

#### STRUCTURAL DESIGN

### ENCLOSED BUILDING

#### MAXIMUM 30'- 0" WIDE X 14'- 0" HEIGHT-BOX EAVE FRAME AND BOW FRAME

5 November 2018 Revision 6 M&A Project No. 17062S/17174S/17254S/18033S/18113S/18246S

Prepared for:

Newmart Builders 1000 Cycle Lane South Hill, VA 23970

Prepared by:

Moore and Associates Engineering and Consulting, Inc.

1009 East Avenue North Augusta, SC 29841

401 S. Main Street, Suite 200 Mount Airy, NC 27030







				SEAL 26784 IVA/B  NE S. MO
MOORE AND A ENGINEERING AND C	CONSULTING, INC.	WN BY: LT	S	WMART BUILDERS, INC. 1000 CYCLE LANE OUTH HILL, VA 23970 4'-0" ENCLOSED STRUCTURE
THIS DOCUMENT IS THE PROPERTY OF MODRE AN CONSULTING. THE UNAUTHORIZED REPRODUCTION, THIS DOCUMENT IS STRICTLY PROHIBITED AND A DE SIDE RECT TO LEGAL ACTURE.	ID ASSICIATES ENGINEERING AND COPYING, OR OTHERVISE USE OF WY INFRINGEMENT THEREUPON MAY	UECT MGRI VSM	DATE: 11-5-18	SCALE: NTS 18033\$/18113\$/18246\$

## DRAWING INDEX

SHEET 1	PE SEAL COVER SHEET
SHEET 2	DRAWING INDEX
SHEET 3A	INSTALLATION NOTES AND SPECIFICATIONS
SHEET 3B	TYPICAL SIDE AND END ELEVATIONS
SHEET 4	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTIONS (BOX EAVE RAFTER)
SHEET 5A	24'-0" ( W < 30'-0" MAXIMUM RAFTER SPAN CONNECTION DETAILS (BOX EAVE RAFTER)
SHEET 5B	W < 24'-0" MAXIMUM RAFTER SPAN CONNECTION DETAILS (BOX EAVE RAFTER)
SHEET 6	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTIONS (BOW RAFTER)
SHEET 7A	24'-0" < W < 30'-6" MAXIMUM RAFTER SPAN CONNECTION DETAILS (BOW RAFTER)
SHEET 7B	W < 24'-0" MAXIMUM RAFTER SPAN CONNECTION DETAILS (BOW RAFTER)
SHEET 8	BASE RAIL ANCHORAGE OPTIONS
SHEET 9	BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS
SHEET 10	BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS
SHEET 11	BOX AND BOW EAVE RAFTER WALL OPENING DETAILS
SHEET 12	BOX AND BOW EAVE RAFTER WALL OPENING DETAILS
SHEET 13	BOX EAVE RAFTER LEAN-TO OPTION
SHEET 14	BOW RAFTER LEAN-TO OPTION
SHEET 15	BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION
SHEET 16	ADDITIONAL BASE RAIL ANCHORAGE OPTION



MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.			NEWMART BUILDERS, INC. 1000 CYCLE LANE SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE			
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHOBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	PROJECT MGRI VSM CLIENTI NEVMART BUILDERS	DATE: 11-5-18	SCALE: NTS	JUB NO: 180335/181135/182465 REV.: 6		

#### INSTALLATION NOTES AND SPECIFICATIONS

- 1 DESIGN IS FOR MAXIMUM 30'-0" WIDE  $\times$  14'-0" EAVE HEIGHT ENCLOSED STRUCTURES
- 2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE. 2006 INTERNATIONAL BUILDING CODE (IBC), 2009 IBC, 2012 IBC AND 2015 IBC
- 3 DESIGN LOADS ARE AS FOLLOWS:

A) DEAD LOAD

= 1.5 PSF

B) LIVE LOAD

= 12 PSF

= 30 PSF (W ≤ 24'-0")

C) GROUND SNOW LOAD

= 35 PSF ( $18'-0" < W \le 30'-0"$ ),

= 45 PSF @ 4'-0' DC MAX. RAFTER/COLUMN AND END COLUMN SPACING (24'-0' ( W  $\leq$  30'-0')

@ 5'-0" □C MAX RAFTER/COLUMN AND END COLUMN SPACING (W ≤ 24'-0")

4. LOW ULTIMATE WIND SPEED (LW) 105 TO 130 MPH (NOMINAL WIND SPEED 81 TO 101 MPH): MAXIMUM RAFTER/POST AND END COLUMN SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).

- 5 END WALL COLUMNS (POST) ARE SIMILAR TO SIDE WALL POSTS UNLESS NOTED OTHERWISE
- 6 RISK CATEGORY I
- 7. WIND EXPOSURE CATEGORY B.
- 8 SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2'x3'-14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS FOR (24'-0' < W  $\leq$  30'-0' AND W  $\leq$  24'-0' WITH EAVE HEIGHT 12'-0' < TO  $\leq$  14'-0") 2 1/4'x2 1/4"-14 GAUGE TUBE STEEL (TS) FOR (W  $\leq$  24'-0") (UNLESS NOTED OTHERWISE).
- 9. AVERAGE FASTENER SPACING DN-CENTERS ALONG RAFTERS OR HAT CHANNELS AND COLUMNS (INTERIOR OR END) = 10° D.C. (MAX.)
- 10 FASTENERS CONSIST OF 1/4'x3/4' 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
- 11. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6° OF EACH RAFTER COLUMN ALONG SIDES
- 12 GROUND ANCHORS CONSIST OF #4 REBAR W/ WELDED NUT/FORMED HEAD x 30° LONG IN SUITABLE SCIL CONDITIONS, OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
- 13 WIND FORCES GOVERN EVER SEISMIC FORCES SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I/II/III

R= 3.25

I<sub>E</sub>= 1:0

S<sub>DS</sub>= 2.039 S<sub>DI</sub>= 1.258

 $V = C_S W$ 

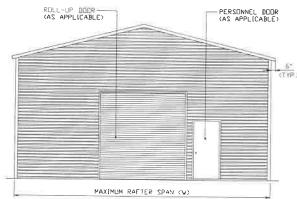
TH CARO SEAL NGINEER RELIEF

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC	С.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

	DRAWN BY: LT	N	NEWMART BUILDERS, INC. 1000 CYCLE LANE						
	CHECKED BY: PDH	30'-0"x	SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE						
-	PREJECT MGR: WSM	ROJECT MGR: WSM DATE: 11-5-18			OB NO 80335/181135/182465				
	CLIENT: NEVMART BUILDERS	SHT. 3A	DVG. ND: SK-	3	REV. 6				

BOX EAVE FRAME RAFTER STRUCTURE (Sheets 4, 5A, 5B, 8, 9, 11, 12, 13, 15 AND 16)



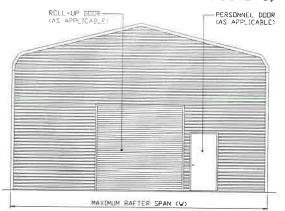
TYPICAL END ELEVATION SCALE NTS

WINDOW (AS APPLICABLE) LENGTH VARIES DEPENDING ON NUMBER AND

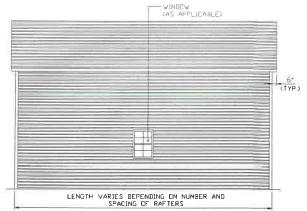
TYPICAL SIDE ELEVATION

SCALE: NTS

BOW FRAME RAFTER STRUCTURE (Sheets 6, 7A, 7B, 8, 10, 11, 12, 14 AND 16)



TYPICAL END ELEVATION



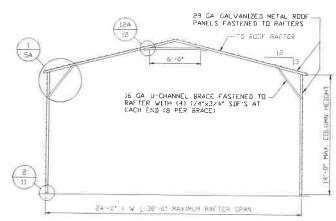
TYPICAL SIDE ELEVATION SCALE: NTS



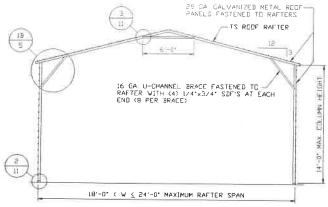
MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC	3.

THIS DOCUMENT	IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND
CONSULTING, TH	E UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF
THES DUCUMENT	IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPIN MAY
BE SUBJECT TO	LEGAL ACTION

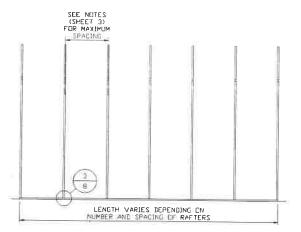
		NEWMART BUILDERS, INC.						
	DRAWN BY LT	1000 CYCLE LANE						
	CHECKED BY: PDH	30'-0"x	SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE					
	PROJECT MGRI VSM DATE: 11-5-18		SCALE: NTS	JOB NO: 18033\$/18113\$/18246\$				
	CLIENT: NEVMART	SHT. 3B	DVG. ND: SK-3		REV. 6			



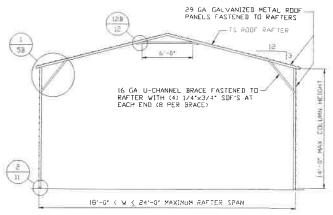
TYPICAL RAFTER/COLUMN END FRAME SECTION



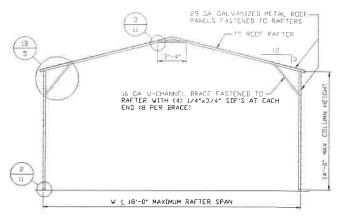
TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



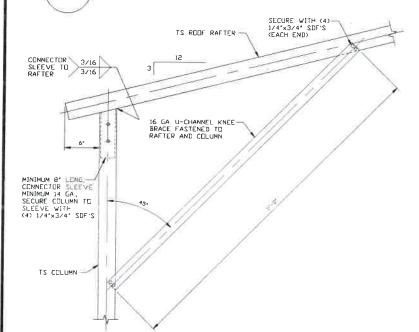
TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



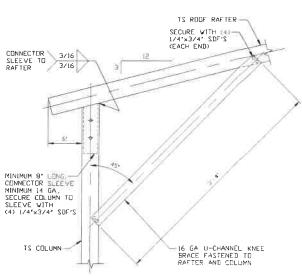
ENGINEERING AND CONSULTING INC	DRAWN BYI LT		NEWMART BUILDERS, INC. 1000 CYCLE LANE SOUTH HILL, VA 23970				
	CHECKED BY: PDH		30'-0"x14'-0" ENCLOSED STRUCTURE				
THIS DOCUMENT IS THE PROPERTY OF NOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF	PROJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JDB N 18033	NDi S/18113S/18246S		
THIS DOCUMENT IS STRUCTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: NEWMART BUILDERS	SHT. 4	DVG. NO SK-	3	REV. 6		

# $24'-0" < W \le 30'-0"$ MAXIMUM RAFTER SPAN SECURE WITH (4) 1/4\*x3/4\* SDF'S (EACH END) TS ROOF RAFTER -CONNECTOR 3/16 SLEEVE TO 3/16 RAFTER 3/16 L6 GA U-CHANNEL KNEE-BRACE FASTENED TO RAFTER AND COLUMN MINIMUM 8' LDNG,— CONNECTOR SLEEVE MINIMUM 14 GA SECURE COLUMN TO SLEEVE WITH (4) 1/4'x3/4' SDF'S TS CELUMN -BOX EAVE RAFTER COLUMN

CONNECTION DETAIL HEIGHTS 12'-0" < T□ < 14'-0" @ 3'-6" □.C. 1A SCALE: NTS

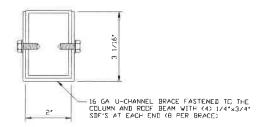


BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 10'-0" < T□ ≤ 12'-0" 1B



BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS ≤ 10'-0" 1C

SCALE: NTS



BRACE SECTION SCALE NTS

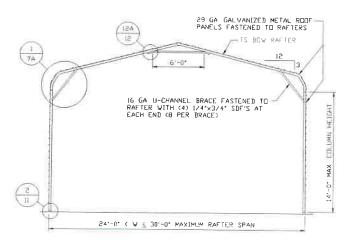


MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

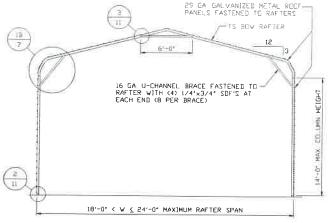
DRAWN BY: LT	NEWMART BUILDERS, INC. 1000 CYCLE LANE						
CHECKED BY: PDH	SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE						
PREJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JUB 1	D S/18113S/18246S			
CLIENT: NEWMART BUILDERS	SHT. 5A	DVG. ND SK-	3	REV. 6			

#### W ≤ 24'-0" MAXIMUM RAFTER SPAN SECURE WITH (4) 1/4'x3/4' SDF'S (EACH END) TS 2"x3"-14 GA: ROOF RAFTER TS RODE RAFTER CONNECTOR 3/16 SLEEVE TO 3/16 RAFTER 3/16 SECURE WITH (4) 1/4"×3/4" SDF'S (EACH END) CONNECTOR N 3/16 SLEEVE TO RAFTER I6 GA, U-CHANNEL KNEE BRACE FASTENED TO RAFTER AND COLUMN MINIMUM 8' LENG CONNECTOR SLEEVE MINIMUM 14 GA, SECURE COLUMN TO SLEEVE WITH (4) 1/4"x3/4" SDF'S MINIMUM 8' LINE CONNECTOR SLEEVE MINIMUM 14 GA, SECURE COLUMN TO SLEEVE WITH (4) 1/4'x3/4' SDF'S TS 2'x3'-14 GA-TS COLUMN FIG GALU-CHANNEL KNEE BRACE FASTENED TO RAFTER AND COLUMN COLUMN BOX EAVE RAFTER COLUMN CONNECTION DETAIL BOX EAVE RAFTER COLUMN HEIGHTS < 10'-0" 1C CONNECTION DETAIL HEIGHTS 12'-0" < T□ < 14'-0" @ 4'-0" □.C. 1A SECURE WITH (4) 1/4"x3/4" SDF"S (EACH END) TS ROOF RAFTER CONNECTOR 3/16 SLEEVE TO 3/16 RAFTER 16 GA U-CHANNEL BRACE FASTENED TO THE COLUMN AND ROOF BEAM WITH (4) 1/4"x3/4" SDF'S AT EACH END (8 PER BRACE) 16 GA U-CHANNEL KNEE BRACE FASTENED TO RAFTER AND COLUMN BRACE SECTION SCALE: NTS MINIMUM 8' LONG,— CCNNECTOR SLEEVE MINIMUM 14 GA, SECURE CCLUMN TO SLEEVE WITH (4) 1/4'x3/4' SDF S -:6 GA U-CHANNEL BRACE FASTENED TO THE CICLUMN AND RICCE BEAN WITH (43 1/4/4/24/4 SBF'S AT EACH ENC (B PER BRACE) 2 1/4 TS CELUMN BRACE SECTION SEAL 26784 11/9/16 VGINE NOON SCALE: NTS BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 10'-0" < T□ < 12'-0" @ 4'-0" □.C. 1B SCALE: NTS NEWMART BUILDERS, INC. MOORE AND ASSOCIATES 1000 CYCLE LANE DRAWN BY: LT SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE ENGINEERING AND CONSULTING, INC. CHECKED BY PDH JOB NO: THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. PROJECT MGR: VSM DATE: 11-5-18 SCALE: NTS 180335/181135/182465 CLIENT: NEWHART SHT. 53 DWG. NO SK-3 REV. 6 BUILDERS

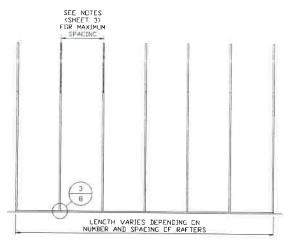


#### TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NIS



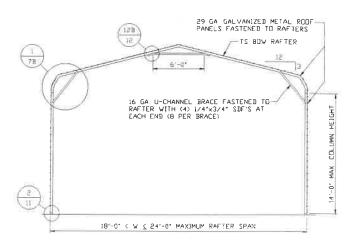
## TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



#### TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

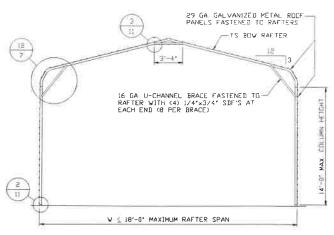
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



#### TYPICAL RAFTER/COLUMN END FRAME SECTION

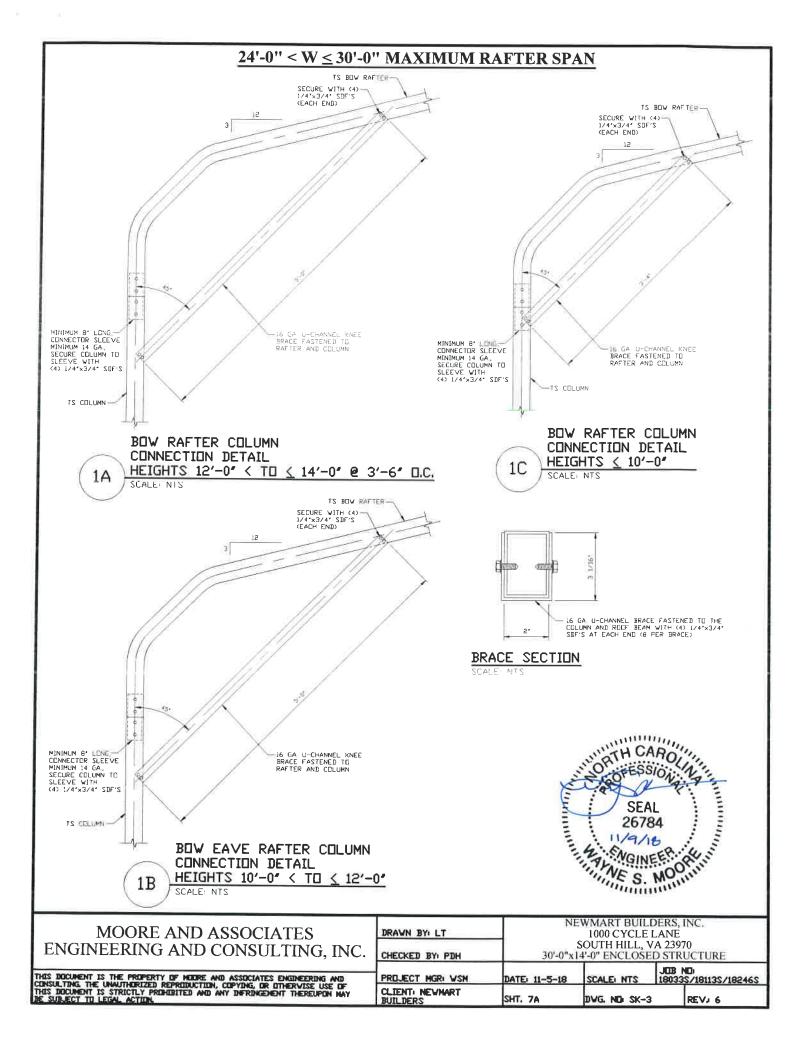
SCALE: NTS

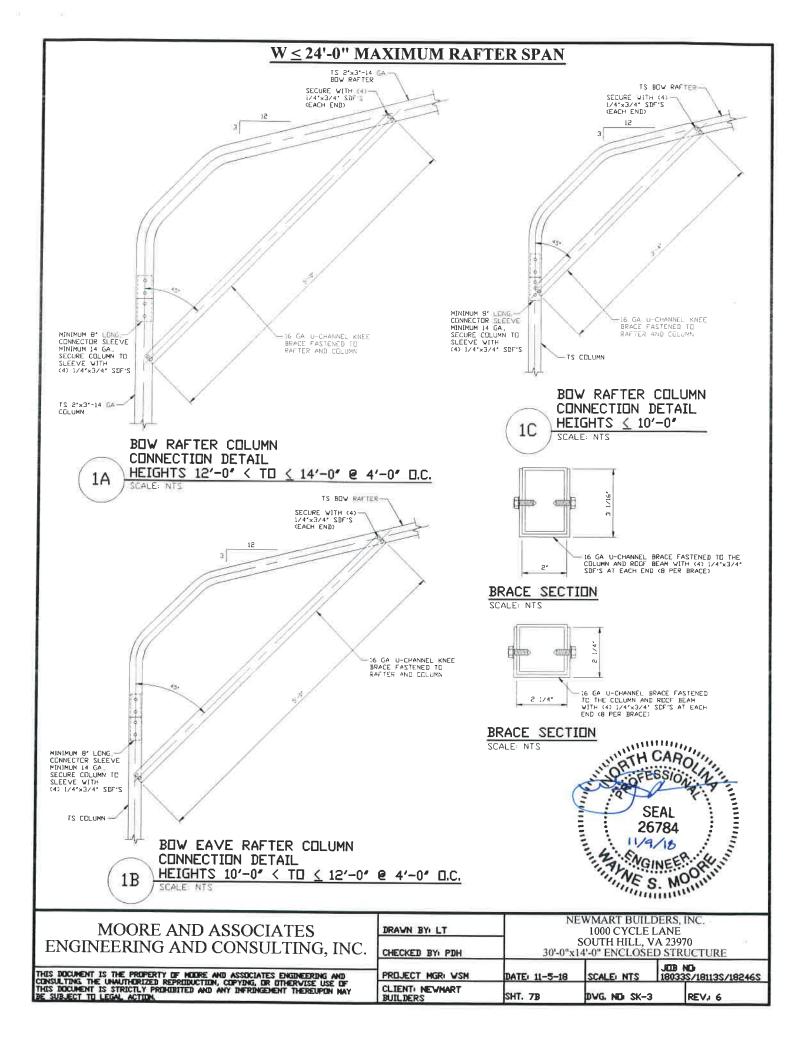


#### TYPICAL RAFTER/COLUMN END FRAME SECTION

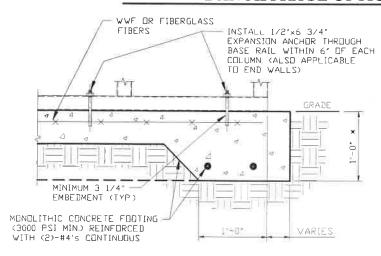
SEAL 26784
1/9/16
NGINEER AND

DRAWN BY: LT	NI	NEWMART BUILDERS, INC. 1000 CYCLE LANE				
CHECKED BY: PDH	SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE					
PREJECT MGRI VSM	DATE: 11-5-18	SCALE: NTS	JEB N 180333	(D) S/18113S/18246S		
CLIENT: NEWMART BUILDERS	SHT. 6	DVG. ND: SK-	3	REV. 6		





#### BASE RAIL ANCHORAGE OPTIONS FOR LOW WIND SPEEDS





#### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE

SCALE: NTS NOTE: MIN. ANCHOR EDGE DISTANCE IS 4" \* COORDINATE WITH LOCAL CODES/ORD

#### **GENERAL NOTES**

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

#### CONCRETE

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 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

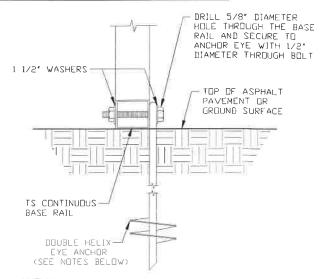
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

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

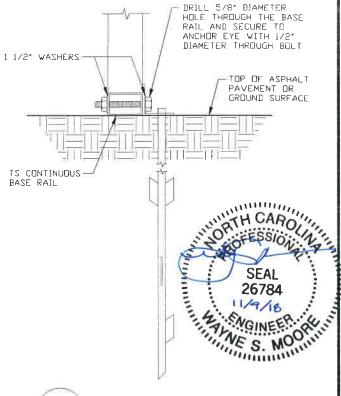
- 1 REINFORCEMENT IS BENT COLD.
- 2 THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS
  3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT
- BE FIELD BENT

#### 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 3C INCH EMBEDMENT OR SINGLE 6' HELIX WITH MINIMUM 50" EMBEDMENT.
- 4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6' HELICES WITH MINIMUM 50' EMBERMENT.
- 5 FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8' HELICES WITH MINIMUM 6C' EMBEDMENT



GROUND BASE HELIX ANCHORAGE (CAN BE USED FOR ASPHALT)



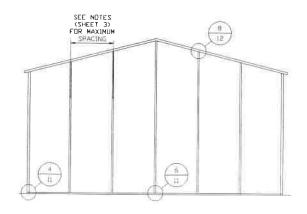
ASPHALT BASE ANCHURAGE 30 SCALE: NTS

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

THOS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THOS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

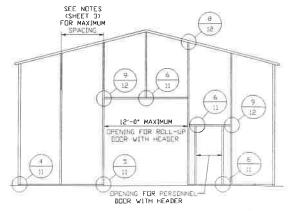
PROJECT MGR: VSN CLIENT: NEVHART	DATE: 11-5-18	SCALE: NTS		25/181135/182465	
			JUB	NITI	
CHECKED BY: PDH	30'-0"x	30'-0"x14'-0" ENCLOSED STRUCTURE			
DRAWN BY: LT		1000 CYCLE LANE SOUTH HILL, VA 23970			
	N	NEWMART BUILDERS, INC.			

#### **BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS**



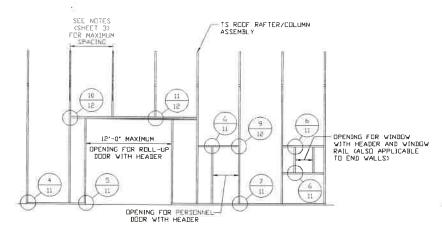
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER END WALL OPENING FRAMING SECTION

SCALE: NTS



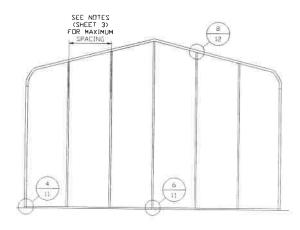
TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS



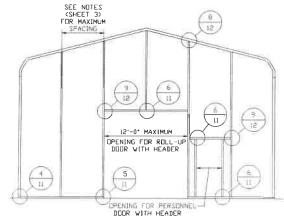
MOORE AND ASSOCIATES	DRAWN BY: LT		NEWMART BUILDERS, INC. 1000 CYCLE LANE			
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE			
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF	PREJECT MGRI WSN	DATE: 11-5-18	SCALE: NTS	JEB N 18033	C) \$/18113\$/18246\$	
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY DIFFENGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: NEVMART BUILDERS	SHT. 9	DVG. ND SK-3		REV.1 6	

#### BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



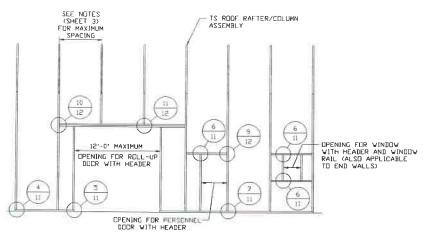
TYPICAL BOW EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



## TYPICAL BOW EAVE RAFTER END WALL OPENING FRAMING SECTION

SCALE: NTS



## TYPICAL BOW EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE NTS

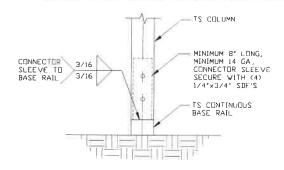


MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MOURE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

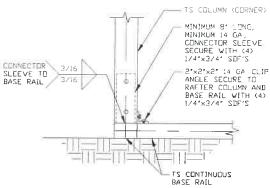
DRAWN BY: LT	N	NEWMART BUILDERS, INC. 1000 CYCLE LANE			
CHECKED BY: PDH		SOUTH HILL, 14'-0" ENCLOS			
PROJECT MGR: WSM	DATE: 11-5-18	SCALE: NTS	JUB N 18033	ID: S/18113S/18246S	
CLIENT: NEWMART BUILDERS	SHT. 10	DVG. ND SK-	3	REVJ 6	

#### **BOX AND BOW EAVE RAFTER WALL OPENING DETAILS**

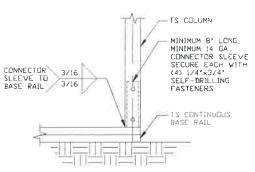


# TS ROOF RAFTER SECURE WITH (2) 1/4'x3/4' SDF'S (EACH END) 2 1/4'x2 1/4'-16 GA U-CHANNEL

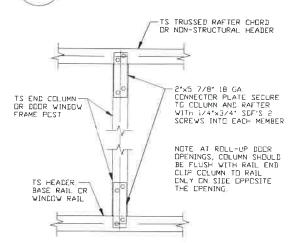
# 2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL SCALE NTS



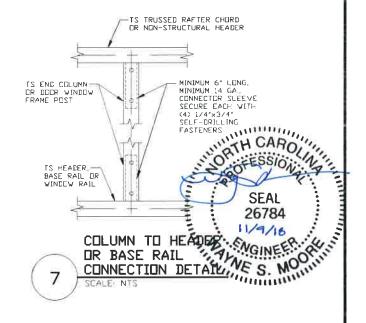




# 4 END COLUMN/BASE RAIL CONNECTION DETAIL SCALE NTS



# 5 COLUMN/BASE RAIL CONNECTION DETAIL SCALE NTS



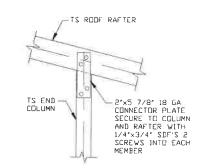
(	COLUMN TO	100000	RAIL
( )	SCALE NTS		

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

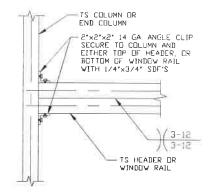
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

DRAWN BY: LT	N	NEWMART BUILDERS, INC. 1000 CYCLE LANE			
CHECKED BY: PDH	30'-0"x	SOUTH HILL, 14'-0" ENCLOS			
PROJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JUB 1 18033	ND:  S/18113S/18246S	
CLIENT: NEWHART BUILDERS	SHT. 11	DVG. ND SK-	3	REV. 6	

#### BOX AND BOW EAVE RAFTER WALL OPENING DETAILS



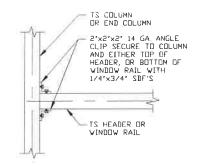
#### RAFTER TO CHORD CONNECTION DETAIL 8



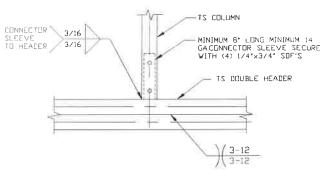
#### DOUBLE HEADER TO COLUMN CONNECTION DETAIL 10 SCALE: NTS

TS 2x2-14 GA TS 2×3-14 GA ROOF RAFTER

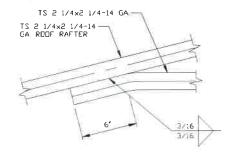
6'-0' ROOF RAFTER TIE CONNECTION DETAIL 12A SCALE- NTS



#### CULUMN OR WINDOW RAIL TO POST CONNECTION DETAIL 9 SCALE: NTS



#### COLUMN/DOUBLE HEADER CONNECTION DETAIL SCALE: NTS



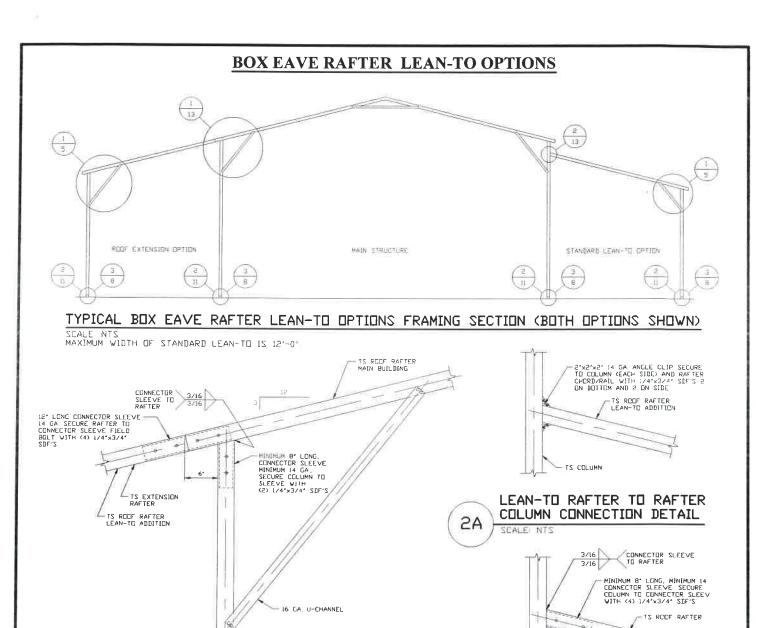
6'-0' ROOF RAFTER TIE CONNECTION DETAIL OFESSION

12B SCALE: NTS

		28		11
MOORE AND ASSOCIATES	DRAWN BY: LT		NEV	WMART 1000 C
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		30'-0"x14	OUTH F V-0" ENG

THIS DOCUMENT IS THE PROPERTY OF HOUSE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHOBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

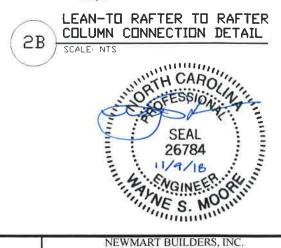
	ži.	2	SEAL 6784 9/18 SINES	A
DRAWN BY: LT		WMART BUILI 1000 CYCLE	LANÉ	
CHECKED BY: PDH		SOUTH HILL, V 4'-0" ENCLOSE		
PROJECT MGRI VSM	DATE: 11-5-18	SCALE: NTS	JUB N 18033	ID: S/18113S/18246S
CLIENT: NEWMART BUILDERS	SHT. 12	DVG. ND SK-3		REV. 6



SIDE EXTENSION RAFTER/COLUMN DETAIL

SCALE NTS

TS CELUMN



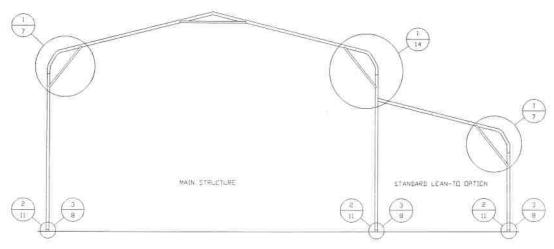
TS COLUMN

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.
THE SEALER TO THE PROPERTY OF LABOUR 112 AND LABOUR 112

THIS DOWN	THE DUPOS AND ACCOUNTS OF THE POPULATION OF THE POPULATION AND THE POPULATION OF THE
TIME DECOME	INT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND
CONCLE TIME	THE INVALIDATION OCCUPANTION CONTINUE OR THE PART HAVE LIVE THE
CONSCRIPTION.	THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF
THE DOCUME	ANY TO STREET V DOCKSTON AND AND DATE OF THE PARTY TO THE PARTY OF THE
THIS DUCONE	INT IS STRUCTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY
THE SUBJECT	TO LEGAL ACTION

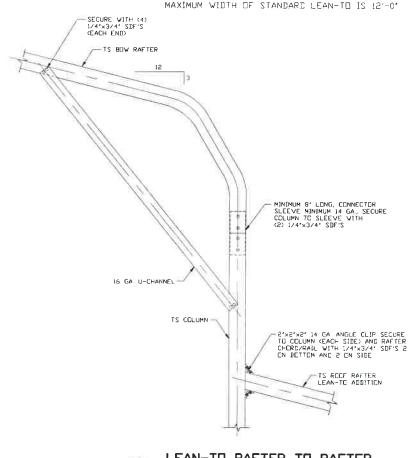
•	DRAWN BY: LT	NEWMART BUILDERS, INC. 1000 CYCLE LANE			
	CHECKED BY PDH	SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUC			
_	PROJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JDB 1 18033	S/18113S/18246S
	CLIENT: NEWMART BUILDERS	SHT. 13	DVG. ND SK-	3	REV. 6

#### **BOW RAFTER LEAN-TO OPTIONS**



#### TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS MAXIMUM WIDTH OF STANDARD LEAN-TO IS 12'-0'



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL 1B SCALE: NTS

TS COLUMN

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL 1A SCALE NTS



CONNECTOR SLEEVE TO RAFTER

MINIMUM 8' LONG, MINIMUM 14 GA, CONNECTOR SLEEVE SECURE COLUMN TO CONNECTOR SLEEVE WITH (4) 1/4"x3/4" SDF'S

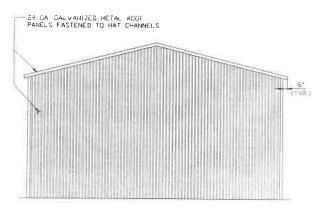
TS ROOF RAFTER

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

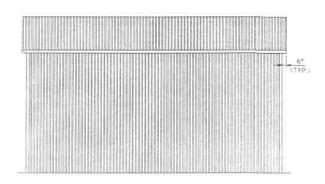
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING, THE UNANTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STREETLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

CLIENTI NEVHART	SHT. 14	DVG. ND SK-3	3	REVJ 6	
PROJECT MGR: WSM	DATE: 11-5-18	SCALE: NTS		294581/201181/3	
			JOB N	n.	
CHECKED BY: PDH	30'-0"x14'-0" ENCLOSED STRUCTURE				
	SOUTH HILL, VA 23970				
DRAWN BY: LT	1000 CYCLE LANE				
	N N	EWMART BUIL	DERS.	INC.	

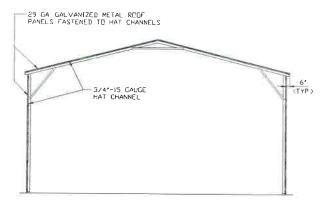
#### **BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION**



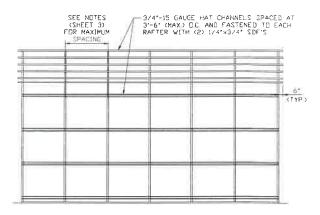
TYPICAL END ELEVATION VERTICAL ROOF/SIDING



TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING OPTION
SCALE NTS

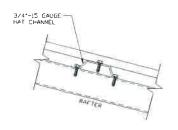


TYPICAL SECTION VERTICAL ROOF/SIDING OPTION SCALE: NTS



TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



PANEL ATTACHMENT (ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS

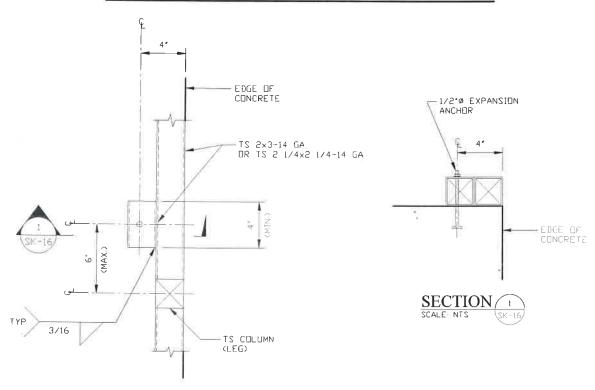
NE S. MON

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

DRAWN BY: LT	NEWMART BUILDERS, INC. 1000 CYCLE LANE SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE				
CHECKED BY: PDH					
PREJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JEB 1	(D) \$/18113\$/18246\$	
CLIENT: NEVMART BUILDERS	SHT. 15	DVG. ND: SK-	3	REV. 6	

#### **ADDITIONAL BASE RAIL ANCHORAGE OPTION**



TYPICAL ANCHUR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRIDUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

DRAWN BY: LT CHECKED BY: PDH	NEWMART BUILDERS, INC. 1000 CYCLE LANE SOUTH HILL, VA 23970 30'-0"x14'-0" ENCLOSED STRUCTURE				
PREJECT MGR: VSM	DATE: 11-5-18	SCALE: NTS	JUB		
CLIENTI NEVNART	SHT. 16	DVG. ND SK-3	3	REV. 6	