

STRUCTURAL DESIGN

STANDARD PACKAGE ENCLOSED BUILDING

MAXIMUM 30'- 0" WIDE X 16'- 0" HEIGHT-BOX EAVE FRAME AND BOW FRAME

21 April 2021 Revision 3 M&A Project No. 16220S/17311S/18104S/21015S

Prepared for:

USA Steel Buildings, Inc. 210 Airport Road Mount Airy, NC 27030

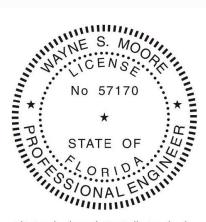
Prepared by:

Moore and Associates Engineering and Consulting, Inc.

1009 East Avenue North Augusta, SC 29841

401 South Main Street, Suite 200 Mount Airy, NC 27030





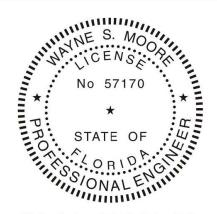
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(BDW RAFTER STRUCTURE) (EXPOSURE C)

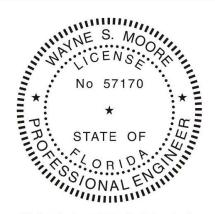


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ENGINEEDING AND CONCULTING INC	CHECKED BY: PDH		MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE	
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INSTALLATION NOTES AND SPECIFICATIONS

- 1 DESIGN IS FOR MAXIMUM 30'-0" WIDE x 16'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
- 2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE (FBC) 7TH EDITION.
- 3. DESIGN LOADS ARE AS FOLLOWS:

= 1.5 PSF A) DEAD LOAD B) LIVE LOAD = 12 PSF C) GROUND SNOW LOAD = 0 PSF

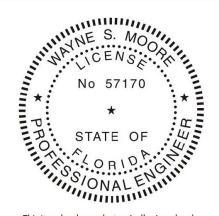
- 4 3-SECOND GUST ULTIMATE WIND SPEED V_{ULT} (LW) 105 TO 140 MPH (NOMINAL WIND SPEED 81 TO 108 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEET.
- 5 3-SECOND GUST ULTIMATE WIND SPEED V_{ULT} (HW) 141 TO 170 MPH (NOMINAL WIND SPEED 109 TO 132 MPH); MAXIMUM RAFTER/POST AND END POST SPACING = 4.0 FEET.
- 6. END WALL COLUMNS (POSTS) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING (UNLESS NOTED OTHERWISE)
- 7. RISK CATEGORY I.
- 8. WIND EXPOSURE CATEGORY B/C.
- 9. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2" x 2 1/2" 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS FOR LOW WIND. 2 1/4" x 2 1/4" 12 GAUGE TS MAY BE USED AS AN OPTION FOR LOW WIND. USE 2 1/4" x 2 1/4" 12 GAUGE TS FOR HIGH WIND.
- 10. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR HAT CHANNELS, AND COLUMNS (INTERIOR DISTANCE OR EDGE DISTANCE) = 10° D.C. (MAX.) FOR LOW WIND AND 6° D.C. (MAX.) FOR HIGH WIND.
- 11. FASTENERS CONSIST OF #12-14x3/4' SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS.

 SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14* (3:12 PITCH) OR LESS SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF LAP JOINT SEALANT.
- 12. ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL AT OR WITHIN 6' OF EACH RAFTER COLUMN ALONG SIDES. STRUCTURE MUST HAVE AN ANCHOR AT EVERY COLUMN.
- 13 STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36' LONG AND MAY BE USED IN SUITABLE SOILS.

 OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED FOR WIND SPEEDS \(\) 145 MPH. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS FOR WIND SPEEDS > 145 MPH AS NOTED.
- 14. WIND FORCES GOVERN OVER SEISMIC FORCES, SEISMIC PARAMETERS ANALYZED ARE: SDIL SITE CLASS = D RISK CATEGORY I

R= 3.25 $I_E = 1.0$ V= C₂W $S_{DS} = 2.039$

S_{DI}= 1.258



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USA STEEL BUILDINGS

DACE NO 2K-3

REV. 3

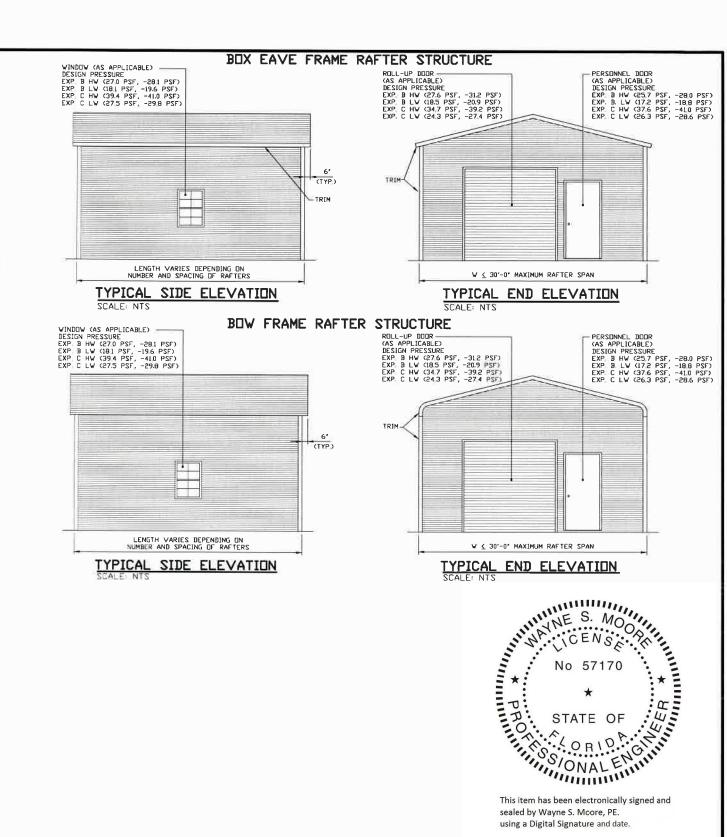
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SHT. 3

CLIENTI USA STEEL



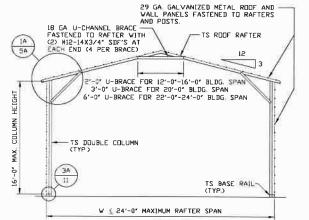
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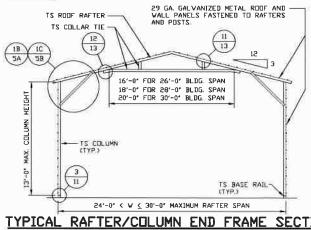
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EXPOSURE B 29 GA. GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO RAFTERS AND POSTS. 18 GA U-CHANNEL BRACE FASTENED TO RAFTER WITH (2) #12-14X3/4' SDF'S AT EACH END (4 PER BRACE) TS ROOF RAFTER 1B (IC) 5A (5B)] 3 2'-0' U-BRACE FOR 12'-0'-16'-0' BLDG, SPAN 3'-0' U-BRACE FOR 20'-0' BLDG, SPAN 6'-0' U-BRACE FOR 22'-0'-24'-0' BLDG SPAN COLUMN TS COLUMN MAX 3 TS BASE RAIL-√ ≤ 24'-0' MAXIMUM RAFTER SPAN

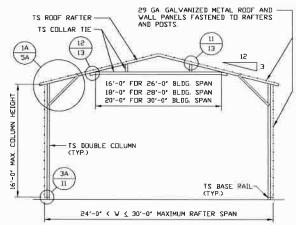
TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



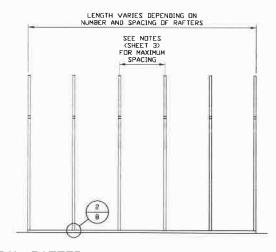
<u>TYPICAL</u> RAFTER/COLUMN END FRAME SECTION



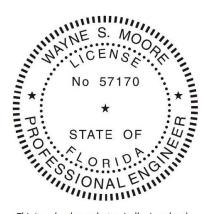
TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



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29 GA GALVANIZED METAL RODE AND WALL PANELS FASTENED TO RAFTERS AND POSTS. 18 GA U-CHANNEL BRACE FASTENED TO RAFTER VITH (2) #12-14X3/4" SIP'S AT EACH END (4 PER BRACE) 2'-0" U-BRACE FOR 12'-0" BLDG. SPAN 3'-0" U-BRACE FOR 22'-0" BLDG. SPAN 6'-0" U-BRACE FOR 22'-0" BLDG. SPAN 6'-0" U-BRACE FOR 22'-0" BLDG. SPAN 15 COLUMN (TYP) TS BASE RAIL (TYP) V & 24'-0" MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

29 GA. GALVANIZED METAL RODF AND WALL PANELS FASTENED TO RAFTERS

18 GA U-CHANNEL BRACE
FASTENED TO RAFTER VITH
(2) #12-14X3/4' SDF'S AT
EACH END (4 PER BRACE)

2'-0' U-BRACE FOR 12'-0'-16'-0' BLDG SPAN
3'-0' U-BRACE FOR 22'-0' BLDG SPAN
6'-0' U-BRACE FOR 22'-0'-24'-0' BLDG SPAN
6'-0' U-BRACE FOR 22'-0'-24'-0' BLDG SPAN
13 A

TS BOUBLE COLUMN
(TYP.)

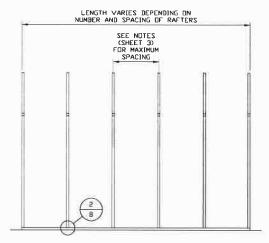
TYPICAL RAFTER/COLUMN END FRAME SECTION

29 GA. GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO RAFTERS AND POSTS. TS ROOF RAFTER TS COLLAR TIE: 11 13 13 50 5E Э 16'-0' FOR 26'-0' BLDG SPAN 18'-0' FOR 28'-0' BLDG SPAN 20'-0' FOR 30'-0' BLDG SPAN HE IGH COLUMN TS COLUMN MAX 12'-0" 3 TS BASE RAIL-24'-0' (W & 30'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS 29 GA. GALVANIZED METAL ROOF AND VALL PANELS FASTENED TO RAFTERS AND POSTS. TS ROOF RAFTER TS COLLAR TIE 11 13 10 5C 12] 3 16'-0" FOR 26'-0" BLDG SPAN 18'-0" FOR 28'-0" BLDG SPAN 20'-0" FOR 30'-0" BLDG SPAN HEIGHT COLUMN TS DOUBLE COLUMN MAX 16'-0" 3A 11 TS BASE RAIL-24'-0" (W & 30'-0" MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS

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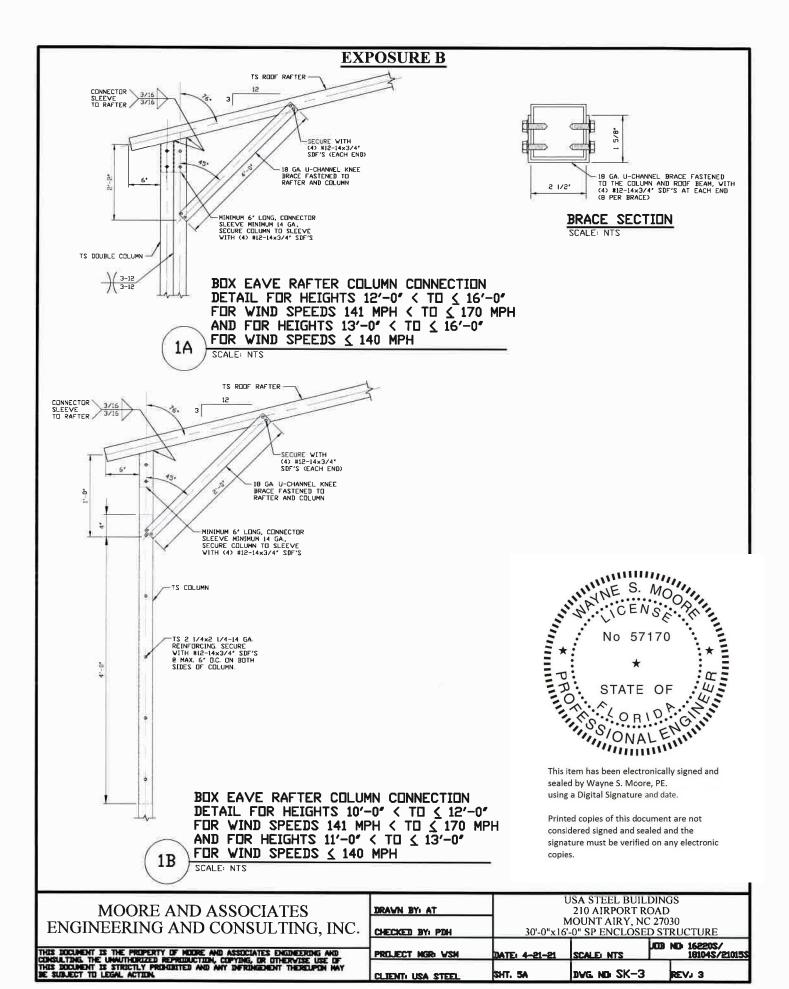
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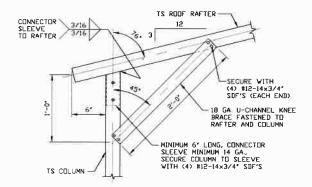
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		USA STEEL BUILDINGS							

SHT. 4A

CLIENTI USA STEEL

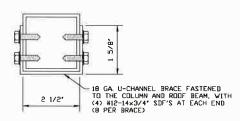


EXPOSURE B

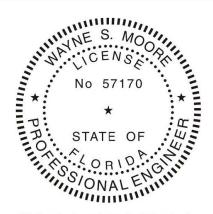


BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS \le 10'-0' FOR WIND SPEEDS 141 MPH < TO \le 170 MPH AND HEIGHTS \le 11'-0' FOR WIND SPEEDS \le 140 MPH

1C) WIND SE

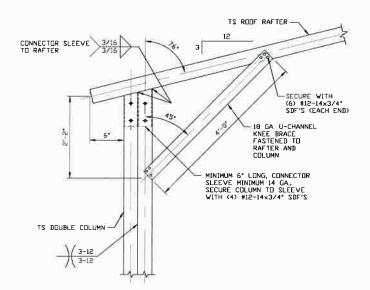


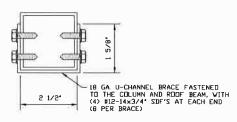
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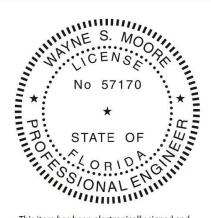


BRACE SECTION
SCALE: NTS

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS $11'-0' < TO \le 16'-0'$ FOR WIND SPEEDS 141 MPH $< TO \le 170$ MPH AND FOR HEIGHTS $12'-0' < TO \le 16'-0'$ FOR WIND SPEEDS ≤ 140 MPH

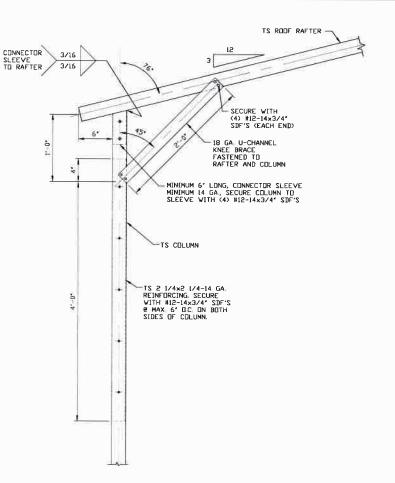
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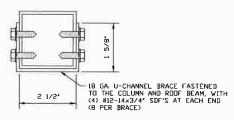
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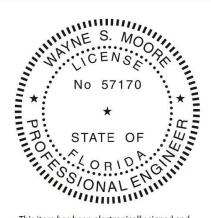


BRACE SECTION
SCALE: NTS

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 9'-0' < TO \le 11'-0' FOR WIND SPEEDS 141 MPH < TO \le 170 MPH AND FOR HEIGHTS 10'-0' < TO \le 12'-0' FOR WIND SPEEDS \le 140 MPH

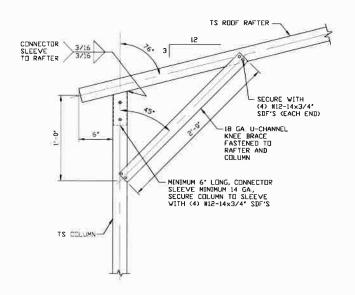
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18 GA. U-CHANNEL BRACE FASTENED
TO THE COLLUMN AND RODE BEAM, WITH
(4) #12-14-x3/4* SDF'S AT EACH END
(8) PER BRACE)

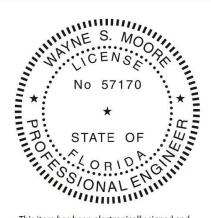
BRACE SECTION

SCALE: NTS

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS $\leq 9'-0''$ FOR WIND SPEEDS 141 MPH < TO \leq 170 MPH AND HEIGHTS \leq 10'-0" FOR WIND SPEEDS \leq 140 MPH

1F

SCALE: NTS

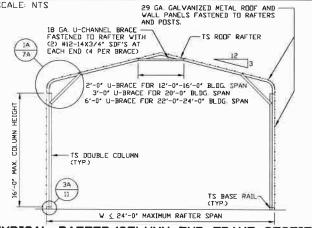


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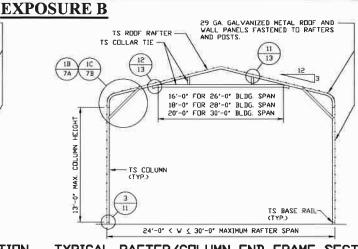
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MOORE AND ASSOCIATES	DRAVN BY: AT		ISA STEEL BUILI 210 AIRPORT RO	

29 GA GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO RAFTERS AND POSTS 18 GA. U-CHANNEL BRACE — FASTENED TO RAFTER VITH (2) #12-14X3/4' SDF'S AT TS ROOF RAFTER (2) #12-14X3/4' SDF'S AT EACH END (4 PER BRACE) 7A '-0' U-BRACE FOR 12'-0'-16'-0' BLDG SPAN 3'-0' U-BRACE FOR 20'-0' BLDG SPAN 6'-0' U-BRACE FOR 22'-0'-24'-0' BLDG SPAN HEIGHI COLUMN TS COLUMN MAX 13'-0" TS BASE RAIL-W C 24'-0' MAXIMUM RAFTER SPAN

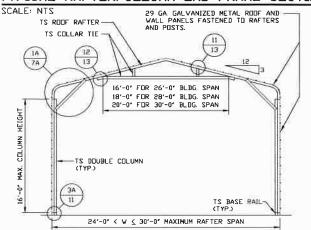
TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN END FRAME SECTION

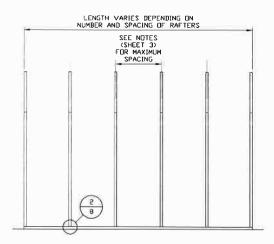


TYPICAL RAFTER/COLUMN END FRAME SECTION



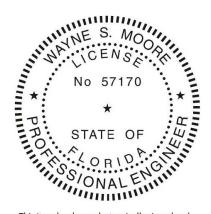
TYPICAL RAFTER/COLUMN END FRAME SECTION

CLIENTI USA STEEL



TYPICAL RAFTER/COLUMN FRAMING SIDE SECTION

SCALE: NTS



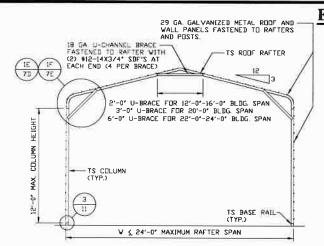
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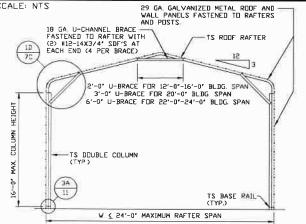
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	CLIENTI USA STEEL	SHT. 6	DVG. ND SK-3	R	E r \3				
	PREJECT MGR VSM	DATE: 4-21-21	SCALE: NTS	JOB N	16220S/ 18104S/21015S				
2	CHECKED BY: PDH		MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE						
	DRAWN BY: AT	LDINGS ROAD							



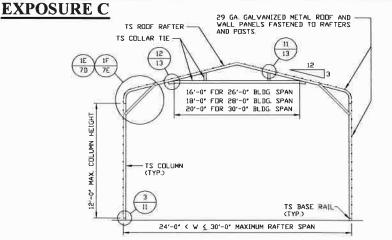
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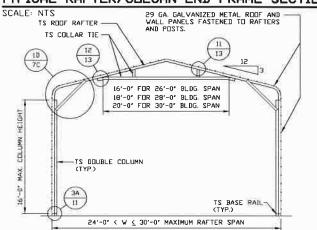
TYPICAL RAFTER/COLUMN END FRAME SECTION

LENGTH VARIES DEPENDING ON NUMBER AND SPACING OF RAFTERS SEE NOTES (SHEET 3) FOR MAXIMUM SPACING 5

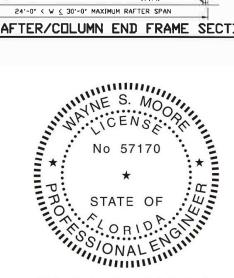
TYPICAL RAFTER/COLUMN FRAMING SIDE SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION

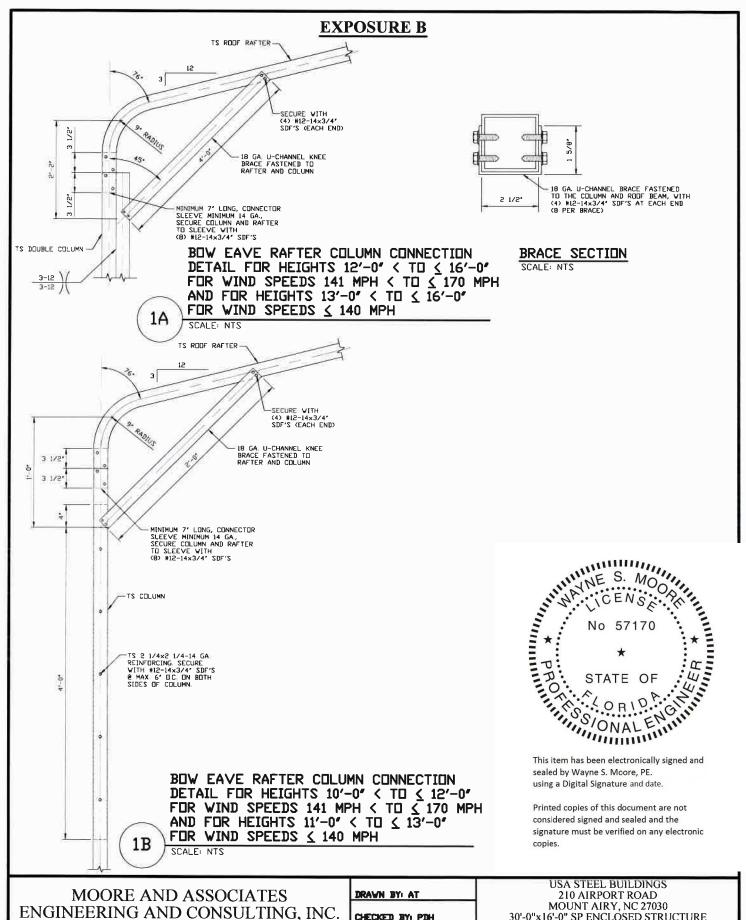


TYPICAL RAFTER/COLUMN END FRAME SECTION



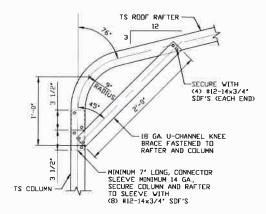
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MOORE AND ASSOCIATES	DRAWN BY: AT		JSA STEEL BUI 210 AIRPORT	ROAD	



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ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH	MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE			
MOORE AND ASSOCIATES	DRAWN BY: AT		210 AIRPORT R	OAD	

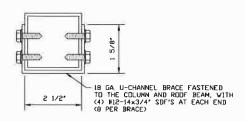
EXPOSURE B



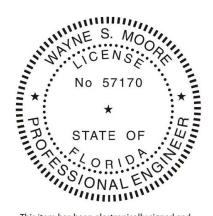
BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS \(\) 10'-0" FOR WIND SPEEDS 141 MPH < TO \(\) 170 MPH AND HEIGHTS \(\) 11'-0" FOR WIND SPEEDS \(\) 140 MPH

1C

SCALE: NTS

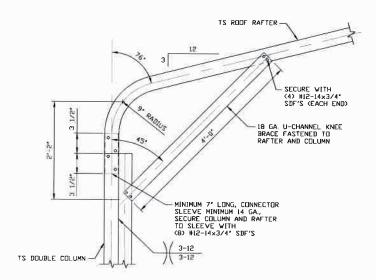


BRACE SECTION
SCALE: NTS



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ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		10UNT AIRY, N -0" SP ENCLOSI		
MOORE AND ASSOCIATES	DRAWN BY: AT		210 AIRPORT F	ROAD	



2 1/2'

18 GA U-CHANNEL BRACE FASTENED
TO THE COLUMN AND ROOF BEAM, VITI
(4) NI2-14x3/4' SDF'S AT EACH END
(6) PER BRACE)

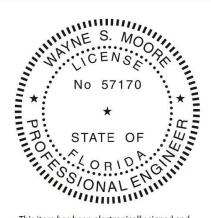
BRACE SECTION

SCALE: NTS

BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS $11'-0'' < TO \le 16'-0''$ FOR WIND SPEEDS 141 MPH $< TO \le 170$ MPH AND FOR HEIGHTS $12'-0'' < TO \le 16'-0''$ FOR WIND SPEEDS ≤ 140 MPH

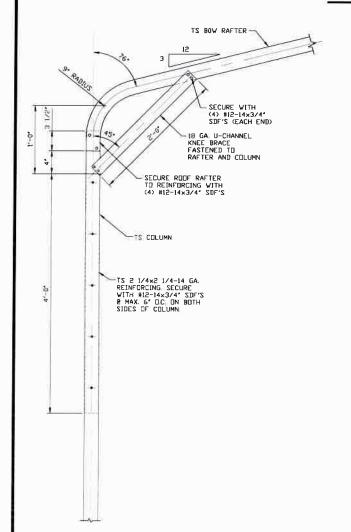
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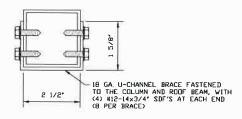
1D



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MOORE AND ASSOCIATES	DRAWN BY: AT	1	LDINGS ROAD	

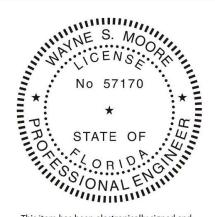




BRACE SECTION SCALE: NTS

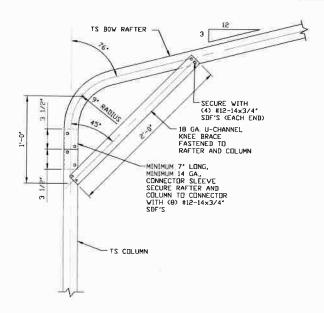
BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS $9'-0'' < TO \le 11'-0''$ FOR WIND SPEEDS 141 MPH $< TO \le 170$ MPH AND FOR HEIGHTS $10'-0'' < TO \le 12'-0''$ FOR WIND SPEEDS ≤ 140 MPH

1E) SCALE: NTS



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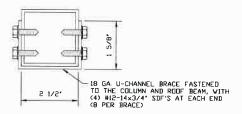
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ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH	MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE					
MOORE AND ASSOCIATES	DRAWN BY: AT	_	USA STEEL BUILDINGS 210 AIRPORT ROAD				



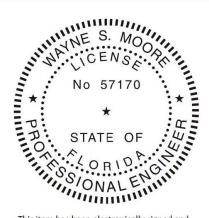
BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS \leq 9'-0" FOR WIND SPEEDS 141 MPH < TO \leq 170 MPH AND HEIGHTS \leq 10'-0" FOR WIND SPEEDS \leq 140 MPH

1F

SCALE: NTS



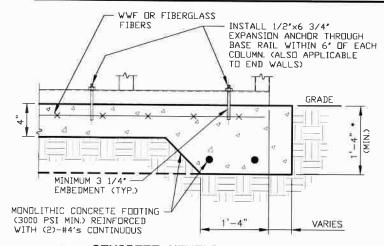
BRACE SECTION SCALE: NTS



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BASE RAIL ANCHORAGE OPTIONS FOR WIND SPEEDS 141 MPH < TO \leq 170 MPH





CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE SCALE: NTS

MINIMUM ANCHOR EDGE DISTANCE IS 4"

* COORDINATE WITH LOCAL BUILDING CODE/ORD. REGARDING REQUIRED FOOTING DEPTH

GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

COVER OVER REINFORCING STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318:

3' IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2' ELSEWHERE.

REINFORCING STEEL

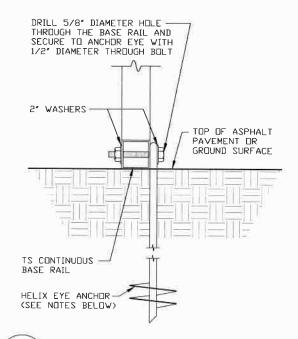
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED:

- 1. REINFORCEMENT IS BENT COLD.
 2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
- REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT

HELIX ANCHOR NOTES:

- 1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MINIMUM (2) 4' HELICES WITH MINIMUM 30' EMBEDMENT OR SINGLE 6' HELIX WITH MINIMUM 50' EMBEDMENT
- 2. FOR CORAL USE MINIMUM (2) 4' HELICES WITH MINIMUM 30' EMBEDMENT OR SINGLE 6' HELIX WITH MINIMUM 50' EMBEDMENT
- 3) FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT.
- 4. FOR LODSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6' HELICES WITH MINIMUM
- 5. FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8' HELICES WITH MINIMUM 60' EMBEDMENT.

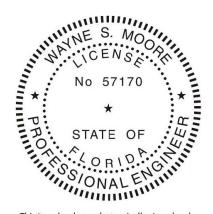




GROUND BASE HELIX ANCHORAGE

(CAN BE USED FOR ASPHALT)

¥ COORDINATE WITH LOCAL BUILDING CODE/ORD. REGARDING REQUIRED ANCHOR LENGTH.



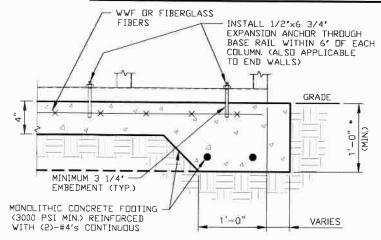
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CLIENT: USA STEEL	SHT. 8	DVG ND SK-3		REV. 3			
PROJECT MGR: VSM	DATE: 4-21-21	SCALE: NTS	ЮВ	ND 16220\$/ 19104\$/21015\$			
CHECKED BY: PDH		IOUNT AIRY, NC -0" SP ENCLOSED		AD 7030			
DRAWN BY: AT		210 AIRPORT RC	AD				

BASE RAIL ANCHORAGE OPTIONS FOR WIND SPEEDS \leq 140 MPH





* COORDINATE WITH LOCAL BUILDING CODE/ORD. REGARDING REQUIRED FOOTING DEPTH.

GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

COVER OVER REINFORCING STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318:
3' IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2' ELSEWHERE.

REINFORCING STEEL:

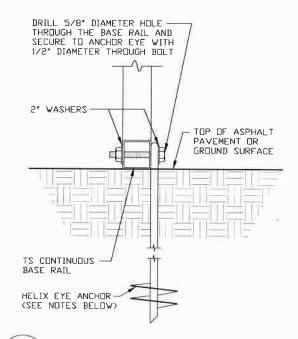
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED:

- REINFORCEMENT IS BENT COLD.
- THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
 REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT
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HELIX ANCHOR NOTES

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- 2. FOR CORAL USE MINIMUM (2) 4' HELICES WITH MINIMUM 30' EMBEDMENT OR SINGLE 6' HELIX WITH MINIMUM 50' EMBEDMENT
- 3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT
- 4 FOR LODSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6' HELICES WITH MINIMUM 50' EMBEDMENT.
- 5. FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8' HELICES WITH MINIMUM 60' EMBEDMENT.

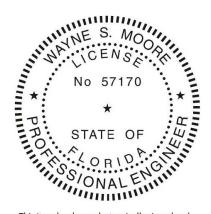


2B

GROUND BASE HELIX ANCHORAGE

(CAN BE USED FOR ASPHALT)

* COORDINATE WITH LOCAL BUILDING CODE/ORD, REGARDING REQUIRED ANCHOR LENGTH.



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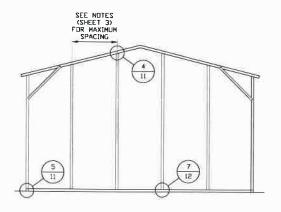
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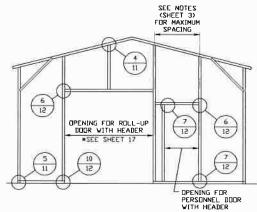
	CLIENTI USA STEEL	SHT. BA	A DVG. ND SK-3		REV 3			
	PROJECT MGR: VSM	DATE: 4-21-21	SCALE: NTS	JCIB	ND 16220S/ 18104S/21015S			
•	CHECKED BY: PDH		030 FRUCTURE					
	DRAWN BY: AT		USA STEEL BUILDINGS 210 AIRPORT ROAD					

BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



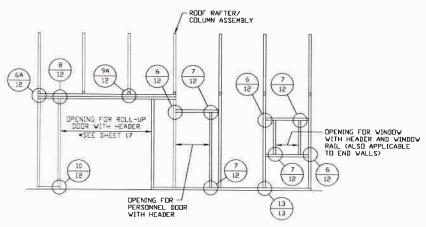
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

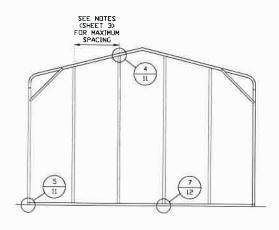
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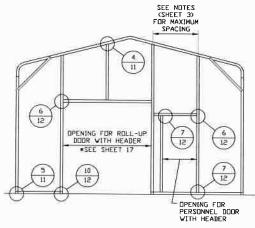
ENGINEEDING AND CONCULTING INC	DRAVN BY: AT	USA STEEL BUILDINGS 210 AIRPORT ROAD MOUNT AIRY, NC 27030			
	CHECKED BY: PDH	30'-0"x16'	-0" SP ENCLÓSEI		
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BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



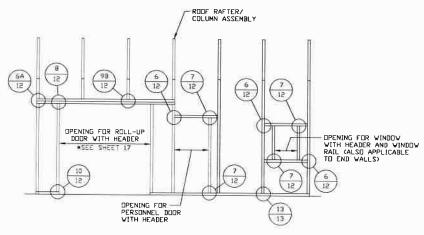
TYPICAL BOW RAFTER END WALL FRAMING SECTION

SCALE: NTS



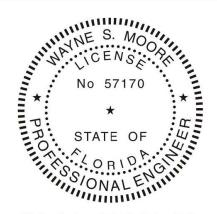
TYPICAL BOW RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOW RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS



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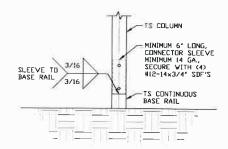
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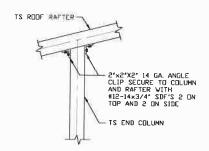
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CI TENTI LICA STEEL	SHT. 10	DVG ND SK-3	DE.	V1 3			
PROJECT MGR: VSM	DATE: 4-21-21	SCALE: NTS	OB ND	16220S/ 18104S/21015S			
CHECKED BY: PDH	MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE						
DRAWN BY: AT	210 AIRPORT ROAD						

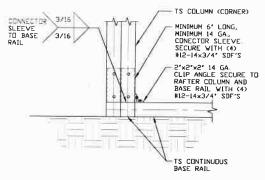
CONNECTION DETAILS



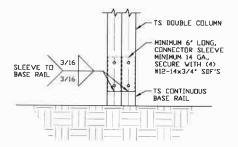
RAFTER COLUMN/BASE RAIL CONNECTION DETAIL 3 SCALE: NTS



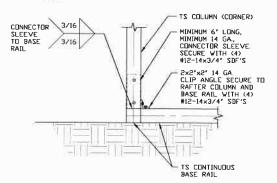
END COLUMN/RAFTER CONNECTION DETAIL SCALE: NTS







RAFTER COLUMN/BASE RAIL CONNECTION DETAIL 3A SCALE: NTS



END COLUMN/BASE RAIL CONNECTION DETAIL SCALE: NTS

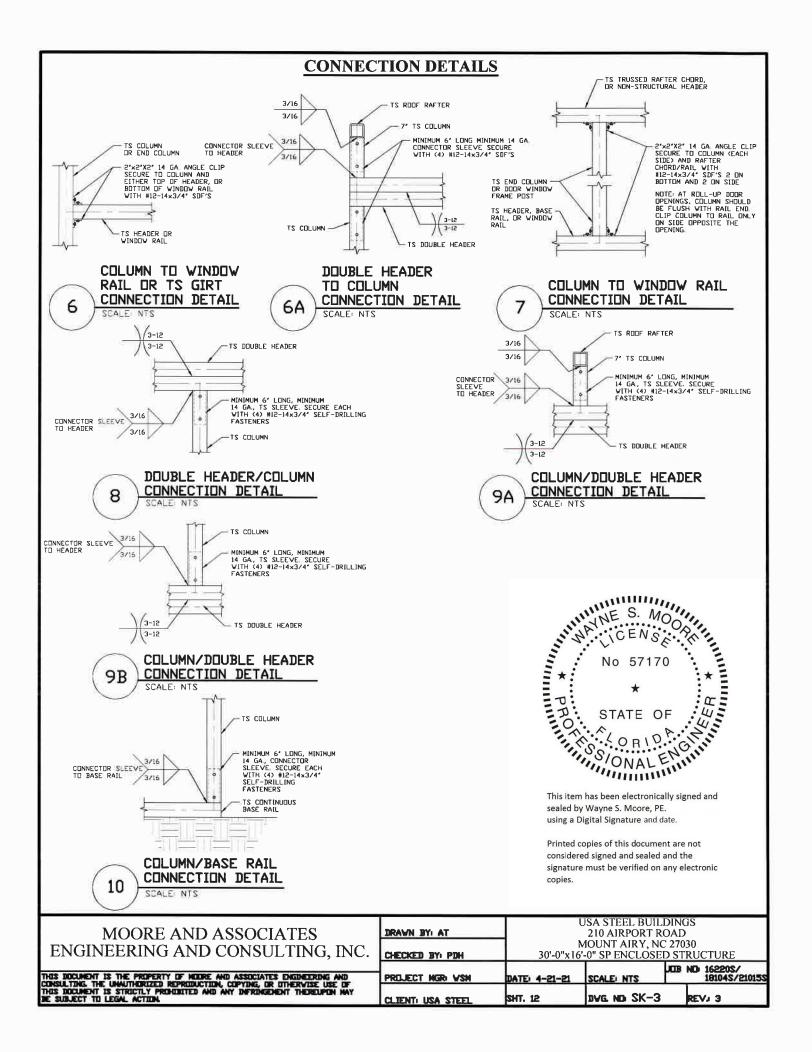


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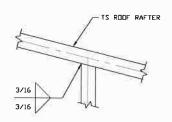
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ENGINEERING AND CONSULTING, INC.		30'-0"x	MOUNT AIRY, 16'-0" SP ENCLO	, NC 2703	30
MOORE AND ASSOCIATES	DRAWN BY: AT		210 AIRPOR		

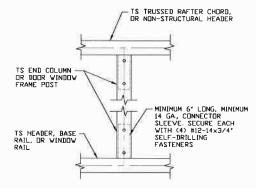
CTURE 16220S/ 18104S/21015S E SUBJECT TO LEGAL ACTION CLIENTI USA STEEL SHT. 11 DAC NO 2K-3 REV₂ 3



CONNECTION DETAILS

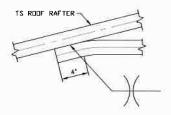


RAFTER TO CHORD CONNECTION DETAIL 11

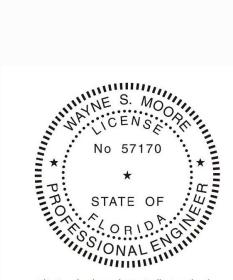


COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL 13

SCALE: NTS

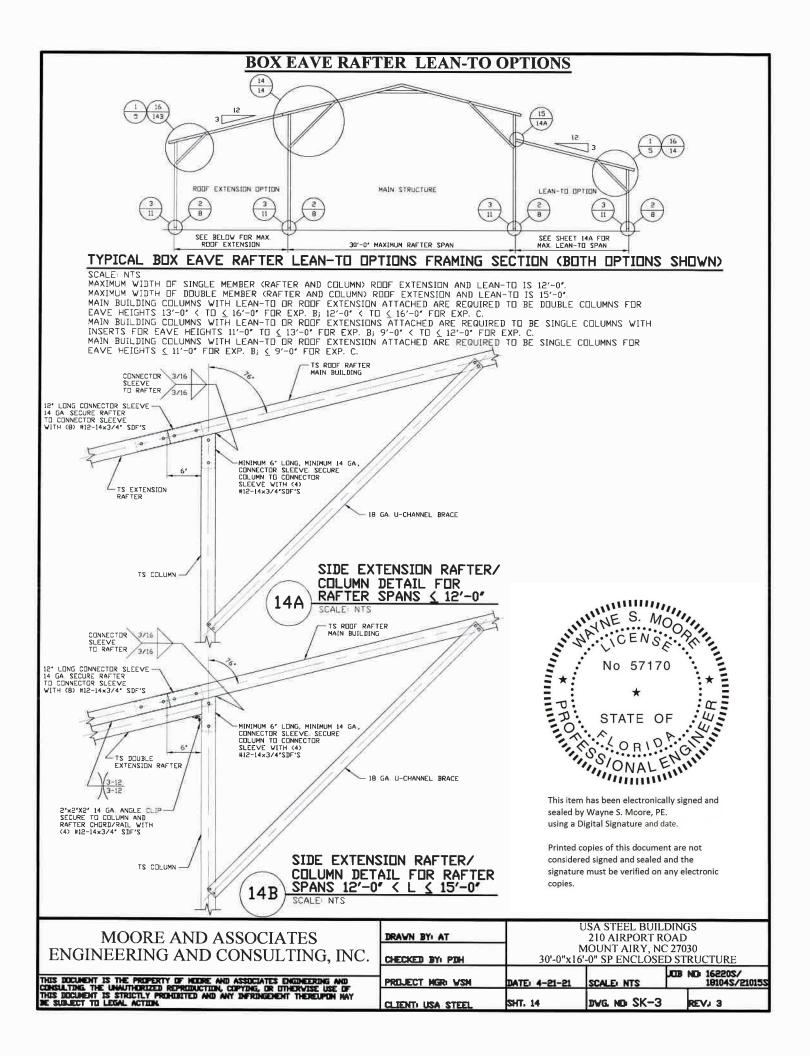


COLLAR TIE CONNECTION DETAIL SCALE: NTS

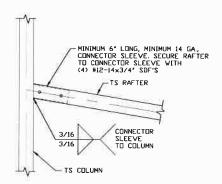


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ENGINEEDING AND CONCULTING INC.	CHECKED BY: PDH	MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE				
MOORE AND ASSOCIATES	DRAWN BY: AT	l l	USA STEEL BUILDINGS 210 AIRPORT ROAD			



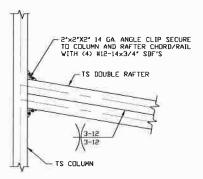
BOX EAVE RAFTER LEAN-TO OPTIONS



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 12'-0'

15A

NOTE: ROOF PITCH OF 2:12 TO 1:12 ARE ADEQUATE FOR LEAN-TO RAFTER



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 12'-0" < L ≤ 15′-0" 15B

SCALE: NTS

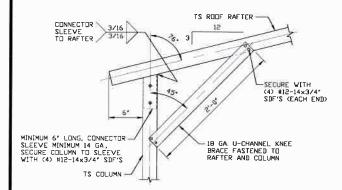
NOTE: ROOF PITCH OF 2:12 TO 1:12 ARE ADEQUATE FOR LEAN-TO RAFTER



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MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAVN BY: AT		USA STEEL BUILDINGS 210 AIRPORT ROAD MOUNT AIRY, NC 27030		
	CHECKED BY: PDH		-0" SP ENCLÓSE	D STRUCTURE	
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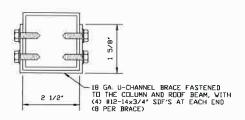
BOX EAVE RAFTER LEAN-TO OPTIONS



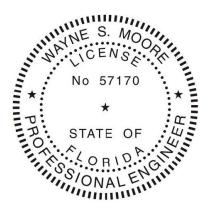
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS ≤ 14'-0" 16

SCALE: NTS

HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING.)



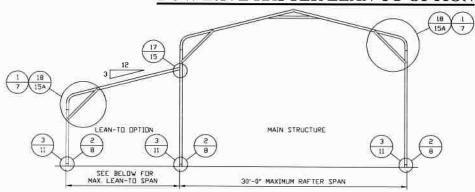
BRACE SECTION



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THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF	PROJECT MGR: VSM	DATE: 4-21-21	SCALE: NTS	JOB ND 16220S/ 18104S/210	1155
ENGINEEDING AND CONCULTING INC	CHECKED BY: PDH		MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUCTURE		
MOORE AND ASSOCIATES	DRAWN BY: AT	τ	JSA STEEL BUIL 210 AIRPORT R		

BOW EAVE RAFTER LEAN-TO OPTION



TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS

MAXIMUM WIDTH OF SINGLE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 12'-0',

MAXIMUM WIDTH OF DOUBLE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 15'-0',

MAXIMUM WIDTH OF DOUBLE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 15'-0',

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR

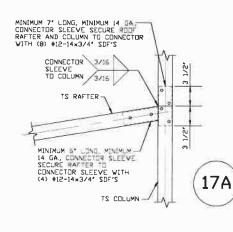
EAVE HEIGHTS 13'-0' < TO < 16'-0' FOR EXP. B; 12'-0' < TO < 16'-0' FOR EXP. C.

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSIONS ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS WITH

INSERTS FOR EAVE HEIGHTS 11'-0' TO < 13'-0' FOR EXP. B; 9'-0' < TO < 10 < 12'-0' FOR EXP. C.

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

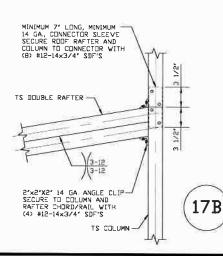
EAVE HEIGHTS < 11'-0' FOR EXP. B; < 9'-0' FOR EXP. C.



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS \(\) 12'-0'

SCALE: NTS

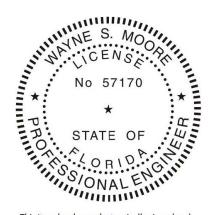
NOTE: ROOF PITCH OF 2:12 TO 1:12 ARE ADEQUATE FOR LEAN-TO RAFTER



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 12'-0" < L < 15'-0"

SCALE: NTS

NOTE: ROOF PITCH OF 2:12 TO 1:12 ARE ADEQUATE FOR LEAN-TO RAFTER



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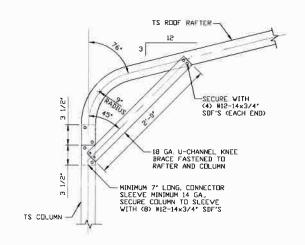
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

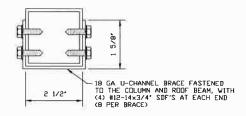
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	MD 15 4500005
CHECKED BY: PDH	30'-0"x16'-0" SP ENCLOSED STRUCTURE
	MOUNT AIRY, NC 27030
DRAWN BY: AT	210 AIRPORT ROAD
	USA STEEL BUILDINGS
	- 10

4	PROJECT MGR VSM		SCALE: NTS	JUB ND 16220S/ 18104S/21015S
	CLIENT: USA STEEL	SHT. 15	DWG. ND SK-3	REV. 3

BOW EAVE RAFTER LEAN-TO OPTIONS





BRACE SECTION

BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS & 14'-0"

SCALE: NTS

18

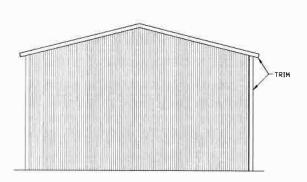
HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING.)



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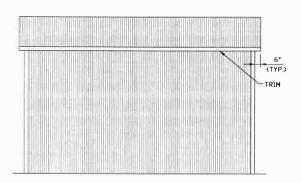
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT	USA STEEL BUILDINGS 210 AIRPORT ROAD MOUNT AIRY, NC 27030 30'-0"x16'-0" SP ENCLOSED STRUC		
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BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



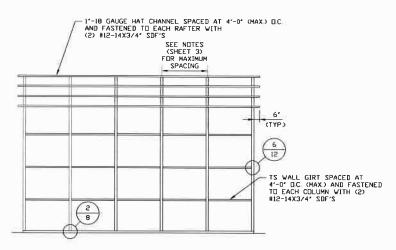
TYPICAL END ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING

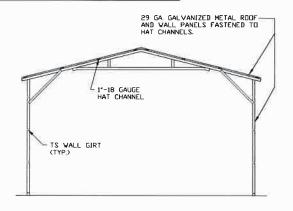
SCALE: NTS



TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

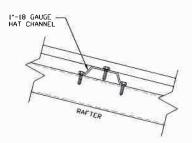
SCALE: NTS

NOTE: 1'-18 GAUGE HAT CHANNELS CAN BE USED AS AN OPTION IN PLACE OF TS GIRTS. HAT CHANNELS MUST BE SPACED AT 4'-0' (MAX.) D.C.



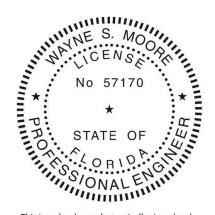
TYPICAL SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



PANEL ATTACHMENT

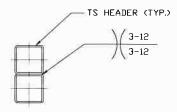
(ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS



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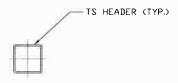
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT		USA STEEL BUILDINGS 210 AIRPORT ROAD MOUNT AIRY, NC 27030		
	CHECKED BY: PDH	30'-0"x16'	30'-0"x16'-0" SP ENCLOSED STRUCTURE		
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<u>HEADER OPTIONS FOR WIND SPEEDS 141 MPH < TO \leq 170 MPH</u> SIDEWALL HEADER OPTIONS



HEADER DETAIL FOR 10'-0' < LENGTHS < 12'-0'

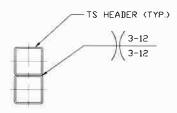
SCALE NTS



HEADER DETAIL ≤ 10'-0"

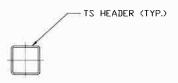
SCALE: NTS

ENDWALL HEADER OPTIONS



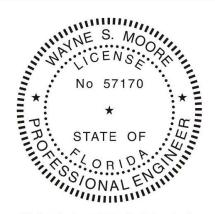
HEADER DETAIL FOR 13'-0" < LENGTHS ≤ 20'-0"

SCALE: NTS



HEADER DETAIL ≤ 13'-0'

SCALE: NTS



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DAG ND 2K-3

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ENGINEERING AND CONSULTING, INC.

	DRAWN BY: AT
NC.	CHECKED BY: PDH
	PROJECT MGR: VSM

CLIENTI USA STEEL

USA STEEL BUILDINGS
210 AIRPORT ROAD
MOUNT AIRY, NC 27030
x16'-0" SP ENCLOSED STRUCTUR

REV. 3

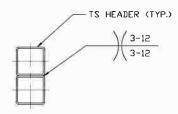
HECKED BY PDH	30'-0"x16'-0" SP ENCLOSED STRUCTURE				CTURE
ROJECT NGR VSN	DATE: 4-21-21	SCALE: NTS	J038	ND	16220S/ 18104S/21015S

SHT. 17

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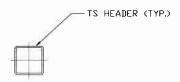
HEADER OPTIONS FOR WIND SPEEDS ≤ 140 MPH

SIDEWALL HEADER OPTIONS



HEADER DETAIL FOR 10'-0' < LENGTHS ≤ 16'-0'

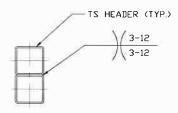
SCALE: NTS



HEADER DETAIL ≤ 10'-0'

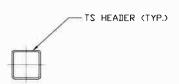
SCALE: NTS

ENDWALL HEADER OPTIONS



HEADER DETAIL FOR 13'-0" < LENGTHS ≤ 20'-0"

SCALE: NTS



HEADER DETAIL ≤ 13'-0"

SCALE: NTS



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DAC NO 2K-3

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	PROJECT MGR: VSM	DATE: 4-21-21	SCALE: NTS		181045/210155		
				LIDB	ND	162205/	
·•	CHECKED BY: PDH	30'-0"x16'-0" SP ENCLOSED STRUCTURE					
		MOUNT AIRY, NC 27030					
	DRAWN BY: AT	210 AIRPORT ROAD					
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SHT. 17A

CLIENTI USA STEEL