH	LONG LEG HORIZONTAL	STD	STANDARD
CONT.	CONTINUOUS	LLV	LONG LEG VERTICAL	STIFF	STIFFENER
DIA, or Φ	DIAMETER	LONG.	LONGITUDINAL	STL	STEEL
DIM	DIMENSION	MAX.	MAXIMUM	TOC	TOP OF CONCRETE
DN	DOWN	MBM	METAL BUILDING MANUFACTURER	TOF	TOP OF FOOTING
do	DITTO	MECH	MECHANICAL	TOS	TOP OF STEEL
DT.	DETAIL	MFR	MANUFACTURER	TOW	TOP OF WALL
DWG	DRAWING	MIN	MINIMUM	TRANS.	TRANSVERSE
E.W.	EACH WAY	MISC	MISCELLANEOUS	TYP	TYPICAL
EA	EACH	MTL	METAL	UNO	UNLESS NOTED OTHERWISE
EL.	ELEVATION	N.S.	NEAR SIDE	VERT	VERTICAL
EQ.	EQUAL	o.c.	ON CENTER	W/	WITH
EXIST.	EXISTING	O.F.	OUTSIDE FACE	WP	WORK POINT
EXP.	EXPANTION	OPNG	OPENING	WWF	WELDED WIRE FABRIC
F.S.	FAR SIDE	PED	PEDESTAL	℄	CENTER LINE
FDN	FOUNDATION	PLF	POUNDS PER FOOT	ℙ	PLATE
FIN.	FINISH	PROJ	PROJECTION		
		PSF	POUNDS PER SQUARE FOOT		
		PSI	POUNDS PER SQUARE INCH		

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Pre-Engineered Building General Notes

13100.1.
The design fabrication and erection of the pre-engineered building shall conform to the requirements of AISC Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings and the Metal Building Manufacturer Design Practices Manual.

13100.2.
Structural steel for primary framing shall conform to ASTM A572, grade 50 or ASTM A36.

13100.3.
All steel tubes shall conform to ASTM A500, Grade B.

13100.4.
Purlins & girts shall be cold-formed structural steel sections with stiffened flanges and have a minimum 55,000 psi yield strength.

13100.5.
Structural system for the building shall be a flush wall gabled multi-span frame (see Arch. dwgs.). Frame profile and slope shall be in accordance w/ Arch. dwgs. Maximum depth of main frame columns shall be 11 1/2" and end wall frame columns shall be 8". Roof slope shall be as shown on the Architectural drawings. All columns shall be straight leg.

13100.6.
Lateral stability along sidewalls shall be provided by the use of a cable or rod x-bracing. Coord. type and location of bracing with Architect.

13100.7.
All columns shall be designed as pinned ends that transmit no moment to the foundations.

13100.8.
Bottom of base plate elevation for all pre-engineered building columns shall be at elevation 100'-0", unless otherwise noted.

13100.9.
Provide rod or cable x-bracing in roof as required to resist wind and seismic loads.

13100.10.
Purlins shall be designed for a maximum live load deflection of L/150, where "L" is the purlin span in inches. Purlin deflection shall be limited to L/180 for wind and snow loads.

13100.11.
Girts shall be designed for a maximum live load deflection of L/90, where "L" is the girt span in inches. Girts at Nichiha panel, clay brick veneer, or other brittle materials shall be designed for a maximum wind load horizontal delfection of L/240.

13100.12.
Limit lateral deflection of all columns in any direction to limits shown in the following table, where "H" is the column height in inches.

WALL CONSTRUCTION	COLUMN TYPE	
	MAIN FRAME	END WALL
METAL WALL PANEL	H/60	H/90
FACE BRICK, MASONRY, NICHIHA	H/100	H/240

13100.13.
All rigid frame beams shall be designed for a maximum live load deflection of L/180, where "L" is the beam span in inches.

13100.14.
The General Contractor shall purchase and install pre-engineered building anchor rods based on the Anchor Rod Setting Plan provided by the pre-engineered building manufacturer. See the anchor rod schedule on this sheet for rod lengths required based on the rod diameter called for by the pre-engineered building manufacturer.

13100.15.
Metal Building Manufacturer shall certify that the building has been designed for the loads shown on this drawing. Certification must state that the building has been designed for all roof loads, wind & seismic as well as deflection tolerances noted in the pre-engineered building general notes & deign loads. The metal building manufacturer is to provide maximum reactions. The metal building manufacturer is to prepare complete fabrication & erection drawings, fully engineered & sealed by a Professional Engineer licensed in the state of South Carolina.

13100.16.
Metal Building Manufacturer shall design purlins & rigid frames for the mechanical equipment loads in addition to the uniform dead & live loads. Coordinate equipment weight, size, and locations with the Mechanical Contractor & the manufacturer.

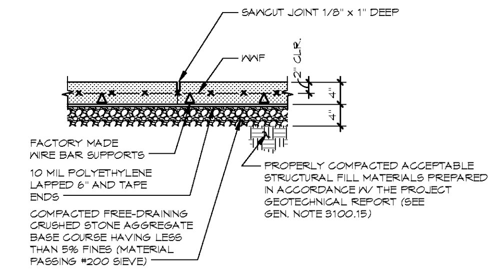
13100.17.
Metal Building Manufacturer shall provide miscellaneous steel as required to support the mechanical equipment.

13100.18.
No individual anchor rod shall be set a distance less than 3" from the centerline to the edge of slab, in order to comply w/ ACI 318-11 Appendix D requirements.

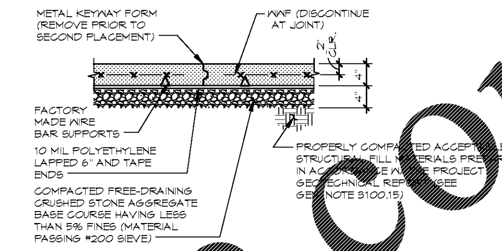
13100.19.
Metal building manufacturer is responsible for all header support design at all openings.

Pre-Engineered Building Design Loads

1. Roof Dead Load: per MBM
2. Roof Collateral Load: 3 psf
3. Roof Live Load: 20 psf
4. Ground Snow Load: 10 psf (per Figure 1608.2 of 2012 IBC)
5. Wind Load:
   - Ultimate Wind Speed (3-second gust) 115 mph (per Figure 1609A of 2012 IBC)
   - Allowable Wind Speed 89 mph
   - Building Category II
   - Wind Exposure C
6. Seismic:
   - Risk Category II
   - Seismic Importance Factor (Is)= 1.0
   - S_S = 0.282
   - S_1 = 0.107
   - S_{DS}= 0.295
   - S_{D1} = 0.169
   - Site Class D (Per Geotechnical Report)
   - Seismic Design Category C
   - Basic Structural System - Per MBM
   - Response Modificaiton Coefficient (R) - Per MBM
   - Deflection Amplification Factor (Cd) - Per MBM
   - Analysis Procedure - Per MBM
7. Load Combinations: per MBM
8. Building Code:
   - 2015 South Carolina Building Code, SCBC (Incorporating the 2012 IBC)



1 TYP. SLAB-ON-GRADE CONTROL JT. DETAIL
3/4" = 1'-0"

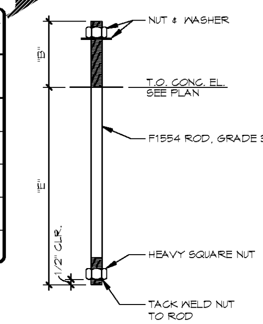


2 TYP. SLAB-ON-GRADE CONST. JT. DETAIL
3/4" = 1'-0"

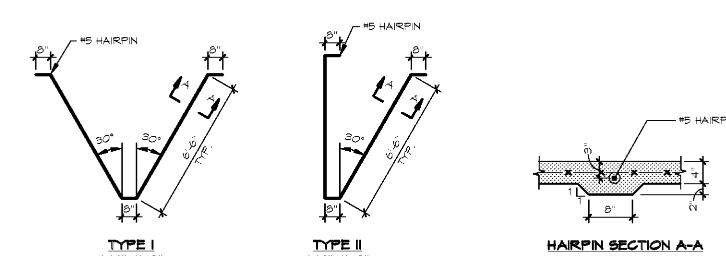
METAL BLDG. ANCHOR ROD SCHEDULE

ROD DIAMETER	EMBEDMENT LENGTH "E"	THREAD PROJ. "B"	REMARKS
1"	[illegible]	4"	-----
7/8"	1'-3"	3"	-----
3/4"	1'-3"	3"	-----
5/8"	1'-1"	3"	-----
1/2"	[illegible]	2"	-----

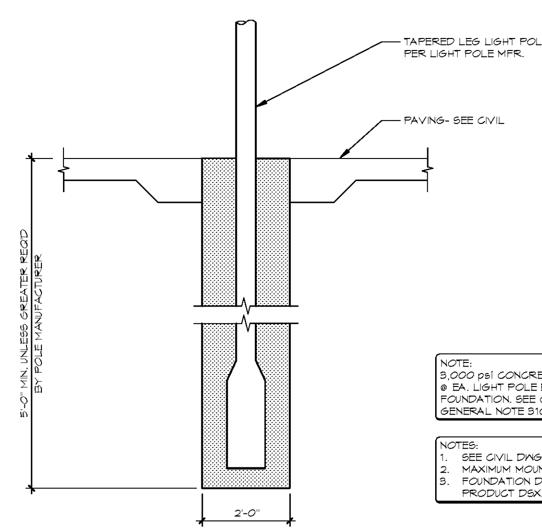
METAL BLDG. ANCHOR ROD SCHEDULE NOTES:
1. SEE METAL BUILDING ANCHOR ROD SETTING PLAN FOR SIZE & LOCATION OF ANCHOR BOLTS.



3 TYP. METAL BUILDING ANCHOR ROD DETAIL
NOT TO SCALE



4 TYP. HAIRPIN DETAILS
1/4" = 1'-0"



NOTE:
3,000 psi CONCRETE REQ'D. @ EA. LIGHT POLE BASE FOUNDATION. SEE CONCRETE GENERAL NOTE 3100.2

NOTES:
1. SEE CIVIL DWGS. FOR LOCATIONS OF LIGHT POLES.
2. MAXIMUM MOUNTING HEIGHT OF LIGHT POLE 25'-0".
3. FOUNDATION DESIGN BASED UPON LITHONIA LIGHTING PRODUCT DSX2-LED.

5 TYP. LIGHT POLE BASE DETAIL
NOT TO SCALE

Tatum Smith Engineers, Inc.
Structural Engineering
479.621.6128 Rogers, Arkansas

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FOUNDATION GENERAL NOTES & TYP. DETAILS

SHEET: S1.1

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