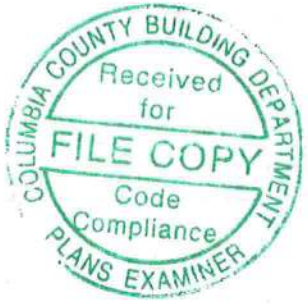
Bennett
Bennett Building Systems, LLC

STRUCTURAL DESIGN

ENCLOSED BUILDING

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

6 December 2012
Revision 0
M&A Project No. 12117S



Prepared for:

Mr. Danny Lowery
President- Steel Structures
1660 Dixon Airline Road
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Prepared by:

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1009 East Avenue
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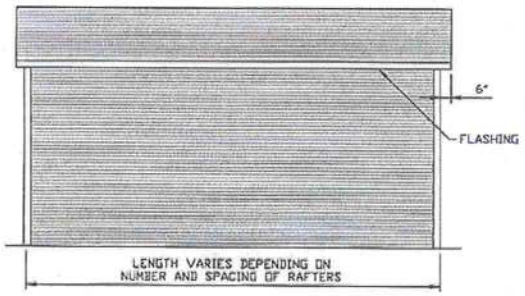
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING

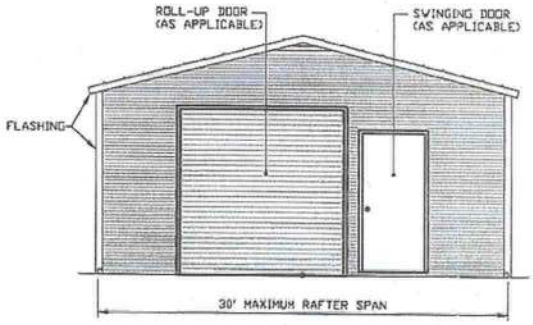
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JRS	BENNETT BUILDING SYSTEMS, LLC ENCLOSED BUILDING PE SEAL COVER SHEET		
CHECKED BY: PDH			
PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
CLIENT: -	SHT. 1 OF 12	DWG. NO: SK-3	REV.: 0

☐ BOX EAVE FRAME RAFTER ENCLOSED BUILDING
(Sheets 3, 5, 6, 8, 9, 10, AND 12)

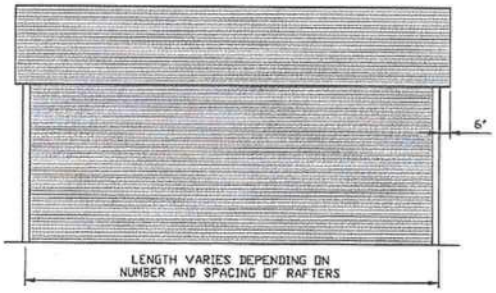


TYPICAL SIDE ELEVATION-HORIZONTAL ROOF
SCALE: 1/8" = 1'-0"



TYPICAL END ELEVATION-HORIZONTAL ROOF
SCALE: 1/8" = 1'-0"

☐ BOW FRAME RAFTER ENCLOSED BUILDING
(Sheets 4, 5, 7, 8, 9, AND 11)



TYPICAL SIDE ELEVATION
SCALE: 1/8" = 1'-0"

TYPICAL END ELEVATION
SCALE: 1/8" = 1'-0"

INSTALLATION PLANS, DETAILS AND NOTES
FRAMING AND FASTENER SPECIFICATIONS

1. DESIGN IS FOR A MAXIMUM 30' WIDE x 14' EAVE HEIGHT STRUCTURES.
2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2010 FLORIDA BUILDING CODE (FBC), 2006 INTERNATIONAL BUILDING CODE (IBC) AND 2009 IBC.
3. 2010 FBC WIND PRESSURES GOVERN OVER 2006 IBC AND 2009 IBC WIND PRESSURES.
4. DESIGN LOADS ARE AS FOLLOWS:
   A) DEAD LOAD = 2.5 PSF
   B) LIVE LOAD = 12 PSF
   C) DRIFT SNOW LOAD = 24.2 PSF
5. ULTIMATE WIND SPEED 115 TO 150 MPH (NOMINAL WIND SPEED 89 TO 116 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEET.
6. ULTIMATE WIND SPEED 151 TO 180 MPH (NOMINAL WIND SPEED 117 TO 139 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 4.0 FEET.
7. RISK CATEGORY I OR II.
8. WIND EXPOSURE CATEGORY B, C, OR D.
9. SPECIFICATIONS APPLICABLE TO 26 AND 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 14 GAGE STEEL TUBE RAFTER FRAMES.
10. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS (INTERIOR OR END) = 6 INCHES.
11. FASTENERS CONSIST OF 1/4"-14x3/4" SELF-DRILLING SCREWS WITH CONTROL SEAL WASHER. SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14° (3:12 PITCH) SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
12. GROUND ANCHORS CONSISTING OF #4 REBAR W/WELDED NUT x 24" LONG MAY BE USED FOR LOW (≤ 116 MPH NOMINAL) WIND SPEEDS ONLY.
13. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER POST ALONG SIDES.
14. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND HIGH (> 117 MPH - 139 MPH NOMINAL) WIND SPEEDS.

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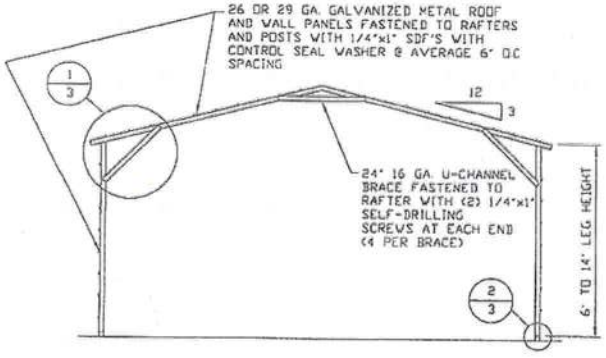
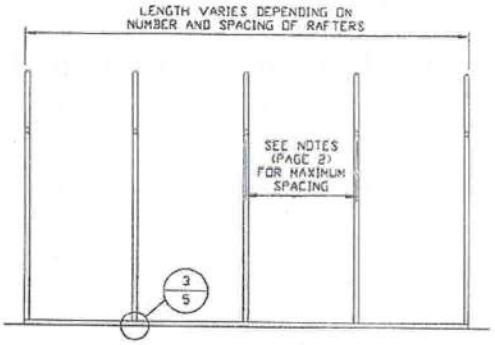
	PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
	CLIENT: -	SHT. 2 OF 12	DWG. NO: SK-3	REV: 0



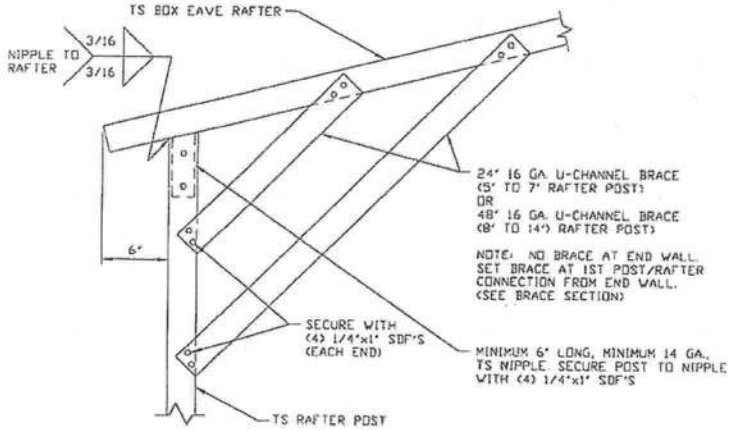
TYPICAL RAFTER/POST END FRAME SECTION

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



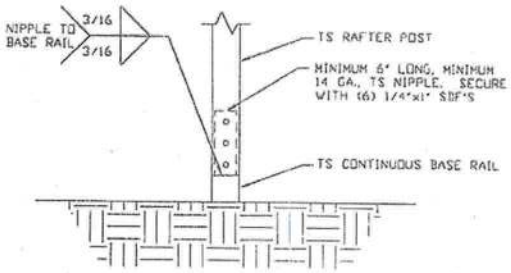
TYPICAL RAFTER/POST SIDE FRAMING SECTION

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



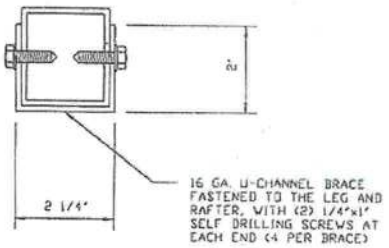
1 BOX EAVE RAFTER/CORNER POST CONNECTION DETAIL

SCALE: NTS



2 RAFTER POST/ BASE RAIL CONNECTION DETAIL

SCALE: NTS



BRACE SECTION

SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JRS	BENNETT BUILDING SYSTEMS, LLC ENCLOSED BUILDING	
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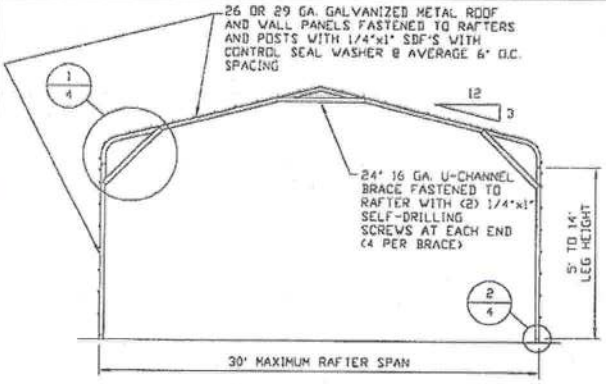
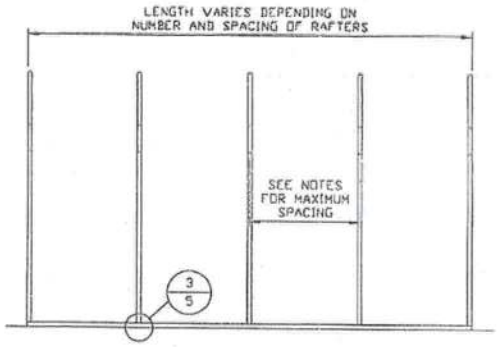
	PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
	CLIENT: -	SHT. 3 OF 12	DWG. NO: SK-3	REV: 0



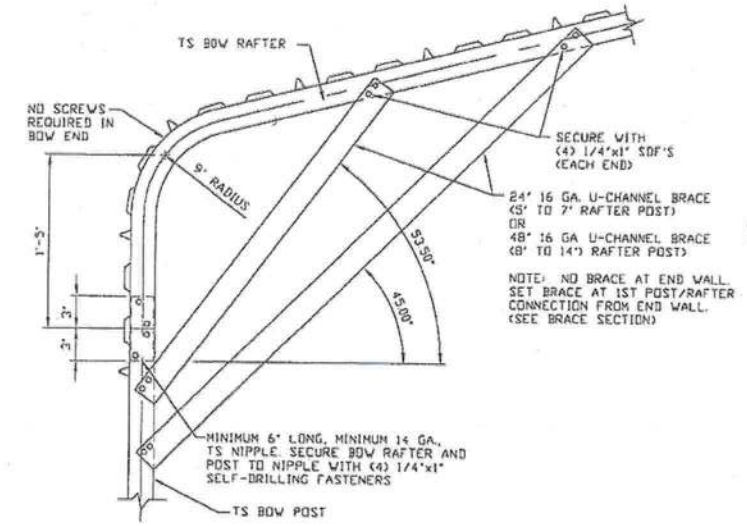
TYPICAL RAFTER/POST END FRAME SECTION

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



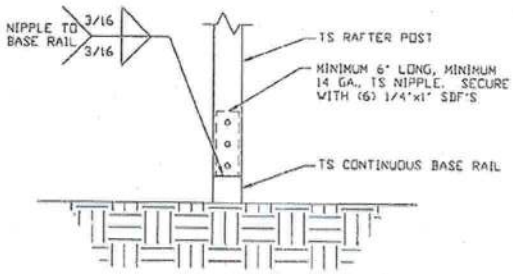
TYPICAL RAFTER/POST FRAMING SIDE SECTION

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



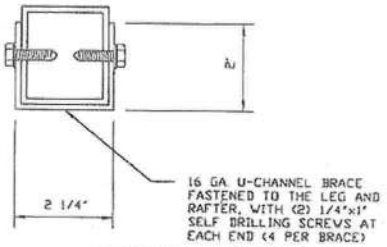
1 BOW RAFTER/CORNER POST CONNECTION DETAIL

SCALE: NTS



2 RAFTER POST/BASE RAIL CONNECTION DETAIL

SCALE: NTS



BRACE SECTION

SCALE: NTS

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	CHECKED BY: PDH		
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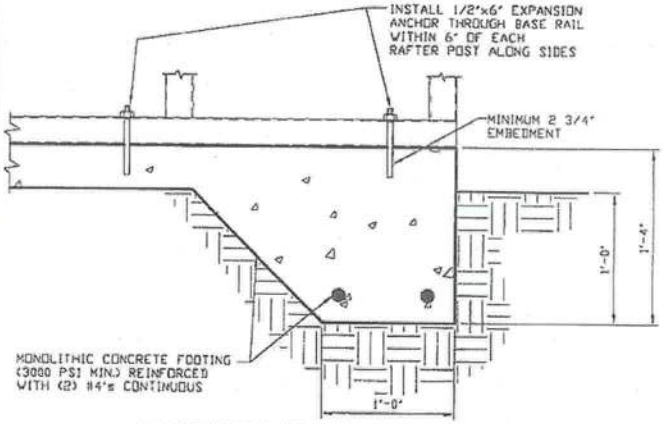
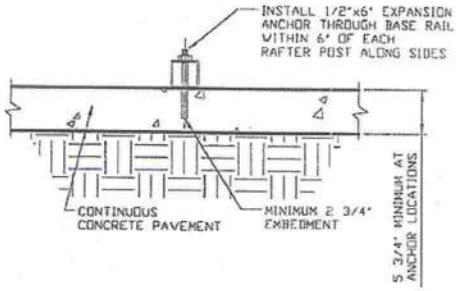
	CLIENT: -	SHT. 4 OF 12	DWG. NO: SK-3 REV.: 0

BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEEDS



3A **CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE**
SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 6 3/4".



3B **CONCRETE SLAB BASE RAIL ANCHORAGE**
SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 6 3/4".

GENERAL NOTES

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

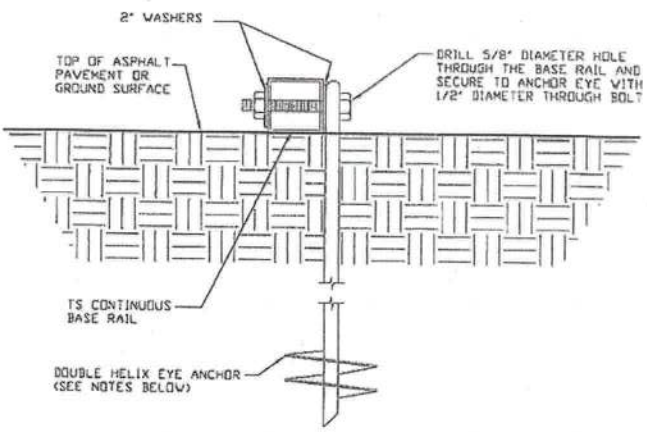
COVER OVER REINFORCING STEEL
FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318:
3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2 INCHES ELSEWHERE.

REINFORCING STEEL:
THE REINFORCING STEEL SHALL BE MINIMUM GRADE 60.

GALVANIZATION:
METAL ACCESSORIES FOR USE IN EXTERIOR WALL CONSTRUCTION AND NOT DIRECTLY EXPOSED TO THE WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS B-2. METAL PLATE CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED.

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; AND
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 INCH EMBEDMENT.
2. FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT.
3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILITS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT.
4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 6" HELICES WITH MINIMUM 50 INCH 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 INCH EMBEDMENT.



3C **GROUND BASE HELIX ANCHORAGE**
SCALE: NTS (CAN BE USED FOR ASPHALT)

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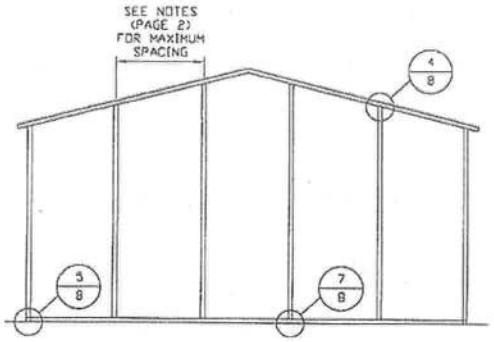
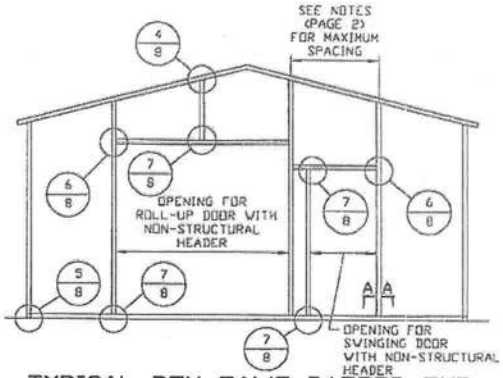
PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
CLIENT: -	SHT. 5 OF 12	DWG. NO: SK-3	REV.: 0

BOX EAVE RAFTER END WALL AND WALL OPENINGS



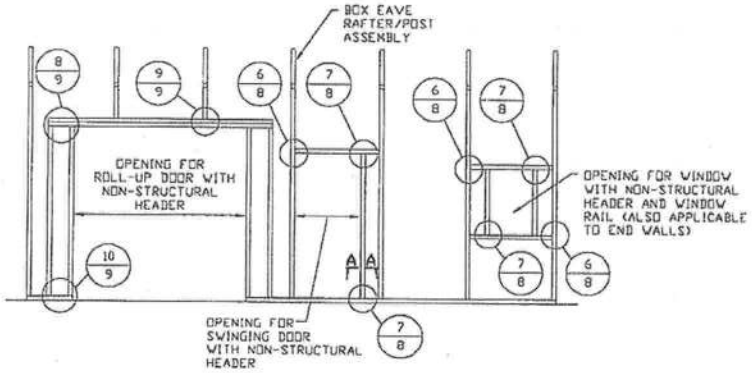
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

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



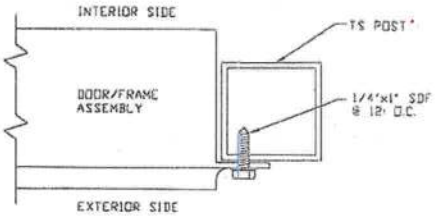
TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

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



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

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



SECTION A-A

SCALE: NTS

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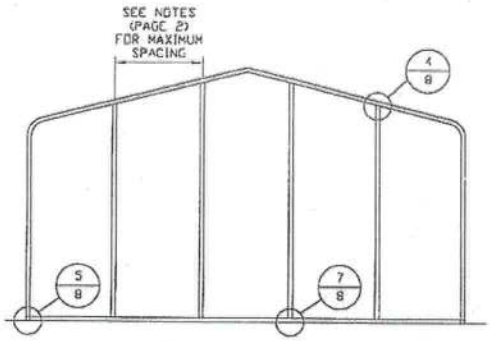
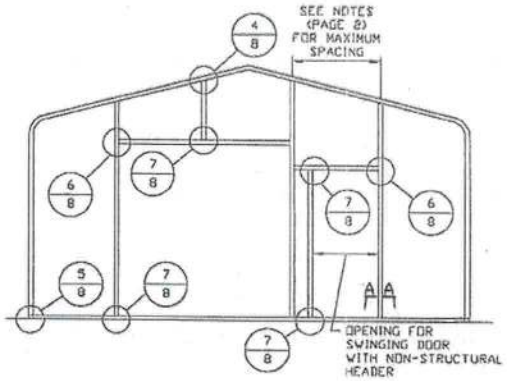
	CLIENT: -	SHT. 6 OF 12	DWG. NO: SK-3	REV.: 0

BOW RAFTER END WALL AND WALL OPENINGS



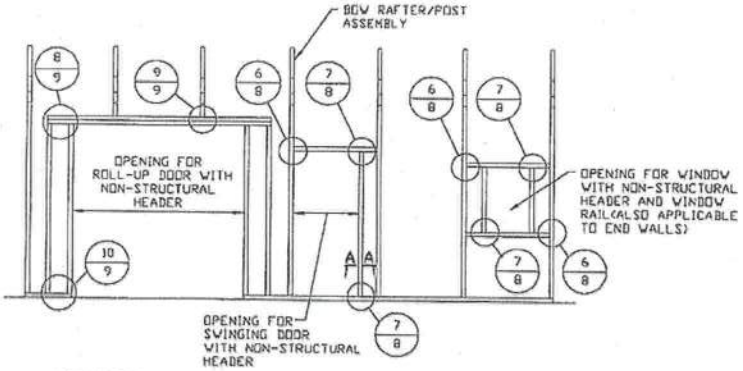
TYPICAL BOW RAFTER END WALL FRAMING SECTION

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



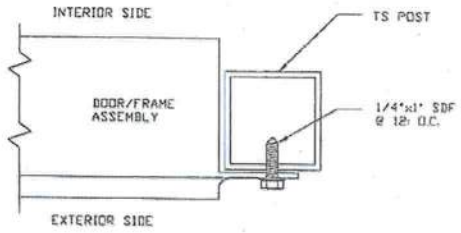
TYPICAL BOW RAFTER END WALL OPENINGS FRAMING SECTION

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



TYPICAL BOW RAFTER SIDE WALL OPENINGS FRAMING SECTION

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



SECTION A-A

SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JRS	BENNETT BUILDING SYSTEMS, LLC ENCLOSED BUILDING	
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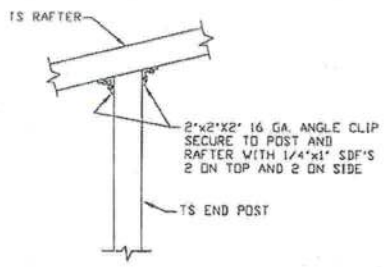
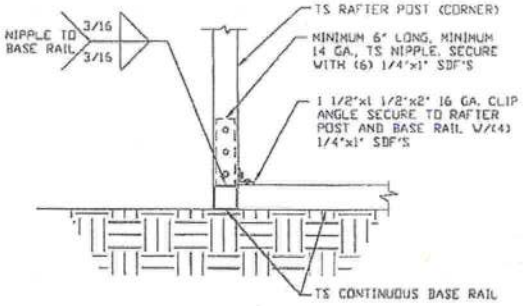
PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
CLIENT: -	SHT. 7 OF 12	DWG NO: SK-3	REV.: 0

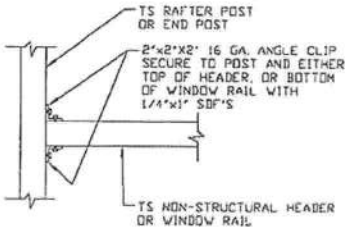
BOX EAVE RAFTER WALL OPENING DETAILS



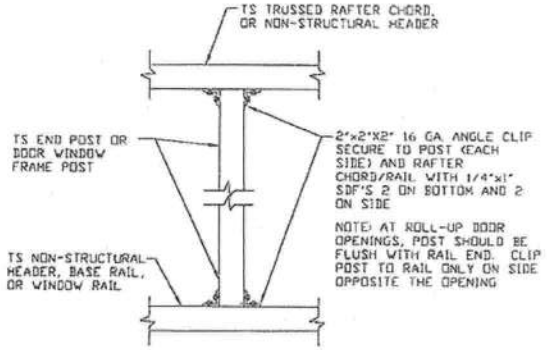
4 END POST/RAFTER CONNECTION DETAIL
SCALE: NTS



5 END POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



6 NON-STRUCTURAL HEADER OR WINDOW RAIL TO POST CONNECTION DETAIL
SCALE: NTS



7 POST TO NON-STRUCTURAL HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL
SCALE: NTS

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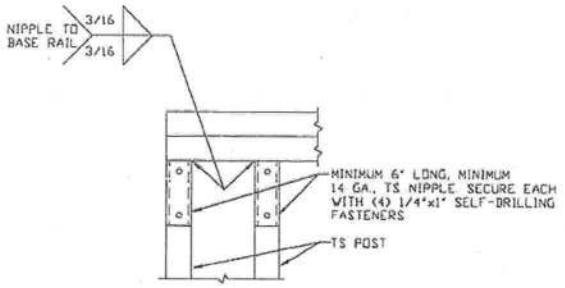
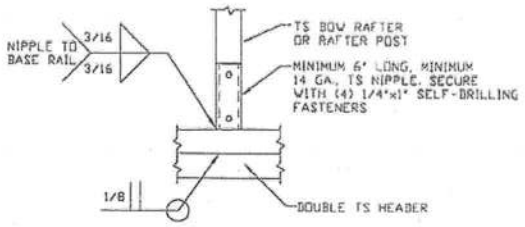
	CLIENT: -	SHT. 8 OF 12	DWG. NO: SK-3	REV.: 0

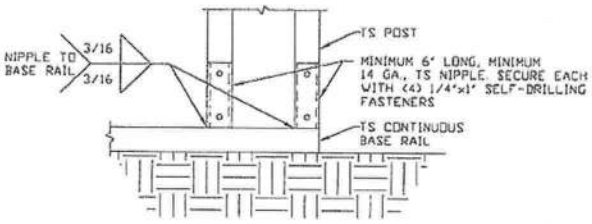
BOX EAVE RAFTER WALL OPENING DETAILS



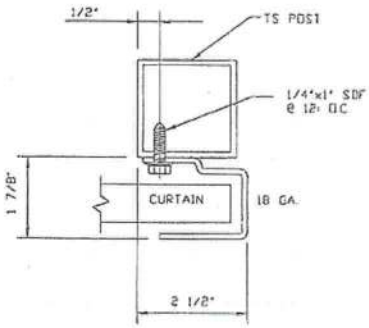
8 DOUBLE HEADER/POST CONNECTION DETAIL
SCALE: NTS



9 RAFTER POST/DOUBLE HEADER CONNECTION DETAIL
SCALE: NTS



10 RAFTER POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



SECTION THROUGH ROLL UP DOOR HEADER
SCALE: NTS NOTE: CURTAIN IS 26 GA. GALVANIZED STEEL WITH BAKED ON EPOXY PRIMER & POLYESTER TOP COAT.

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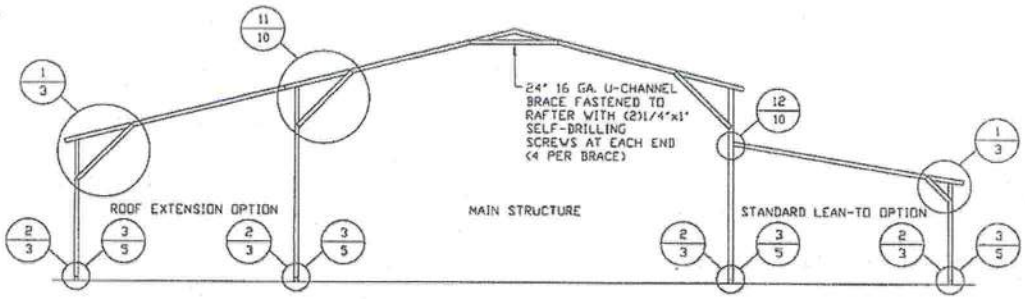
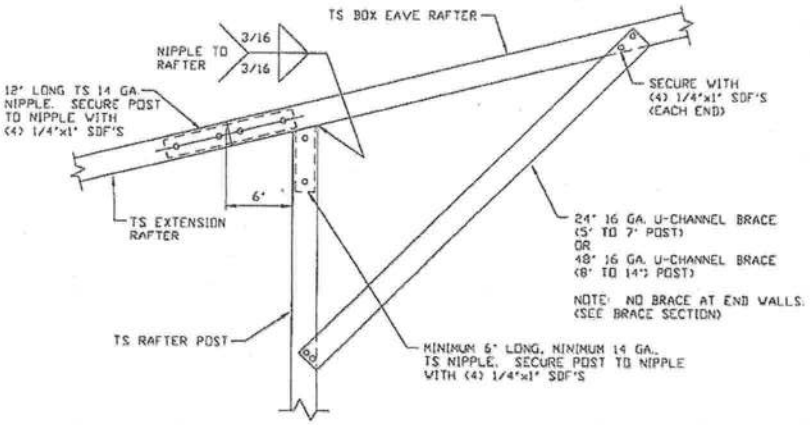
	CLIENT: -	SHT. 9 OF 12	DWG. NO: SK-3	REV.: 0

BOX EAVE RAFTER LEAN-TO OPTIONS



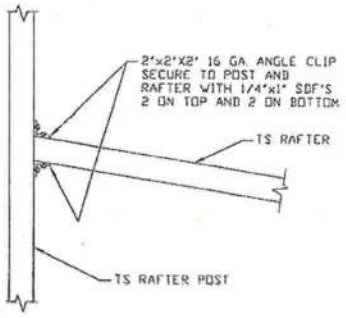
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

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



11 SIDE EXTENSION RAFTER/ CORNER POST DETAIL

SCALE: NTS

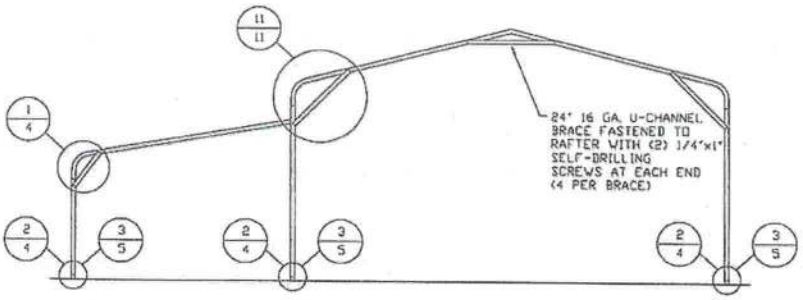


12 LEAN-TO RAFTER TO RAFTER POST CONNECTION DETAIL

SCALE: NTS

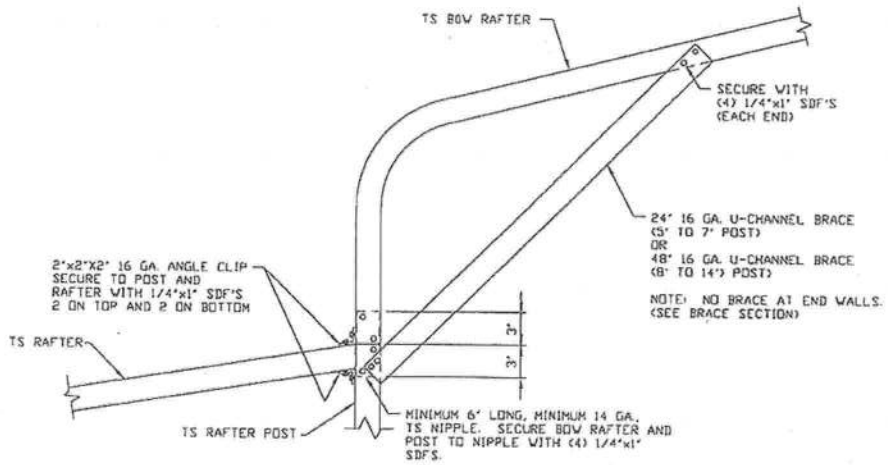
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JRS	BENNETT BUILDING SYSTEMS, LLC ENCLOSED BUILDING		
	CHECKED BY: PDH			
	PROJECT MGR: WSH	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
	CLIENT: -	SHT. 10 OF 12	DWG. NO: SK-3	REV.: 0

BOW RAFTER LEAN-TO OPTION



TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

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

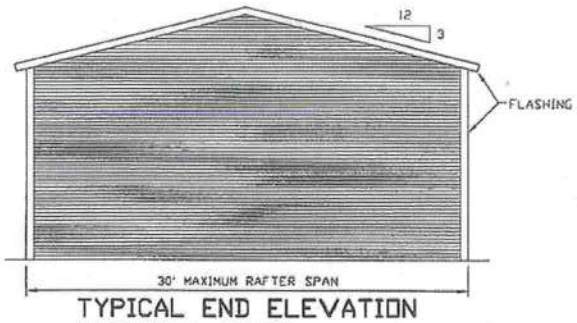


11 LEAN-TO RAFTER TO RAFTER POST CONNECTION DETAIL

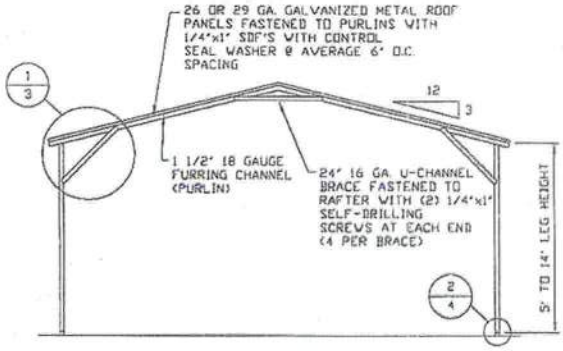
SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JRS	BENNETT BUILDING SYSTEMS, LLC ENCLOSED BUILDING		
	CHECKED BY: PDH			
	PROJECT MGR: WSM	DATE: 11-12-12	SCALE: NTS	JOB NO: 12117S
	CLIENT: -	SHT. 11 OF 12	DWG. NO: SK-3	REV.: 0

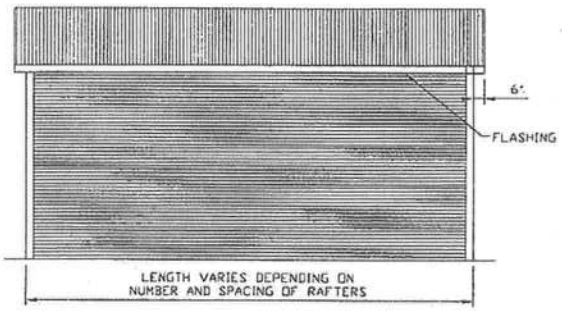
BOX EAVE RAFTER VERTICAL ROOF OPTION



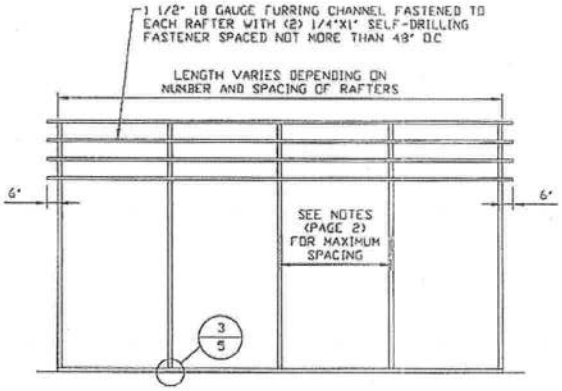
TYPICAL END ELEVATION
VERTICAL ROOF
SCALE: 1/8" = 1'-0"



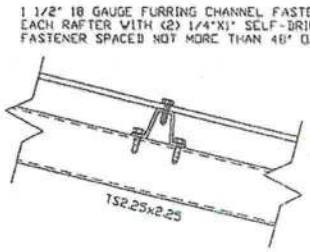
TYPICAL SECTION
VERTICAL ROOF OPTION
SCALE: 1/8" = 1'-0"



TYPICAL SIDE ELEVATION
VERTICAL ROOF
SCALE: 1/8" = 1'-0"



TYPICAL FRAMING SECTION
VERTICAL ROOF OPTION
SCALE: 1/8" = 1'-0"



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

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	CLIENT: -	SHT. 12 OF 12	DWG. NO: SK-3	REV.: 0