

Clinton Simmons



STRUCTURAL DESIGN

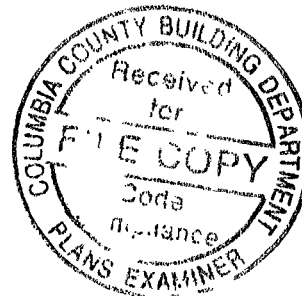
ENCLOSED BUILDING

**MAXIMUM 40'-0" WIDE X 20'-0" EAVE HEIGHT- BOX EAVE
FRAME**

**8 April 2013
Revision 2
M&A Project No. 12130S**

Prepared for:

**Mr. Danny Lowery
President- Steel Structures
1660 Dixon Airline Road
Augusta, Georgia 30906**

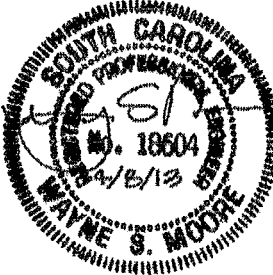
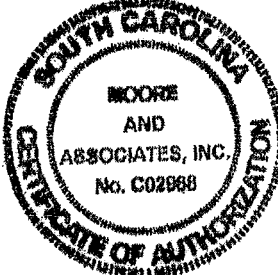
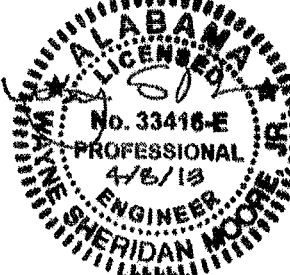

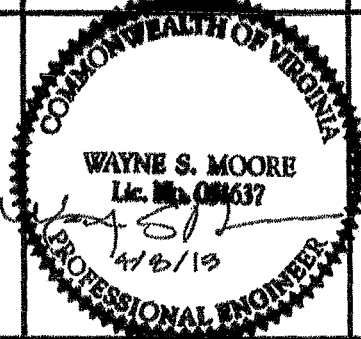
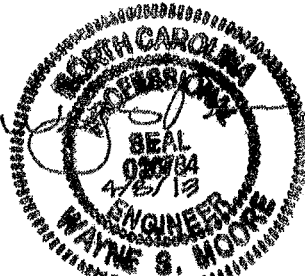
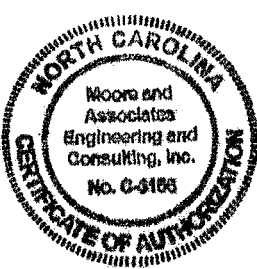
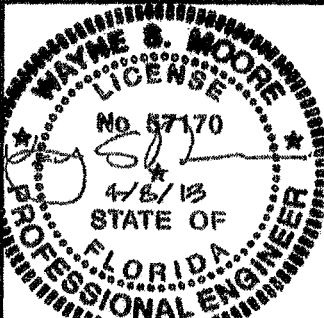
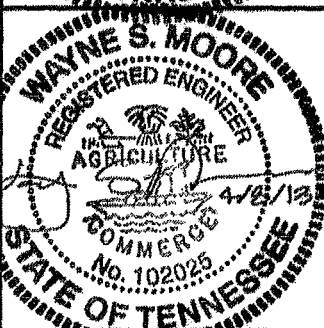


Prepared by:

**Moore and Associates Engineering and Consulting, Inc.
1009 East Avenue
North Augusta, SC 29841**



**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING**

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MOORE AND ASSOCIATES
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CHECKED BY: PDH

BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING
PE SEAL COVER SHEET

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PROJECT MGR: WSH

CLIENT: -

DATE: 4-8-13

SHT. 1

SCALE: NTS

DWG. NO: SK-3

JOB NO: 12130S

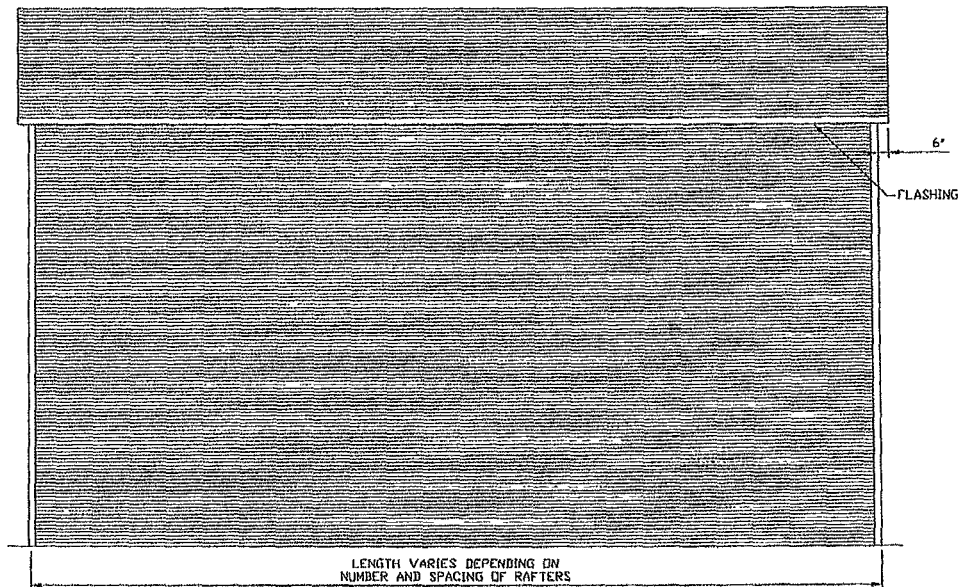
REV: 2

INSTALLATION PLANS, DETAILS AND NOTES FRAMING AND FASTENER SPECIFICATIONS

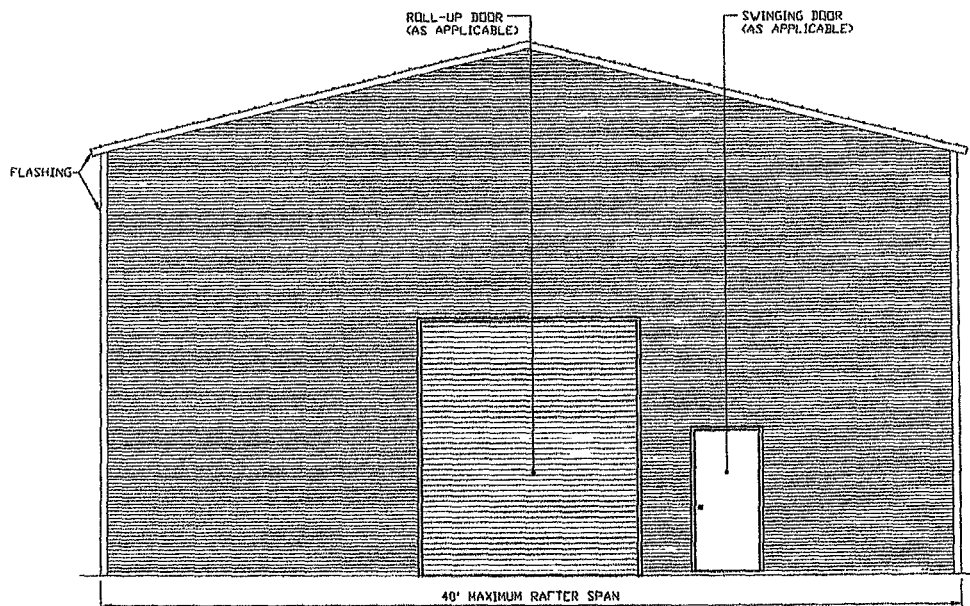
- 1 DESIGN IS FOR A MAXIMUM 40' WIDE x 20' EAVE HEIGHT STRUCTURES
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2010 FLORIDA BUILDING CODE (FBC), 2006 INTERNATIONAL BUILDING CODE (IBC) AND 2009 IBC.
3. 2010 FBC WIND PRESSURES GOVERN OVER 2006 IBC AND 2009 IBC WIND PRESSURES.
4. DESIGN LOADS ARE AS FOLLOWS:
 - A) DEAD LOAD = 1.5 PSF
 - B) ROOF 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 FASTENERS 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 OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND HIGH (> 117 MPH 139 MPH NOMINAL) WIND SPEEDS

| | | | | |
|---|------------------|--|---------------|----------------|
| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC. | DRAWN BY: JRS | BENNETT BUILDING SYSTEMS, LLC 40'x20' ENCLOSED BUILDING | | |
| | CHECKED BY: PDH | | | |
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| | CLIENT: - | SHT. 2 | DWG. NO: SK-3 | REV: 2 |

☐ BOX EAVE FRAME RAFTER ENCLOSED BUILDING



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



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

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DATE: 4-8-13

SHT. 3

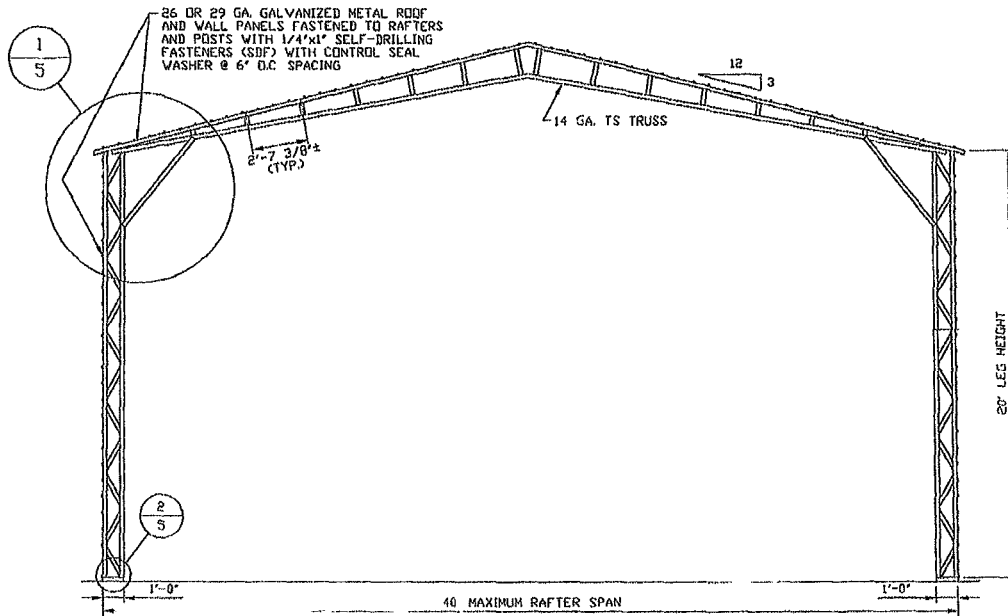
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DWG. NO: SK-3

JOB NO: 12130S

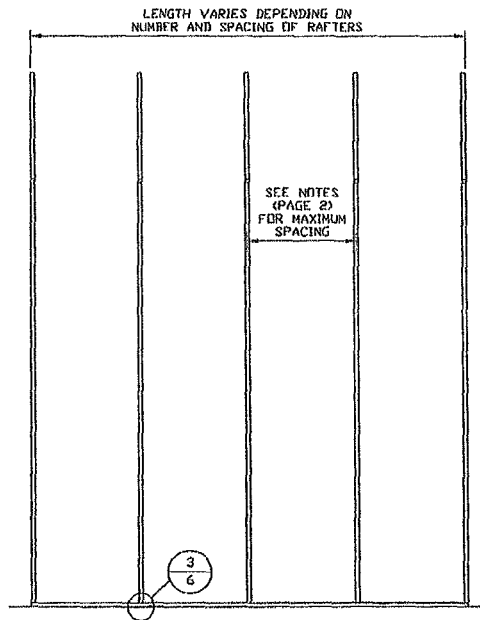
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TYPICAL RAFTER/POST END FRAME SECTION

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



TYPICAL RAFTER/POST SIDE FRAMING SECTION

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

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SHT. 4

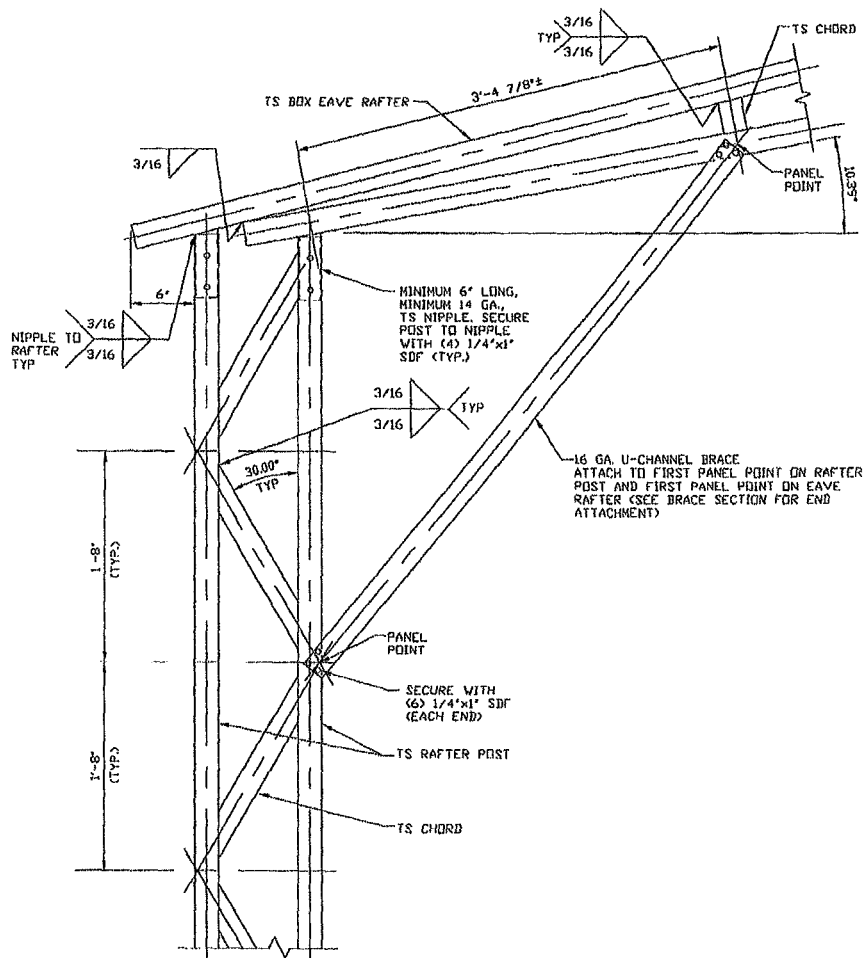
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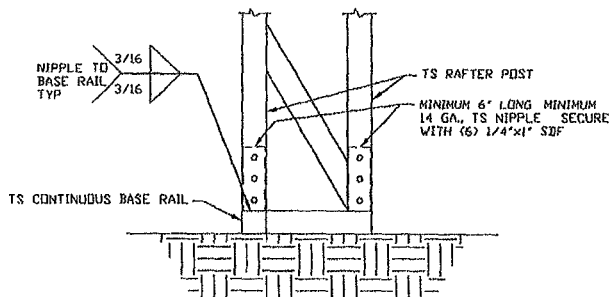
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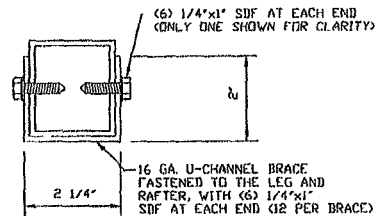
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1 BOX EAVE RAFTER/CORNER POST CONNECTION DETAIL
SCALE: NTS



2 RAFTER POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



BRACE SECTION
SCALE: NTS

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**BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING**

DATE: 4-8-13

SHT. 5

SCALE: NTS

DWG. NO: SK-3

JTB NO: 12130S

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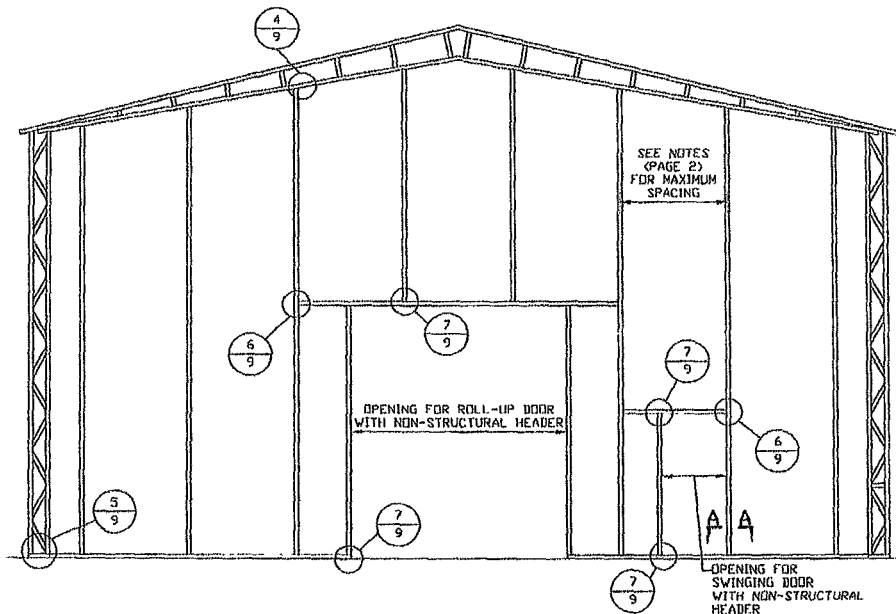
SEE NOTES
(PAGE 2)
FOR MAXIMUM
SPACING

5/9

7/9

4/9

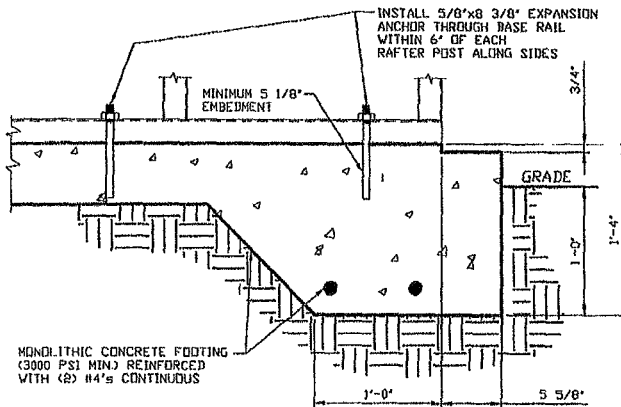
SCALE: 1/8" = 1'-0"



SCALE 1/8" = 1'-0"

REV. 1 2

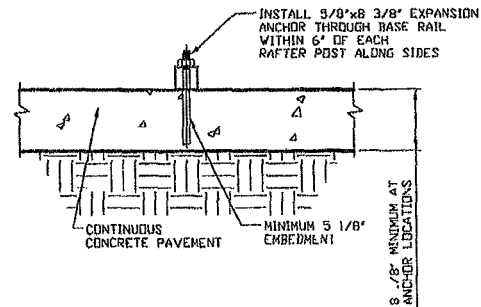
BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEEDS



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:

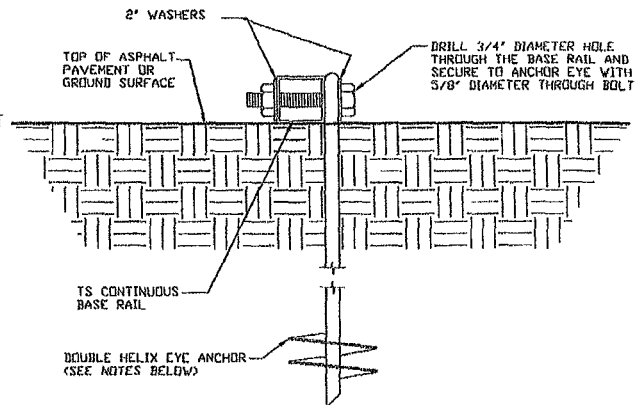
METAL ACCESSORIES FOR USE IN EXTERIOR WALL CONSTRUCTION AND NOT DIRECTLY EXPOSED TO THE WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS B-2. METAL PLATE CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED

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 SILTS, 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 LOOSE 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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BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING

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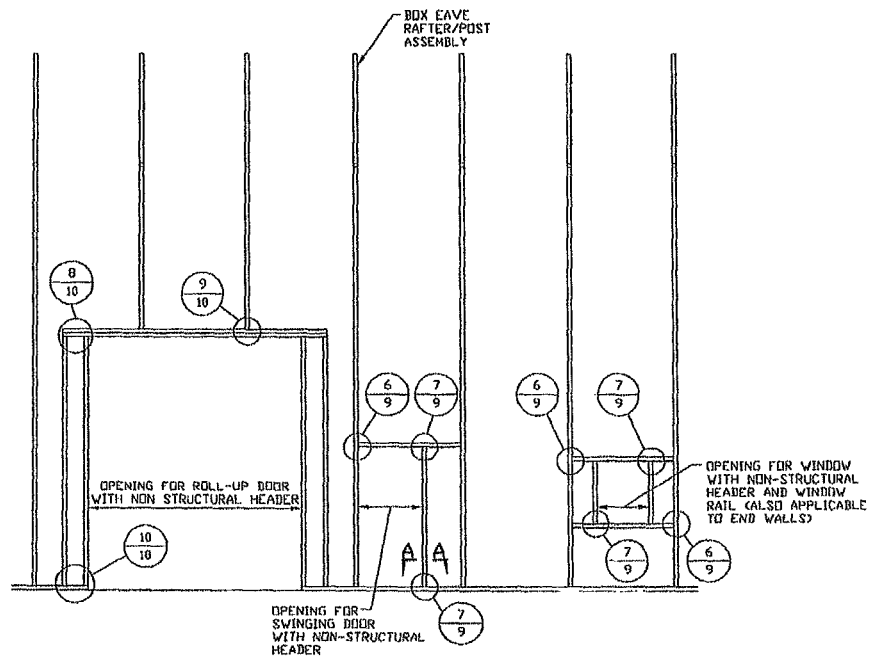
PROJECT MGR: VSM
CLIENT: -

DATE: 4-8-13
SHT. 6

SCALE: NTS
DWG. NO: SK-3

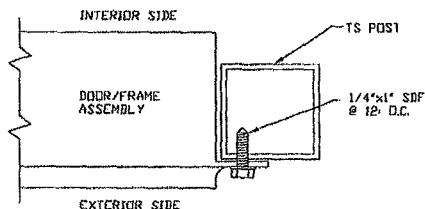
JOB NO: 12130S
REV: 2

BOX EAVE RAFTER END WALL AND WALL OPENINGS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

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



SECTION A-A

SCALE: NTS

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**BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING**

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CLIENT: -

DATE: 4-8-13

SHT. 8

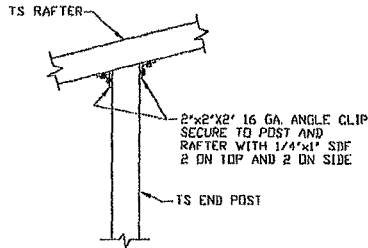
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DWG. NO: SK-3

JOB NO: 12130S

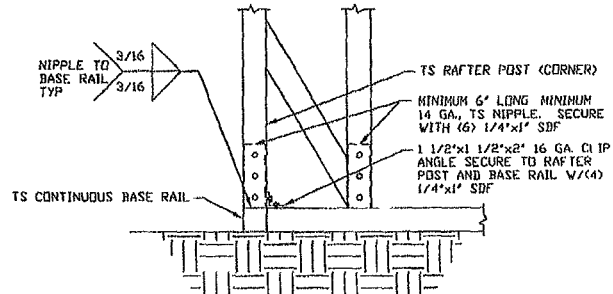
REV: 2

BOX EAVE RAFTER WALL OPENING DETAILS



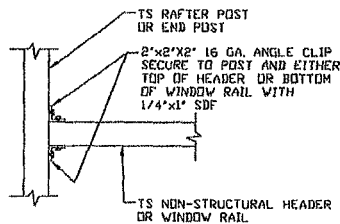
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**END POST/RAFTER
CONNECTION DETAIL**
SCALE: NTS



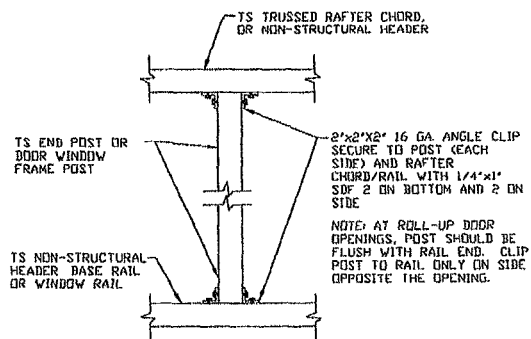
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**END POST/BASE RAIL
CONNECTION DETAIL**
SCALE: NTS



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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BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING

DATE: 4-8-13

SHT. 9

SCALE: NTS

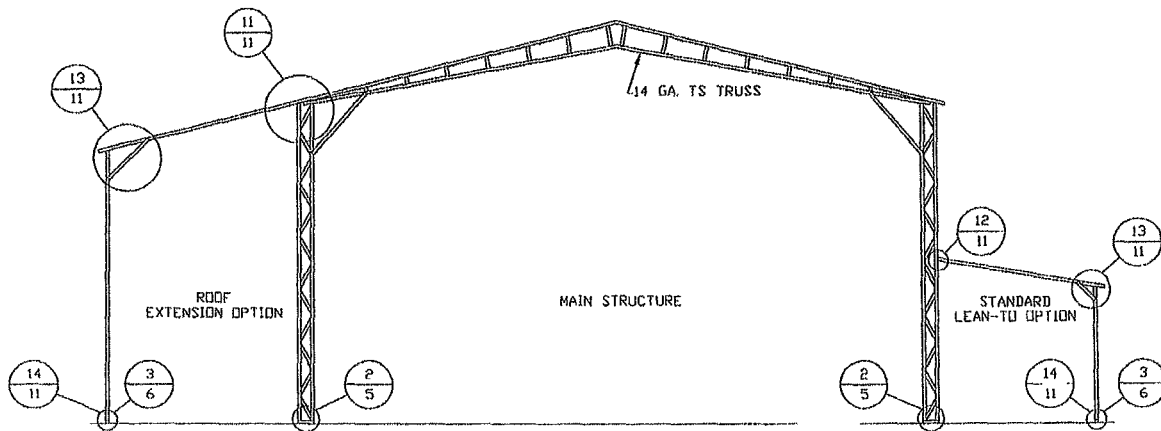
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JOB NO: 12130S

REV: 2

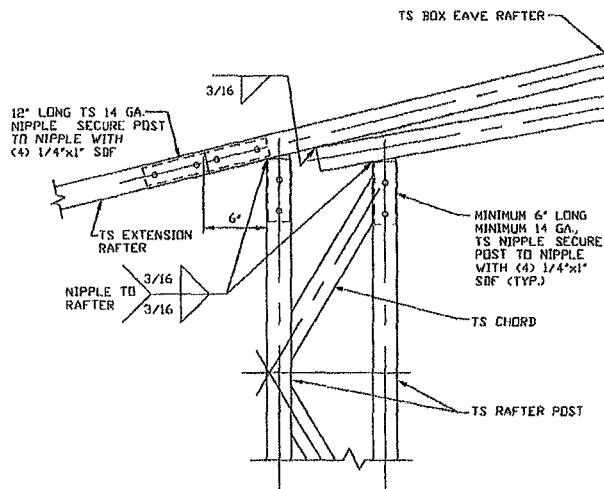
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BOX EAVE RAFTER LEAN-TO OPTIONS



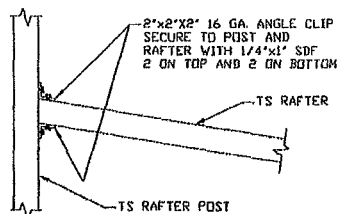
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS



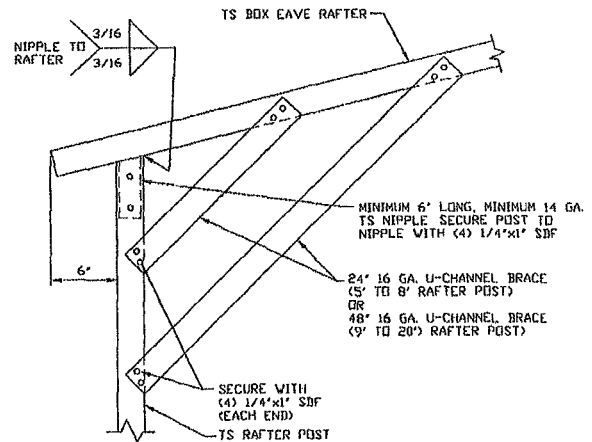
**11 SIDE EXTENSION RAFTER/
CORNER POST DETAIL**

SCALE NTS



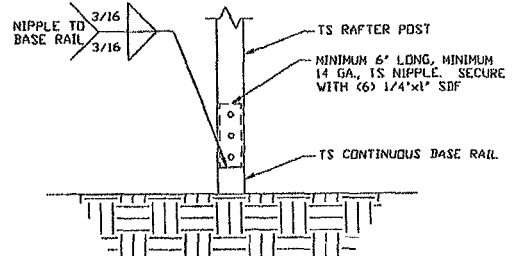
**12 LEAN-TO RAFTER TO RAFTER
POST CONNECTION DETAIL**

SCALE NTS



**13 LEAN-TO RAFTER/
CORNER POST DETAIL**

SCALE NTS



**14 LEAN-TO RAFTER
POST CONNECTION DETAIL**

SCALE NTS

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40'X20' ENCLOSED BUILDING**

DATE: 4-8-13

SHT. 11

SCALE: NTS

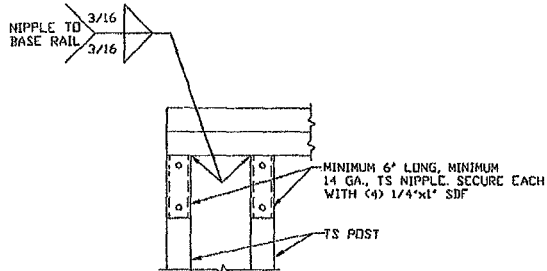
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JOB NO: 12130S

REV: 2

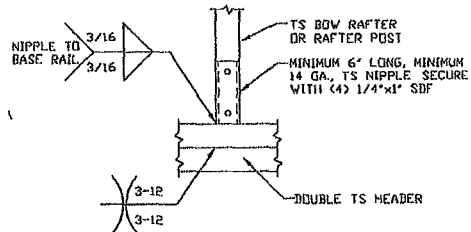
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BOX EAVE RAFTER WALL OPENING DETAILS



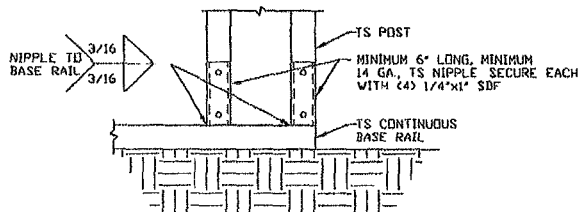
8

**DOUBLE HEADER/POST
CONNECTION DETAIL**
SCALE: NTS



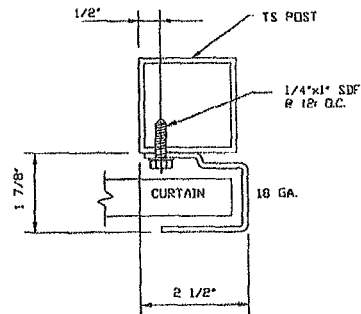
9

**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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BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING

DATE: 4-8-13

SHT. 10

SCALE: NTS

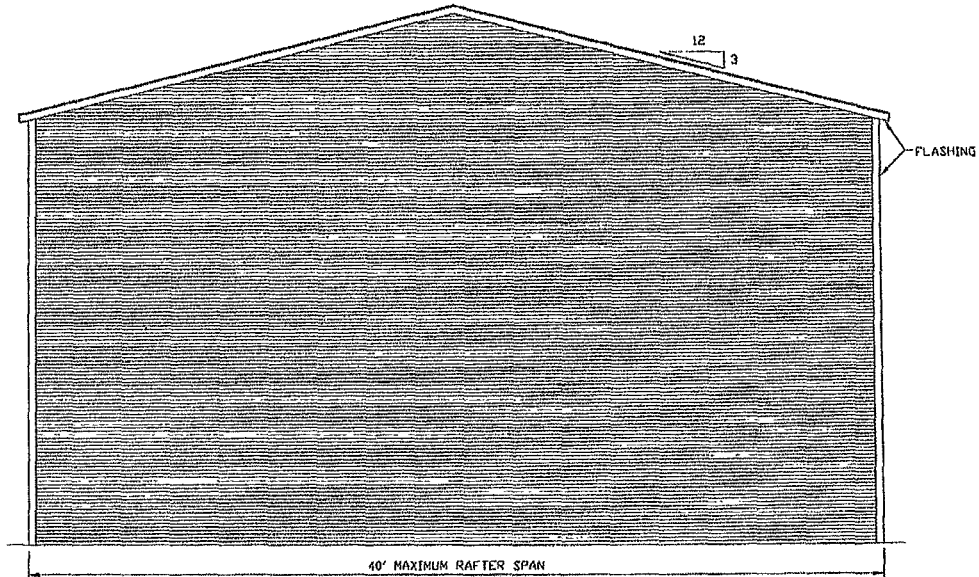
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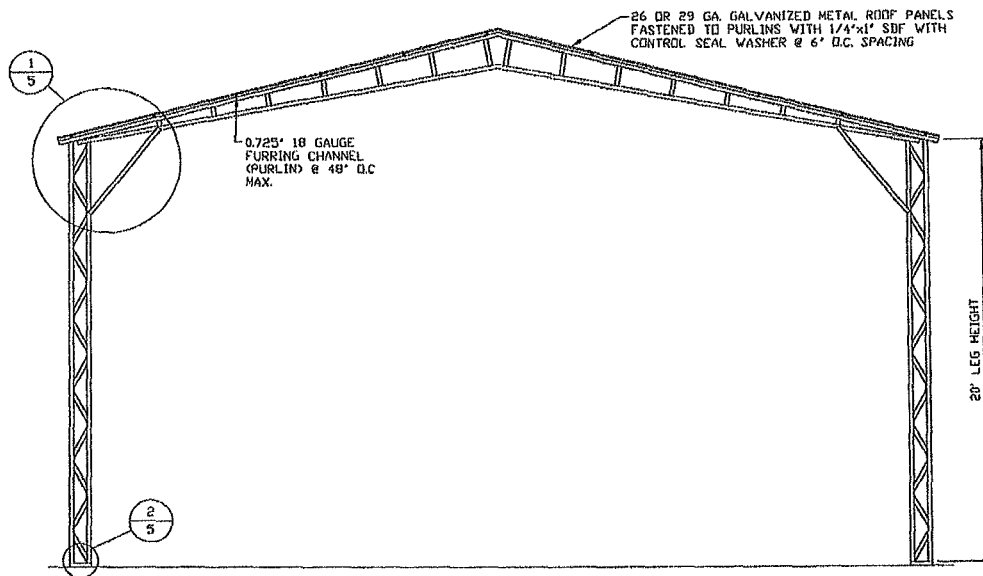
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BOX EAVE RAFTER VERTICAL ROOF OPTION



TYPICAL END ELEVATION VERTICAL ROOF

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



TYPICAL SECTION VERTICAL ROOF OPTION

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

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SCALE: NTS

JOB NO: 18130S

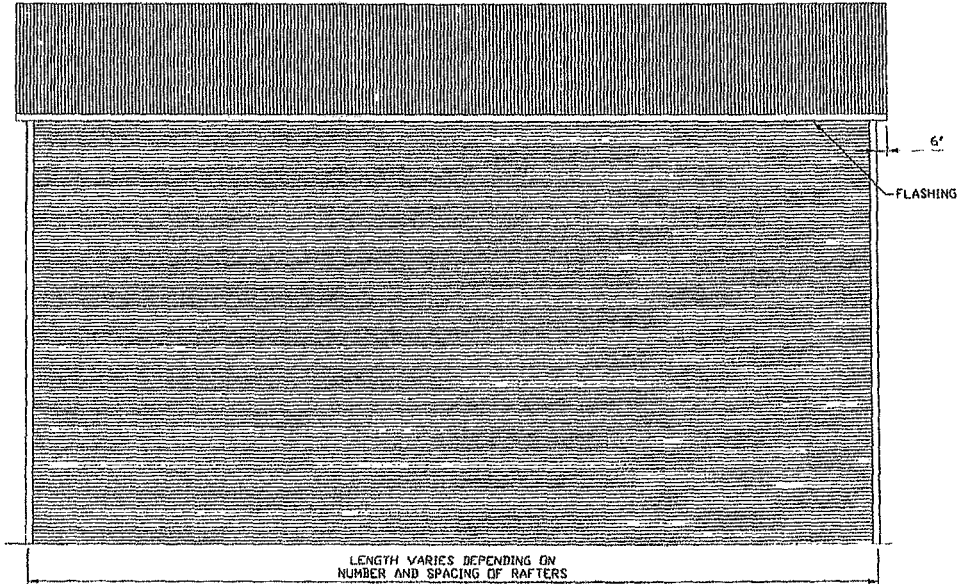
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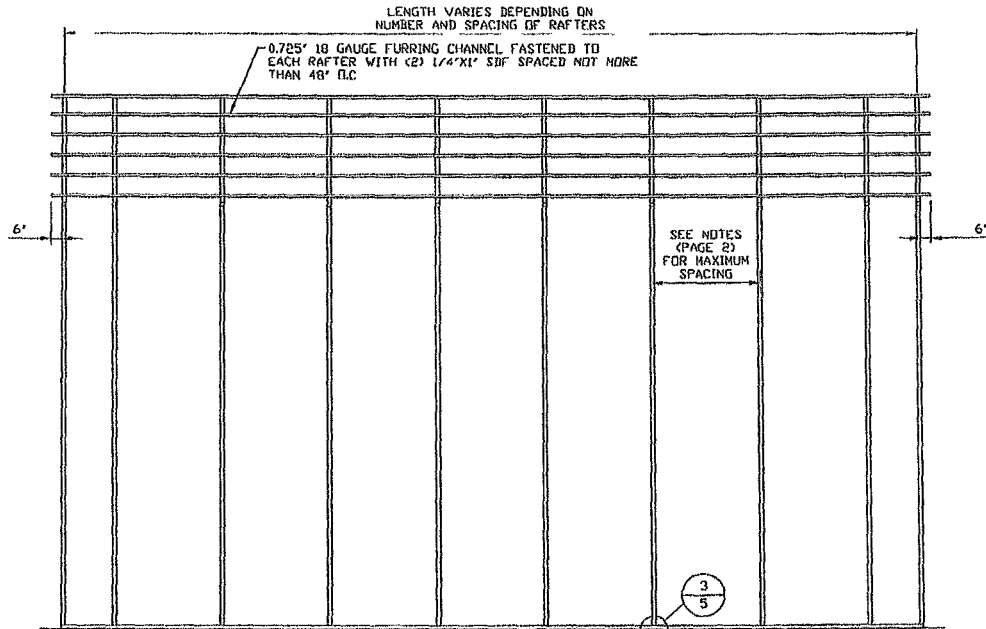
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BOX EAVE RAFTER VERTICAL ROOF OPTION



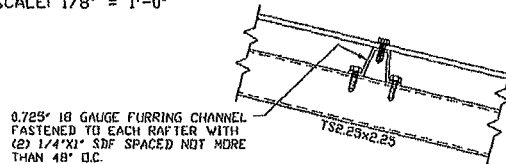
TYPICAL SIDE ELEVATION VERTICAL ROOF

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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BENNETT BUILDING SYSTEMS, LLC
40'x20' ENCLOSED BUILDING

DATE: 4-8-13

SCALE: NTS

JOB NO: 12130S

SHT. 13

DWG. NO: SK-3

REV. 2

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