



## DENVER MODEL

18' X 18'

## SPECIFICATIONS

### Dimensions:

Roof Dimensions	18'-0" x 18'-0"
Columns (Center to Center)	14'-8 1/4" x 14'-8 1/4"
Minimum Clearance	7'-6"
Roof Height @ Peak	±11'-1 3/4"
Hip Roof	4:12 pitch
Square Feet Under Roof	±324
Date of drawing	August 10, 2017

Stub-columns shall be 6"x 6" square steel tube, .250" minimum wall thickness

Masonry column shall be 24" square CMU by others.

Anchor embed plates shall be included with the structure.

All bolts shall be A-307 or A-325 and hidden at all connections.

Steel roof shall be 24 gauge 18" Standing Seam pre-finished and factory cut, with ribs running with the slope of the roof.

Trim shall be 24 gauge, finished to match roof.

Fascia shall be tube steel.

Open or welded "C" channels, "I" beams, "S" or "Z" purlins or angle iron shall not be allowed.



## STANDARD SPECIFICATIONS

w/ TRUZINC RICH PRIMER & SUPER DURABLE POWDER COAT PAINT

### **GENERAL:**

1. All structures shall be designed and fabricated to the IBC (Latest Edition) or current local building code with standard load designs of the greater value of 20# per S.F. minimum live load and 100 mph sustained wind load or site specific conditions and the applicable zone for seismic loads.
2. All members shall be designed according to the "American Institute of Steel Construction (AISC) specifications and the American Iron and Steel Institute (AISI) specifications for cold-formed members.
3. All fabrication welds shall be in strict accordance with the structural welding code of the American Welding Society (AWS) specifications. All structural welds shall be in compliance with the requirements of "Pre-qualified" welded joints. All welding shall conform to ASTM A-233 series E-70XX electrodes - low hydrogen.  
*Field welding shall not be required.*
4. When required, after award of bid, the shade structure manufacturer shall submit structural calculations, sealed by a registered engineer in the state in which the structure is to be erected for review and approval by the approving agency.
5. Manufacturer qualifications: All manufacturers shall have a minimum of (20) twenty years experience in the fabrication of tubular steel shade structures. Shade structure and kiosk fabrication shall be the manufacturer's primary business. Manufacturer shall have fabricated similar structures to that which is specified. All non-specified manufacturers shall submit complete shop drawings indicating type, size & gauge of material used, with detailed connections to the specifying agency or design firm at least 10 days prior to bid opening for review and written pre-approval. All bids submitted without prior approval will be rejected.

### **FOOTINGS & COLUMNS:**

1. Footings shall be structurally engineered by the structure manufacturer to meet local codes and site conditions. (Sample footing drawings shall be made available to the contractor or owner from the manufacturer). When required for structure installation, anchor bolts shall be supplied by the owner / contractor. Columns shall be ASTM 500 grade B. Concrete footing rebar (if required) shall be ASTM A-615 grade 40 #4 bars & smaller, grade 60 #5 bars & larger. Concrete shall be 5 sack mix "Portland" cement. Maximum slump shall not exceed 4". Concrete compressive strength shall be a minimum of 2500 psi @ 28 days.



### **FRAME MEMBERS AND COMPRESSION RING:**

1. 90% of all steel shall be American (domestic) made. Mill certification shall be made available upon request. All frame members shall be one piece structural steel tube with a minimum .120 (1/8") wall thickness, sized according to engineering. All frame members shall be bolted together with bolts totally concealed. All tubing for frame members shall be ASTM 500 grade B. Beam end plates shall be ASTM A36 fy=36,000 psi UNO. Bolts shall be A 307's, or 325's unless noted otherwise.  
*"I" beams, Angle iron, "C", "Z" or "S" purlins or beams, open or closed, shall not be allowed.*

### **ROOFING:**

1. All roofing shall be 24 gauge Zinalume / Galvalume coated steel panels. "Standing Seam" panels shall be Design Span by AEP Span with 1 $\frac{3}{4}$ " high ribs @ 18" All roofing shall be pre-finished with Duratech 5000 or equal, 30 year paint finish. All roof panels shall be pre-cut with ribs running with the slope of the roof. Fascia shall be tube steel. Trim shall be 24 gauge Zinalume / Galvalume coated pre-finished to match the roof color. Screws & rivets shall match roof color.

### **POWDER COATING:**

1. All frame members shall be media blasted to a white finish removing all rust, scale, oil and grease. Powder coating for all frame members shall be provisionally warranted for (5) five years with **TRUZINC** 7520-70138 primer with a Dry Film Thickness of (2.0 - 6.0 mils) & hardness of 2H-3H with a Salt Spray Resistance of **6000 hours** and **Super Durable Gloss Polyester 9000** series finish paint (2.5-3.5 mils) with a hardness of H-H2 & has **1000 hour** salt spray resistance. Total of primer & finish paint shall be 4.5-9.5 mils of paint. Finish shall be a smooth uniform surface with no pits, runs or sags. For additional information, please visit <http://www.tcipowder.com/> for a complete list of specifications.

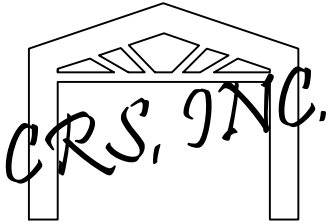
### **ERECTION:**

1. Manufacturer shall supply complete layout and detail plans with installation instructions for the structure. The structure shall be erected in a work-man-like manner with framing, roofing and trim installed according to the manufacturer's installation instructions. Care shall be taken to avoid damaging the structure during installation. Touch up powder coat paint with paint provided to prevent rusting. Components of the structure shall be covered and kept dry prior to erection.

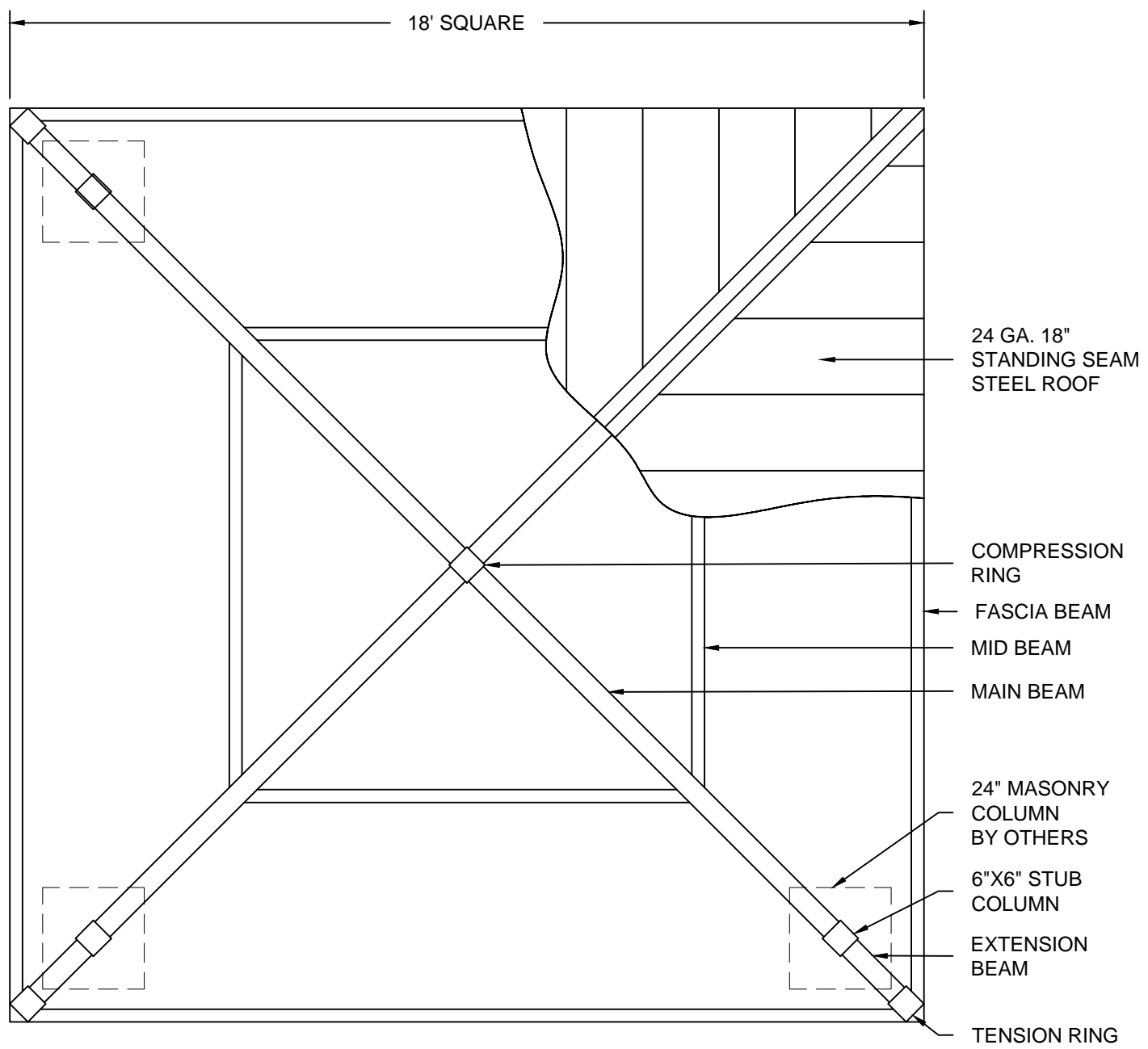
### **WARRANTEE:**

1. Manufacturer shall warranty the structure to be free from defects in material and work-man-ship for a period of (10) ten years from date of acceptance by owner. Warranty does not include damage from theft, fire, vandalism or acts of God. Manufacturer shall repair or replace structure components of like kind at his option, to match existing material and workmanship. Steel roof finish shall be warranted for (30) thirty years under a separate roof manufacturer's warranty. Powder coat paint shall be warranted for (5) five years after acceptance from owner against peeling, flaking and rusting. Warranty does not cover damage caused from shipping, erection of structure, lack of touchup and maintenance, overspray from lawn sprinklers or vandalism. Bolt threads are not powder coated and therefore are not covered under the powder coat warranty.

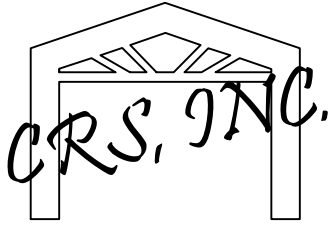
*NOTE: Engineering specifications take precedence over drawings if differences occur.*



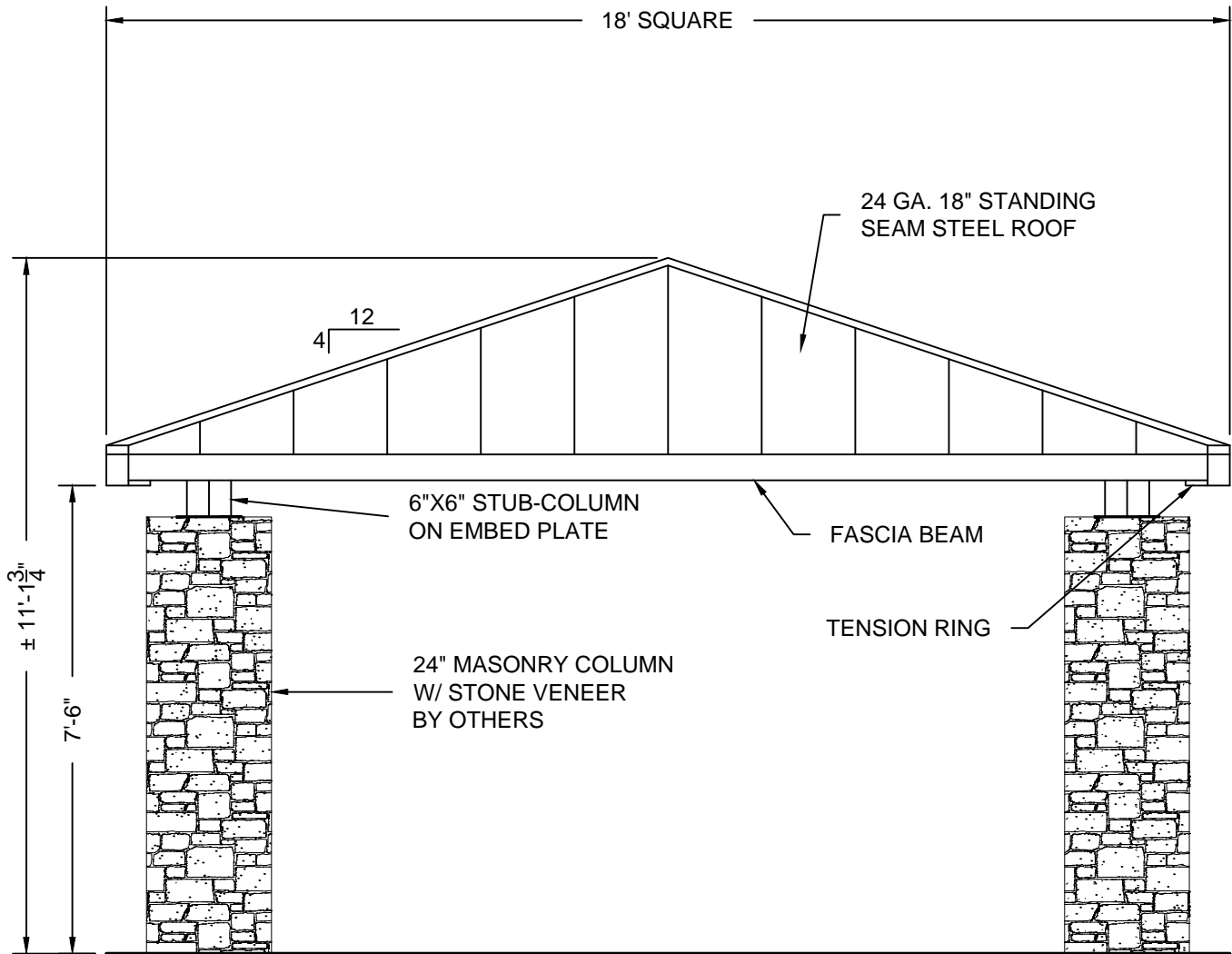
NOT FOR CONSTRUCTION



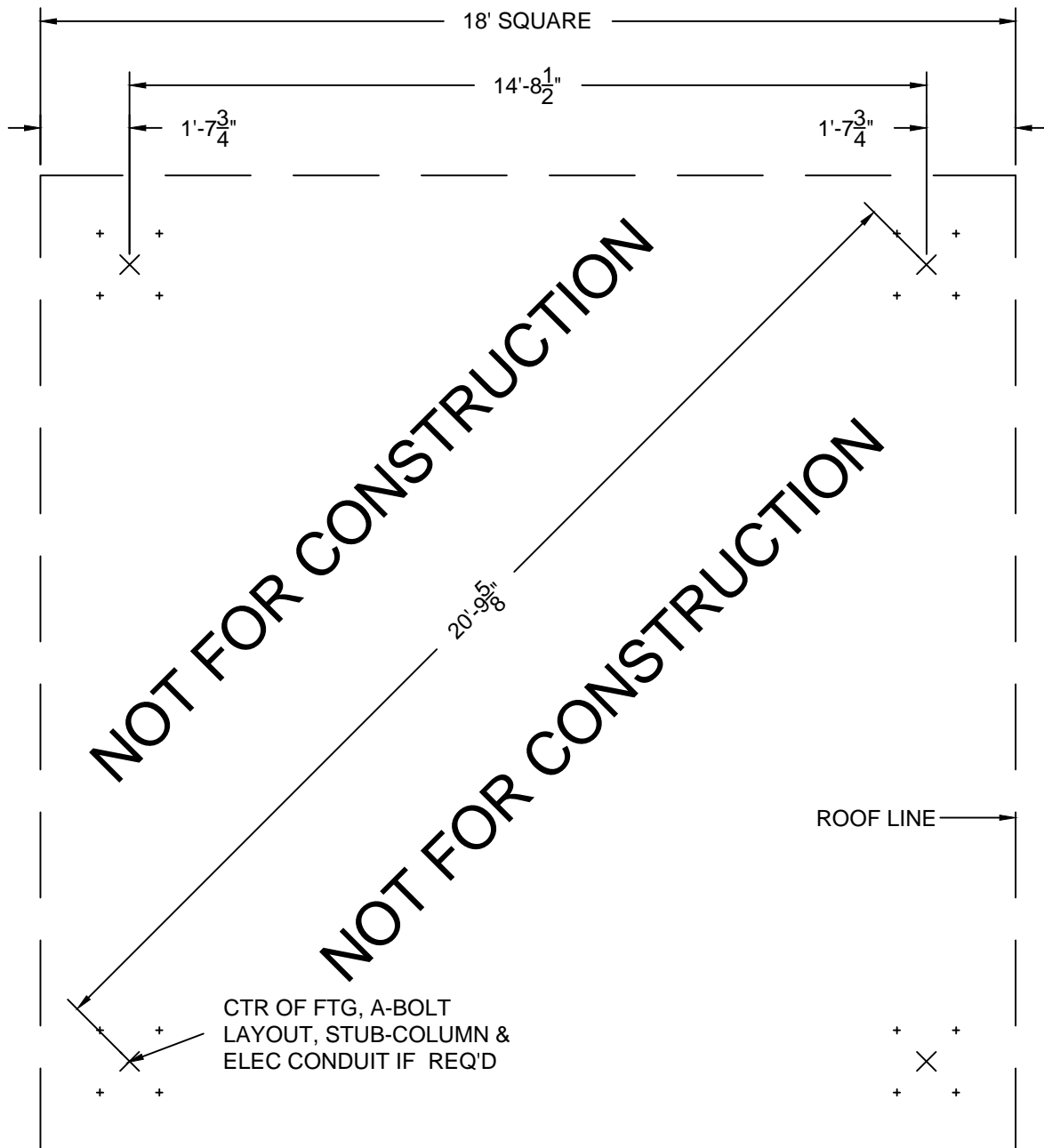
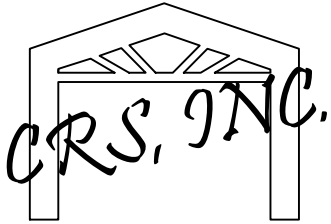
PLAN VIEW 18'X18' DENVER MODEL  
NTS



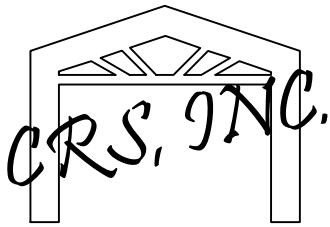
NOT FOR CONSTRUCTION



END ELEVATION 18'X18' DENVER MODEL  
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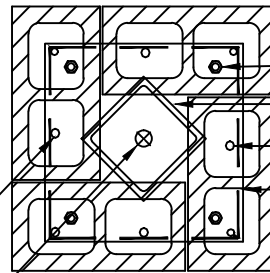
LAYOUT PLAN 18'X18' DENVER MODEL  
NTS



**ADJUST FTG DEPTH FOR  
LOCAL FROST CONDITIONS**

#3 TIES 16" OC TIGHT AGAINST  
V-BARS w/45° HOOKS  
TIE PER IBC

ELECT. CONDUIT IF REQ'D.



- (4)-ANCHOR BOLTS
- 6"X6" STUB-COLUMN
- (8) #6 V-BARS IN CELLS
- EMBED PLATE
- 8"X8"X16" CMU

HEX NUT BY CONTRACTOR  
WASHER & EMBED PLATE

TIES MUST ENGAGE 4 A-BOLTS &  
4 V-BARS. REMOVE CMU WEBBING  
AS REQ'D & GROUT SOLID

(4)- $\frac{5}{8}$ "X12" A-36 ALL THREAD A-BOLT  
w/ (2) HEX NUTS & 8" EMBED BY  
CONTRACTOR

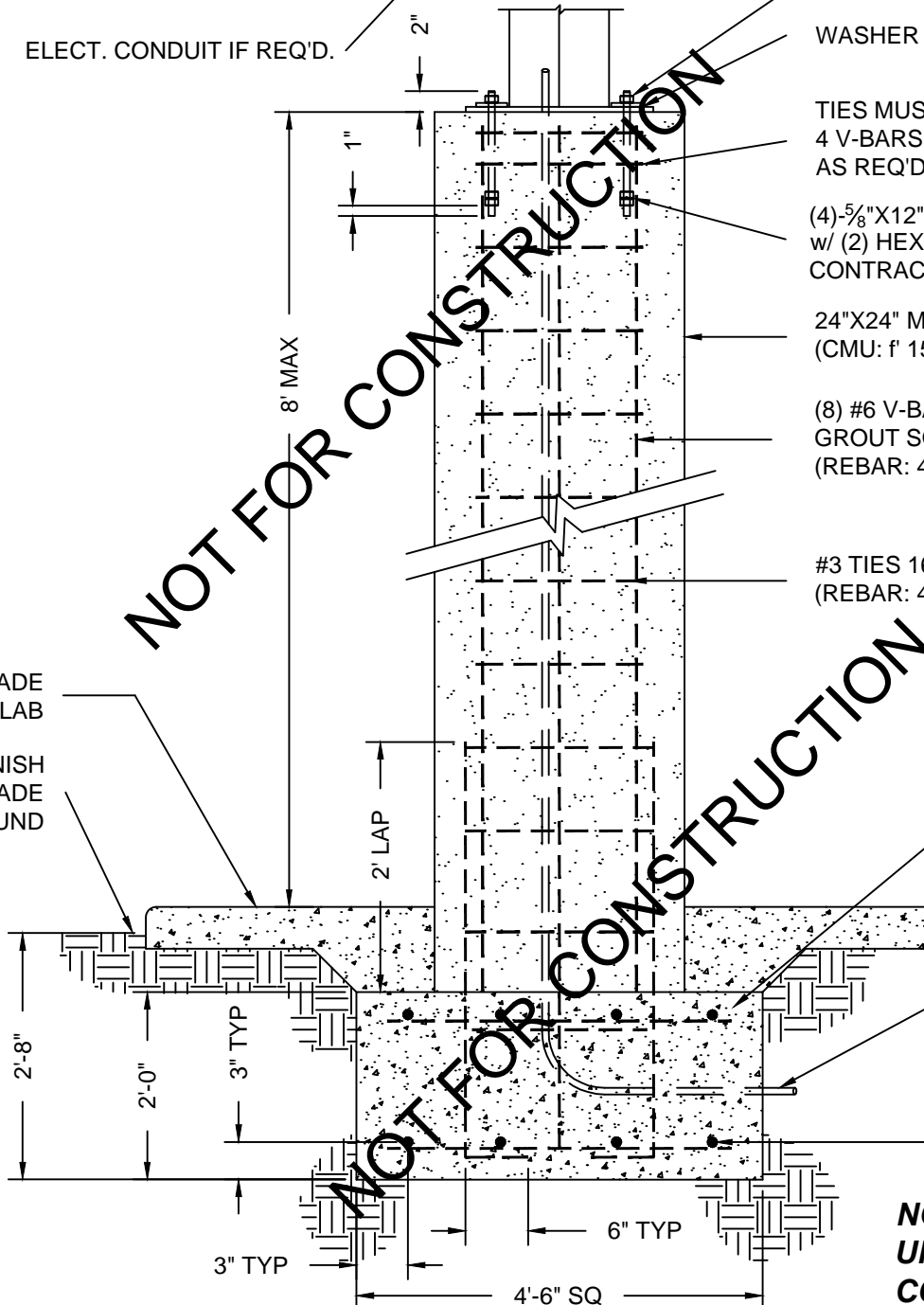
24"X24" MASONRY COLUMN  
(CMU: f' 1500 PSI) BY OTHERS

(8) #6 V-BARS @ CELLS  
GROUT SOLID w/2000 PSI GROUT  
(REBAR: 40,000PSI)

#3 TIES 16" OC  
(REBAR: 40,000 PSI)

FINISH GRADE  
4" SLAB

FINISH  
GRADE  
GROUND



2500 PSI CONCRETE  
BY CONTRACTOR

STUB ELEC CONDUIT  
PER LOCAL CODE  
SEE COL DTL PLAN  
FOR LOCATION IF REQ'D

(4) #5 REBAR  
EACH WAY TOP & BTM

**NON-EXPANSIVE,  
UNDISTURBED OR 95%  
COMPACTED SUBGRADE**

**4-BOLT SUB-SURFACE FOOTING &  
24" MASONRY COLUMN 18'X18' DENVER MODEL**  
NTS