CRS, Inc.

DENVER MODEL

20'X 20'

SPECIFICATIONS

Dimensions:

Roof Dimensions	20'-0"x 20'-0"
Columns (Center to Center)	16'-2¼"x 16'-2¼"
Minimum Clearance	7'-6"
Roof Height @ Peak	±11'-6"
Hip Roof	4:12 pitch
Square Feet Under Roof	400

All beams shall be structural steel tube sized according to engineering.
Short steel columns shall be 7"x 7" square steel tube, .188 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 12" OC 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.
Sub-roof shall be select grade SPF 2"x 6" Tongue & Groove rough one side by others.
Fascia shall be select grade SPF 2"x6" rough one side.
Open or welded "C" channels, "I" beams, "S" or "Z" purlins or angle iron shall not be allowed.

11875 E. Berry Dr., Dewey, AZ 86327
Ph: (928) 775-3307 Fax: (928) 772-0858
info@classicrecreation.com
www.classicrecreation.com

CRS, Inc.

STANDARD SPECIFICATIONS
12" O.C. STANDING SEAM ROOF
w/ ZINC RICH PRIMER
& TGIC POLYESTER POWDER COAT

GENERAL:

1. All structures shall be designed and fabricated to the IBC (or latest edition applicable code) with standard load designs of 20# per S.F. live load, 100 mph minimum wind load 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 series E-70XX metal core wire with Star 66 gas mix.
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). Anchor bolts for surface mounted structures 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". Compressive strength: 2500 psi @ 28 days.

FRAME MEMBERS AND COMPRESSION RING:

1. Only American (domestic) made steel shall be used in the construction of this shelter. 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. Compression rings shall be fabricated from structural steel tube or flat plate steel and

shall have all connections concealed from view. 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 AND TRIM:

1. All roofing shall be 24 gauge Zincalume / Galvalume coated steel panels. "Standing Seam" panels shall be Design Span by AEP Span, with 1¾" high ribs @ 12" o.c. 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 Zincalume / Galvalume coated pre-finished to match the roof color. Screws & rivets shall match roof color.

SUB-ROOF & FASCIA:

1. Subroof shall be 2"x 6" tongue and groove, select grade spruce, pine or fir (SPF), rough 1 side, facing down. T&G shall be screwed to the frame with (1) #12-24 x 2½" Phillip flat head w/ wings. (One screw, per board, per beam connection). Fascia shall be select grade 2"x6" (SPF), rough one side.

PAINT:

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 zinc rich primer (2.5-3 mils) and TGIC polyester (2.5-3 mils) minimum total 5-6 mils finish. Finish shall be a smooth uniform surface with no pits, runs or sags.

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 manufacturers' installation instructions. Care shall be taken to avoid damaging the structure during installation. Components of the structure shall be covered and kept dry prior to erection.

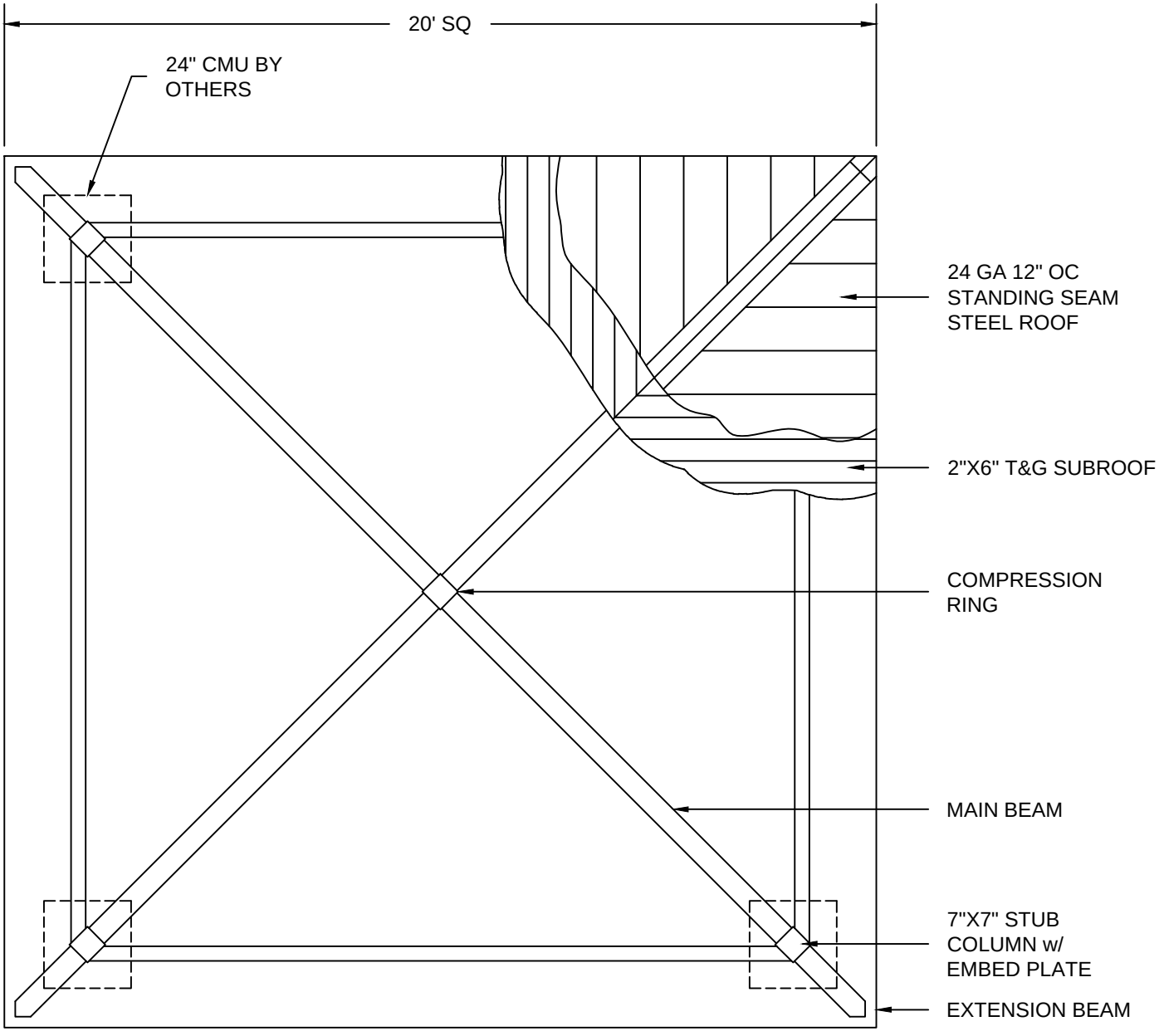
WARRANTEE:

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.

CRS, INC.

NOT FOR CONSTRUCTION



PLAN VIEW 20'X20' DENVER MODEL

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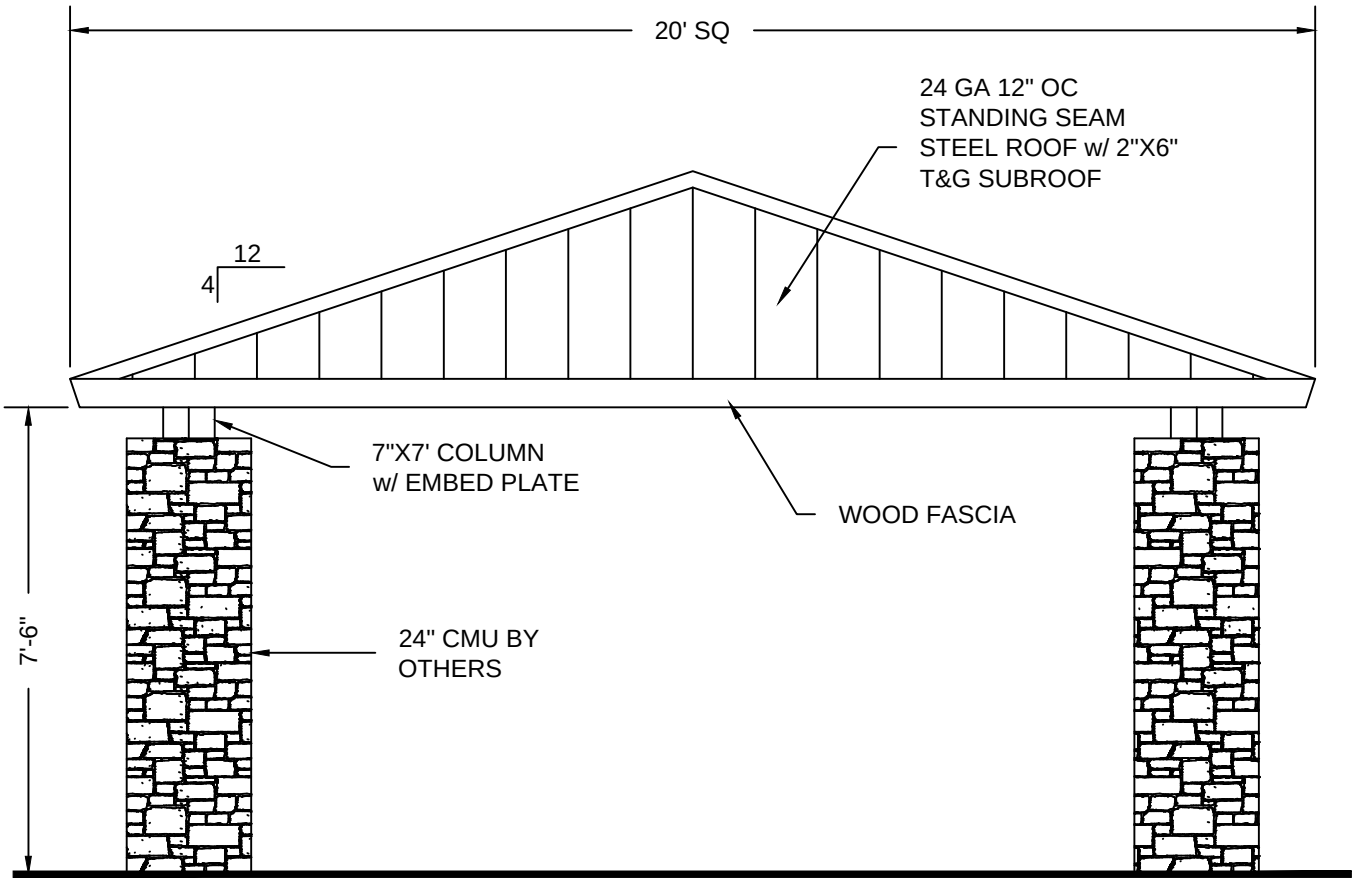
NOT FOR CONSTRUCTION



ELEVATION 20'X20' DENVER MODEL

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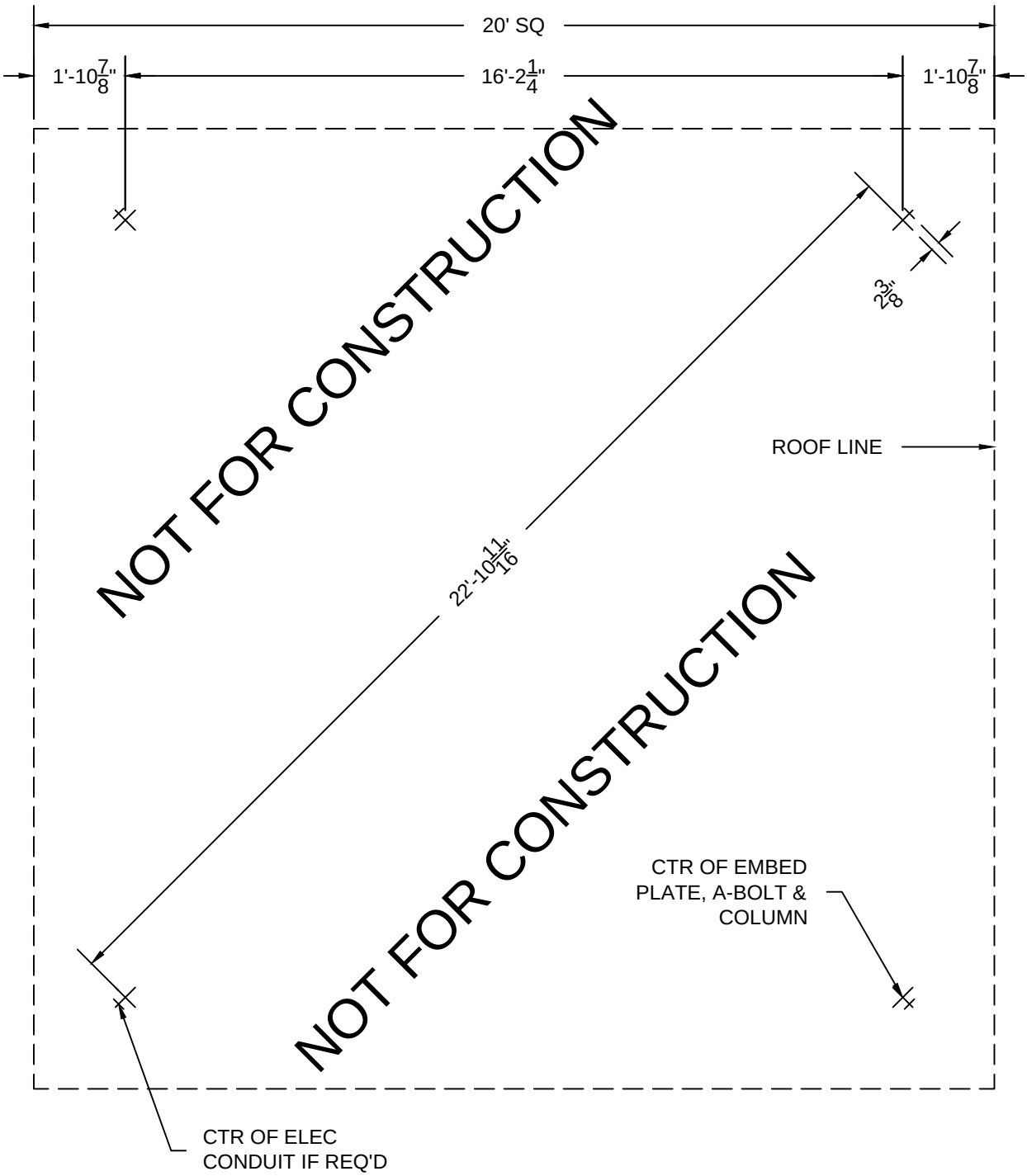

LAYOUT PLAN 20'X20' DENVER MODEL

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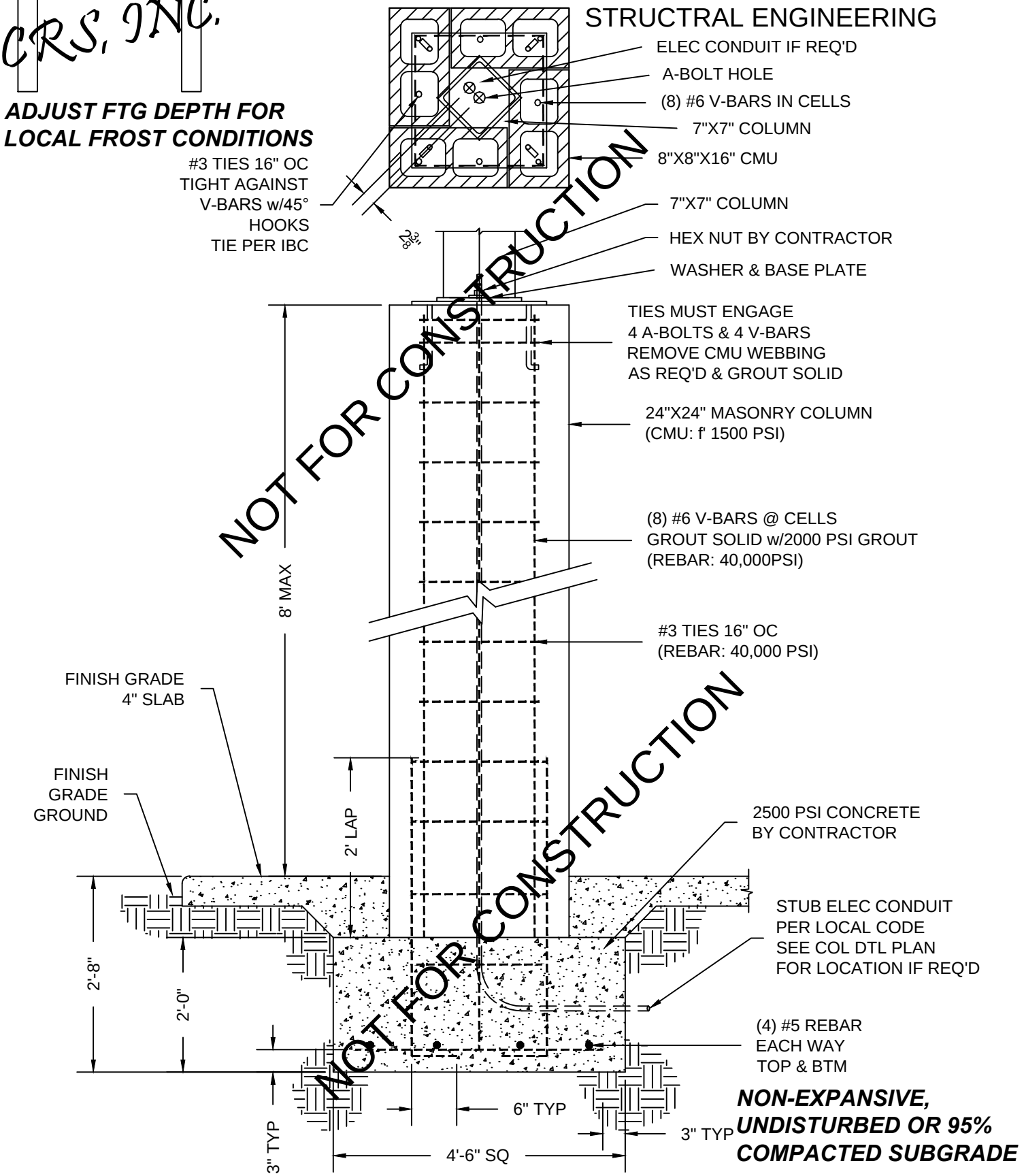
NOTE: FOR ILLUSTRATION ONLY!
FOOTING SIZE MAY CHANGE w/
STRUCTRAL ENGINEERING

ADJUST FTG DEPTH FOR LOCAL FROST CONDITIONS



NON-EXPANSIVE, UNDISTURBED OR 95% COMPACTED SUBGRADE

FOOTING & COLUMN DETAIL
20'X20' DENVER MODEL

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