GENERAL NOTES:

1. FOUNDATIONS DESIGNED FOR A MINIMUM SOIL BEARING CAPACITY OF 3000 PSF AT THE FOUNDATION BEARING ELEVATIONS SHOWN.
2. GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING MASONRY HEADERS, MASONRY JAMBS, LIGHT GAGE METAL BEARING WALLS, LIGHT GAGE METAL HEADERS, AND STRUCTURAL STEEL LOCATIONS, SIZES, AND CONDITIONS DISPLAYED ON PLANS PRIOR TO FABRICATION AND CONSTRUCTION.
3. GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND SHORING AGAINST WIND, EXISTING SOIL PRESSURE ON EXISTING FOUNDATIONS AND WALLS, AND OTHER SHORT TERM LOADS DURING THE CONSTRUCTION AND DEMOLITION PHASE TO ENSURE SAFE SUPPORT OF STRUCTURE.
4. GENERAL CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AGAINST GRAVITY LOADS OF THE ELEVATED FLOOR AND ROOF LOADS IN ORDER TO FACILITATE THE INSTALLATION OF PERMANENT STRUCTURAL STEEL AND MASONRY SUPPORT.
5. STRUCTURAL DRAWINGS SHALL NOT BE SCALED MECHANICALLY OR ELECTRONICALLY FOR DEMINSIONS, BUILDING LAYOUT OR SHOP DRAWINGS.
6. GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS ARE CORRECT AS SHOWN. GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING GRADE ELEVATIONS AND CONDITIONS REFERENCED IN CONTRACT DOCUMENTS.
7. REPORT ALL DISCONTINUES WITH THE ABOVE TO THE ENGINEER OF RECORD.

DESIGN LOADS:

1. APPLICABLE BUILDING CODES:
   - A. 2018 NORTH CAROLINA STATE BUILDING CODE
   - B. ASCE 7-16 "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"

2. OCCUPANCY CATEGORY:	II
3. IMPORTANCE FACTORS:	
A. SEISMIC FACTOR (Ie):	1.0
B. SNOW FACTOR (Is):	1.0
C. WIND FACTOR (Iw):	1.0
4. ROOF DEAD LOADS:	20 PSF (TOTAL)
A. METAL DECK:	2 PSF
B. INSULATION & MEMBRANE	5 PSF
C. MECHANICAL SYSTEMS	4 PSF
D. CEILING & LIGHTS	2 PSF
E. STEEL FRAMING	7 PSF
5. FLOOR DEAD LOADS:	– PSF (TOTAL)
A. METAL DECK:	– PSF
B. CONCRETE (LW):	– PSF
C. MECHANICAL SYSTEMS:	– PSF
D. CEILING & LIGHTS:	– PSF
E. MISCELLANEOUS:	– PSF
F. FRAMING:	– PSF
6. ROOF LIVE LOADS:	20 PSF
7. FLOOR LIVE LOADS:	
A. SLAB ON GRADE:	-- PSF
B. ELEVATED FLOOR SLAB:	-- PSF
8. SNOW LOAD:	
A. GROUND SNOW LOAD (Pg):	15 PSF
B. FLAT ROOF SNOW LOAD (Pf):	15 PSF
C. SNOW EXP. FACTOR (Ce):	1.0
D. THERMAL FACTOR (Ct):	1.0
E. SNOW DRIFT:	N/A
9. WIND LOADS:	
A. BASIC WIND VELOCITY:	117 MPH
B. EXPOSURE CATEGORY:	C
C. MEAN ROOF HEIGHT:	18'-0"
D. TOPO. FACTOR (Kzt):	1.0
E. APPLIED DIFF FACTOR (Kd):	0.85
F. WIND BASE SHEARS:	Wx = 6.0 KIPS Wy = 6.0 KIPS
10. SEISMIC LOADS:	
A. SITE CLASS:	D (ASSUMED)
B. SEISMIC DESIGN CATEGORY:	B
C. S_S:	0.190
D. S_1:	0.071
E. S_{DS}:	0.160
F. S_{D1}:	0.087

11. EQUIVALENT LATERAL FORCE PROCEDURE:
    - A. LATERAL RESISTANCE SYSTEM TYPE: ORDINARY MASONRY SHEAR WALLS / ORDINARY STEEL BRACED FRAMES
    - B. RESPONSE MODIFICATION FACTOR (R): 3.0
    - C. SEISMIC RESPONSE COEFFICIENT (Cs): 0.053
    - D. SEISMIC RESISTANCE SYSTEM: STRUCTURAL STEEL NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
    - E. SEISMIC BASE SHEARS: Sx = 5.88, Sy = 5.88

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
   - A. AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
   - B. ANSI/AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
   - C. AWS D1.1/D1.1M "STRUCTURAL WELDING CODE – STEEL"
   - D. RCSC "SPECIFICAITON FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS"
2. STRUCTURAL STEEL PRODUCTS SHALL COMPLY WITH THE FOLLOWING TYPICAL MATERIAL GRADES UNLESS OTHERWISE NOTED (U.O.N.):

A. W-SHAPES:	ASTM A992
B. CHANNELS AND ANGLES:	ASTM A36
C. CONNECTION PLATES:	ASTM A36
D. TUBULAR STEEL:	ASTM A500 GR: C
E. BASE PLATES:	ASTM A572 GR: 50 KSI
F. ANCHOR RODS:	ASTM F1554 GR: 55 OR EQUIVALENT
G. THREADED RODS:	ASTM A307, GR: A
H. BOLTS AND NUTS:	ASTM F3125N, GR: A325 BOLT W/ A563 NUT
I. TC BOLTS:	ASTM F3125N, GR: F1852 BOLT
J. WELD ELECTRODES:	E70XX OR AWS EQUIVALENT

3. BOLTS FOR ALL STEEL CONNECTIONS (U.O.N.) SHALL BE ¾" DIAMETER A325N BOLTS. ALL CONNECTIONS SHALL BE BEARING TYPE AND BOLT THREADS ARE INCLUDED IN THE SHEAR PLANS UNLESS OTHERWISE SPECIFIED. BOLTS, WASHERS, AND NUTS SHALL BE INSTALLED PER RCSC " SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS". ALL BOLTS SHALL BE SNUG TIGHTENED U.O.N. IN THE CONNECTION DETAIL.
4. ANCHOR RODS SHALL BE 1" DIAMETER F1554 GR:55 ANCHOR RODS U.O.N. ALL ANCHOR RODS SHALL HAVE (1) NUT TACK WELDED TO THE END U.O.N. ANCHORS SHALL BE SET INTO FOUNDATIONS USING DIES OR TEMPLATES.
5. WELDING SHALL COMPLY WITH THE LATEST VERSION OF AWS D1.1/D1.1M FOR WELD PROCEDURE SPECIFICATIONS (WPS) AND ACCEPTANCE CRITERIA FOR QUALITY OF WELDS.
6. ALL STRUCTURAL STEEL NOT EXPOSED TO WEATHER SHALL BE COATED WITH SHOP PRIMER THAT COMFORMS TO SSPC-PA2 (DRY-FILM THICKNESS). STEEL SHALL NOT RECEIVE COATING IF SURFACES ARE TO BE EMBEDDED IN CONCRETE, SPRAYED WITH FIRE-PROOFING MATERIAL, OR FIELD WELDED (UNLESS PRIMER IS A "WELD THROUGH PRIMER"). STEEL PREPARED FOR HOT DIP GALVANIZING SHALL NOT BE PRIME PAINTED.
7. ALL STRUCTURAL STEEL EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANIZED U.O.N. HOT-DIP GALVANIZE PROCEDURE SHALL BE PERFORMED IN ACCORDANCE WITH ASTM A153. ALL VENT HOLES SHALL BE LOCATED IN ORDER TO MINIMIZE STRUCTURAL IMPACT ON THE MEMBER. NOTIFY ENGINEER OF RECORD IF EXCESSIVE VENTING IS REQUIRED.
8. ALL STRUCTURAL STEEL SHALL BE FABRICATED BY AN AISC CERTIFIED FABRICATOR (BU) WITH CURRENT/UPDATED CERTIFICATE AND QUALITY ASSURANCE MANUAL.
9. STRUCTURAL STEEL BRACED CONNECTION DESIGN SHALL BE DELEGATED TO THE FABRICATOR. BRACED CONNECTIONS SHALL BE DESIGNED FOR THE TOTAL LOAD PROVIDED ON ELEVATIONS USING "LINE OF FORCE METHOD" (ALLOWABLE STRESS DESIGN). SHOP DRAWINGS SHALL BE ACCOMPANIED BY A COMPLETE CALCULATIONS PREPARED AND SEALED BY A PROFESSIONAL ENGINEER OF NORTH CAROLINA. PER AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" SECTION 3.1.1 OPTION 3.
10. STRUCTURAL STEEL SIMPLE SHEAR CONNECTION DESIGN SHALL BE DELEGATED TO THE FABRICATOR UNLESS OTHERWISE NOTED. SIMPLE SHEAR CONNECTIONS SHALL BE DESIGNED FOR THE TOTAL LOADS PROVIDED ON FRAMING PLANS (ALLOWABLE STRESS DESIGN) OR 60% "MAXIMUM UNIFORM LOAD", WHICHEVER GREAT. SHOP DRAWINGS SHALL BE ACCOMPANIED BY A COMPLETE CALCULATIONS PREPARED AND SEALED BY A PROFESSIONAL ENGINEER OF NORTH CAROLINA. PER AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" SECTION 3.1.1 OPTION 3.
11. ALL HOLES SHALL BE DRILLED OR PUNCHED. DO NOT PRODUCE HOLES OR ENLARGE HOLES BY MEANS OF BURNING OR FLAME TORCHING.
12. STRUCTURAL STEEL SPLICE SHALL NOT BE PERMITTED U.O.N.
13. ALL STRUCTURAL STEEL SHALL BE ERECTED AND INSTALLED BY AN EXPERIENCED ERECTOR WITH A MINIMUM OF 5 YEARS OF EXPERIENCE. INSTALL STEEL IN ACCORDANC WITH THE AISC "CODE OF STANDARD PRACTICE" FOLLOWING THE GRIDLINES, ELEVATIONS AND DETAILS/SPECIFICATION PRIOR TO FINAL FASTENING OR WELDING. STRUCTURE SHALL BE PLUMB AND ALIGNED PRIOR TO FINAL FASTENING OR WELDINGS.
14. TEMPORARY SHORING AND BRACING OF EXISTING STRUCTURES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO SAFELY RESIST ALL CONSTRUCTION LOADS PRIOR TO COMPLETED INSTALLATION OF NEW STRUCTURE.
15. NON-SHRINK GROUT SHALL BE PLACED BELOW BASEPLATES FOR A MINIMUM THICKNESS OF 2".

OPEN WEB STEEL JOISTS AND GIRDERS:

1. ALL JOISTS AND JOIST GIRDERS ARE TO BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL JOIST INSTITUTE'S SPECIFICATION (SJI)
2. ALL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED FOR THE UNIFORM DESIGN LOADS SPECIFIED ON ROOF PLANS, SNOW DRIFT DIAGRAMS/PLANS, AND UPLIFT DIAGRAMS/PLANS.
3. ALL JOIST SHALL RECEIVE ONE SHOP COAT OF THE MANUFACTURER'S RUST INHIBITIVE PRIMER
4. BRIDGING SHALL BE PROVIDED FOR UPLIFT PRESSURE LOADING SPECIFIED ON DESIGN PLANS. BRIDGING SHALL BE INSTALLED AND PROPERLY ANCHORED TO THE TOP AND BOTTOM CHORDS OF ALL JOISTS AND ANCHORED TO END WALLS.
5. BOTTOM CHORD EXTENSIONS OF ALL JOIST AND GIRDERS SHALL NOT BE ATTACHED TO COLUMN OR WALL STABILIZER PLATES UNTIL ALL DEAD LOADS HAVE BEEN APPLIED.

METAL DECK:

1. ALL METAL DECK ARE TO BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE'S SPECIFICATION (SDI)
2. WELDING OF METAL DECK SHALL COMPLY WITH THE LATEST VERSION OF AWS D1.3 FOR WELD PROCEDURE SPECIFICATIONS (WPS) AND ACCEPTANCE CRITERIA FOR QUALITY OF WELDS.
3. ROOF DECK TYPE 1: 1.5B 22 GA. G60 GRAY/GRAY
   - A. DECK ATTACHMENT: 5/8" PUDDLE WELDS
   - B. SIDE LAPS: #10 TEK SCREWS: SEE S401 FOR DECK ATTACHMENT DETAILS
   - C. MINIMUM 2" LAP JOINTS
   - D. MINIMUM 1.5" END BEARING
   - E. RECEIVES ONE SHOP COAT OF THE MANUFACTURER'S RUST INHIBITIVE PRIMER
   - F. PROVIDE DECK ACCESSORIES AS NEEDED; NOT SPECIFICALLY SHOWN ON DRAWINGS
4. MINIMUM 3-SPAN CONDITION REQUIRED ON ALL DECK TYPES UNLESS OTHERWISE NOTED. CONTACT ENGINEER OF RECORD FOR ALTERNATIVES.
5. PERMANENT LOADS SHALL NOT BE SUSPENDED FROM THE STEEL ROOF DECK.

FABRICATION AND ERECTION:

1. SHOP FABRICATE AND ERECT ALL STEEL IN ACCORDANCE WITH THE LATEST EDITION THE AISC CODE OF STANDARD PRACTICE.
2. FABRICATOR SHALL BE AISC CERTIFIED (BU).
3. ERECTOR SHALL BE AISC CERTIFIED ERECTOR OR 5-YEAR SIMILAR EXPERIENCE.
4. QUALITY CONTROL SHALL BE PER AISC "QUALITY CRITERIA AND INSPECTION STANDARDS"
5. ALL HOLES SHALL BE DRILLED OR PUNCHED. DO NOT PRODUCE HOLES OR ENLARGE HOLES BY MEANS OF BURNING OR FLAME TORCHING.
6. SET STRUCTURAL STEEL ACCURATELY TO LINES AND ELEVATIONS AS SPECIFIED AND ADJUST PRIOR TO FINAL FASTENING WHETHER BOLTING OR WELDING.
7. SPLICES SHALL BE ALLOWED ONLY WHERE DENOTED UNLESS APPROVED.
8. TEMPORARY SHORING AND BRACING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO SAFELY RESIST ALL CONSTRUCTION AND SHORT TERM LOADS PRIOR TO COMPLETE INSTALLATION OF BUILDING COMPONENTS.
9. GROUT BELOW BASE PLATES USING NON-SHRINK GROUT.

METAL STUD FRAMING:

1. INSTALL ALL COLD FORM METAL LIGHT GAUGE FRAMING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. THE INTENT OF THE IS TO ESTABLISH QUIGE LINES FOR THE DESIGN, FABRICATION, AND ERECTION OF THE LIGHT GAUGE COLD-FORMED STEEL FRAMING SYSTEM.
3. PROVIDE LATERAL BRIDGING AND BRACING IN THE WALL SYSTEMS IN ACCORDANCE WITH THE MANUFACTURE'S WRITTEN REQUIREMENTS, BUT NO MORE THAN 4'-0" O.C..
4. METAL STUD STRENGTHS:
   - A. 20GA TO 18GA: 33 KSI
   - B. 16GA TO 12GA: 50 KSI
5. ALL FRAMING COMPONENTS SHALL BE CUT SQUARE OR ANGLED TO FIT TIGHTLY AGAINST ABUTTING MEMBERS. FRAMING SHALL BE HELD FIRMLY IN POSITION UNTIL PROPERLY FASTENED. METHOD OF FASTENING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN REQUIREMENTS.
6. TRACK SHALL BE SECURELY ANCHORED TO STRUCTURE. STUDS SHALL BE SEATED SQUARELY IN THE TRACK WITH THE STUD WEB AND FLANGE IN CONTACT WITH THE TRACK WEB. ALL STUDS SHALL BE PLUMB, ALIGNED, AND SECURELY ATTACHED TO THE FLANGES OR WEBS OF ALL TRACKS.
7. SPLICES IN AXIALLY LOADED MEMBERS SHALL NOT BE PERMITEED.
8. MECHANICAL FASTENERS AND WELDS SHALL COMPLY WITH MANUFACTURER'S WRITTEN REQUIREMENTS FOR SPACING, EDGE DISTANCE, AND MINIMUM PENETRATION.
9. PRIOR TO FABRICATION OF FRAMING, THE CONTRACTOR SHALL SUBMIT FABRICATIONS DRAWINGS, AND ERECTION DRAWINGS. DRAWINGS SHALL INDICATE SHAPE, SIZE, AND SPACING OF FRAMING MEMBERS

CONCRETE:

1. ALL CONCRETE IS TO BE PROPOSITIONED AND PLACED IN ACCORDNCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE ACI 318 "BUILINDG CODE REQUIREMENTS FOR REINFORCED CONCRETE".
2. CONCRETE SHALL HAVE MINIMUM 28 DAY COMPRESSIVE STRENGTHS OF:
   - A. SLABS ON GRADE: 4000 PSI
   - B. FOUNDATIONS: 4000 PSI
3. ALL CONCRETE REINFORCEMENT TO BE GRADE 60 STEEL.
4. ALL INTERIOR SLABS ON GRADE SHALL BE 5" THICK. REINFORCE WITH WWM6x6/W2.1xW2.1 UNLESS OTHERWISE NOTED. SEE PLANS FOR ELEVATED SLAB REINFORCEMENT.
5. CONTROL JOINTS ARE TO BE PROVIDED ON ALL COLUMN CENTERLINES AND AT MID-POINT OF ALL BAYS (MINIMUM). CONTROL JOINTS SHALL BE PLACED IN BOTH DIRECTIONS. MAXIMUM SPACING FOR CONTROL JOINTS IN THE SLAB ON GRADE SHALL BE 20'-0".
6. NOTIFY THE ENGINEER OF RECORD PRIOR TO PLACEMENT OF CONCRETE WHEN EXPECTED AMBIENT TEMPERATURE IS TO BE 40 DEGREES F OR LESS. CONCRETE PROTECTION SHALL BE PROVIDED AS REQUIRED PER ACI 306 "COLD WEATHER CONCRETING".
7. IN AREAS WHERE CONCRETE IS TO HAVE A SEALER APPLIED, REFER TO THE ARCHITECTURAL SPECIFICATIONS FOR LIMITATIONS ON CONCRETE CURING AGENTS.

FOUNDATIONS:

1. ALL CONCRETE IS TO BE PLACED PER THE LATEST EDITION OF ACI 318.
2. ALL FOUNDATIONS SHALL BE FOUNDED ON ORIGINAL SOIL OR PROPERLY PLACED FILL WITH A MINIMUM BEARING CAPACITY OF 3000 PSF IN ACCORDANCE WITH THE MINIMUM ASSUMED ALLOWABLE SOIL BEARING CAPACITY.
3. CONTINUOUS SHALL/WALL FOOTINGS SHALL BE POURED MONOLITHICALLY WITH COLUMN AND FOUNDATIONS.
4. ALL BACKFILL MATERIALS SHALL BE FREE OF DEBRIS AND SELECTED PER GEOTECHNICAL REPORT. PLACE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
5. ALL FOUNDATION WALLS SHALL BE PROPERLY BRACED PRIOR TO PLACEMENT OF BACKFILL AND REMAIN BRACED UNTIL PERMANENT STRUCTURAL SUPPORTS ARE IN PLACE.
6. PLACE FOUNDATIONS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AND SOILS REPORT.

BRICK AND CONCRETE MASONRY UNITS:

1. ALL MASONRY WORK SHALL COMPLY WITH THE LATEST EDITION OF ACI530/TMS402 "BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY" FOR MATERIALS AND WORKMANSHIP.
2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE MASONRY SHALL BE f'm = 1500 PSI.
3. ALL MORTAR SHALL CONFORM TO ASTM C270 SPECIFICATION FOR TYPE M OR S.
4. ALL STEEL BEARING ON MASONRY SHALL BEAR ON A BOND BEAM AND BE REINFORCED PER THE PLANS.
5. HORIZONTAL JOINT REINFORCEMENT SHALL BE PROVIDED AT 16" O.C. UNLESS NOTED OTHERWISE IN ALL SINGLE AND DOUBLE WYTHE CMU WALLS (MINIMUM). REINFORCEMENT SHALL BE TRUSS OR LADDER TYPE AS MANUFACTURED BY DUR-O-WALL OR APPROVED EQUAL. REINFORCEMENT SHALL BE NO. 9 GAGE AND SHALL BE GALVANIZED.
6. PROVIDE VERTICAL CONTROL JOINTS AS SHOWN ON ARCHITECTURAL DRAWINGS. MAXIMUM SPACING TO BE 20'-0". NO JOINTS SHALL SPLIT HEADERS OR JAMBS.
7. GROUT SHALL CONFORM TO ASTM 476 WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. GROUT IN ACCORDANCE WITH ACI530/TMS402 AND ACI530.1/TMS602.

POST INSTALLED ANCHORS, REBAR, AND EPOXY:

1. ALL ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S PUBLISHED REQUIREMENTS AND SPECIFICATIONS.
2. ALL POST INSTALLED ANCHORS, SCREW ANCHOR, AND THREADED RODS SHALL BE ZINC PLATED PER ASTM B633.
3. SEE PLANS FOR ANCHOR TYPE, BRAND, AND MINIMUM EMBEDMENT.
4. EPOXY ANCHORS AND REBAR DOWELS SHALL BE HILTII HIT-HY 200-R V3
5. EPOXY ANCHOR RODS AT COLUMNS SHALL BE HILTI HIT-RE 500 V3, UNLESS OTHERWISE NOTES ON DETAILS
6. EPOXY CMU BLOCK ANCHOR SHALL BE HILTI HIT-HY 270; WITH SCREEN TUBES IF BLOCK CELL IS HOLLOW
7. SCREW ANCHOR SHALL BE HILTI KH-EZ

TESTING AND INSPECTIONS:

1. TESTING AND INSPECTION SHALL BE PROVIDED FOR BY THE OWNER AND COMPLETED IN ACCORDANCE WITH THE SPECIFICATIONS INCLUDED HEREIN.
2. TESTING AGENCY SHALL INSPECT A RANDOM SAMPLING OF FIELD WELDED CONNECTIONS. IF WELDS ARE NOT ACCEPTABLE, CORRECTIONS SHALL BE MADE BY THE CONTRACTOR AS SPECIFIED BY THE ENGINEER.
3. TESTING AGENCY SHALL INSPECT A RANDOM SAMPLING OF FIELD BOLTED CONNECTIONS. IF BOLTING IS NOT ACCEPTABLE, CORRECTIONS SHALL BE MADE BY THE CONTRACTOR AS SPECIFIED BY THE ENGINEER.
4. TESTING AGENCY SHALL INSPECT ALL COMPLETE JOINT PENETRATION WELDS AND BRACE FRAME WELDS TO GUSSET PLATES, PRIOR, DURING, AND AFTER WELDING IS COMPLETED PER AISC 360 SECTION N. IF WELDS ARE NOT ACCEPTABLE, CORRECTIONS SHALL BE MADE BY THE CONTRACTOR AS SPECIFIED BY THE ENGINEER.
5. TESTING AGENCY SHALL INSPECT ALL MOMENT FRAME FIELD BOLTED CONNECTIONS. IF BOLTING IS NOT ACCEPTABLE, CORRECTIONS SHALL BE MADE BY THE CONTRACTOR AS SPECIFIED BY THE ENGINEEREER.

CLIENT

Established 2017 BROTHER'S STEEL ERECTORS

981 CARSON GREGORY RD
ANGIER, NC 27501
Phone: (919) 525-4153

NOT FOR CONSTRUCTION

ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049444 BENJAMIN R. BOUDREAU
PRELIMINARY NOT FOR CONSTRUCTION
XX/XX/XX

BENJAMIN R. BOUDREAU
1109 TOBACCO ROW CT.
ZEBULON, NC 27597
Phone: (252) 382-0139

JOB: BROTHERS STEEL CANOPY
ANGIER, NC

REV	DATE	COMMENT
0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

DATE 03/26/2025

SHEET NAME GENERAL NOTES

SHEET NO. S001

Project: BROTHERS STEEL CANOPY
Location: ANGIER, NC

STATEMENT OF SPECIAL INSPECTIONS

- This Statement of Special Inspections is prepared in accordance with Chapter 17 of the 2018 North Carolina State Building Code and shall specify the work to be inspected, structural components to be inspected, the frequency of inspection, the qualifications of the special inspector, and the structures to be inspected.
- The following Statement shall apply to the structural components designed by and under the direct control of the Professional Engineer whose seal and signature are provided on the following drawings.
- All inspections shall be in accordance with the latest addition of the N.C. Building Code.
- When "Special Inspections" are not required, a minimum level of inspection shall be required as specified in "Note" below second table below.

Design Professional in Responsible Charge: Benjamin R Boudreau, PE

Basic Wind Speed: 117 mph
Seismic Design Category: C

Special Inspection Requirements: (Section 1705.1.2)
Special Inspections in accordance with Sections 1704 and 1705 are required for the following elements only, regardless of building or structure that they are in:

Description	Yes	No
1 Piles, piers and special foundations in accordance with Sections 1705.7, 1705.8, 1705.9, 1810.3.5.2.4 and 1810.3.5.2.5		X
2 Sprayed fire-resistant materials in accordance with Section 1705.14		X
3 Mastic and intumescent fire-resistant coatings in accordance with Section 1705.15		X
4 Smoke control and smoke exhaust systems in accordance with Sections 1705.18		X
5 Retaining walls and retaining systems exceeding 5 feet of unbalanced backfill height in accordance with Section 1807.2		X

Special Inspection Requirements: (Section 1705.1.3)
Special Inspections in accordance with Sections 1704 and 1705 are required for the building, building components or other structures according to the following:

Description	Yes	No
1 Building or other structures listed in Table 1604.5 in Risk Category II if:		
1.1 Building height exceeds 45 feet or three stories: or		X
1.2 The building is an underground building in accordance with Section 405.1		X
2 Buildings or other structures listed in Table 1604.5 in Risk Categories III or IV.		X

Note:
A minimum level of inspections is required for all structural components not requiring "Special Inspections".

Inspection or Plans Required	Special Inspection	Minimum Inspection	Table / Sect
Verification & Inspection of Steel Construction		X	AISC 360-12
Verification & Inspection of Concrete Construction		X	ACI 318-16
Masonry Construction - Level A - Quality Assurance		X	TMS 402/ACI 530/ASCE 5/6
Masonry Construction - Level B - Quality assurance		X	TMS 402/ACI 530/ASCE 5/6
Verification & Inspection of Soils		X	TABLE 1705.6
Verification & Inspection of Pile Foundations		X	TABLE 1705.7
Verification & Inspection of Pier Foundations		X	TABLE 1705.7
Special Inspections for Seismic Resistance	NA	NA	
Additional Special Inspection Req'mte for Seismic Resistance	NA	NA	
Structural Testing for Testing for Seismic Resistance	NA	NA	
Special Inspections for Wind Resistance	NA	NA	
Wind Requirements	NA	NA	
Detailed Wind Requirements	NA	NA	
Quality Assurance Plan for Seismic Requirements	NA	NA	
Structural Observations for Seismic Requirements	NA	NA	
Structural Observations for Wind resistance	NA	NA	

Selection of Special Inspector & Report Requirement

- The Special Inspector (SI) shall be hired by the owner and shall be qualified and experienced to provide special inspections as outlined herein.
- The SI shall be a person who shall demonstrate competence for inspection of the particular type of construction requiring special inspections.
- The SI shall be approved by the Building Code official and the Structural Engineer of Record.

Report Requirements

a. Special Inspector (SI) shall keep all records of special inspections.
b. SI shall furnish inspection reports to the building official and the registered design professional in responsible charge.
c. Reports shall indicate that work inspected was done in accordance with the approved construction documents.
d. Discrepancies shall be brought to the attention of the general contractor for correction.
e. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and registered design professional in responsible charge prior to completion of that phase of work.
f. A final report documenting required special inspections and correction of discrepancies shall be submitted at completion of structural portion of the project or other time as agreed upon by the building official and registered professional in responsible charge.

Required Verification & Inspection of Steel Construction ☐ Special Insp. ☒ Minimum Insp.

No.	Verification & Inspection	Cont.	Per.	Reference
1.	Material verification of high strength bolts, nuts & washers			
a.	Identification markings to conform to ASTM Stds. specified in the approved construction documents		X	
b.	Manufacturer's certificate of compliance reqd.		X	
2.	Inspection of high strength bolting:			
a.	Bearing type connection	X		
b.	Slip critical connections	X		
3.	Material verification of structural steel:			
a.	Identification markings to conform to ASTM Stds. specified in the approved construction documents		X	
b.	Manufacturer's certified mill test reports	X		
4.	Material verification of weld filler materials:			
a.	Identification markings to conform to AWS Stds. specified in the approved construction documents		X	
b.	Manufacturer's certificate of compliance reqd.		X	
5.	Inspection of Welding: Structural Steel			
a1	Complete & partial penetration groove welds	X		
a2	Multi-pass welds	X		
a3	Single-pass fillet welds exceeding 5/16"	X		
a4	Single-pass fillet welds less than or = 5/16"		X	
a5	Floor and roof deck welds		X	
6.	Inspection of steel frame joint details for compliance with approved construction documents.		X	
a.	Details such as bracing and stiffening.		X	
b.	Member locations.		X	
c.	Application of joint details at each connection.		X	

Required Verification & Inspection of Concrete Construction ☐ Special Insp. ☒ Minimum Insp.

No.	Verification & Inspection	Cont.	Per.	Reference
1.	Inspection of reinforcing steel, including prestressing tendons & placing.	X		
2.	Inspection of reinforcing steel welding in accordance with table 1704.3 item 5B	X		
3.	Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	X		
4.	Verifying use of design mix.	X		
5.	At the time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test, and determine the temperature of the concrete.		X	
6.	Inspection of concrete and shotcrete placement for proper application techniques.	X		
7.	Inspection for maintenance of specified curing temperature and techniques.	X		
8.	Inspection of proper placement of load bearing elements and weld plates within load bearing concrete tilt panels.	X		

Required Verification & Inspection of Soil ☐ Special Insp. ☒ Minimum Insp.

No.	Verification & Inspection	Cont.	Per.	Reference
1.	Verify material below shallow foundations are adequate to achieve bearing capacity		X	
2.	Verify excavations are extended to proper depth and have proper material.		X	
3.	Perform classification and testing of compacted fill material.		X	
4.	Verify proper use of materials, densities and lift thicknesses during placement and compaction of compacted fill.		X	
5.	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.		X	

Required Verification & Inspection for Cold-Formed Framing Const. ☐ Special Insp. ☒ Minimum Insp.

No.	Verification & Inspection	Cont.	Per.	Reference
1.	Manufacturer & fabricator Certification / Quality Control Procedures:			
a.	Required	X		
b.	Manufacturer shall be a member of the Steel Stud Manufacturer's Association (SSMA)	X		
2.	Material Grading:			
a.	Verify size, type, thickness and yield strength of framing members meets design requirements.		X	
b.	Stud grade and thickness shall meet ASTM standards		X	
c.	Member structural properties are developed in accordance with AISC "Specification for the design of Cold-Formed Steel Structural Members".		X	
3.	Connections			
a.	Connection meet plans & fabrication dwg requirements.		X	
b.	Quantity & size of screws meet plans & fabrication dwg requirements.		X	
4.	Framing & Details:			
a.	Meet plan and fabrication drawings requirements	X		
5.	Diaphragms and Shearwalls			
a.	Size and configuration meet plan requirements	X		
b.	Construction, blocking & fastening meet plan req'mts	X		
c.	Size, type, thickness and yield strength meet plan requirements.	X		

Note: Cont. = Continuous Per. = Periodic

Masonry Construction - Level A - Quality Assurance

Prior to construction, verify certificates of compliance used in masonry construction

Masonry Construction - Level B - Quality Assurance ☐ Special Insp. ☒ Minimum Insp.

MINIMUM TESTS
Verification of Slump flow and Visual Stability Index (VSI) as delivered to the project site in accordance with Specification Article 1.5B.1.b.3 for self-consolidating grout
Verification of f'm and f'AAC in accordance with Specification Article 1.4B prior to construction.

MINIMUM SPECIAL INSPECTION

Inspection Task		Frequency		Reference for Criteria	
		Cont.	Per.	TMS 402/ ACI 530/ ASCE 5	TMS 602/ ACI 530.1/ ASCE 6
			X		
1.	Verify compliance with the approved submittals				
2.	As masonry construction begins, verify that the following are in compliance:		X		
a.	Proportions of site-prepared mortar		X		
b.	Construction of mortar joints		X		
c.	Grade and size of prestressing tendons and anchorages				
d.	Location of reinforcement, connectors, and prestressing tendons and anchorages		X		
e.	Prestressing technique		X		
f.	Properties of thin-bed mortar for AAC masonry	X			
3.	Prior to grouting, verify that the following are in compliance:		X		
a.	Grout space		X		
b.	Grade, type and size of reinforcement and anchor bolts, and prestressing tendons and anchorages		X	Sec. 6.1	
c.	Placement of reinforcement, connectors, and prestressing tendons and anchorages		X	Sec. 6.1, 6.2.1, 6.2.6, 6.2.7	
d.	Proportions of site-prepared grout and prestressing gout for bonded tendons		X		
e.	Construction of mortar joints		X		
4.	Verify during construction				
a.	Size and location of structural elements		X		
b.	Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction		X	Sec. 1.2.1(e), 6.1.4.3, 6.2.1	
c.	Welding of reinforcement	X		Sec. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	
d.	Preparation, construction, and protrction of masonry during cold weather(temperature below 40°F) or hot weather (temperature above 90°F)		X		
e.	Application and measurement prestressing force	X			
f.	Placement of grout and prestressing grout for bonded tendons is in compliance	X			
g.	Placement of AAC masonry units and construction of thin-bed mortar joints	X(b)	X(c)		
5.	Observe preparation of grout specimens, mortar specimens, and/or prisms		X		

(b) Required for the first 5,000 square feet of AAC masonry
(c) Required after the first 5,000 square feet of AAC masonry

CLIENT

Established 2017 BROTHER'S & STEEL ERECTORS

981 CARSON GREGORY RD
ANGIER, NC 27501
Phone: (919) 525-4153

NOT FOR CONSTRUCTION

ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044444 BENJAMIN R. BOUDREAU
PRELIMINARY NOT FOR CONSTRUCTION
XX/XX/XX

BENJAMIN R. BOUDREAU
1109 TOBACCO ROW CT.
ZEBULON, NC 27597
Phone: (252) 382-0139

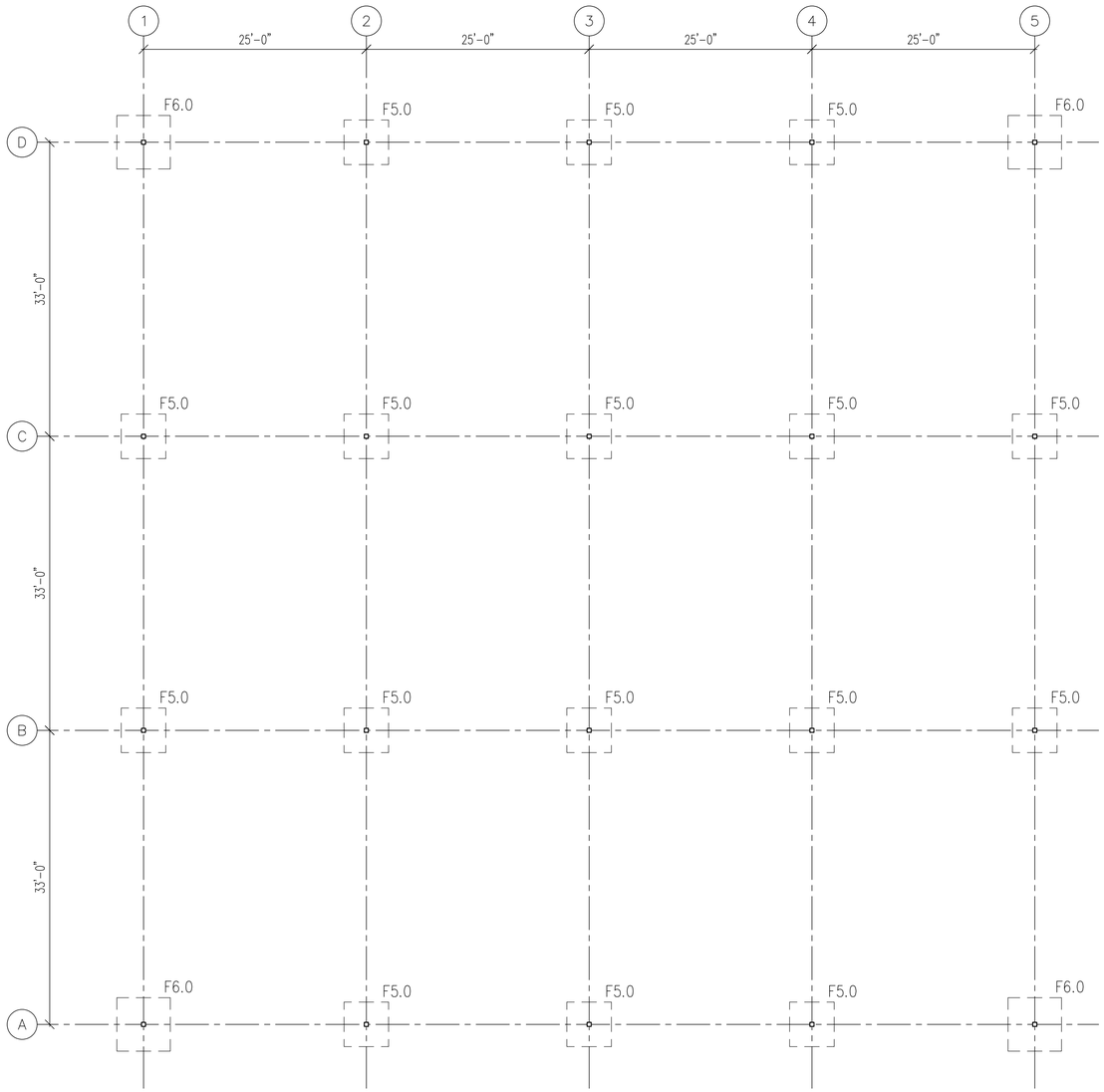
JOB: BROTHERS STEEL CANOPY
ANGIER, NC

REV	DATE	COMMENT
0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

DATE 03/26/2025

SHEET NAME INSPECTIONS

SHEET NO. S002



1 / S101 FOUNDATION PLAN

1) FIN. FLOOR +0'-0"
2) TOP OF FOOTINGS -1'-4" FROM +0'-0"
3) FOOTING SIZE NOTED AS "F__" SEE SCHED THIS SHEET.
4) SEE S401 FOR COLUMN SCHEDULE
5) SEE S402 FOR FOUNDATION DETAILS

FOOTING SCHEDULE

MARK	SIZE	THICK	REINFORCEMENT	REMARKS
F6.0	6'-0 x 6'-0	1'-0"	(7) #6 BARS EA. WAY BOTTOM	COLUMN FOOTING
F5.0	5'-0 x 5'-0	1'-0"	(6) #5 BARS EA. WAY BOTTOM	COLUMN FOOTING

SCALE: 1/8" = 1'-0"

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1109 TOBACCO ROW CT.
ZEBULON, NC 27597
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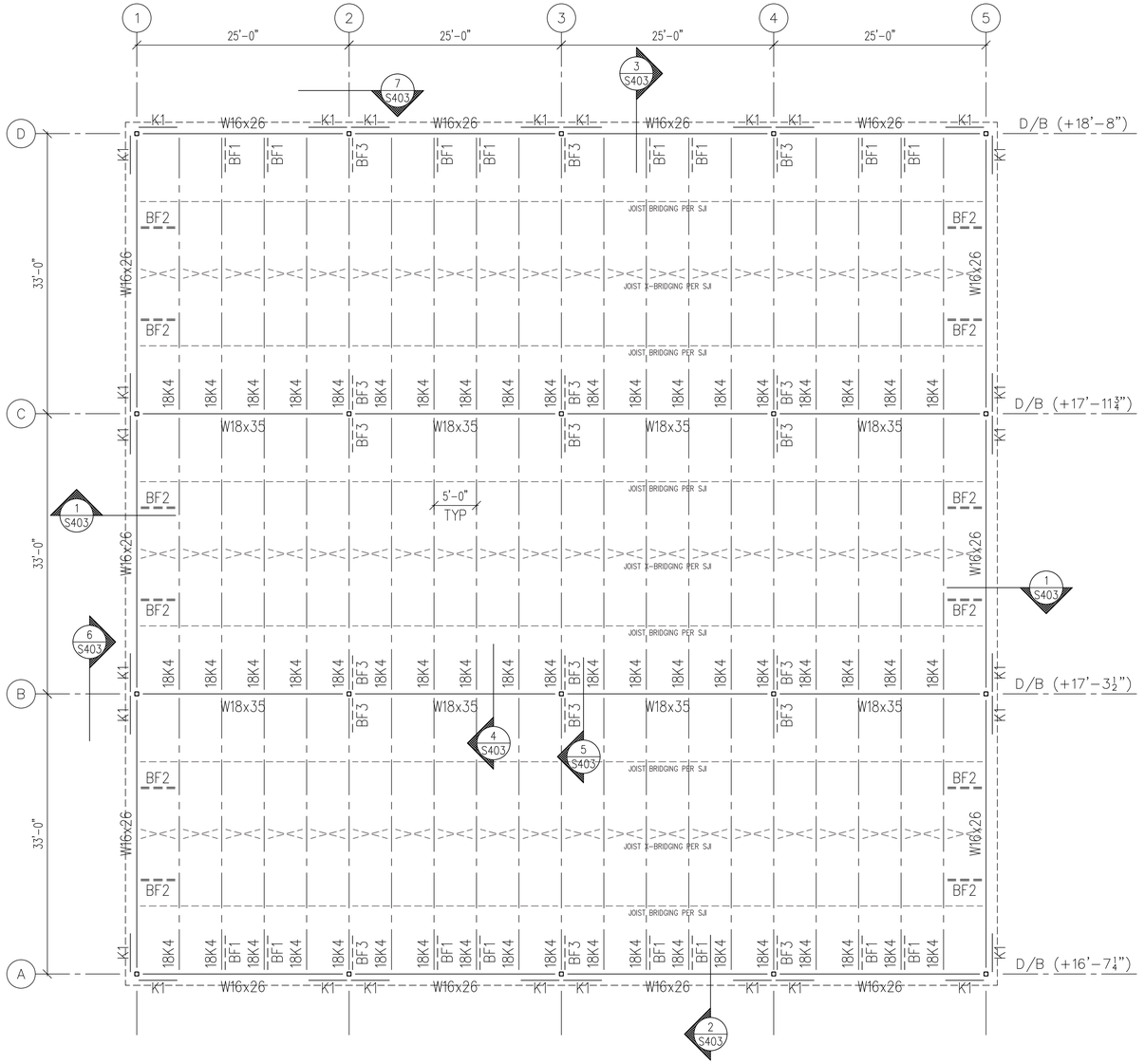
0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

DATE
03/26/2025

SHEET NAME
FOUNDATION PLAN

SHEET NO.
S101



1 S201

ROOF FRAMING PLAN

1) D/B +X'-XX" DENOTES DECK BEARING FROM +0'-0"
2) BF = BOTTOM FLANGE BRACING
   BF1 = L2x2x$\frac{1}{4}$ BRACE
   BF2 = L2x2x$\frac{1}{4}$ BRACE AND HORIZONTAL STRUT
   BF3 = L2x2x$\frac{1}{4}$ BRACE AT COLUMN
3) K1 = KICKER BRACE (2) L3x3x$\frac{5}{16}$ W/ $\frac{3}{8}$" GUSSET PL'S
   SEE DETAILS ON 6/S403 AND 7/S403
4) ROOF DECK = 1.5B 22GA G60 GRAY/GRAY

SCALE: 1/8" = 1'-0"

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ANGIER, NC 27501
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PRELIMINARY NOT FOR CONSTRUCTION
XX/XX/XX

BENJAMIN R. BOUDREAU
1109 TOBACCO ROW CT.
ZEBULON, NC 27597
Phone: (252) 382-0139

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0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

DATE *03/26/2025*

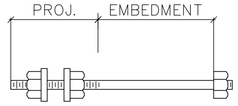
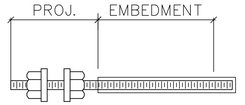
SHEET NAME
ROOF FRAMING PLAN

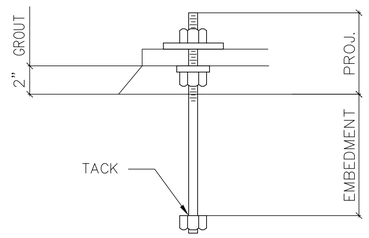
SHEET NO.
S201

COLUMN SCHEDULE

GRID		A	A	A	A	A	B	B	B	B	B	C	C	C	C	C	D	D	D	D	D	
GRID		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
		HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/2	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/2	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/2	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/4	HSS 6x6x1/2	HSS 6x6x1/4	HSS 6x6x1/2	HSS 6x6x1/2	HSS 6x6x1/4	
BASE PLATE BP_		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
ANC. ROD QTY		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
ANC. ROD SIZE (IN)		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
ANC. ROD TYPE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
ANC. ROD GRADE		36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	
FOOTING THICKNESS in.		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
ANC. ROD EMBED		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
ANC. ROD PROJ.		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
GRID		A	A	A	A	A	B	B	B	B	B	C	C	C	C	C	D	D	D	D	D	
GRID		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	

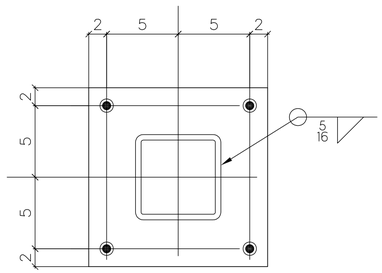
ANCHOR ROD TYPE / STYLE

TYPE	STYLE
1	
2	 A36 ALL THREADED ROD WITH HILTI EPOXY HIT-HY 200-R V3 ADHESIVE ANCHOR INSTALL PER MANUFACTURER'S REQUIRMENTS



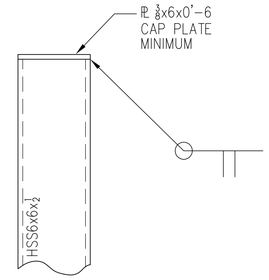
ANCHOR SETTING DETAIL

GROUT COMPRESSIVE STRENGTH: 3,000 PSI

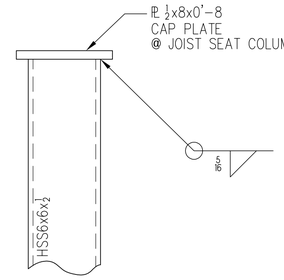


ASTM F1554 – GRADE 36
(4) 1"ø ANCHOR BOLTS w/
STANDARD WASHERS

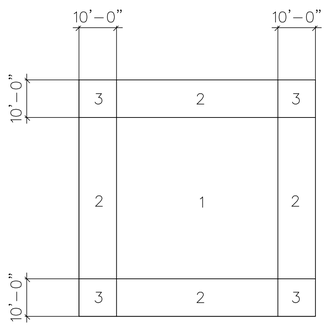
BP1 ~ PL 1 x 14 x 1'-2



1 / S401 TOP OF COLUMN CAP PLATE @ TYPICAL COLUMNS

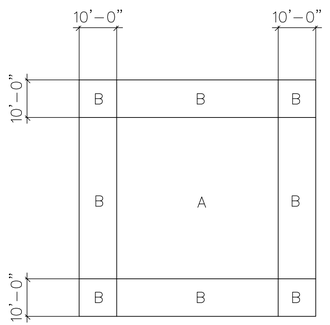


2 / S401 TOP OF COLUMN CAP PLATE @ JOIST SEAT COLUMNS



NET UPLIFT

1: –14.0 PSF
2: –20.0 PSF
3: –20.0 PSF



DECK ATTACHMENT

A: 36/4 W/ (4) #10 TEK SIDELAP SCREWS
B: 36/7 W/ (6) #10 TEK SIDELAP SCREWS

1.5B 22 GAUGE G60 METAL DECK GRAY/GRAY

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BROTHER'S STEEL ERECTORS
Established 2017

981 CARSON GREGORY RD
ANGIER, NC 27501
Phone: (919) 525-4153

NOT FOR CONSTRUCTION

ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049444 BENJAMIN R. BOUDREAU
PRELIMINARY NOT FOR CONSTRUCTION
XX/XX/XX

BENJAMIN R. BOUDREAU
1109 TOBACCO ROW CT.
ZEBULON, NC 27597
Phone: (252) 382-0139

JOB

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REV	DATE	COMMENT
0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

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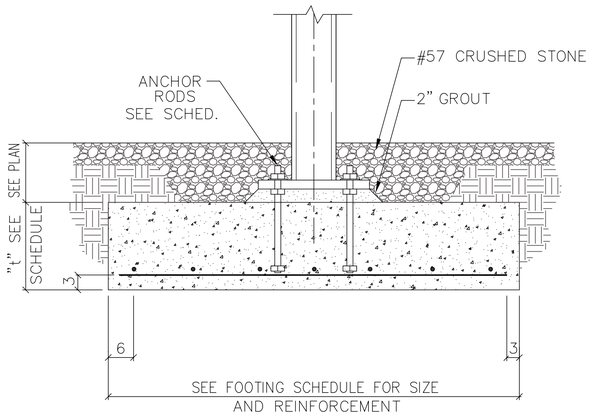
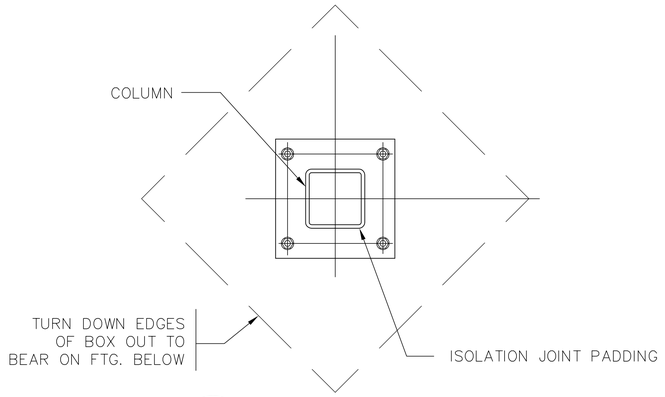
SHEET NAME
COLUMN DETAILS

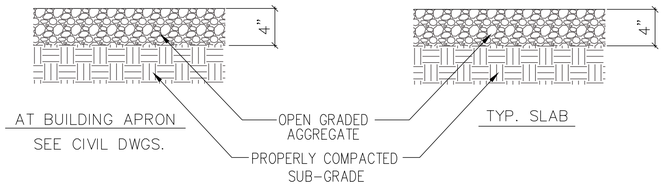
SHEET NO.
S401



1 S402 TYPICAL COLUMN BASE



2 S402 TYPICAL BOX OUT



3 S402 TYPICAL SLAB & CONTROL JOINT

CLEAN SAND PER GEO. REPORT MAYBE USED IN LIEU OF OPEN GRADED AGGREGATE. REFER TO GEO. REPORT.

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XX/XX/XX

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1109 TOBACCO ROW CT.
ZEBULON, NC 27597
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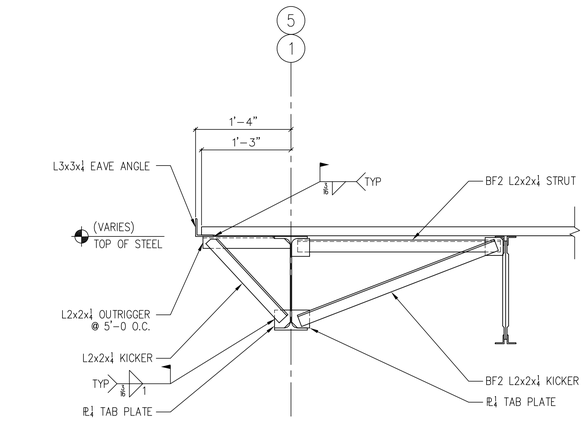
REV	DATE	COMMENT
0	03/26/2025	PRELIMINARY: NOT FOR CONSTRUCTION

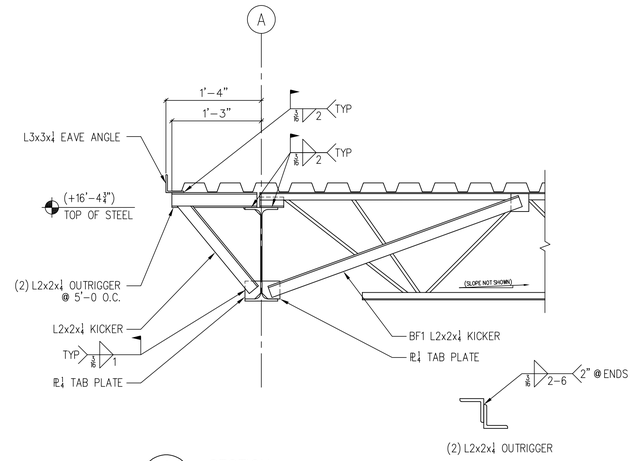
DATE
03/26/2025

SHEET NAME
FOUNDATION DETAILS

SHEET NO.
S402



1 S403 SECTION



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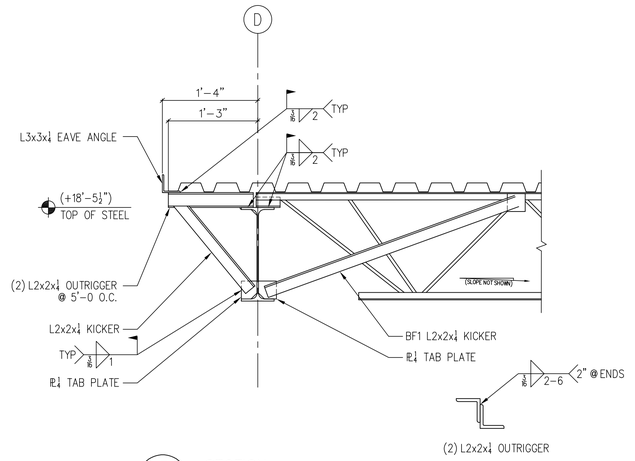

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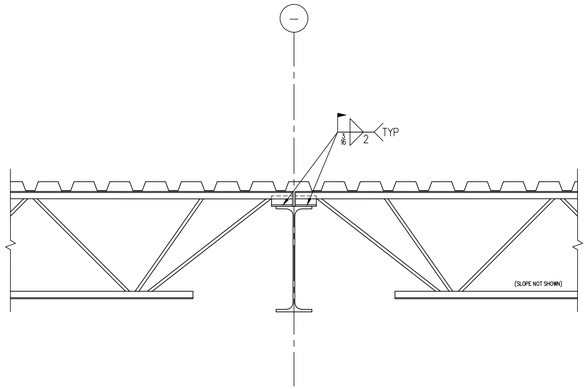
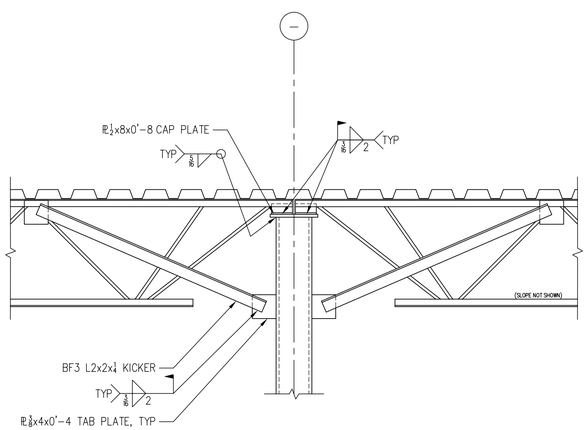
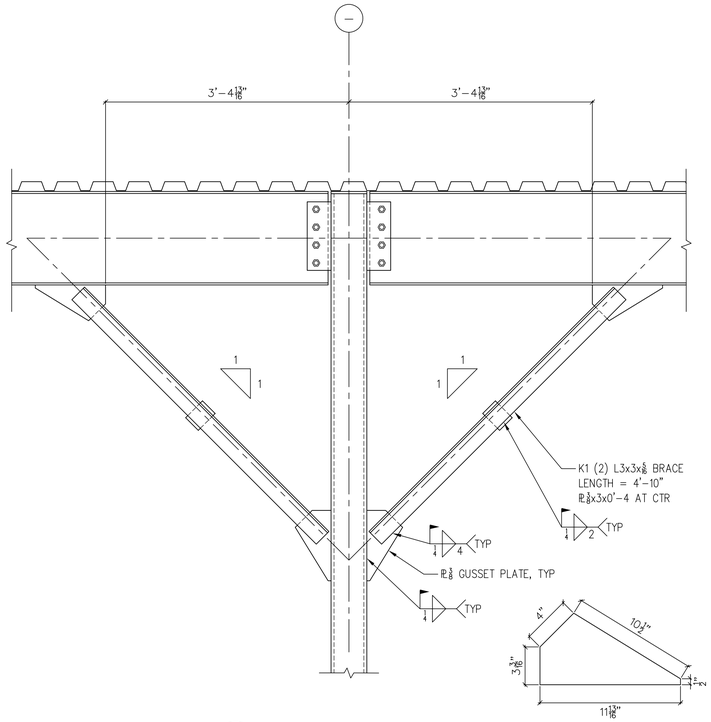


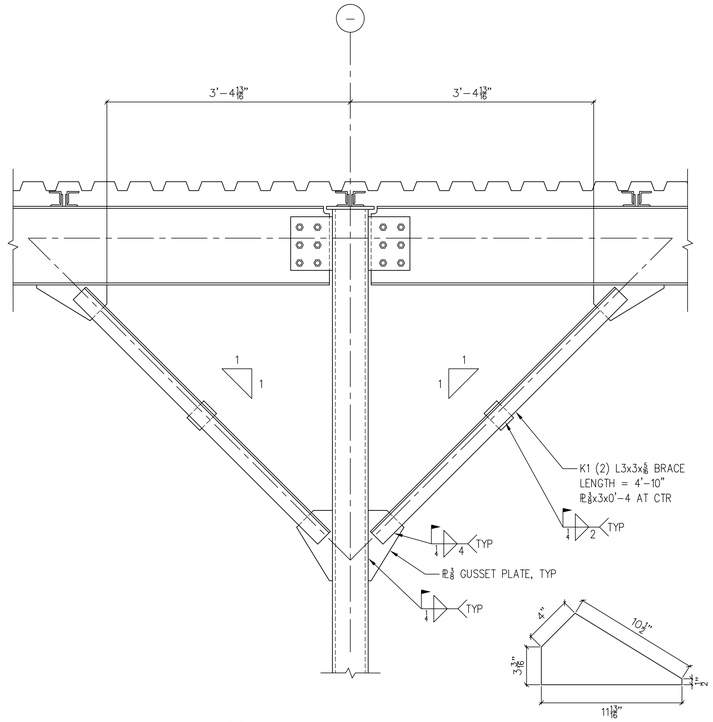
4 S403 SECTION



5 S403 SECTION



6 S403 SECTION



7 S403 SECTION

SCALE: 1" = 1'-0"

CLIENT
Established 2017 BROTHER'S STEEL ERECTORS
981 CARSON GREGORY RD
ANGIER, NC 27501
Phone: (919) 525-4153

NOT FOR CONSTRUCTION

ENGINEER
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049444 BENJAMIN R. BOUDREAU
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XX/XX/XX
BENJAMIN R. BOUDREAU
1109 TOBACCO ROW CT.
ZEBULON, NC 27597
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DATE
03/26/2025

SHEET NAME
SECTION DETAILS

SHEET NO.
S403