

# TUBULAR BUILDING SYSTEMS METAL BUILDING - 14' TALL (MAX)



## 12 - 30 FT SPAN

# OPEN AND ENCLOSED DESIGN

### APPLICABLE CODES

2014 FLORIDA BUILDING CODE

### WIND DESIGN INFORMATION

WIND SPEED: ..... 140 MPH ( Vult)  
108 MPH (Vasd)

CATEGORY: .....  
EXPOSURE: ..... C  
INTERNAL PRESSURE: ..... 0.18+/- (ENCLOSED)

### CLADDING COMPONENTS

ZONE 1: 10 S.F. .... 14.96/-23.77 PSF  
ZONE 2: 10 S.F. .... 14.96/-41.37 PSF  
ZONE 3: 10 S.F. .... 14.96/-61.18 PSF  
ZONE 4: 10 S.F. .... 29.97/-28.17 PSF  
ZONE 5: 10 S.F. .... 25.97/-34.77 PSF

### FLORIDA BUILDING PRODUCT APPROVAL LISTING

DOORS: ROLL UP DOOR - JANUS INTERNATIONAL CORPORATION  
MODEL 3652 - FL 14425.1  
MODEL 750 - FL12765.7  
WALK DOORS - ELIXIR INDUSTRIES-FL 1722-R4  
WALL AND ROOF SIDING: WALL - FL6702-R4 CAROLINA CARPORTS  
ROOF - FL6596-R4 CAROLINA CARPORTS  
POCAHONTAS ALUMINUM COMPANY, INC  
FL 12940-R1

LEGEND	
SYMBOL	DESCRIPTION
	ELEVATION MARK
	SECTION MARK
	DETAIL CALLOUT
	ELEVATION INDICATOR
	DOOR TAG
	WINDOW TAG
	ROOM TAG
	REVISION CLOUD w/ TAG

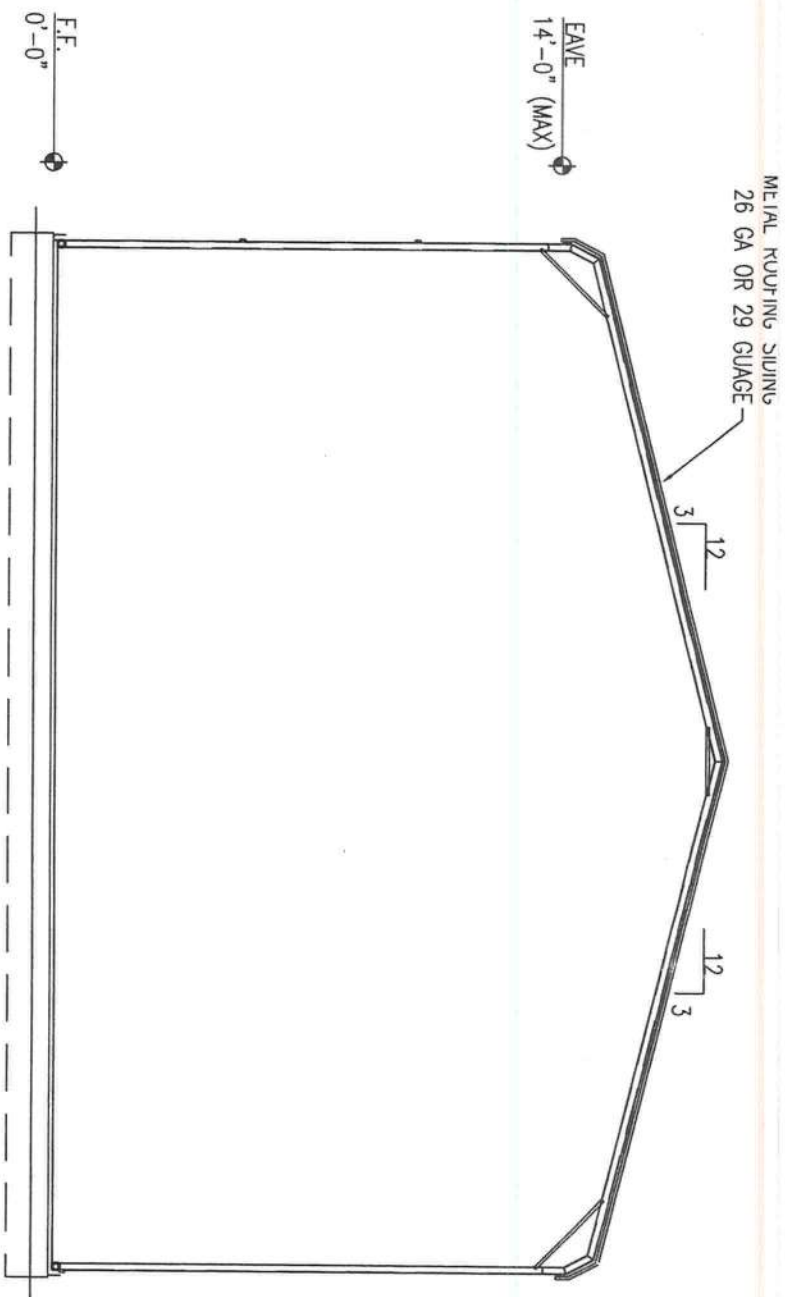
## DRAWING LIST

1511-019-T-001	TITLE SHEET
1511-019-A-001	ELEVATIONS - OPEN
1511-019-A-002	ELEVATIONS - ENCLOSED
1511-019-S-001	STRUCTURAL PLAN
1511-019-S-002	FOUNDATION PLAN
1511-019-S-003	ROOF FRAMING PLAN
1511-019-S-004	STRUCTURAL DETAILS
1511-019-S-005	STRUCTURAL DETAILS
1511-019-S-006	ENCLOSED STRUCTURE
1511-019-S-007	GENERAL NOTES

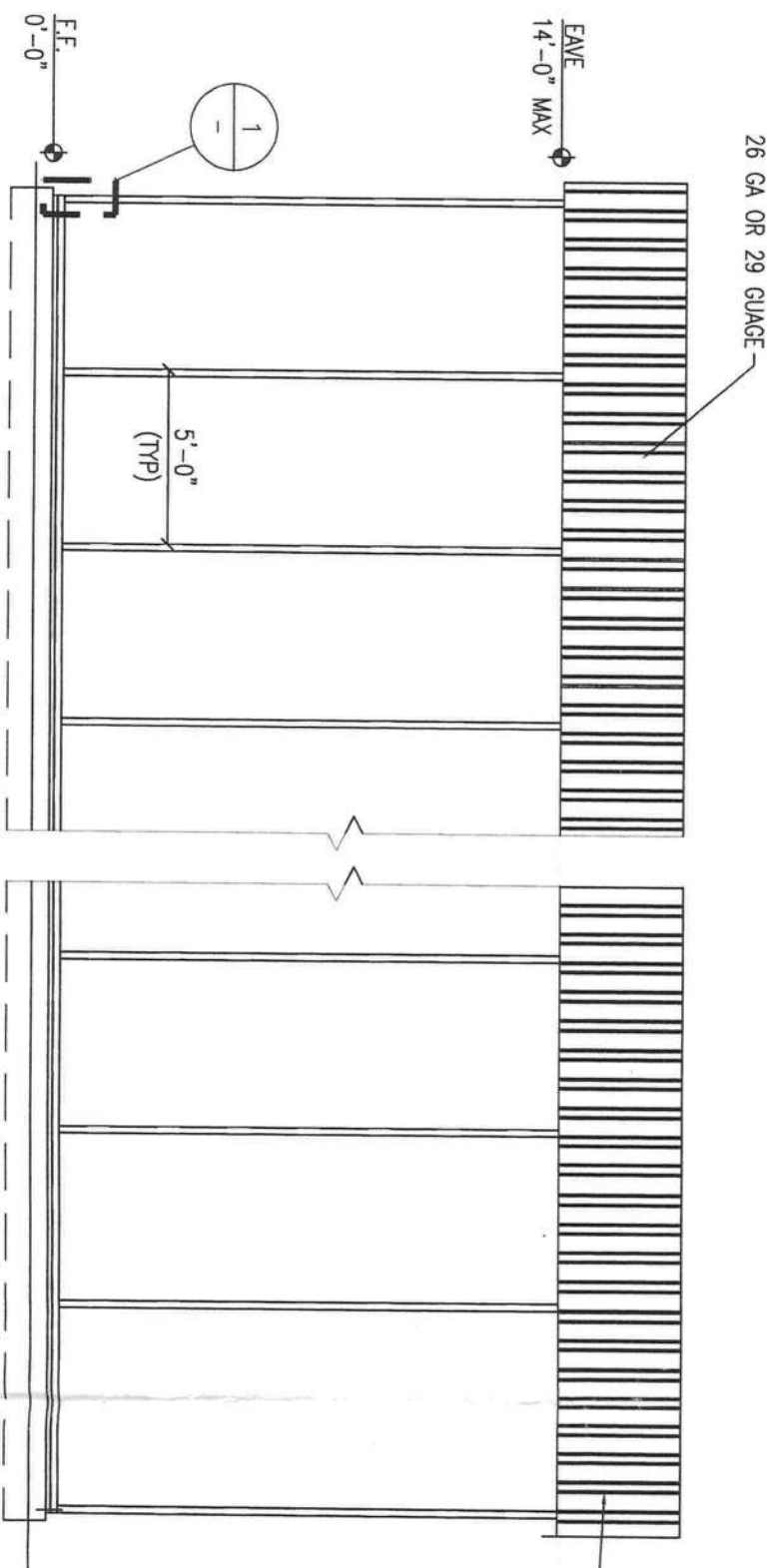


GILL ENGINEERING SERVICES, INC.  
AUTH # 30824  
GARY GILL, PE 51942  
426 SW COMMERCE DR 130-M  
LAKE CITY, FL 32025  
386-590-1242

3/15	GG	3/15	GG
DATE	CHK'D	DATE	APPRD
RELEASED FOR CONSTRUCTION			
TUBULAR BUILDING SYSTEMS			
12 - 30 FT SPAN STEEL BUILDINGS			
TITLE SHEET			
REV	0	PROJECT #:	1511-019
DWG. NO.		1511-019-T-001	SHT. 1
REV.		0	



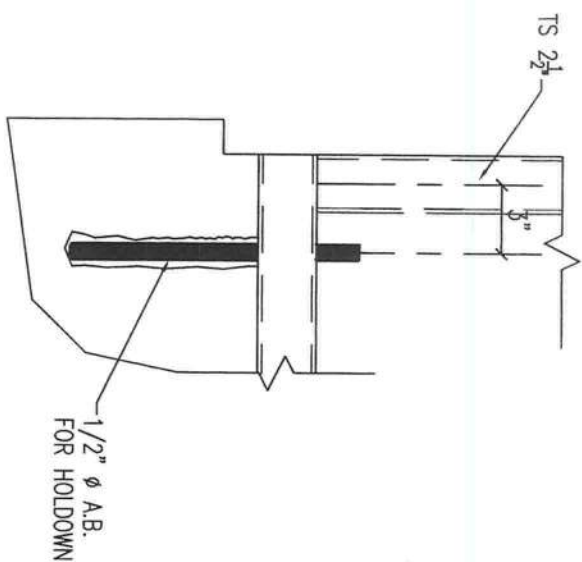
FRONT AND BACK ELEVATIONS - OPEN  
3/16" = 1'-0"



SIDE ELEVATION - OPEN  
3/16" = 1'-0"

NOTE: THE METAL SIDING FOR THE WALL/ROOF CAN BE ROTATED AND SPAN BETWEEN THE POSTS/RAFTERS IN LIEU OF USING HAT CHANNELS. ATTACH METAL DIRECTLY TO POSTS / RAFTERS USING SAME FASTENER TYPE AND SPACINGS AS NOTED

1 DETAIL - HOLDOWN  
1 1/2" = 1'-0"



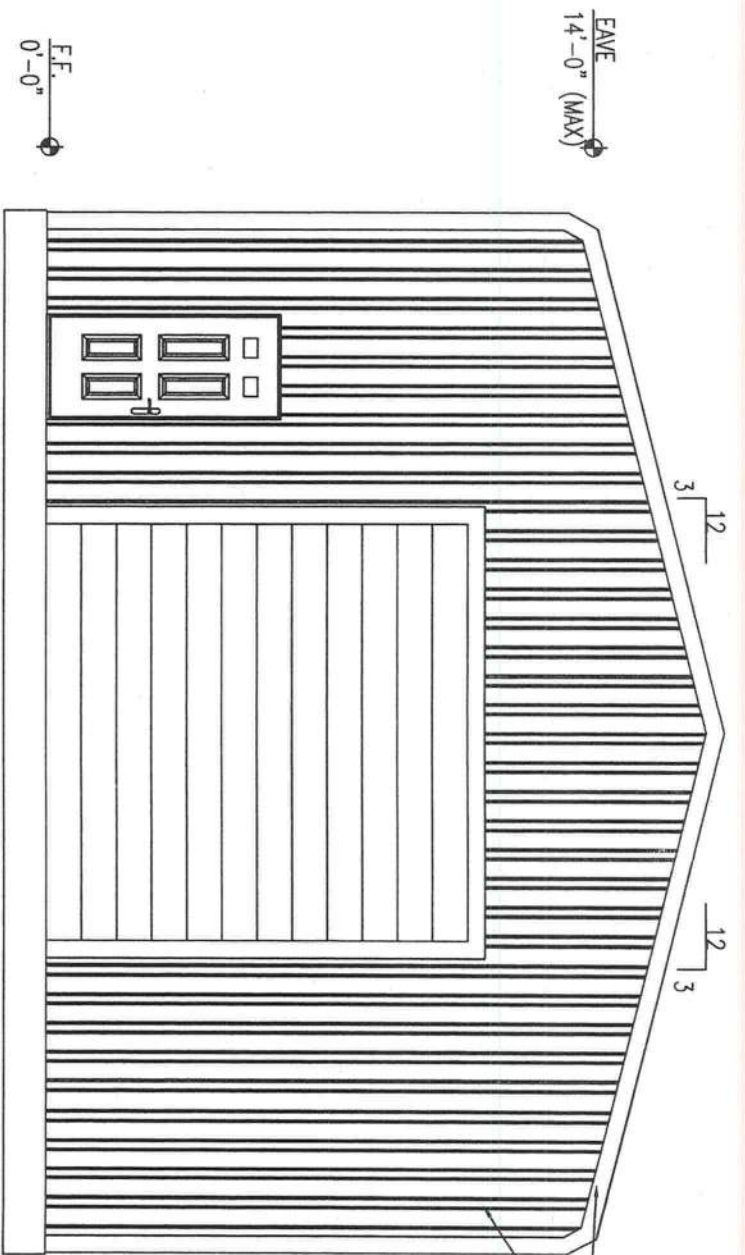
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REV	DESCRIPTION	APPRD	DATE	CHK'D	DATE
TUBULAR BUILDING SYSTEMS					
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TITLE					
ELEVATIONS - OPEN					
PROJECT #:	DWG. NO.	SHT.	REV.		
1511-019	1511-019-A-001	2	0		

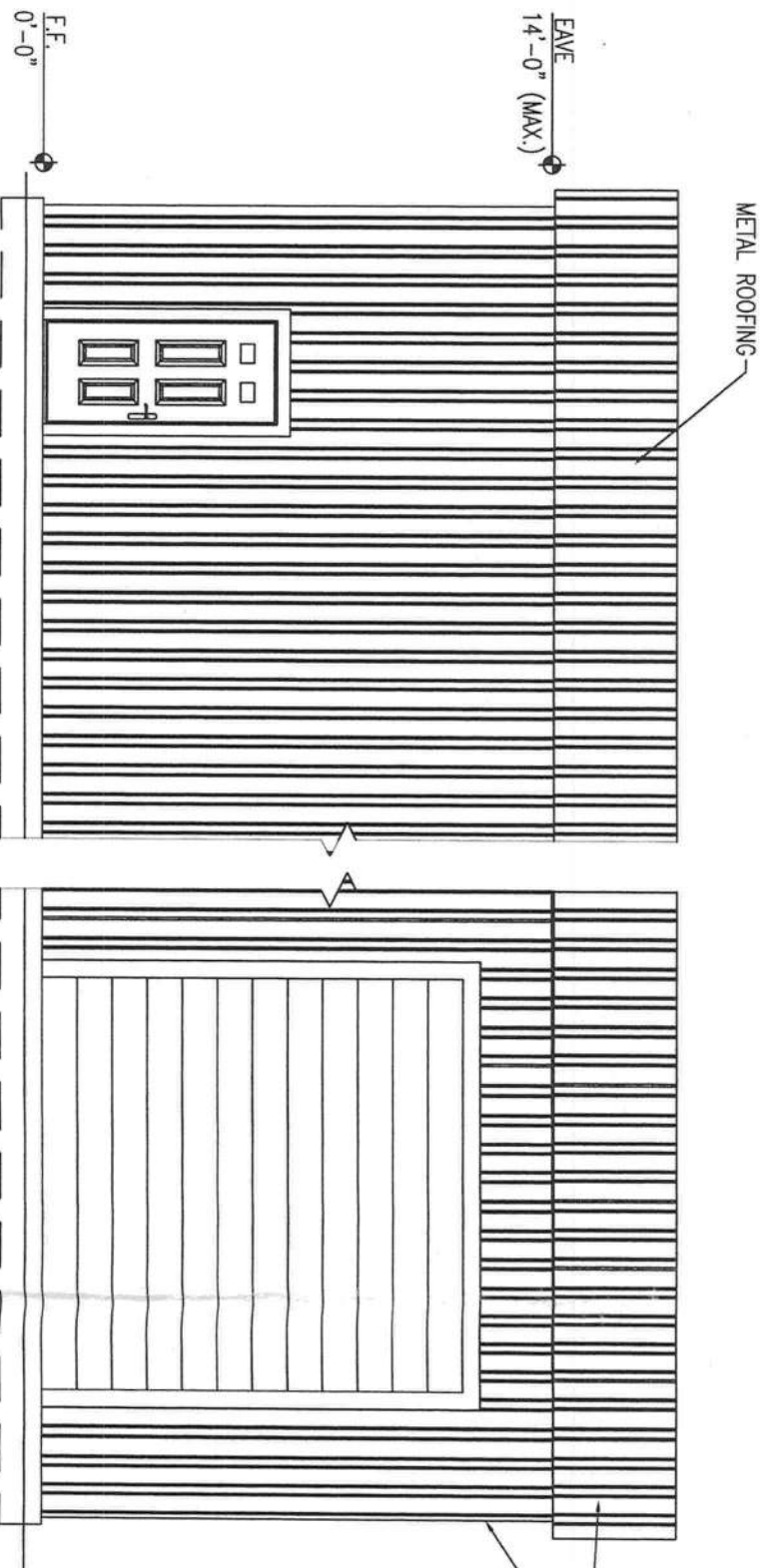
7/7/2015





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ENCLOSED ENDWALL  
3/16" = 1'-0"



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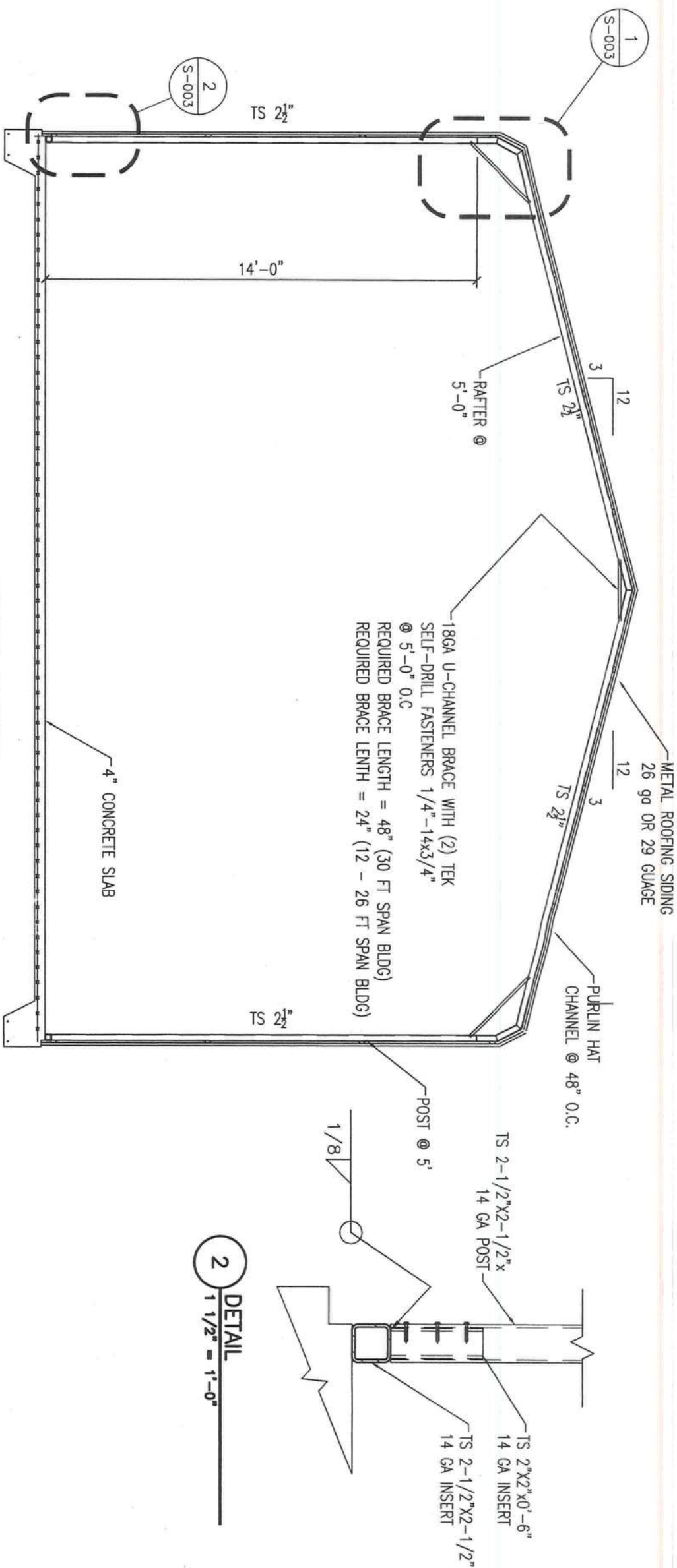
SIDE WALL FRAMING - OPENINGS  
3/16" = 1'-0"

*Handwritten signature and date: 11/2/15*

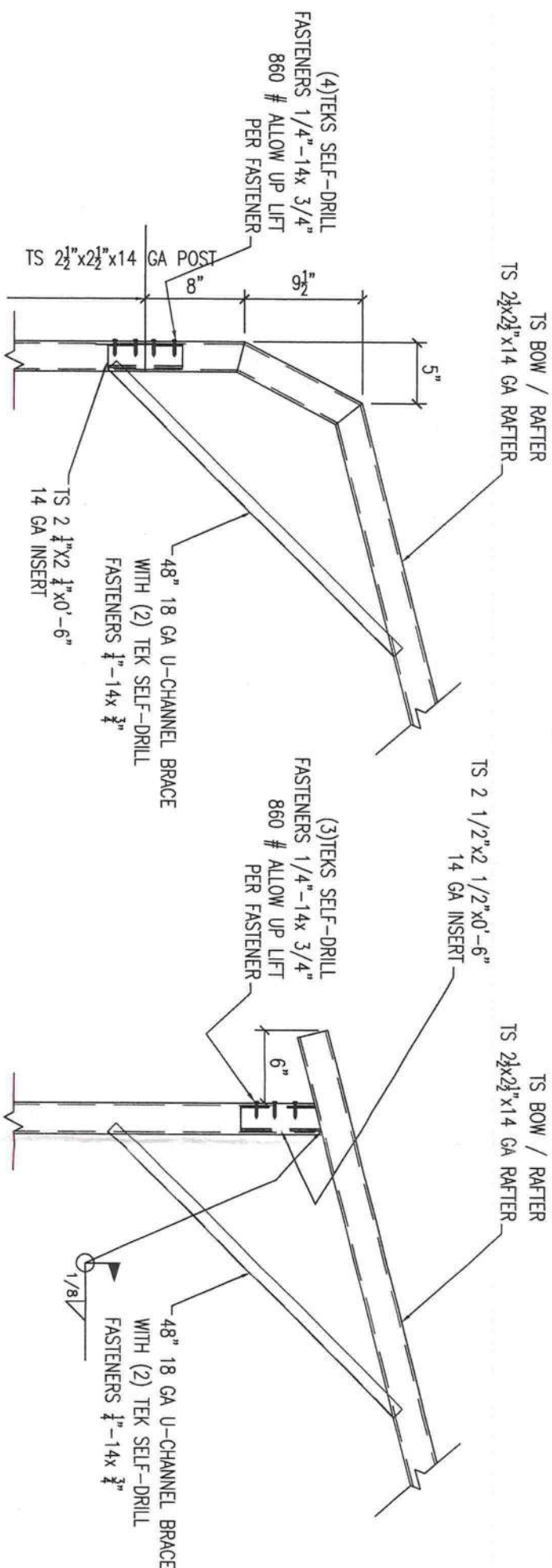
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TUBULAR BUILDING SYSTEMS					
12 - 30 FT SPAN STEEL BUILDINGS					
TITLE					
ELEVATIONS - ENCLOSED					
PROJECT #:	DWG. NO.	SHT.	REV.		
1511-019	1511-019-A-002	3	0		

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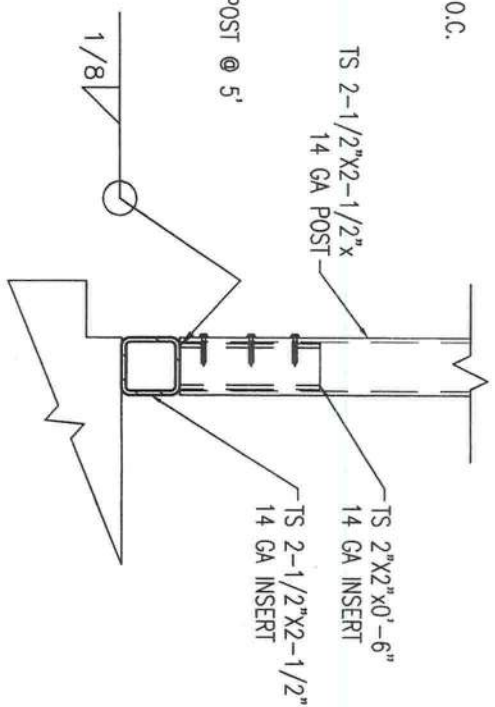
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**BUILDING SECTION**  
1/4" = 1'-0"



**2**  
1 1/2" = 1'-0"



**1**  
1" = 1'-0"

**1**  
1" = 1'-0"

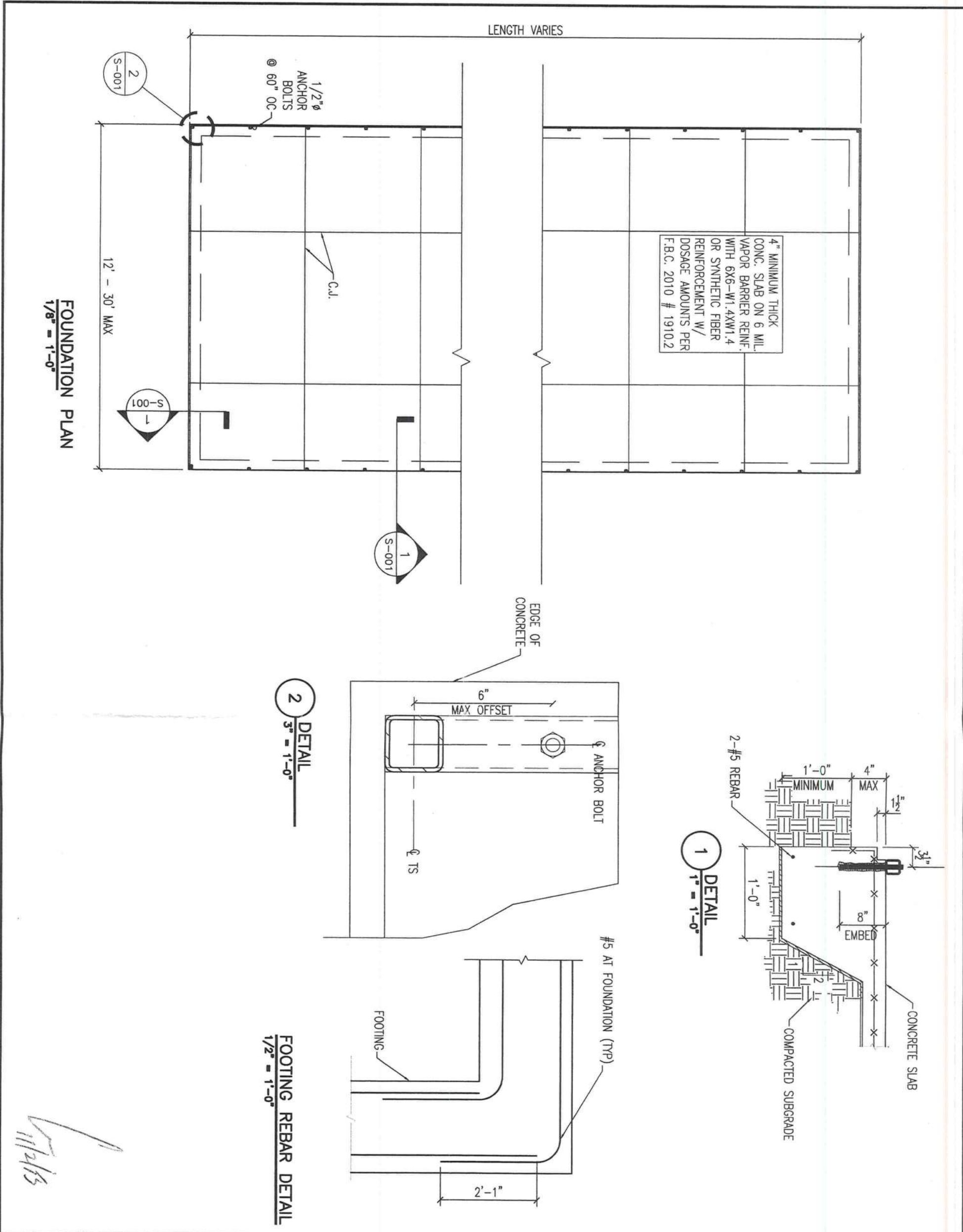


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DATE	3/15	CHK'D	GG	DATE	3/15	APPRD	GG	DESCRIPTION	RELEASED FOR CONSTRUCTION
REV	0								
TUBULAR BUILDING SYSTEMS									
12 - 30 FT SPAN STEEL BUILDINGS									
STRUCTURAL PLAN									
PROJECT #:	1511-019	DWG. NO.	1511-019-S-001	SHT.	4	REV.	0		

6/11/2015





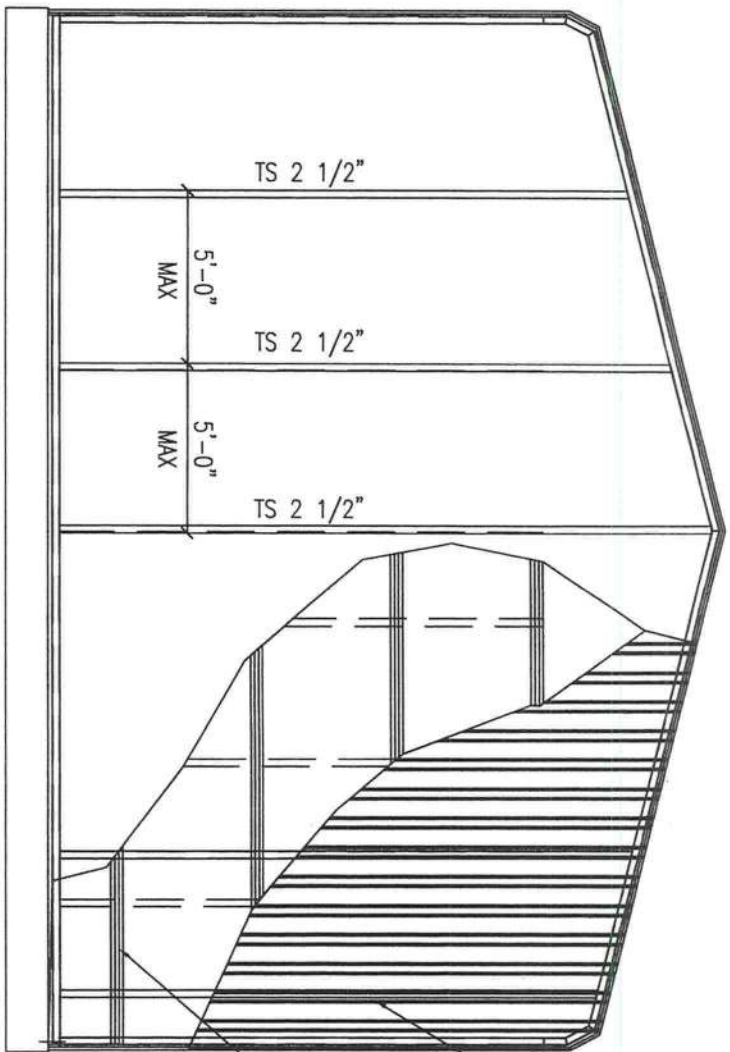
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REV	DESCRIPTION	APPRD	DATE	CHK'D	DATE
TUBULAR BUILDING SYSTEMS					
12 - 30 FT SPAN STEEL BUILDINGS					
TITLE					
FOUNDATION PLAN					
PROJECT #:	DWG. NO.	SHT.	REV.		
1511-019	1511-019-S-002	5	0		

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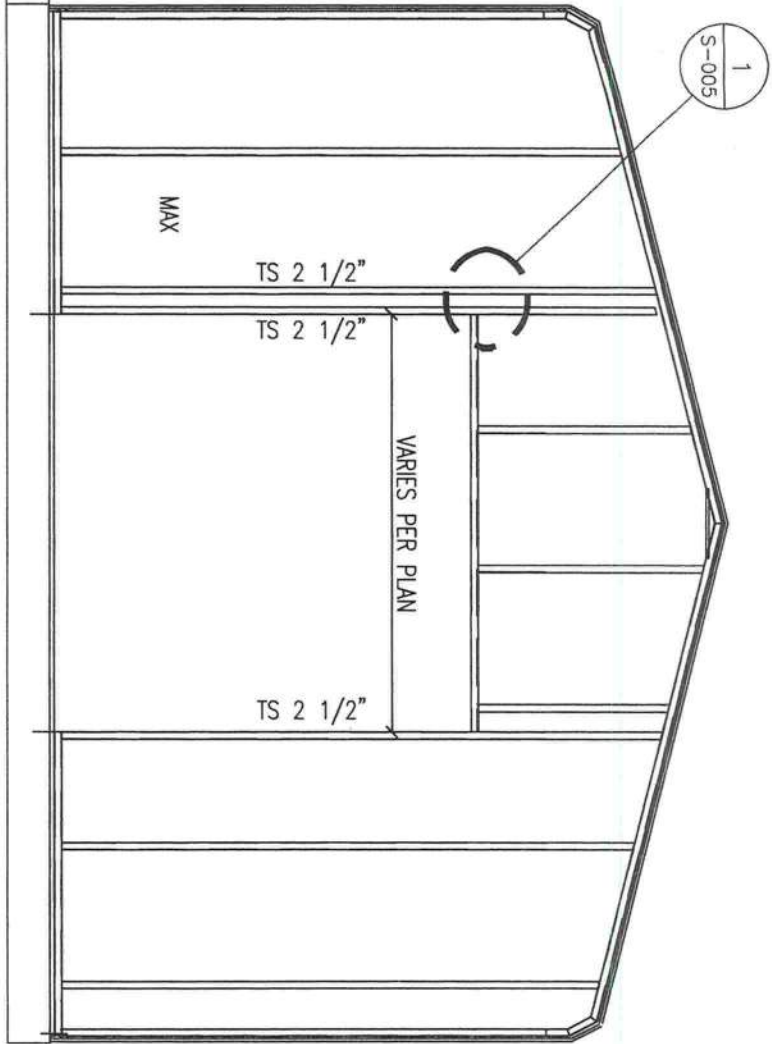






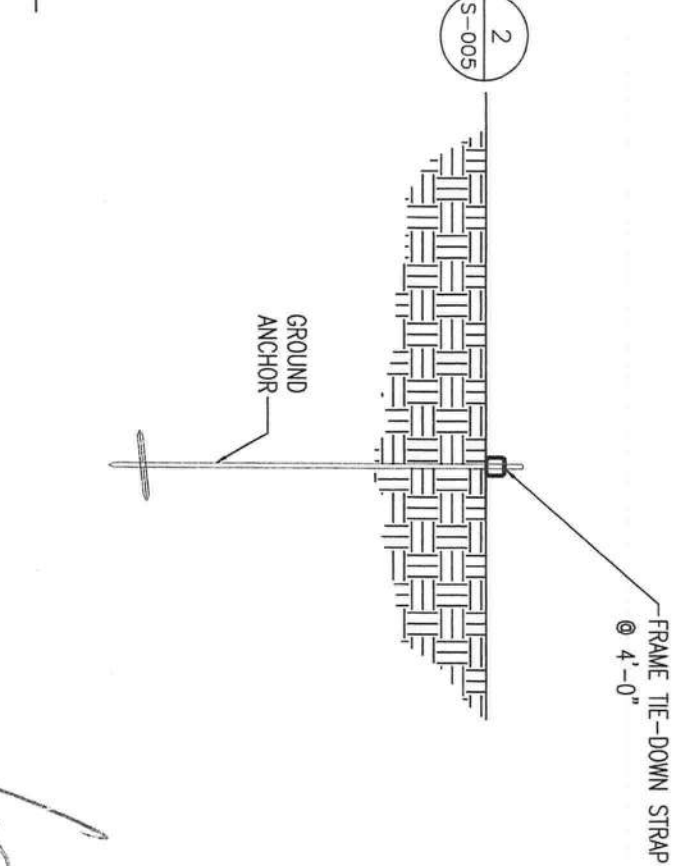
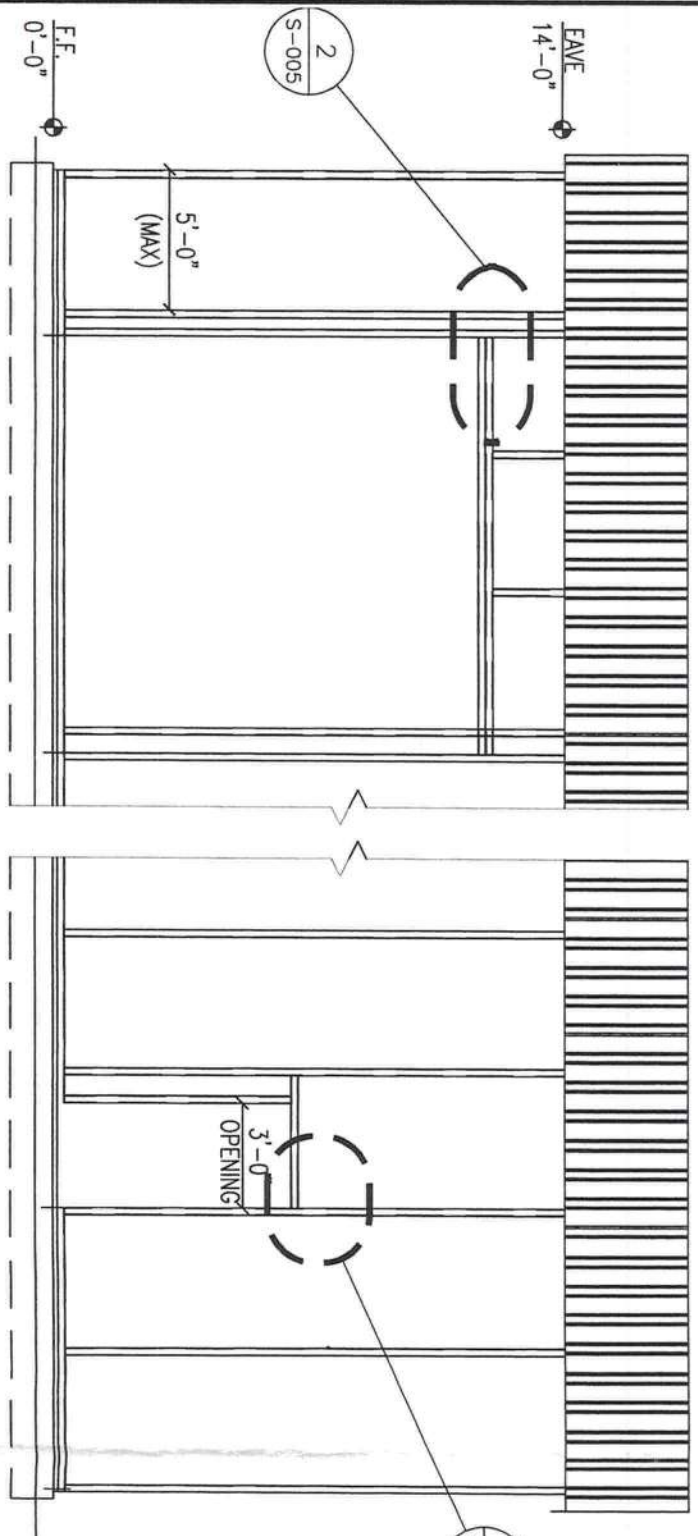
METAL SIDING

1 1/2" GIRT HAT CHANNEL @ 48" O.C. ATTACHED WITH (2) TEK'S SELF-DRILL FASTENER 1/4" - 14x3"



END WALL FRAMING  
3/16" = 1'-0"

ENDWALL FRAMING - OPENING  
3/16" = 1'-0"



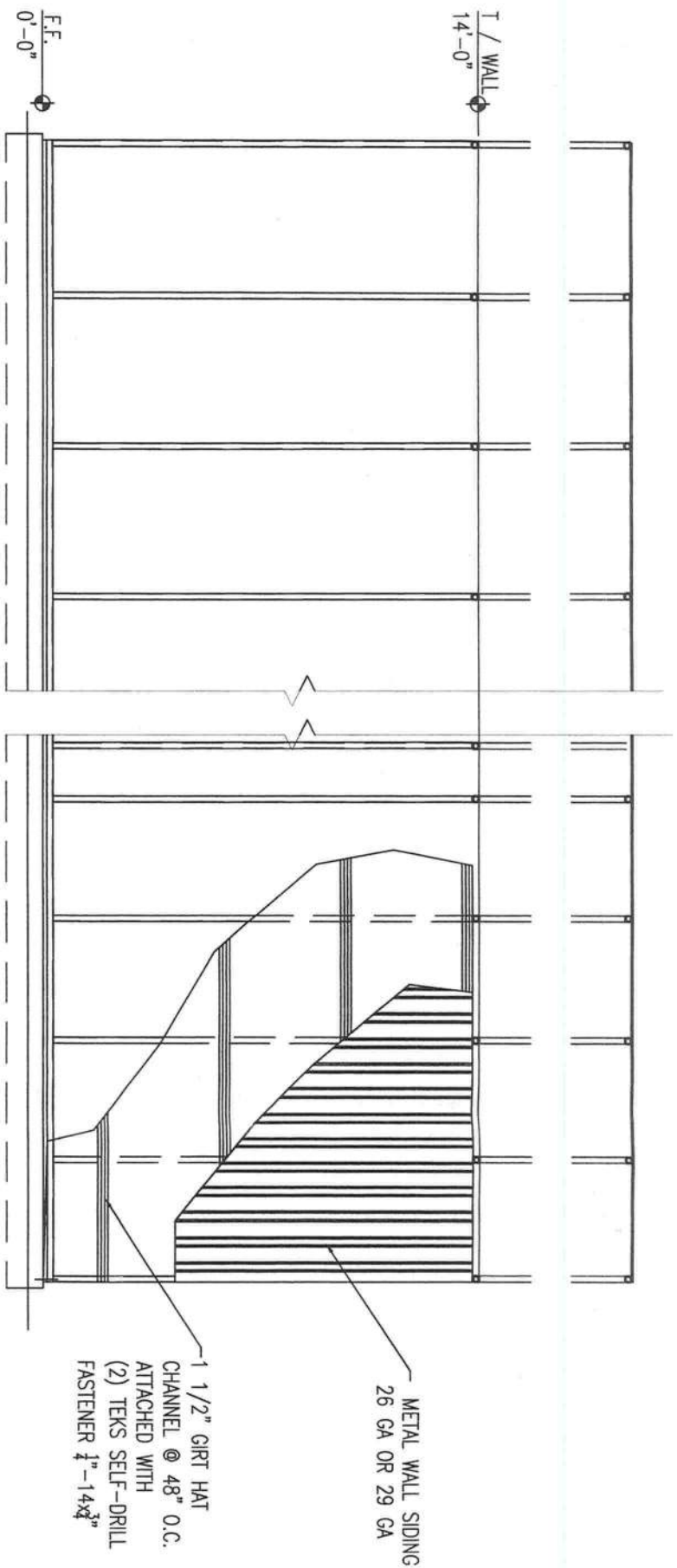
SIDE WALL FRAMING - OPENINGS  
3/16" = 1'-0"

ALTERNATE FRAME ANCHORS  
1/2" = 1'-0"

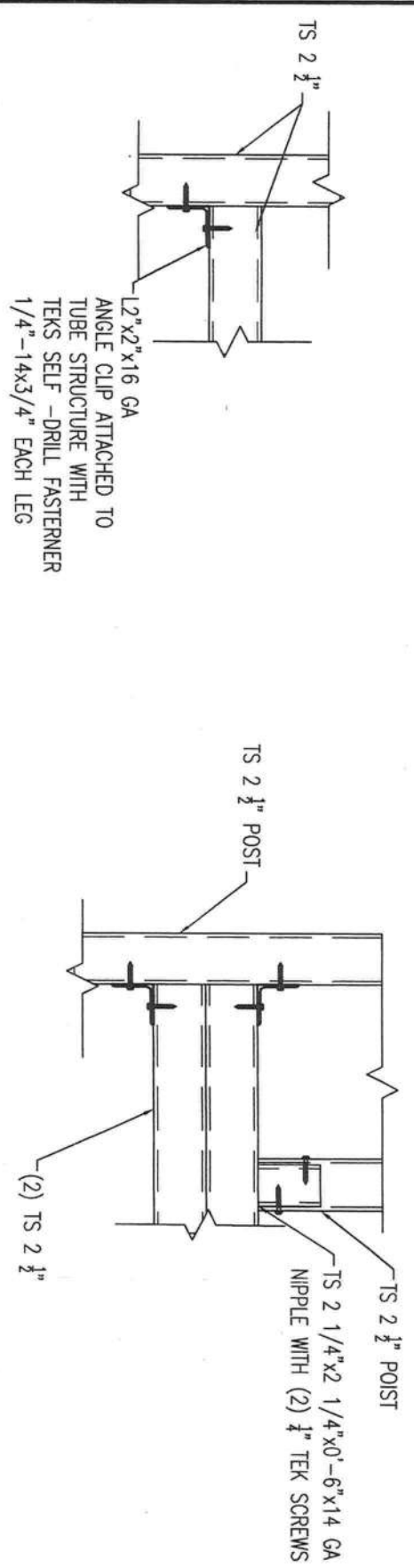
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REV					
TUBULAR BUILDING SYSTEMS					
12 – 30 FT SPAN STEEL BUILDINGS					
TITLE					
STRUCTURAL DETAILS					
PROJECT #:		DWG. NO.		SHT.	REV.
1511-019		1511-019-S-004		7	0



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ENCLOSED WALL FRAMING  
3/16" = 1'-0"



1 NON-STRUCTURAL HEADER  
1 1/2" = 1'-0"

2 STRUCTURAL HEADER  
1 1/2" = 1'-0"

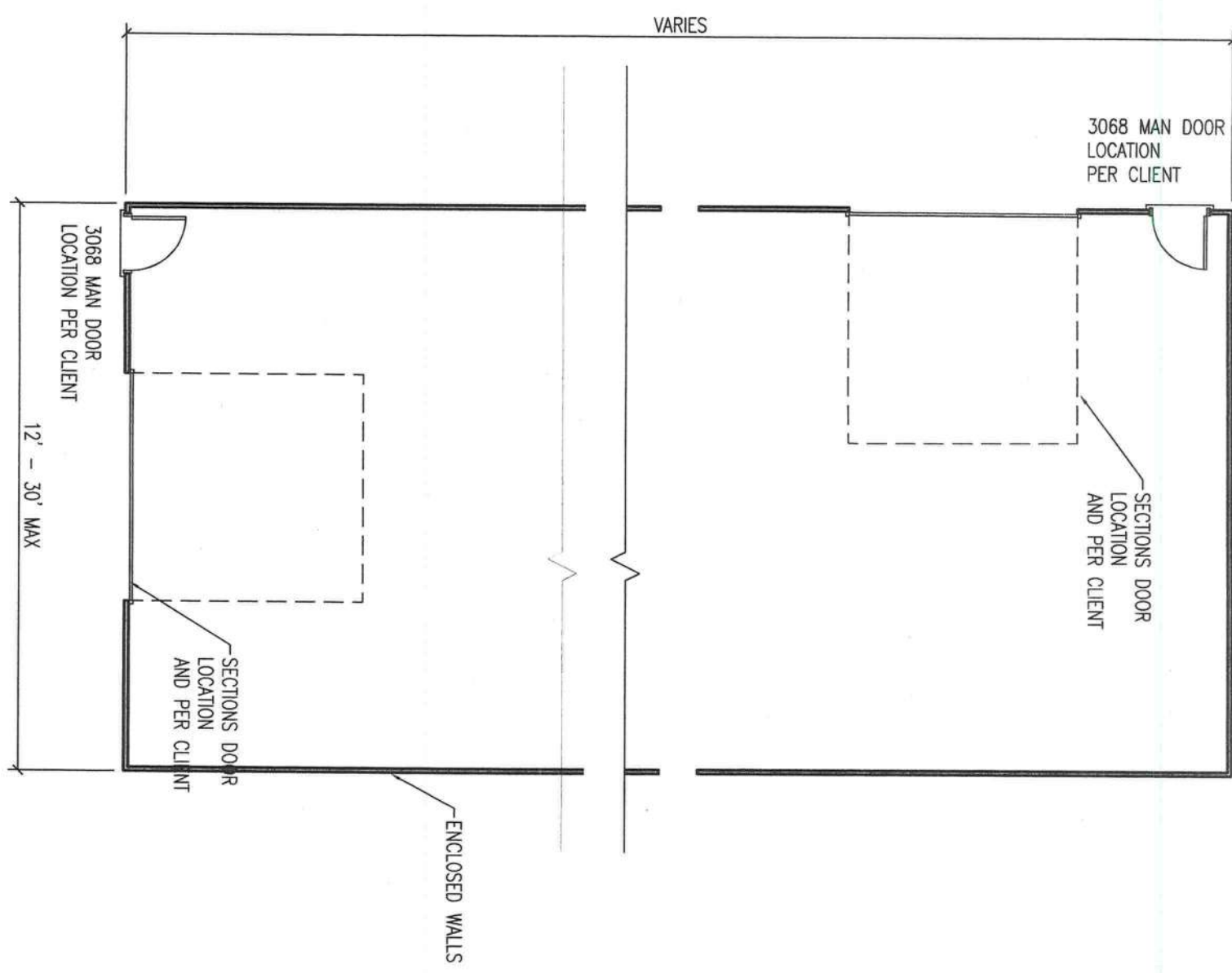
6/11/21

0	REV	RELEASED FOR CONSTRUCTION	GG	3/15	GG	3/15
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TUBULAR BUILDING SYSTEMS						
12 - 30 FT SPAN STEEL BUILDINGS						
TITLE						
STRUCTURAL DETAILS						
PROJECT #:		DWG. NO.		SHT.	REV.	
1511-019		1511-019-S-005		8	0	



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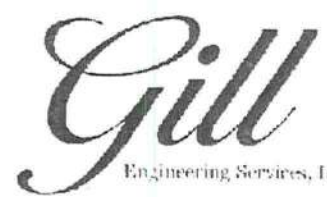




ENCLOSED FLOOR PLAN  
1/8" = 1'-0"

11/2/13

	RELEASED FOR CONSTRUCTION	GG	3/15	GG	3/15
0	DESCRIPTION	APPRD	DATE	CHK'D	DATE
REV					
TUBULAR BUILDING SYSTEMS 12 - 30 FT SPAN STEEL BUILDINGS					
TITLE ENCLOSED STRUCTURE					
PROJECT #: 1511-019		DWG. NO. 1511-019-S-006		SHT. 9	REV. 0



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DESIGN CRITERIA

DESIGN PER 2014 FLORIDA BUILDING CODE WITH 2009 UPDATES UNLESS OTHERWISE NOTED.

LIVE LOADS:

- 1. FLOOR LIVE LOAD = 40 PSF
- 2. MAXIMUM DEFLECTION = L / 240

CONCRETE

- 1. ALL CONCRETE DESIGNED PER CURRENT EDITION OF ACI 318
- 2. ALL CONCRETE SHALL BE CONTROLLED CONCRETE.
- 3. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS:
  - A. FOUNDATION WALLS, PIERS AND FOOTINGS.....3000 PSI
  - B. SLABS ON GRADE.....3000 PSI
  - C. ALL OTHER CONCRETE.....3000 PSI
- 4. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A NOMINAL AIR DRY DENSITY OF 145 PCF.
- 5. MINIMUM ELAPSED TIME BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE 48 HRS.
- 6. CONCRETE MIX DESIGN FOR EACH TYPE AND STRENGTH OF CONCRETE SPECIFIED SHALL BE SUBMITTED FOR ARCHITECT /ENGINEER REVIEW 30 DAYS PRIOR TO PLACEMENT OF CONCRETE.
- 7. ALL REINFORCING STEEL ASTM A615 GRADE 60, ALL WELDED WIRE FABRIC ASTM A185

STRUCTURAL STEEL

- 1. MATERIALS SHALL BE AS FOLLOWS:
  - W-SHAPES.....ASTM 992, Fy=50 KSI
  - OTHER SHAPES & PLATES.....ASTM A36, Fy=36 KSI
  - HSS SQUARE & RECTANGULAR SHAPES.....ASTM A500 GRADE B, Fy= 46 KSI
  - HSS ROUND SHAPES.....ASTM A653 GRADE B, Fy= 42 KSI
  - STEEL PIPES.....ASTM A53 GRADE B, Fy= 35 KSI
  - WELDING ELECTRODES.....AWS A5.1 OR A5.5 SERIES E70
  - HIGH-STRENGTH BOLTS.....1/2"Ø ASTM A325
  - ANCHOR RODS.....GRADE 36 ASTM F1554
  - WELDED STUDS.....ASTM A108
  - DEFORMED BARS.....ASTM A496
  - PAINT & PROTECTION.....SSPC PAINT 25
- 2. DESIGN PER MOST CURRENT EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION DESIGN", UNLESS OTHERWISE NOTED.
- 3. PROVIDE STRUCTURAL STEEL HAVING A MINIMUM YIELD STRENGTH OF 36 KSI THAT MEETS ASTM A36 STANDARD SPECIFICATIONS FOR STRUCTURAL STEEL.
- 4. SUBMIT SHOP DRAWINGS TO THE ARCHITECT SHOWING ERECTION PLANS, FABRICATED ASSEMBLIES AND ACCESSORIES, SHOW MEMBER DESIGNATIONS, SIZES AND CONNECTIONS.
- 5. MAKE CONNECTIONS WITH HIGH STRENGTH A325 BOLTS OR WELDS USING E70 ELECTRODES. DETAIL BOLTED SHEAR CONNECTIONS FOR MAXIMUM END REACTIONS OF MEMBER SUPPORTED AND WELDED JOINTS FOR FULL STRENGTH OF MEMBERS CONNECTED.
- 6. PROVIDE TEMPORARY BRACING TO HOLD STRUCTURAL STEEL SECURELY IN POSITION DURING ERECTION. DO NOT REMOVE BRACING UNTIL PERMANENT BRACING IS INSTALLED.

CODES AND STANDARDS:

- 1. WELDS SHALL CONFORM TO THE AMERICAN WELDING SOCIETY, AWS D1.1 USING E70 ELECTRODES
- 2. BOLTS AND BOLTED CONNECTIONS SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLT" USE BEARING TYPE BOLTS WITH THREADS ACROSS THE SHEAR PLANE.
- 3. NO SPLICES SHALL BE ALLOWED IN ANY STRUCTURAL STEEL MEMBER UNLESS SHOWN ON APPROVED SHOP DRAWINGS.
- 4. ALL MEMEBERS EXCEPT THOSE TO BE FIELD WELDED SHALL RECEIVE ONE COAT OF SHOP PRIMER PAINT.
- 5. NO OPENINGS SHALL BE ALLOWED IN STEEL MEMBERS UNLESS SHOWN ON THE DRAWINGS.
- 7. OPENINGS, COPIES AND OTHER STEEL CUTTING SHALL HAVE A 1/2" MINIMUM RADIUS.
- 8. ALL BEAMS SHALL BE FABRICATED AND ERECTED WITH THE NATURAL CAMBER UP.
- 9. WELDS NOT DESIGNED SHALL BE A FILLET WELD EQUAL TO 1/8" LESS THAN THE LEAST THICK MEMBER, ALL WELDS SHALL BE CLEANED AND PAINTED.

REINFORCING

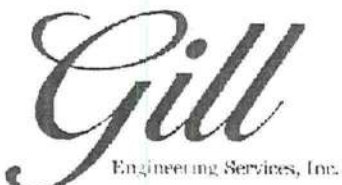
- 1. ALL BAR REINFORCEMENT SHALL CONFORM TO ASTM 615 GRADE 60
- 2. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO ASTM A185.
- 3. CLEARANCE OF MAIN REINFORCEMENT FROM ADJACENT SURFACES SHALL CONFORM TO THE FOLLOWING (UNLESS OTHERWISE SHOWN IN DETAIL)
  - A. UNFORMED SURFACES IN CONTACT WITH GROUND(FOOTING OR WALL BOTTOM) .....3"
  - B. SLABS ON GRADE.....2 1/2"
  - C. FORMED SURFACE IN CONTACT WITH GROUND OR EXPOSED TO WEATHER .....3"
  - D. IN ALL CASES, CLEARANCE NOT LESS THAN DIAMETER OF BARS.
- NOTE: MAXIMUM DEVIATION FROM THESE REQUIREMENTS SHALL BE + 1/4" FOR SECTIONS 10" OR LESS AND + 1/2" FOR SECTIONS OVER 10" THICK.
- 4. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON DRAWINGS.
- 5. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SIMILAR SITUATIONS, AS DETERMINED BY THE ARCHITECT/ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM PERMITTED BY APPLICABLE CODES.
- 6. ALL WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315)
- 7. WHERE CONTINUOUS BARS ARE CALLED FOR THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS, LAPPED AT NECESSARY SPLICES AND HOOKED AT DISCONTINUOUS ENDS.
- 8. WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL MESH PANEL OR 6" MINIMUM.
- 9. ALL REINFORCING SPLICES SHALL CONFORM TO THE TABLE(S) PROVIDED IN THE GENERAL NOTES FOR STRENGTH OF CONCRETE BUT IN NO CASE LESS THAN THE REQUIREMENTS OF THE LATEST EDITION OF ACI-318.
- 10. BAR SUPPORTS SHALL BE GALVANIZED OR STAINLESS STEEL. BAR SUPPORTS IN CONTACT WITH EXPOSE SURFACES SHALL BE GALVANIZED AND PLASTIC TIPPED.

FOUNDATIONS

- 1. ALL FINISHED EXCAVATIONS AND BEARING GRADES SHALL BE INSPECTED AND APPROVED BY THE OWNERS SOIL TESTING AGENCY BEFORE ANY CONCRETE IS PLACED.
- 2. ALL FOUNDATION WALLS SHALL BE BRACED DURING THE OPERATION OF BACKFILLING AND COMPACTION RACING SHALL BE LEFT IN POSITION UNTIL PERMANENT RESTRAINTS ARE EFFECTIVE. BACKFILL NO FOUNDATION WALLS UNTIL PERMANENT LATERAL STRUCTURAL SUPPORT SYSTEM IS IN PLACE AND OF ADEQUATE STRENGTH TO WITHSTAND THE APPLIED LATERAL PRESSURES.
- 3. ALL FOOTING SUBGRADES, AS REQUIRED, AND ALL SLAB SUBGRADES SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT BASED ON LABORATORY DESIGNATION ASTM D1557.
- 4. COMBINED AND INDIVIDUAL FOOTINGS AR DESIGNED TO BEAR ON UNIFORM SOIL CAPABLE OF SUPPORTING 2,000 PSF. CONTINUOUS FOOTINGS ARE DESIGNED TO BEAR ON SOIL CAPABLE OF SUPPORTING 2,000 PSF.

FASTENERS SELF-DRILLING TAPPING SCREWS

- 1. ALL FASTENERS SHALL BE ITW BUILDEX TEXS SELF-DRILLING FASTENER 1/4-14x 3/4"HW D
- 2. INSTALLATION OF THE FASTENERS MUST BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTION.
- 3. THE SCREWS MUST BE INSTALLED PERPENDICULAR TO THE WORK SURFACE USING A SCREW DRIVING TOOL.
- 4. THE SCREWS MUST BE PENETRATE THROUGH THE SUPPORTING STEEL WITH A MINIMUM OF THREE THREADS PROTRUDING PAST THE BACK SIDE OF THE SUPPORTING MEMBER.
- 5. ALLOWABLE CONNECTION STRENGTH FOR USE IN ALLOWABLE STRENGTH DESIGN (ASD) FOR PULL-OUT, PULLOVER, SHEAR (BEARING) CAPACITY FOR COMMON SHEET STEEL THICKNESS ARE PROVIDED BY MANUFACTURER
- 6. MINIMUM SPACING BETWEEN THE CENTER OF FASTENERS OF 3 TIMES THE DIAMETER OF THE SCREWS, AND A MINIMUM DISTANCE FROM THE CENTER OF A FASTENER TO THE EDGE OF ANY CONNECTED PART OF 1.5 TIMES THE DIAMETER OF THE SCREW.



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TUBULAR BUILDING SYSTEMS					
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GENERAL NOTES					
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1511-019		1511-019-S-007		10	0

6/11/21