A Division of PORTERCORP 4240 N 136th AVE HOLLAND MI 49424 (616) 888-3500

PROJECT NAME: CIVITAN PARK

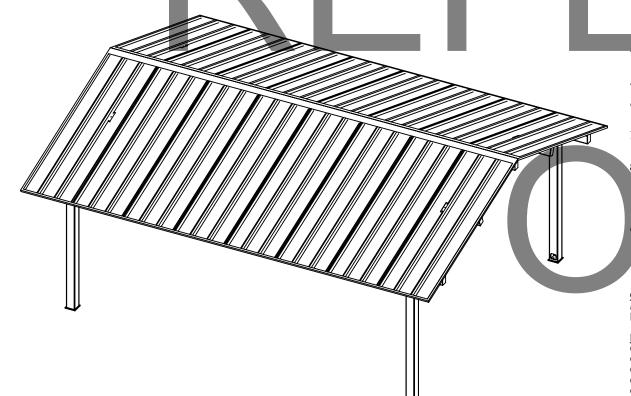
PROJECT LOCATION: HICKORY, NC

BUILDING TYPE: REK 20 X 24

ROOF TYPE: MULTI-RIB

BUILDING NUMBER: P15909

74608 ORDER NUMBER:



DRAWING LIST:

SHEET NUMBER	DRAWING DESCRIPTION
CS	COVER SHEET
1	ARCHITECTURAL ELEVATIONS
2-2.1	ANCHOR AND FOOTING LAYOUT / DETAILS
3	STRUCTURAL FRAMING PLAN
4-4.1	FRAME CONNECTION DETAILS
5	ELECTRICAL VIEWS-N/A
6-6.1	ROOF LAYOUT
7-7.1	ROOF CONNECTION DETAILS

MANUFACTURER NOTES:

MATERIALS:

DESCRIPTION TUBE STEEL ASTM DESIGNATION A500 (GRADE C) A53 (GRADE B) SCHEDULE PIPE RMT PIPE A519 LIGHT GAGE COLD FORMED STRUCTURAL STEEL PLATE A1003 (GRADE 50) **ROOF PANELS (STEEL)** SEE SHEET 2.1 ANCHOR BOLTS

GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED TO ONLY SUPPORT WHAT IS SHOWN ON THESE DRAWINGS. POLIGON MUST BE CONTACTED IF ANYTHING ELSE IS TO BE ATTACHED TO THIS STRUCTURE (WALLS, COLUMN WRAPS, RAILINGS, ETC.) SO THE DESIGN OF THIS STRUCTURE CAN BE REVIEWED AND POSSIBLY REVISED.

2. THE ENGINEERING SEAL FOR THE STRUCTURE DETAILED IN THESE DRAWINGS IS ONLY VALID IF PORTER CORP DESIGNS AND FABRICATES THE STEEL COMPONENTS.

FABRICATING THE STEEL COMPONENTS ELSEWHERE VOIDS THE ENGINEERING PROVIDED BY PORTER CORP

BY PORTER CORP.
UNLESS NOTED OTHERWISE, THIS STRUCTURE WAS DESIGNED ASSUMING A 20'
SEPARATION BETWEEN ANY ADJACENT STRUCTURE WITH AN EAVE HEIGHT EQUAL TO OR
GREATER THAN THE EAVE HEIGHT OF THIS STRUCTURE (SEE SNOW DESIGN DATA). IF THAT
SEPARATION DOES NOT EXIST AND THE GROUND SNOW LOAD (Pg) IS GREATER THAN 0
PSF, POLIGON MUST BE CONTACTED SO THE DESIGN OF THIS STRUCTURE CAN BE
REVIEWED AND POSSIBLY REVISED.
STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE
WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION
MANUAL REFERENCED IN THE GOVERNING BUILDING CODE.
ALL WELDING IS PERFORMED BY AMERICAN WELDING SOCIETY (AWS) CERTIFIED
WELDERS AND CONFORMS TO AWS D.1.1 OR D.1.3 AS REQUIRED.

WELDERS AND CONFORMS TO AWS D1.1 OR D1.3 AS REQUIRED.
PARTS SHOWN MAY BE UPGRADED DUE TO STANDARDIZED FABRICATION. REFER TO THE SHIPPING BILL OF MATERIALS AND FINAL INSTALLATION INSTRUCTIONS INCLUDED WITH THE STRUCTURE FOR POSSIBLE SUBSTITUTIONS AND IMPROVEMENTS.

FOR PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT THE PRIMARY FRAME INSTALLER AND THE ROOF INSTALLER HAVE A MINIMUM FIVE (5) YEARS DOCUMENTED EXPERIENCE INSTALLING THIS TYPE OF RRODUCT.

THE DRAWINGS REPRESENT THE FINISHED STRUCTURE, THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING BRACING, SHORING, LAYDOWN AND PROTECTION OF CONSTRUCTION MATERIALS, ETC.

TEMPORARY SHORING AND BRACING SHALL BE THE RESPONSIBILITY OF THE

R PROPER FIELD INSTALLATION OF THE BUILDING IT IS RECOMMENDED THAT ELECTRIC RING, IF REQUIRED, BE RUN THROUGH THE STRUCTURAL MEMBERS BEFORE THE LDING IS ERECTED.

MAKING HOLES, CUTS OR MODIFICATIONS TO THE STRUCTURAL STEEL MEMBERS IS NOT PERMITTED IN THE FIELD WITHOUT SPECIFIC APPROVAL OF POLIGON.

CERTIFICATES:
MIAMI-DADE COUNTY CERTIFICATE OF COMPETENCY NO. 22-0830.04
PCI (POWDER COATING INSTITUTE) 4000 CERTIFIED

FABRICATOR APPROVALS:
CITY OF PHOENIX, AZ APPROVED FABRICATOR #C08-2010
CITY OF LOS ANGELES, CA APPROVED FABRICATOR #FB01596 CITY OF RIVERSIDE, CA APPROVED FABRICATOR #SF_000042 CITY OF HOUSTON, TX APPROVED FABRICATOR #470 CLARK COUNTY, NV APPROVED FABRICATOR #264 STATE OF UTAH APPROVED FABRICATOR 02008-14 AISC APPROVED FABRICATOR C-00020688 AWS CERTIFIED WELDING FABRICATOR #221003F



DESIGN CRITERIA:

GENERAL:2018 NORTH CAROLINA BUILDING CODE RISK CATEGORY: II

DEAD LOAD:

ROOF DEAD LOAD: 2 PSF FRAME DEAD LOAD: SELF WEIGHT

LIVE LOAD:

ROOF LIVE LOAD: 20 PSF

SNOW DESIGN DATA:
GROUND SNOW LOAD (Pg): 15 PSF
FLAT ROOF SNOW LOAD (Pf): 13 PSF
SNOW EXPOSURE FACTOR (Ce): 1.0 SNOW LOAD IMPORTANCE FACTOR (Is): 1.0 THERMAL FACTOR (Ct): 1.2 ROOF SLOPE FACTOR (Cs): 1.0 DRIFT SURCHARGE LOAD (Pd): 0 PSF WIDTH OF SNOW DRIFT (W): 0 FT MINIMUM HORIZONTAL SEPARATION DISTANCE (s): 20 FT

WIND DESIGN DATA:

BASIC WIND SPEED (V): 115 MPH ALLOWABLE STRESS DESIGN WIND SPEED (Vasd): 89 MPH GUST EFFECT FACTOR (G): 0.85
INTERNAL PRESSURE COEFFICIENT (GCpi): 0 WIND EXPOSURE: C

SEISMIC DESIGN DATA:

STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE SEISMIC IMPORTANCE FACTOR (Ie): 1.0 SEISMIC DESIGN CATEGORY: C SEISMIC SITE CLASS: D SHORT SPECTRAL RESPONSE (Ss): 0.55 SHORT SPECTRAL RESPONSE (SS): 0.55
L-SEC SPECTRAL RESPONSE (ST): 0.13
DESIGN SHORT SPECTRAL RESPONSE (SDS): 0.50
DESIGN 1-SEC SPECTRAL RESPONSE (SD1): 0.20
SEISMIC RESPONSE COEFFICIENT (CS): 0.17
RESPONSE MODIFICATION COEFFICIENT (R): 3.00
EQUIVALENT LATERAL FORCE PROCEDURE
SEE CALCULATIONS FOR ADDITIONAL DATA

ADDITIONAL CRITERIA:

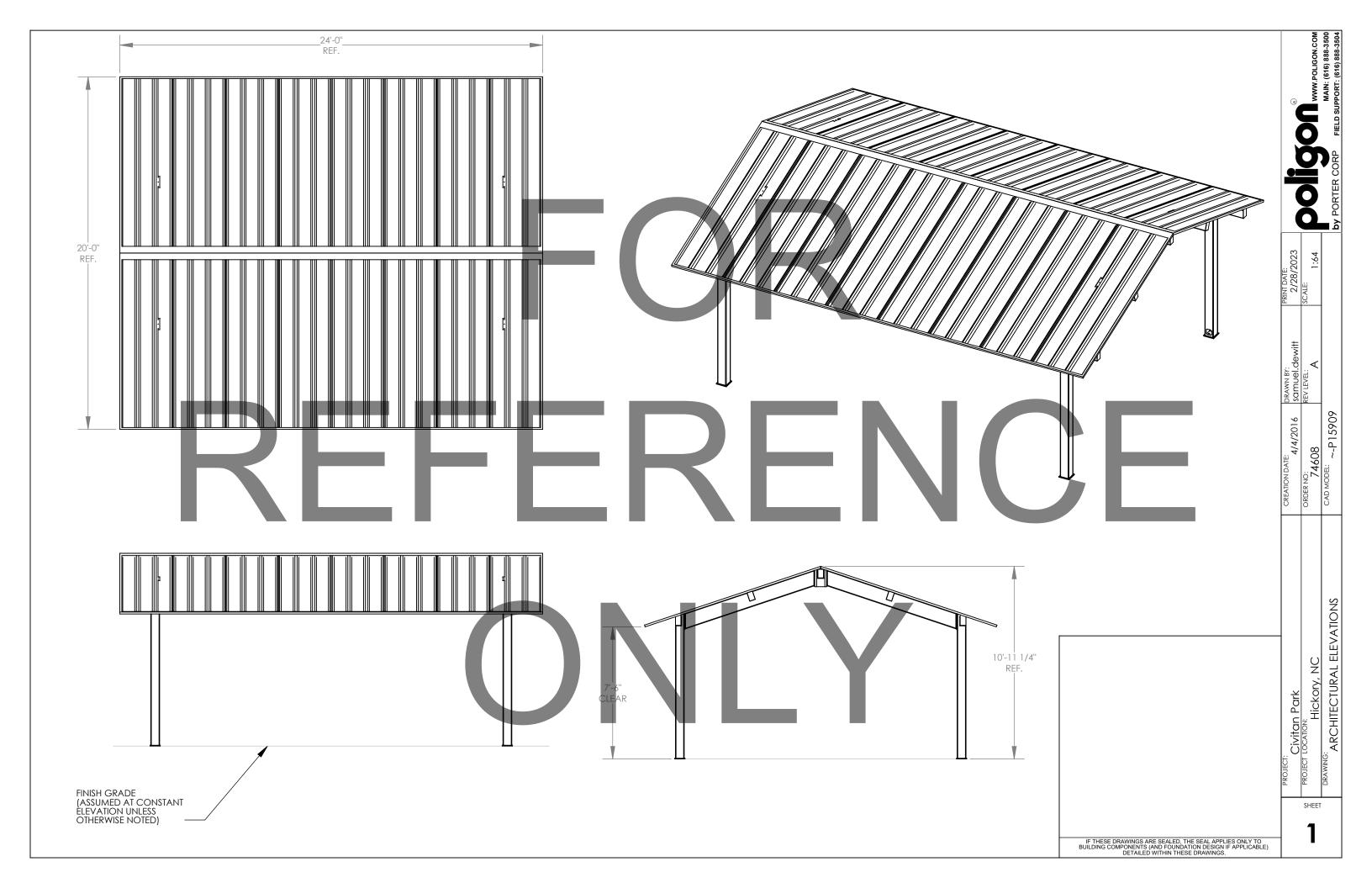
HICKORY, NC CIVITAN PARK LOCATION: **COVER SHEET**

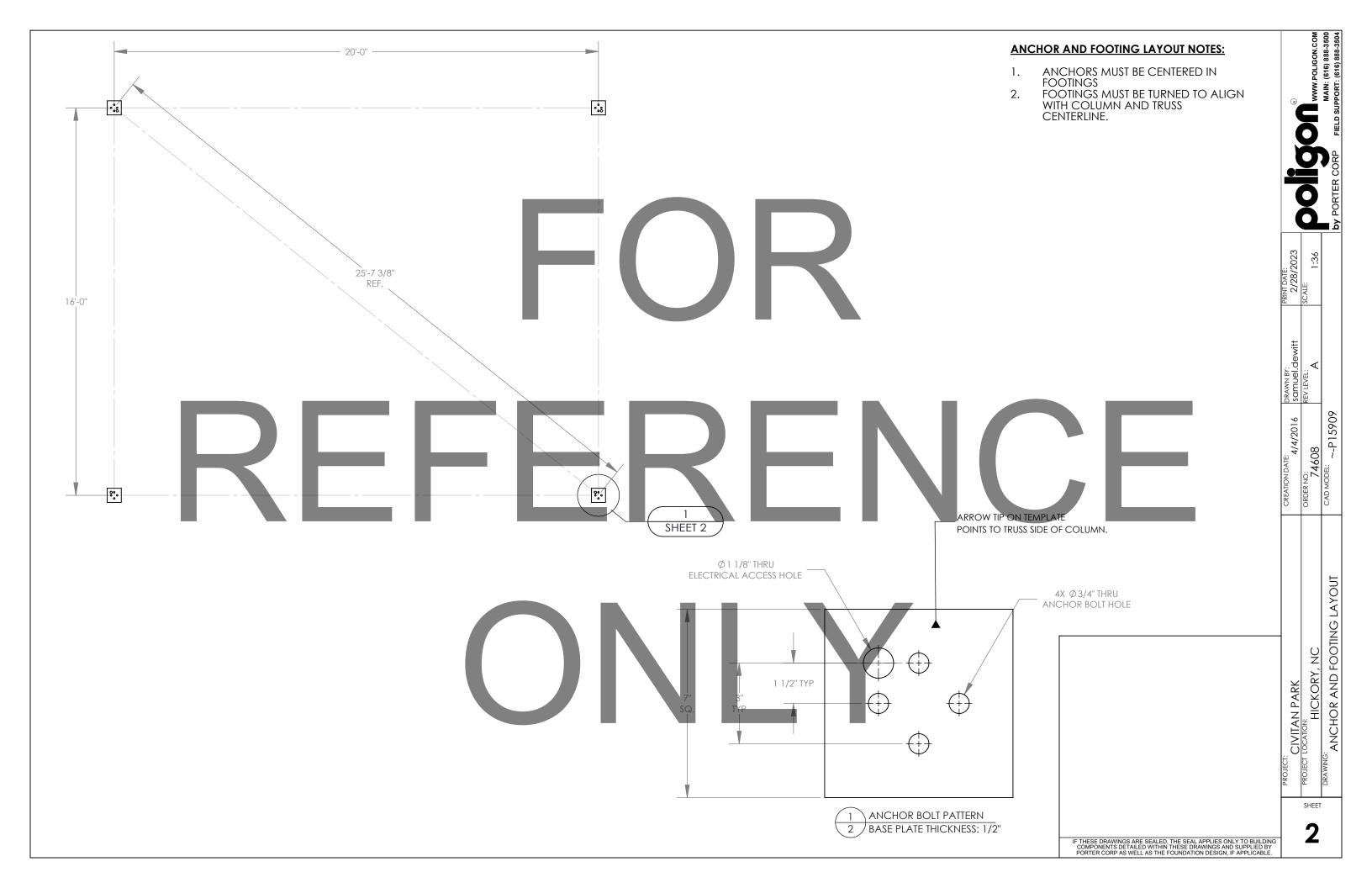
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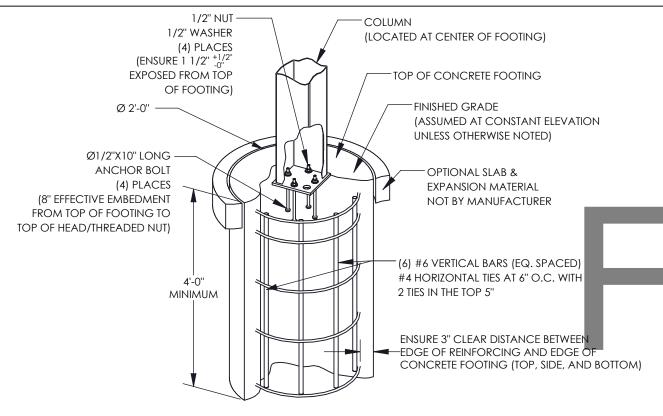
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4/4/2016

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO BUILDING COMPONENTS DETAILED WITHIN THESE DRAWINGS AND SUPPLIED BY PORTER CORP AS WELL AS THE FOUNDATION DESIGN, IF APPLICABLE.

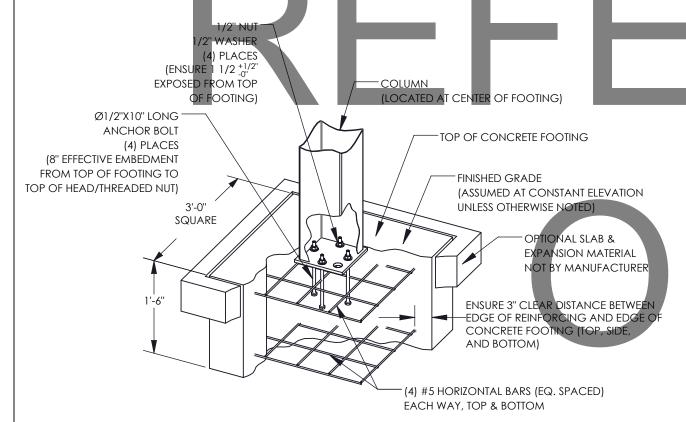






PIER FOOTING OPTION (INTERNAL ANCHOR BOLTS)

FOOTING DESIGN BY MANUFACTURER, FOOTING MATERIALS BY OTHERS.
(TYPICAL WITH EACH COLUMN, QTY OF REINFORCING AND ANCHOR BOLTS
SPECIFIED IN NOTES REFLECT SITE SPECIFIC REQUIREMENTS)



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FOOTING DESIGN BY MANUFACTURER, FOOTING MATERIALS BY OTHERS. (TYPICAL WITH EACH COLUMN, QTY OF REINFORCING AND ANCHOR BOLTS SPECIFIED IN NOTES REFLECT SITE SPECIFIC REQUIREMENTS)

ANCHOR BOLT NOTES - INTERNAL (ANCHOR BOLTS LOCATED WITHIN COLUMN):

- 1. ANCHOR BOLTS SHALL BE ASTM A307 (GRADE A) MATERIAL UNLESS OTHERWISE NOTED.
- 2. ANCHOR BOLTS SHALL BE EITHER "HEADED" OR "THREADED WITH NUT" AS DEFINED IN THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL.
- HOOKED ANCHOR BOLTS ARE NOT ACCEPTABLE.
 - ACCURATE ANCHOR BOLT PLACEMENT IS CRITICAL. TO ENSURE THE ANCHOR BOLT LAYOUT MEETS THE DIMENSIONS REQUIRED ON THE DRAWINGS, SURVEY (OR MEASURE) THE LOCATION OF ALL ANCHOR BOLTS PRIOR TO POURING THE FOOTINGS. AN ADDITIONAL SURVEY (OR MEASUREMENT) SHOULD BE MADE AFTER THE FOOTINGS ARE POURED TO CONFIRM THE ANCHOR BOLTS DID NOT SHIFT DURING THE CONCRETE POUR.
 - THE MANUFACTURER STRONGLY RECOMMENDS USING ANCHOR BOLT TEMPLATES BECAUSE THEY SIGNIFICANTLY IMPROVE THE ACCURACY OF ANCHOR BOLT PLACEMENT. AN ANCHOR BOLT TEMPLATE IS PROVIDED WITH ANY ANCHOR BOLT KIT PURCHASED.
- 6. IF OUTSIDE CONSULTING ENGINEERS ARE DESIGNING THE FOUNDATIONS FOR THIS STRUCTURE, THEY MUST REFER TO THE MANUFACTURER'S CALCULATIONS FOR MINIMUM CONCRETE PROPERTIES (COMPRESSIVE STRENGTH, EDGE DISTANCE, ETC.) REQUIRED FOR THE ANCHOR BOLT DESIGN
 - ELECTRICAL ACCESS HOLE IS ALWAYS LOCATED IN THE COLUMN BASE PLATE AS SHOWN. BE SURE TO KEEP THE ANCHOR BOLT TEMPLATE PROPERLY ORIENTED WHEN ELECTRICAL ACCESS TO THE COLUMN IS REQUIRED. TEMPLATE MUST BE REMOVED BEFORE INSTALLING COLUMNS.
- 8. THE CALCULATIONS FOR THIS STRUCTURE ASSUME A PINNED COLUMN BASE.
- 9. THE FOLLOWING ADHESIVE ANCHORS MAY BE SUBSTITUTED FOR THE CAST-IN-PLACE ANCHOR BOLTS:
 - -HILTI HIT-HY 200 (A OR R) ADHESIVE WITH Ø 1/2" HAS-E ROD WITH MINIMUM 6" EMBEDMENT.
 - CONTRACTOR SHALL FOLLOW ALL INSTALLATION SPECIFICATIONS AND REQUIREMENTS OF ANCHOR MANUFACTURER.

CONCRETE NOTES:

7.

- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE"
- 2. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE II OR TYPE V.
- 3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE CONCRETE MIX DESIGN MEETS THE "ACI MANUAL OF CONCRETE PRACTICE" REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS.
- 4. THE USE OF CHLORIDE ACCELERATORS IS NOT PERMITTED.
- 5. COARSE AGGREGATE SHALL BE #57 OR LARGER.
- . CONCRETE AT PLACEMENT SHALL HAVE A SLUMP OF 4" +/- 1".
- . MINIMUM CONCRETE COMPRESSIVE STRENTGH AT 28 DAYS: 4500 PSI.
- REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A615 (DEFORMATIONS SHALL BE IN

ACCORDANCE WITH ASTM A305) AS FOLLOWS

GRADE 60: #4 BARS AND LARGER

GRADE 40: #3 BARS

- PRIOR TO PLACING OF CONCRETE, REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE WELL SECURED IN POSITION.
- 10. MAINTAIN 3" CONCRETE COVERAGE TO FACE OF BARS UNLESS OTHERWISE NOTED.
- 11. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
- 12. WELDING OF REINFORCEMENT IS NOT ALLOWED.
- 13. ALL EXPOSED EXTERNAL CORNER OF FOUNDATIONS TO BE CHAMFERED BY 3/4" BY 45 DEGREES UNLESS NOTED OTHERWISE.
- 14. ALL NEW CONCRETE SHALL BE CURED IMMEDIATELY AFTER FINISHING OF REMOVING FORMWORK, CURING SHALL BE EITHER A MOIST CURE METHOD OR THE USE OF A CURING COMPOUND.

FOUNDATION NOTES:

- FOUNDATIONS SHALL BEAR ON COMPETENT, UNDISTRUBED SOIL OR 95% COMPACTED FILL. IF SIGNS OF ORGANIC MATERIAL, UNCONTROLLED FILL, CLAY OR SILT, HIGH WATER TABLE OR OTHER POSSIBLE DETRIMENTAL CONDITIONS ARE FOUND, CONSTRUCTION OF THE FOUNDATIONS MUST BE STOPPED AND A GEOTECHNICAL ENGINEER BE CONTACTED.
- NO FOUNDATIONS SHALL BE PLACED INTO OR ADJACENT TO SUBGRADE CONTAINING WATER, ICE, FROST, ORGANIC OR LOOSE MATERIAL.
- 3. WATER SHALL NOT BE PERMITTED TO ACCUMULATE IN FOUNDATION EXCAVATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCAL FROST DEPTH REQUIREMENT PRIOR TO CONSTRUCTION.
- IF FOUNDATIONS SHOWN DO NOT MEET LOCAL FROST DEPTH REQUIREMENTS, EXTEND THE DRILLED PIER FOUNDATION AS REQUIRED, EXTENDING THE VERTICAL BARS AND PROVIDING ADDITIONAL TIES TO MEET SPACING REQUIREMENTS AS SHOWN. IF FROST DEPTH REQUIREMENTS ARE NOT MET, AND NO DRILLED PIER DESIGN IS PROVIDED, CONTACT POLIGON.
- 6. ALLOWABLE SOIL PRESSURES (AS APPLICABLE):

SPREAD PAD	
VERTICAL BEARING	1500 PSF
LATERAL COHESION	130 PSF
DRILLED PIER	
VERTICAL BEARING	1500 PSF
LATERAL BEARING	100 PSF/FT

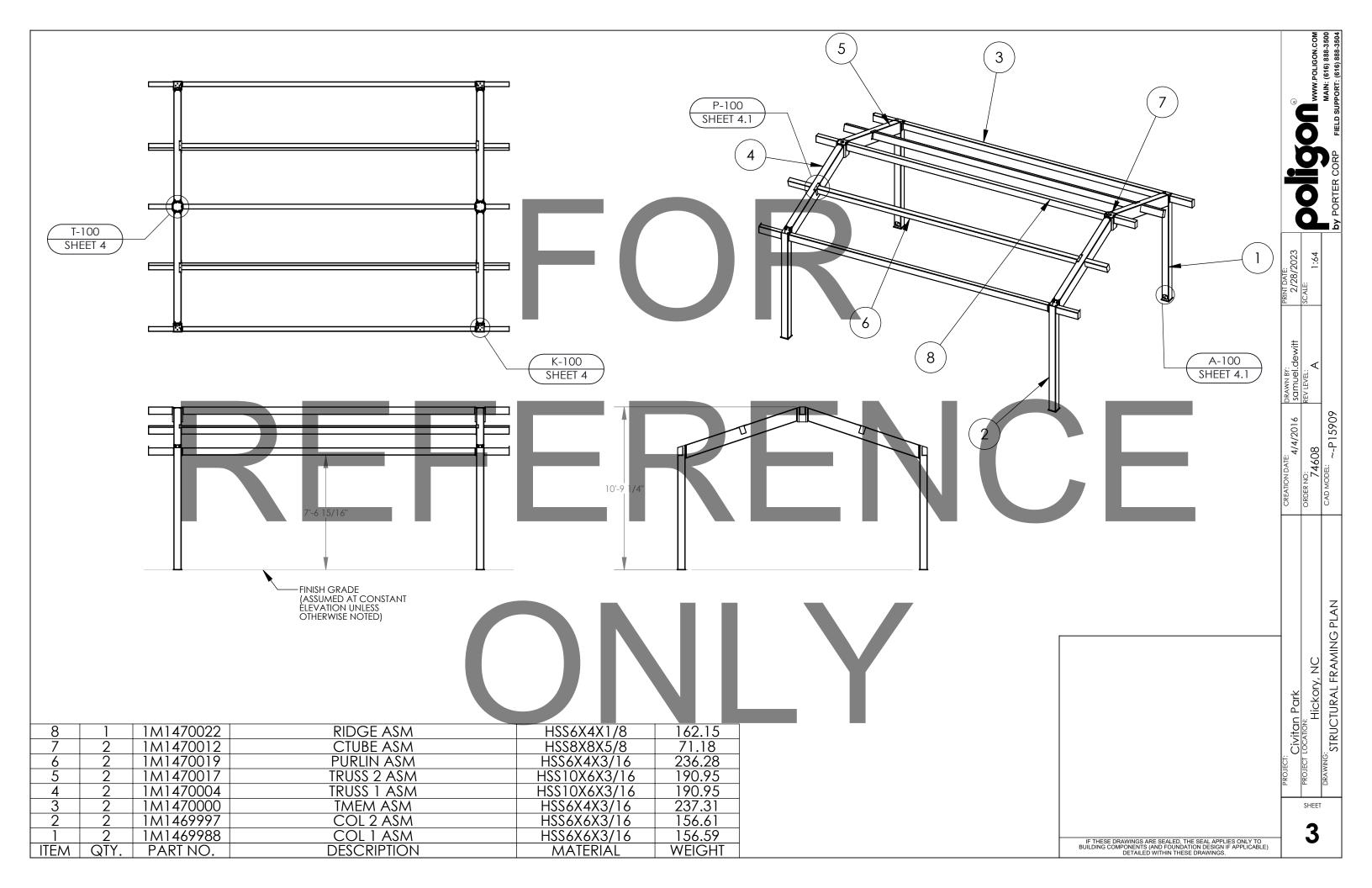
THE FOUNDATION DESIGN SHOWN ON THESE DRAWINGS IS NOT SITE SPECIFIC, BUT BASED ON THE PRESUMPTIVE ALLOWABLE FOUNDATION PRESSURES IN CHAPTER 18 OF THE BUILDING CODE (CLASS 5 SOIL). THE BUILDING OFFICIAL IN THE JURISDICTION IN WHICH THIS STRUCTURE IS LOCATED MAY REQUIRE A SITE SPECIFIC GEOTECHNICAL REPORT OR LETTER FROM A QUALIFIED LOCAL PROFESSIONAL ENGINEER ATTESTING TO WHETHER THE ACTUAL SITE CONDITIONS MEET THE ASSUMPTIONS IDENTIFIED ABOVE.

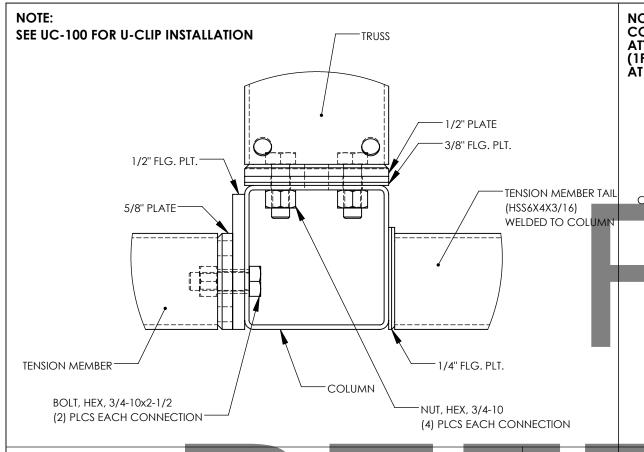
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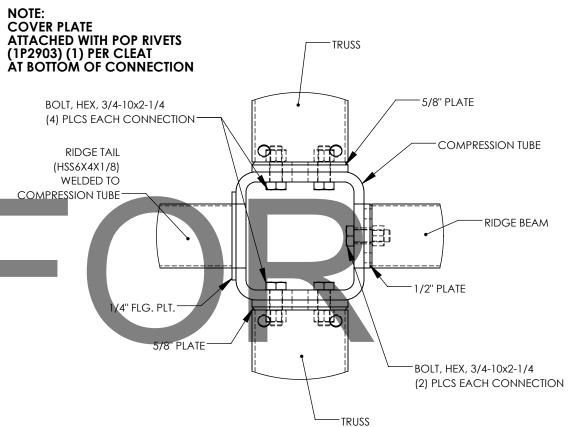
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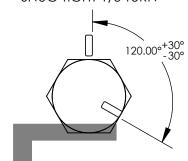
COLUMN CONNECTIONS



TURN-OF-NUT PRETENSIONING METHOD: THESE STEPS ILLUSTRATE THE REQUIREMENTS OUTLINED IN THE AISC SPECIFICATION. THE ROTATION INDICATED IS ACCURATE FOR MOST BOLT DIAMETERS AND LENGTHS BUT IT IS THE RESPONSIBILITY OF THE INSTALLER TO MEET AISC REQUIREMENTS.

> STEP ONE: AFTER SNUG TIGHT, MATCH MARK PLATE

STEP TWO: THEN TURN BOLT/NUT PAST SNUG TIGHT 1/3 TURN



COMPRESSION MEMBER CONNECTION

CONNECTION NOTES

K-100

IIGH STRENGTH BOLTS SHALL BE ASTM F3125 (A325, TYPE 1) MATERIA

high strength nuts shall be astm a.563 (grade Dh) material.

HIGH STRENGTH WASHERS SHALL CONFORM TO ASTM F436. UNLESS A SNUG-TIGHT JOINT IS PERMITTED IN THE CONNECTION DETAIL, ALL BOLTS ARE TO BE INSTALLED BY ONE OF THE FOLLOWING PRETENSIONING METHODS AS SPECIFIED IN THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS", SECTION 8: A. TURN-OF-NUT PRETENSIONING

B. CALIBRATED WRENCH PRETENSIONING THE SNUG-TIGHT CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

ANCHOR BOLTS NEED NOT BE TIGHTENED PAST SNUG-TIGHT.

WHEN INSTALLING BOLTS REFER TO SECTIONS 8.4.1, 8.4.2, AND 8.4.3 OF THE

"SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" FOR GUIDANCE.

LOCAL JURISDICTIONS MAY REQUIRE AN INSPECTOR TO BE PRESENT TO WITNESS

ARDWARE INSTALLATION AND INDEPENDENT TESTING. INSPECTION REQUIREMENTS SHOULD BE VERIFIED BY INSTALLER PRIOR TO STEEL ERECTION.

I OF THE FRAMING MEMBERS WILL REQUIRE THE MAIN COLUMNS TO BE PLUMB SQUARE AND TIGHTENED TO THE TRUSSES AND/OR TENSION MEMBERS BEFORE INSTALLING THE PURLINS. PURLINS, IF REQUIRED, MUST BE AS SHOWN IN FRAMING PLAN.

TEMPORARY SHORING OR BRACING SHALL BE USED TO COMPACT THE JOINTS UNTIL THE CONNECTED PLIES ARE IN FIRM CONTACT PRIOR TO PRETENSIONING.

PRIOR TO THE ERECTION OF SHELTER COMPONENTS, IT IS RECOMMENDED TO CHASE AND TAP STRUCTURAL HARDWARE.

ALL BOLTS MUST BE LUBRICATED WITH WAX TO ASSIST IN PROPER TIGHTENING. TO LUBRICATE A BOLT IN THE FIELD, APPLY THE WAX STICK DOWN THE LENGTH OF THE BOLT'S

TO PREVENT RUST STAINING OF FINISH, ALL METAL SHAVINGS MUST BE REMOVED AFTER INSTALLATION. ENSURE NO SHAVING ARE TRAPPED BETWEEN MATING SURFACES.

TOUCH-UP PAINT MUST BE APPLIED TO ALL EXPOSED FASTENERS. PERIODIC TOUCH-UP AT THESE CONNECTIONS IS REQUIRED.

ATTACH U-CLIP (UC44F14) @ 10'-0" (1 EA) AND U-CLIP (UC44F14) @ 9'-3" (1 EA) TO 1 MEMBER ASM (2 TOTAL)

ATTACH U-CLIP (UC44F14) @ 1'-7 7/16" (1 EA) TO T MEMBER TAIL (4 TOTAL)

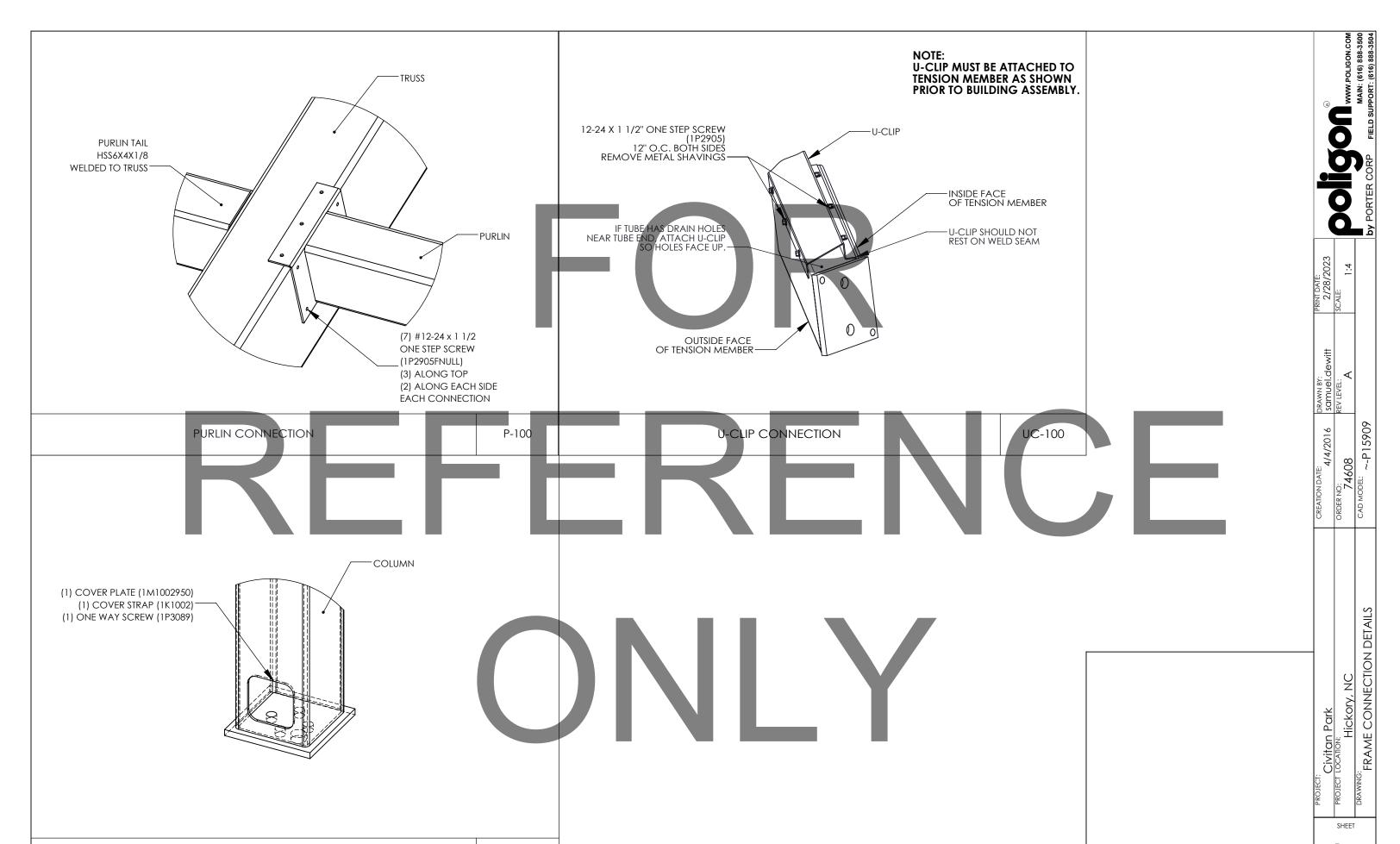
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1P2903GAL	RIVET, POP, 1/8X5/16	15
1P3089	COLUMN COVER PLATE SCREW	4
1K1002	COLUMN COVER STRAP	4
1M1002950	COLUMN COVER PLT	4
1P2905FNULL	PAINT SCREW,TEK/5,12-24x1-1/2	150
1M1233688	CTUBE COVER PLT 8X8X1.25R	2
1P1877	BOLT, HEX, 3/4-10x2-1/4	22
1P2025	NUT, HEX, 3/4-10	18
1P1919	BOLT, HEX, 3/4-10x2-1/2	10
1M1472999	U-CLIP (UC44F14) @ 1'-7 5/16"	4
1M1472998	U-CLIP (UC44F14) @ 9'-3"	2
1M1472997	U-CLIP (UC44F14) @ 10'-0''	2
1P3550	WAX STICK	1
1P2201FNULL	STANDARD TOUCHUP PAINT	1
1P3234	POLIGON NAMEPLATE	1
1P3235	INSTALLATION DETAILS	1
PART NUMBER	DESCRIPTION	HARDWARE/QTY.

FRAME CONNECTION DETAILS Hickory, NC Civitan Park SHEET

4/4/2016

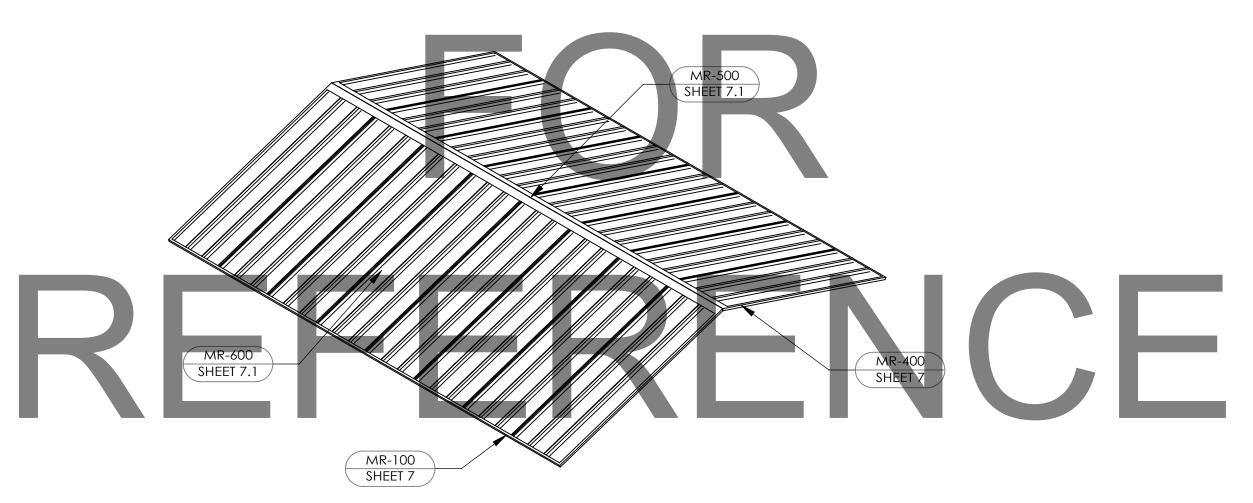
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ANCHOR ACCESS COVER PLATE

A-100

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1:50 ORDER NO: 74608
CAD MODEL: ~-P15909 4/4/2016 Hickory, NC DRAWING: ROOF OVERVIEW Civitan Park
PROJECT LOCATION:

SHEET

6

IF THESE DRAWINGS ARE SEALED, THE SEAL APPLIES ONLY TO BUILDING COMPONENTS (AND FOUNDATION DESIGN IF APPLICABLE) DETAILED WITHIN THESE DRAWINGS.

