



## **STRUCTURAL DESIGN**

### **ENCLOSED BUILDING**

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

**21 August 2025**

**Revision 4**

**M&A Project No. 24146S/24199S/25207S**

**Prepared for:**

**Eagle Carports  
210 Airport Road  
Mt. Airy, NC 27030**

**Prepared by:**

**Moore and Associates Engineering and Consulting, Inc.**

**1009 East Avenue  
North Augusta, SC 29841**

**401 S. Main Street, Suite 200  
Mt. Airy, NC 27030**

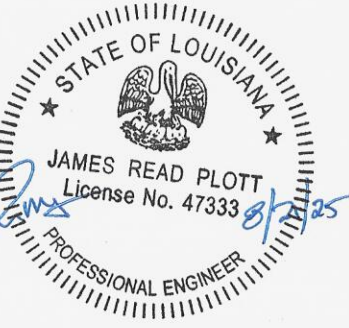
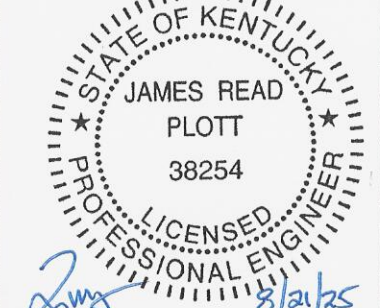


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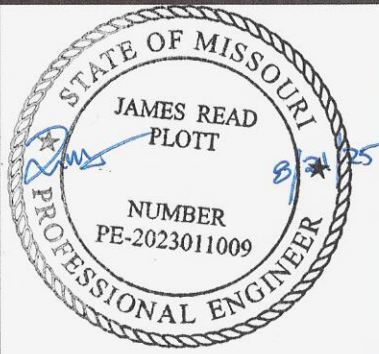
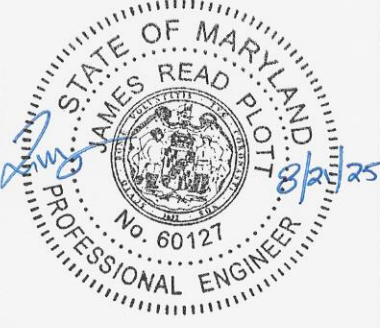
**Plans Expiration Date: 31 July 2027**

**Plans are valid for two years from issuance date**

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I HAVE RESEARCHED THIS CHAPTER AND THE LOUISIANA STATE UNIFORM CONSTRUCTION CODE AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE DRAWINGS ARE IN COMPLIANCE THEREWITH. I TAKE FULL RESPONSIBILITY FOR THE CONTENTS OF THESE PLANS.

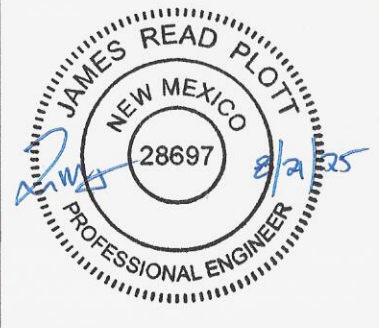


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 60127, Expiration Date: 10/25/26

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31 July 2027



MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JG

CHECKED BY: AM

PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 1

SCALE: NTS

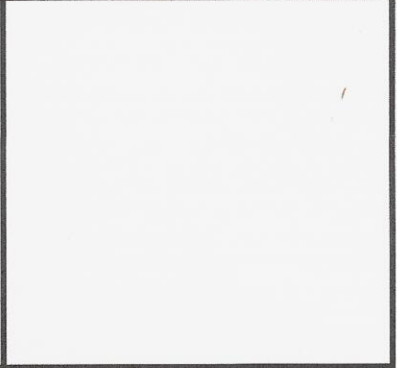
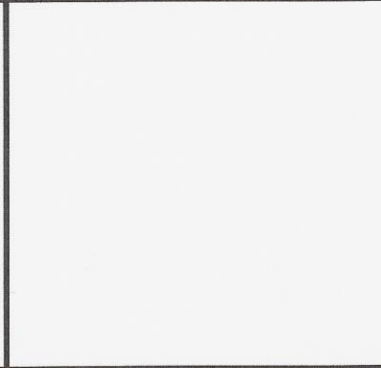
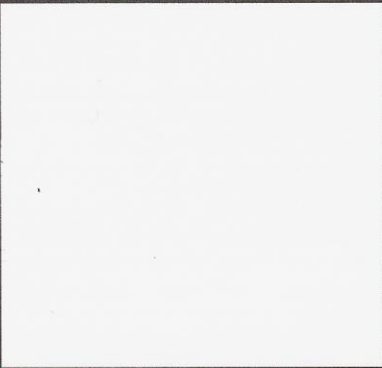
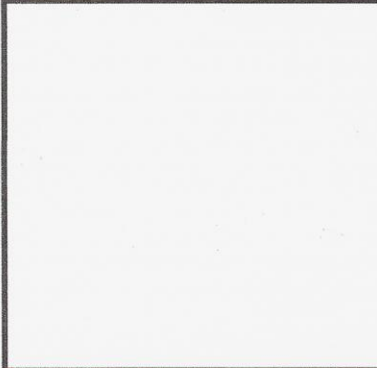
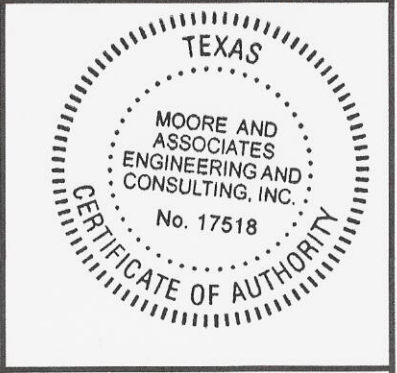
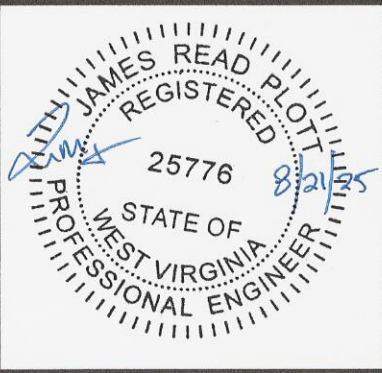
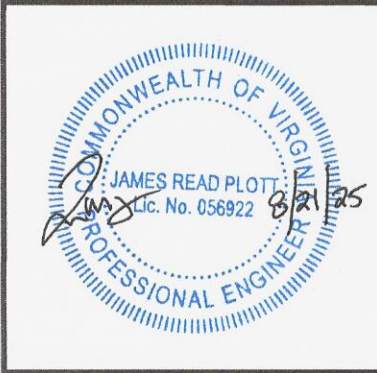
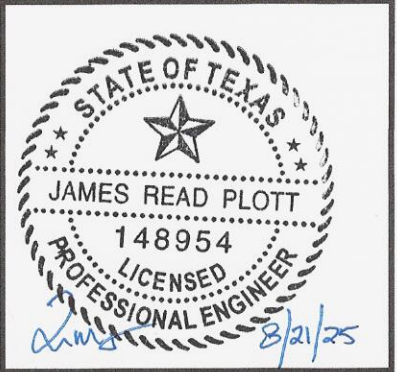
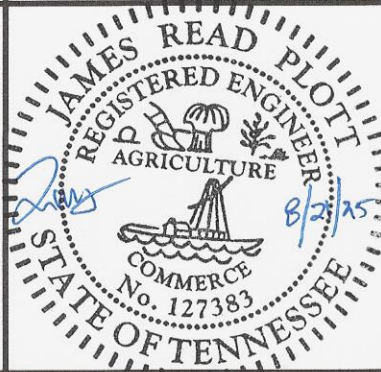
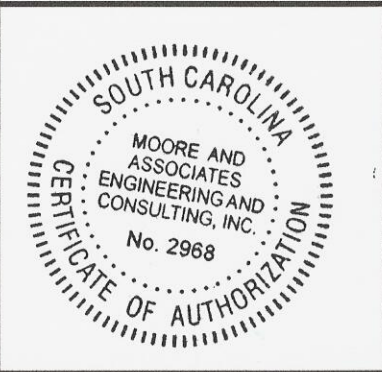
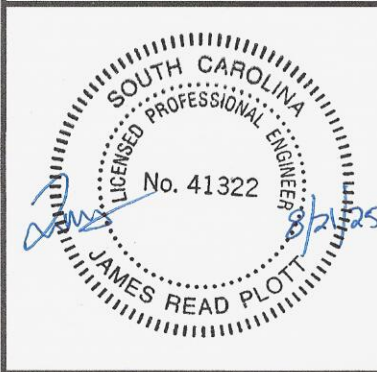
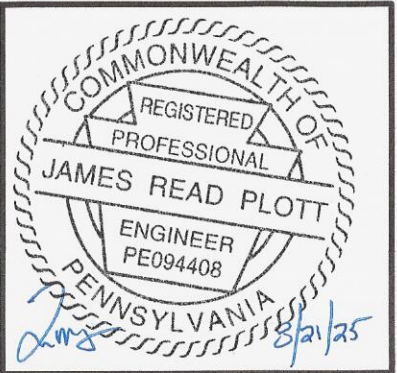
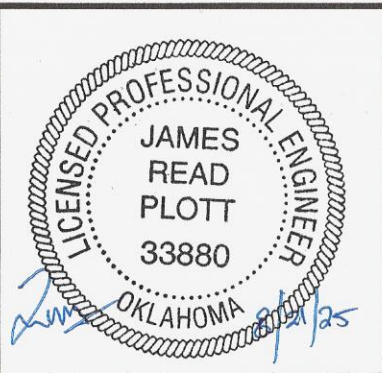
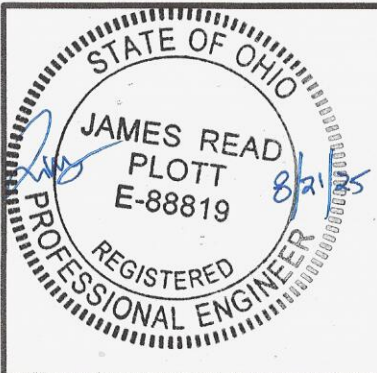
DWG. NO: SK-3

JOB NO:  
24146S/24199S/25207S

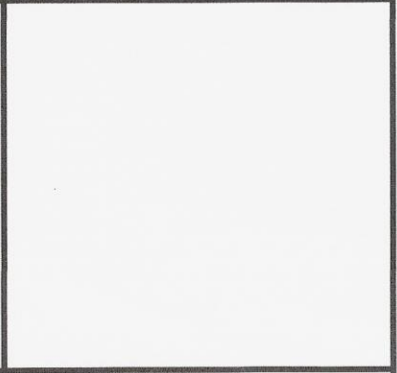
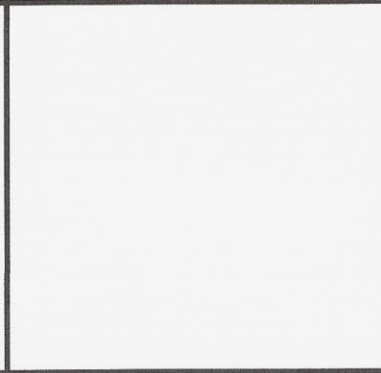
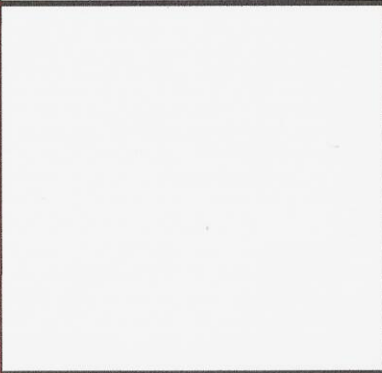
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**DRAWN BY:** JG  
**CHECKED BY:** AM  
**PROJECT MGR:** JRP  
**CLIENT:** EAGLE CARPORTS

**EAGLE CARPORTS**  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

**DATE:** 8-21-25  
**SHT.** 1A

**SCALE:** NTS  
**DWG. NO:** SK-3

**JOB NO:** 24146S/24199S/25207S  
**REV:** 4

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**SHT. 2**

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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 ALL THE APPLICABLE BUILDING CODES LISTED ON SHEET 3A.
3. DESIGN LOADS ARE AS FOLLOWS:
  - A) ROOF DEAD LOADS:
    - SELF-WEIGHT = 1.5 PSF
    - MEP = 0 PSF
    - COLLATERAL = 0 PSF
  - B) ROOF LIVE LOAD = 12 PSF
  - C) FLOOR LIVE LOAD = 100 PSF (4" CONCRETE SLAB-ON-GRADE)
  - D) GROUND SNOW LOAD = 25 PSF FOR IBC 2012, IBC 2015, IBC 2018, AND IBC 2021  
= 28 PSF FOR IBC 2024
  - E) FLAT ROOF SNOW LOAD = 20 PSF FOR IBC 2012, IBC 2015, IBC 2018 AND IBC 2021  
= 28 PSF FOR IBC 2024

NOTE: UNBALANCED LOADING DUE TO SNOW DRIFT/SLIDING FROM AN ADJACENT TALLER STRUCTURE HAS NOT BEEN EVALUATED. DROP-DOWN LEAN-TO'S (THOSE CAUSING A HEIGHT DIFFERENTIAL FROM THE MAIN STRUCTURE) SHALL ONLY BE USED FOR GROUND SNOW LOADS  $\leq$  15 PSF.
4. 3-SECOND GUST ULTIMATE WIND SPEED ( $V_{ULT}$ )  $\leq$  120 MPH.
5. MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).
6. END WALL COLUMNS (POSTS) ARE EQUIVALENT TO SIDE WALL POSTS IN SIZE AND SPACING UNLESS NOTED OTHERWISE.
7. RISK CATEGORY I (NOT FOR HUMAN OCCUPANCY).
8. WIND EXPOSURE CATEGORY B.
9. STRUCTURAL ANALYSIS/DESIGN IS BASED ON TUBE STEEL (TS) MEETING THE REQUIREMENTS OF ASTM A653 TYPE SS GRADE 50 WITH MINIMUM YIELD STRENGTH ( $F_y$ ) OF 50 KSI AND GALVANIZING MEETING THE MINIMUM REQUIREMENTS OF G60.
10. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2"x2 1/2"-14 GAUGE TS FRAMING MEMBERS (UNLESS NOTED OTHERWISE). 2 1/4"x2 1/4"-12 GAUGE TS MAY BE USED AS OPTIONAL FRAMING MEMBERS.
11. CONNECTOR SLEEVES ARE MINIMUM 6" LONG, TS 2 1/4"x2 1/4"-14 GAUGE FOR 2 1/2"x2 1/2"-14 GAUGE AND TS 2"x2"-14 GAUGE FOR 2 1/4"x2 1/4"-12 GAUGE FRAMING MEMBERS (UNLESS NOTED OTHERWISE).
12. AVERAGE PANEL FASTENER SPACING = 10" O.C. (MAX.)
13. FASTENERS CONSIST OF #12-14x3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE TO STRUCTURES WITH ROOF PITCHES 3:12 AND LESS. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF LAP JOINT SEALANT.
14. ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL AT OR WITHIN 6" OF EVERY RAFTER COLUMN.
15. CONTRACTOR TO PROVIDE ADEQUATE BRACING FOR STRUCTURE SO THAT IT WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURE AND FOUNDATION ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND, THEREFORE, REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION.
16. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
  - SOIL SITE CLASS = D
  - RISK CATEGORY I
  - $R = 3.25$                        $I_E = 1.0$
  - $S_{DS} = 2.625 g$                  $V = C_S W$
  - $S_{DI} = 2.13 g$
17. IF MORE THAN 50% OF COLUMNS (LEGS) ARE REMOVED IN ANY LONGITUDINAL (SIDE) WALLS OF A BUILDING, THE ENGINEER IS TO BE NOTIFIED TO DETERMINE WHETHER PORTAL FRAMES OR OTHER LONGITUDINAL STABILITY ELEMENTS WILL BE REQUIRED.
18. ANALYSIS/DESIGN OF THIS STRUCTURE WAS BASED ON THE LOADS, BUILDING CODE, AND STRUCTURAL GEOMETRY NOTED HEREIN. NO CHANGES SHALL BE MADE TO THE STRUCTURE WITHOUT EXPRESS WRITTEN PERMISSION FROM THE DESIGN ENGINEER. ANY CHANGES IN THE USE OR GEOMETRY OF THE STRUCTURE IN ANY MANNER IS A VIOLATION OF THE BUILDING CODE AND NEGATES ANY LIABILITY ON THE PART OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.
19. WHEN USING GENERIC MASTER DESIGNS TO OBTAIN BUILDING PERMIT, IT MUST BE ACCOMPANIED BY SUFFICIENT ADDITIONAL INFORMATION TO INDICATE THE LOCATION, NATURE, AND EXTENT OF THE CONSTRUCTION AND SHOW IN DETAIL THAT IT WILL CONFIRM TO ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES, AND REGULATIONS.
20. WHEN APPLYING FOR BUILDING PERMIT, THE BUILDING OFFICIAL MUST BE CONSULTED TO VERIFY WHETHER THE USE OF THE MASTER DESIGN IS ADEQUATE OR IF A SITE-SPECIFIC DESIGN IS REQUIRED FOR OBTAINING A BUILDING PERMIT. GENERIC MASTER DESIGNS CAN NOT BE USED WHERE A SITE-SPECIFIC DESIGN IS REQUIRED.
21. ANY VARIATION FROM THE ANALYSIS/DESIGN PARAMETERS OF THE MASTER DESIGN REQUIRES THE DEVELOPMENT OF A SITE-SPECIFIC DESIGN.
22. USE E70 ELECTRODES FOR WELDED CONNECTIONS. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.3.

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EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 3

SCALE: NTS

DWG. NO: SK-3

JOB NO:  
24146S/24199S/25207S

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## LIST OF APPLICABLE BUILDING CODES

2024 INTERNATIONAL BUILDING CODE (IBC 2024)

2021 INTERNATIONAL BUILDING CODE (IBC 2021)

2018 INTERNATIONAL BUILDING CODE (IBC 2018)

2015 INTERNATIONAL BUILDING CODE (IBC 2015)

2012 INTERNATIONAL BUILDING CODE (IBC 2012)

ALABAMA BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
(IBC 2015, IBC 2018, IBC 2021, IBC 2024  
(DEPENDENT UPON LOCAL JURISDICTION))

ARKANSAS FIRE PREVENTION CODE VOL II - BUILDINGS  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

DIVISION OF FIRE PREVENTION AND CONTROL (DFPC)  
BUILDING CODE 2021 (COLORADO)  
(ADOPTS THE IBC 2021 WITHOUT AMENDMENTS)

GEORGIA STATE MINIMUM STANDARD BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

INDIANA BUILDING CODE, 2014 EDITION  
(ADOPTS THE IBC 2012 WITH AMENDMENTS)

KANSAS BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)  
WICHITA-SEDGWICK BUILDING CODE 2024  
(ADOPTS THE IBC 2024 WITH AMENDMENTS)  
(IBC 2006, IBC 2018, IBC 2024  
(DEPENDENT UPON LOCAL JURISDICTION))

KENTUCKY BUILDING CODE 2018  
(ADOPTS THE IBC 2015 WITH AMENDMENTS)

LOUISIANA BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

MARYLAND BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

MISSISSIPPI BUILDING CODE 2024  
(ADOPTS THE IBC 2024 WITHOUT AMENDMENTS)  
(IBC 2012, IBC 2015 AND IBC 2018, IBC 2024  
(DEPENDENT UPON LOCAL JURISDICTION))

MISSOURI BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITHOUT AMENDMENTS)  
KANSAS CITY BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)  
(IBC 2006, IBC 2009, IBC 2012, IBC 2015, IBC 2018, IBC 2021  
(DEPENDENT UPON LOCAL JURISDICTION))

2021 NEW MEXICO COMMERCIAL BUILDING CODE (NMCBC)  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

NORTH CAROLINA BUILDING CODE 2018  
(ADOPTS THE IBC 2015 WITH AMENDMENTS)

OHIO BUILDING CODE 2024  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

OKLAHOMA BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)  
(IBC 2015, IBC 2018 (DEPENDENT UPON  
LOCAL JURISDICTION))

PENNSYLVANIA BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)  
PHILADELPHIA BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

SOUTH CAROLINA BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

TENNESSEE BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
KNOXVILLE BUILDING CODE 2024  
(ADOPTS THE IBC 2024 WITH AMENDMENTS)  
BUILDING CODE OF METROPOLITAN NASHVILLE AND  
DAVIDSON COUNTY (ADOPTS THE IBC 2018  
WITH AMENDMENTS)  
(IBC 2012, IBC 2015, IBC 2018, IBC 2021 IBC 2024  
(DEPENDENT UPON LOCAL JURISDICTION))

BUILDING CODE OF THE TEXAS INDUSTRIALIZED  
HOUSING AND BUILDINGS PROGRAM  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
AUSTIN BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
DALLAS BUILDING CODE  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
FORT WORTH BUILDING CODE 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
CITY OF HOUSTON BUILDING CODE  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)  
SAN ANTONIO BUILDING CODE 2024  
(ADOPTS THE IBC 2024 WITH AMENDMENTS)  
(IBC 2006, IBC 2009, IBC 2012, IBC 2015,  
IBC 2018, IBC 2021, IBC 2024 (DEPENDENT  
UPON LOCAL JURISDICTION))

VIRGINIA UNIFORM STATEWIDE BUILDING CODE,  
PART I, CONSTRUCTION/VIRGINIA CONSTRUCTION  
CODE (VCC) 2021  
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

WEST VIRGINIA BUILDING CODE 2018  
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

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**DATE: 8-21-25**

**SHT. 3A**

**SCALE: NTS**

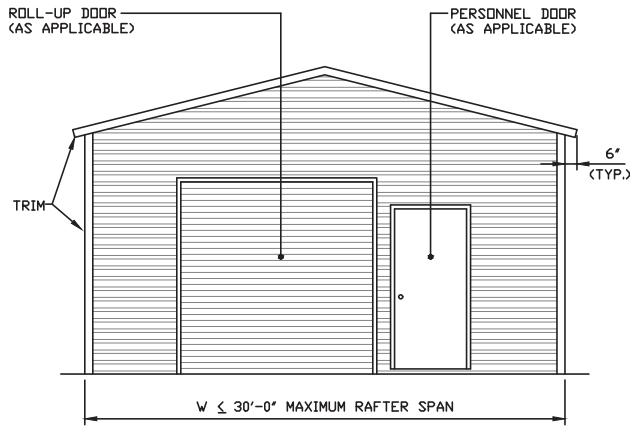
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**REV: 4**

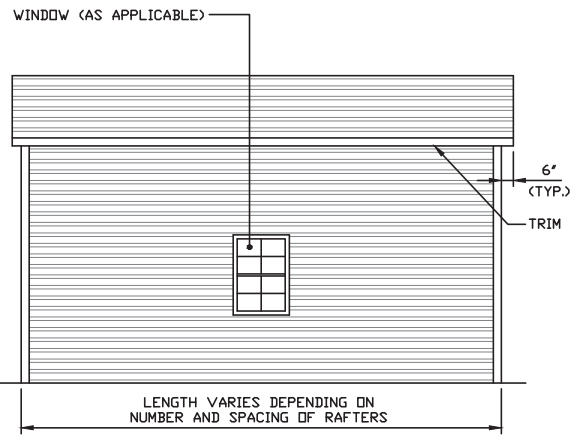
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## BOX EAVE RAFTER STRUCTURE



**TYPICAL END ELEVATION**

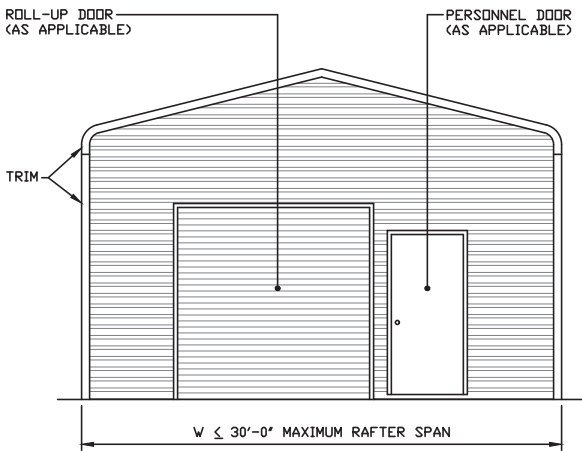
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**TYPICAL SIDE ELEVATION**

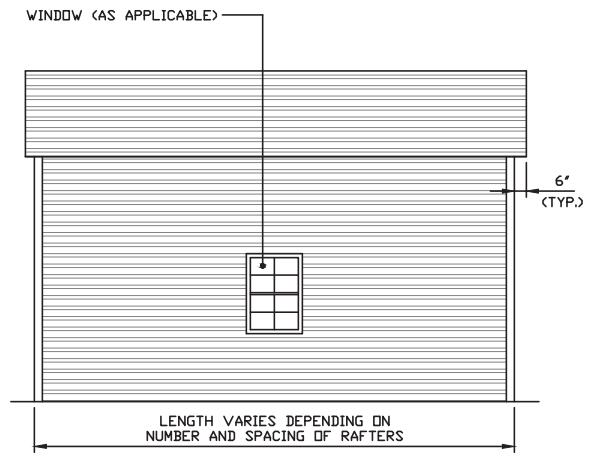
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## BOW FRAME RAFTER STRUCTURE



**TYPICAL END ELEVATION**

SCALE: NTS



**TYPICAL SIDE ELEVATION**

SCALE: NTS

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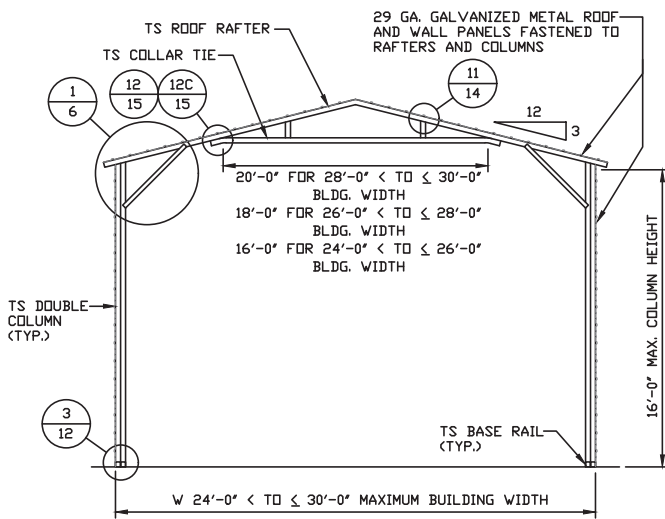
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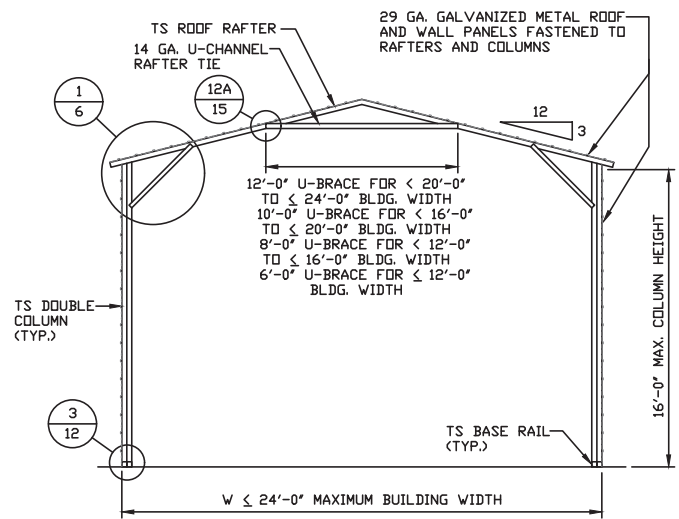
**REV: 4**

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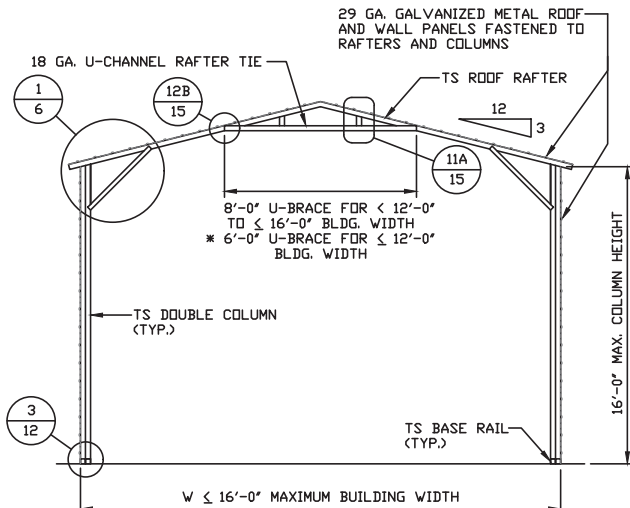




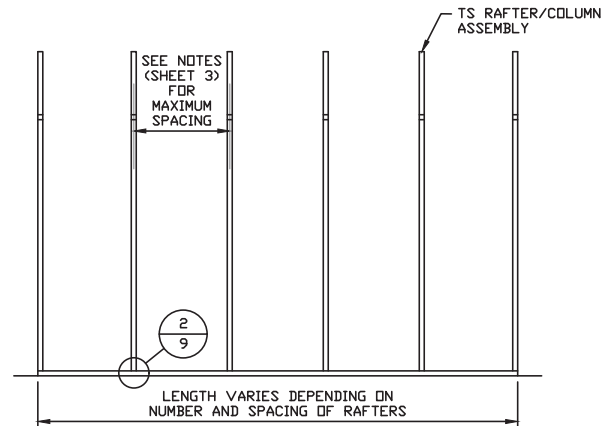
**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**  
SCALE: NTS



**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**  
SCALE: NTS



**TYPICAL INTERIOR RAFTER/COLUMN  
FRAMING SECTION FOR GROUND SNOW  
LOAD  $\leq 20$  PSF**  
SCALE: NTS  
\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR  
THESE TIE LENGTHS.



**TYPICAL RAFTER/COLUMN  
SIDE FRAMING SECTION**  
SCALE: NTS

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 5**

**SCALE: NTS**

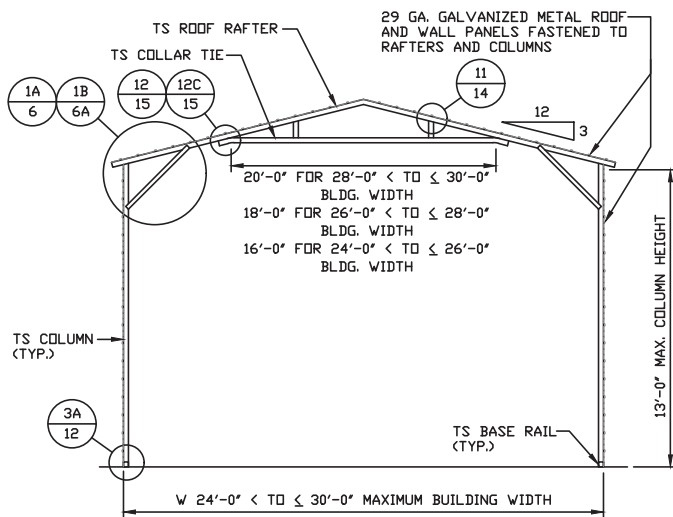
**DWG. NO: SK-3**

**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

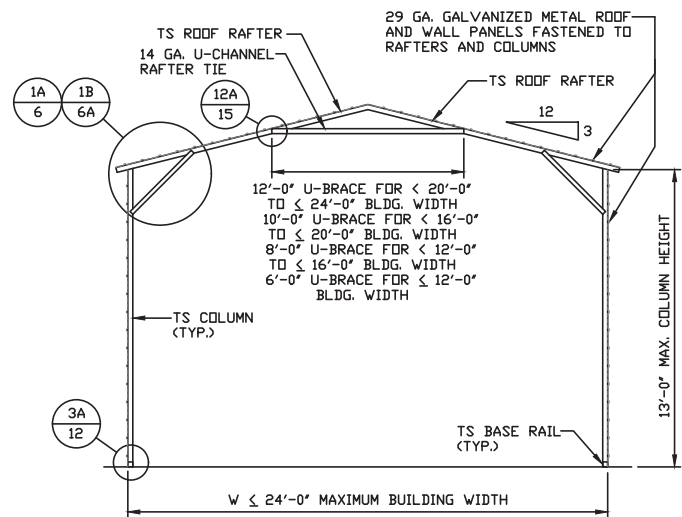
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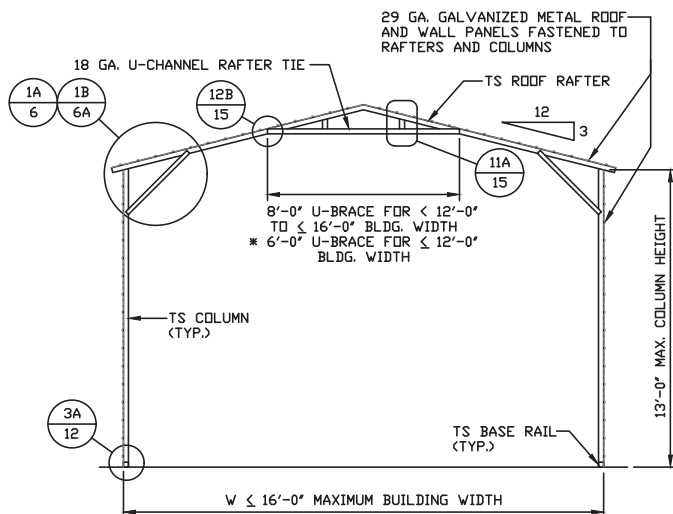
**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

SCALE: NTS



**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

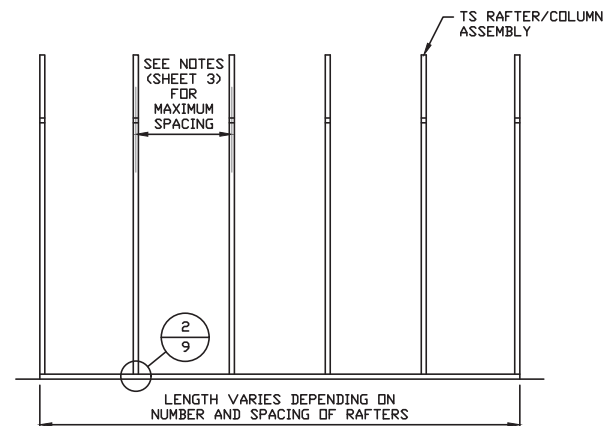
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**TYPICAL INTERIOR RAFTER/COLUMN  
FRAMING SECTION FOR GROUND SNOW  
LOAD  $\leq 20$  PSF**

SCALE: NTS

\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR  
THESE TIE LENGTHS.



**TYPICAL RAFTER/COLUMN  
SIDE FRAMING SECTION**

SCALE: NTS

### Validity Notice

Plans Expiration Date:

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 5A**

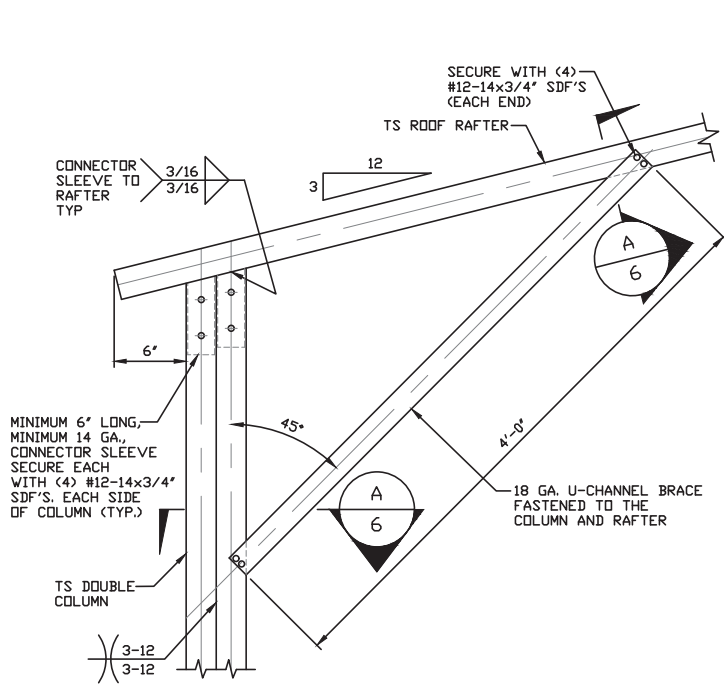
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**DWG. NO: SK-3**

**JOB NO:  
24146S/24199S/25207S**

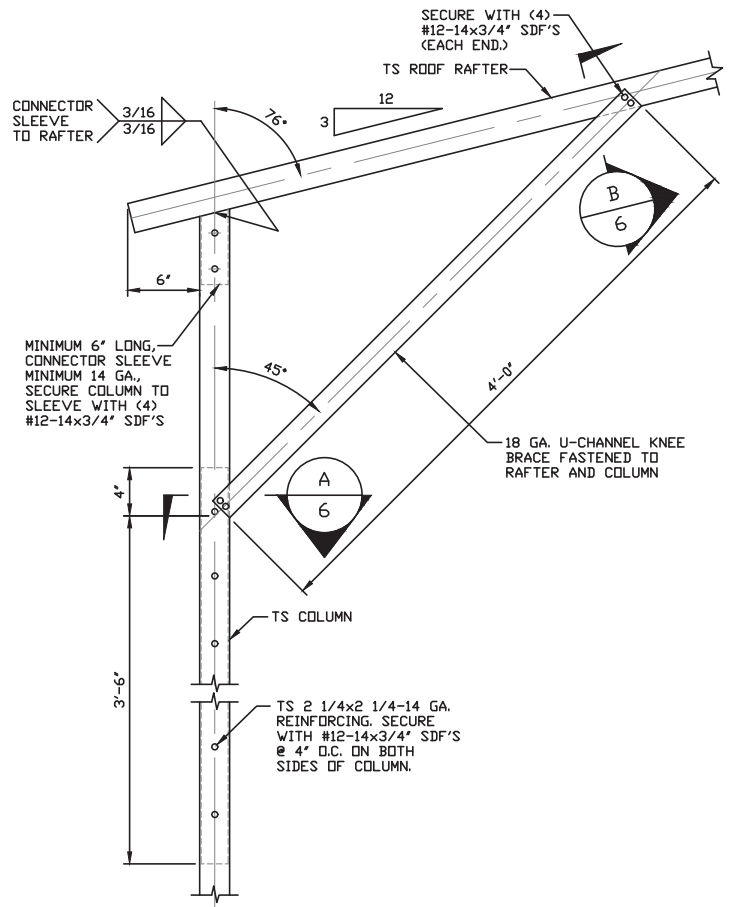
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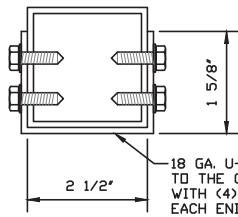
**1** BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 13'-0" < TO ≤ 16'-0"

SCALE: NTS



**1A** BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 11'-0" < TO ≤ 13'-0"

SCALE: NTS



**A** BRACE SECTION

SCALE: NTS

NOTE: DOUBLE TUBE COLUMN NOT SHOWN FOR CLARITY.

### Validity Notice

Plans Expiration Date:

**31 July 2027**

**MOORE AND ASSOCIATES  
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PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 6

SCALE: NTS

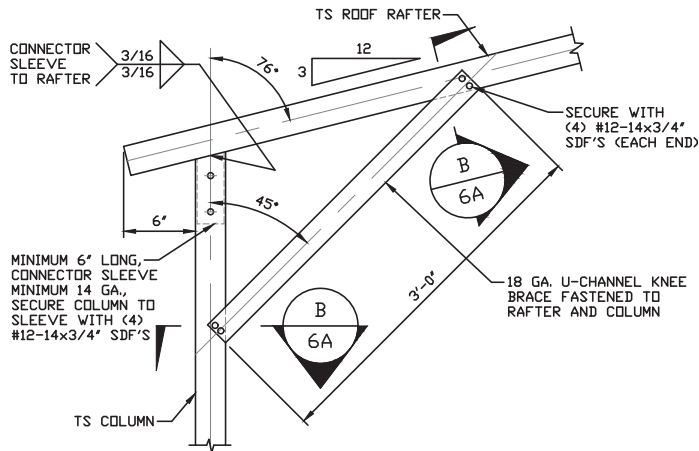
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JOB NO:

24146S/24199S/25207S

REV: 4

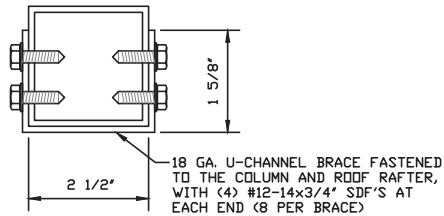
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# BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS $\leq 11'-0''$

1B

SCALE: NTS



B

## BRACE SECTION

SCALE: NTS

### Validity Notice

Plans Expiration Date:

31 July 2027

MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JG

CHECKED BY: AM

PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
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30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 6A

SCALE: NTS

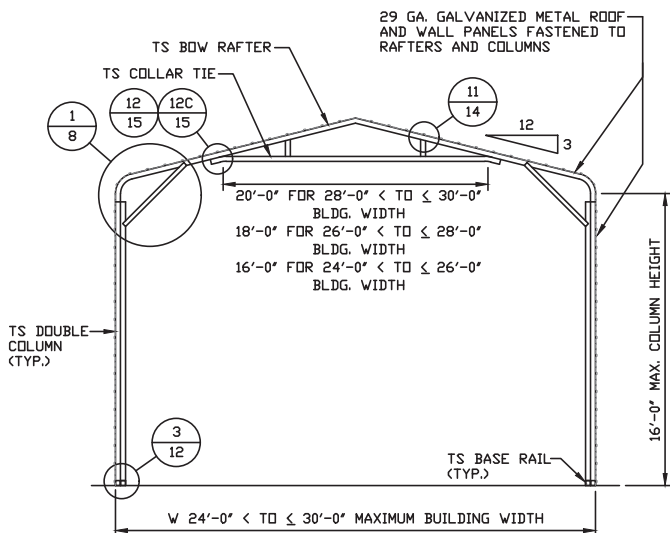
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JOB NO:

24146S/24199S/25207S

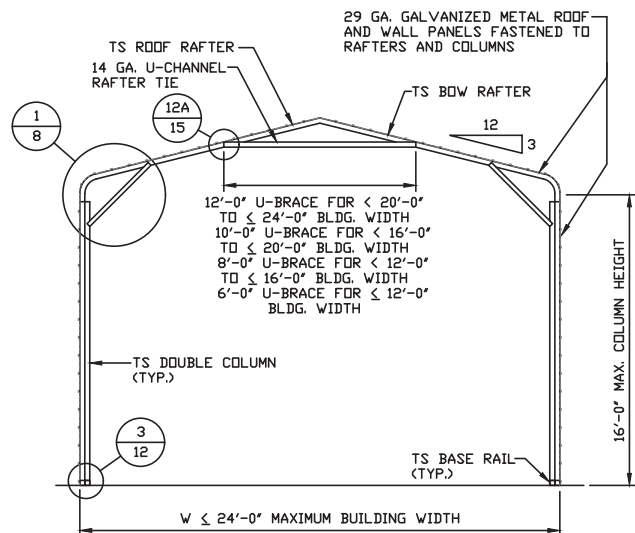
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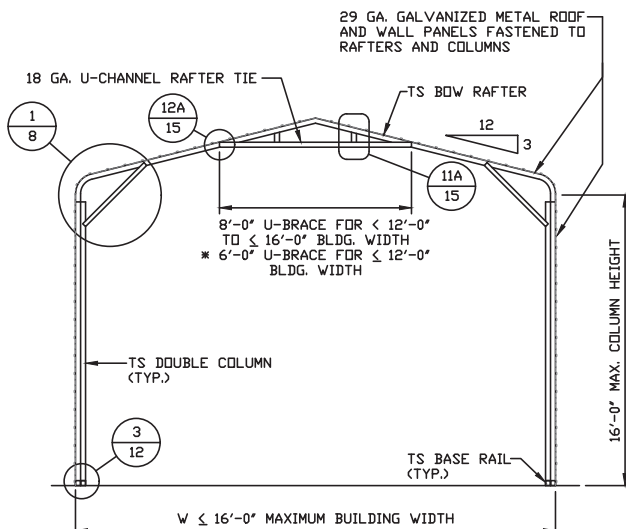
**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

SCALE: NTS



**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

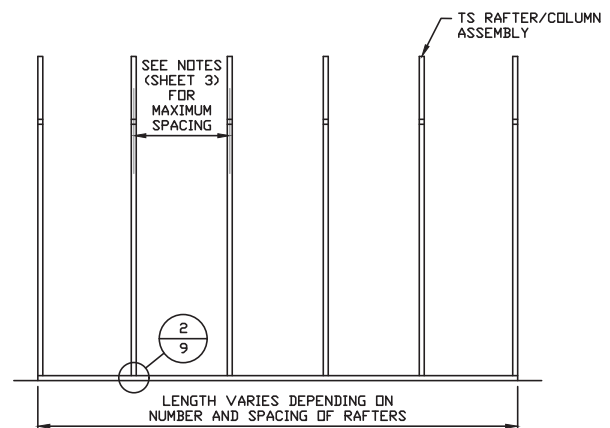
SCALE: NTS



**TYPICAL INTERIOR RAFTER/COLUMN  
FRAMING SECTION FOR GROUND SNOW  
LOAD ≤ 20 PSF**

SCALE: NTS

\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR  
THESE TIE LENGTHS.



**TYPICAL RAFTER/COLUMN  
SIDE FRAMING SECTION**

SCALE: NTS

### Validity Notice

Plans Expiration Date:

**31 July 2027**

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**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
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30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 7**

**SCALE: NTS**

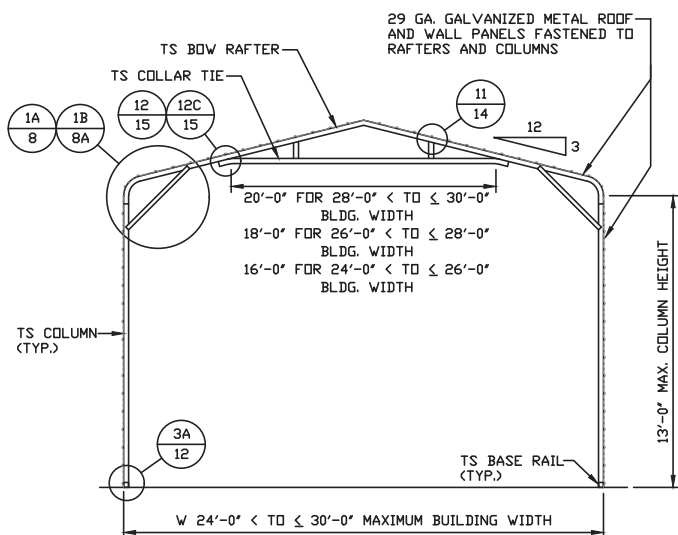
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**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

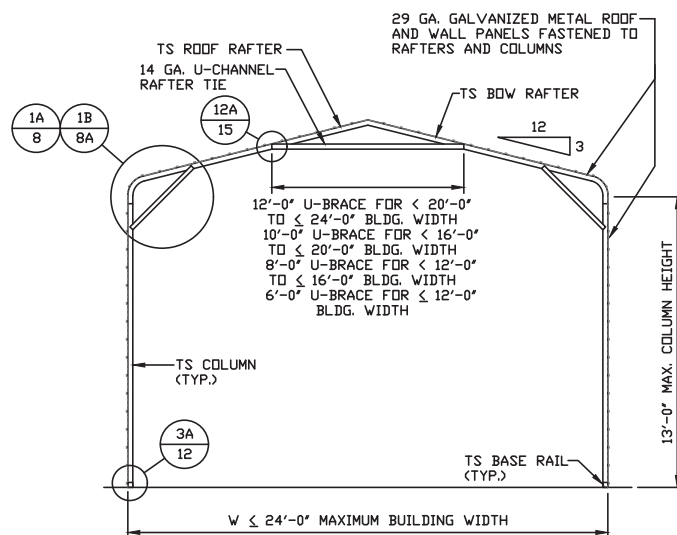
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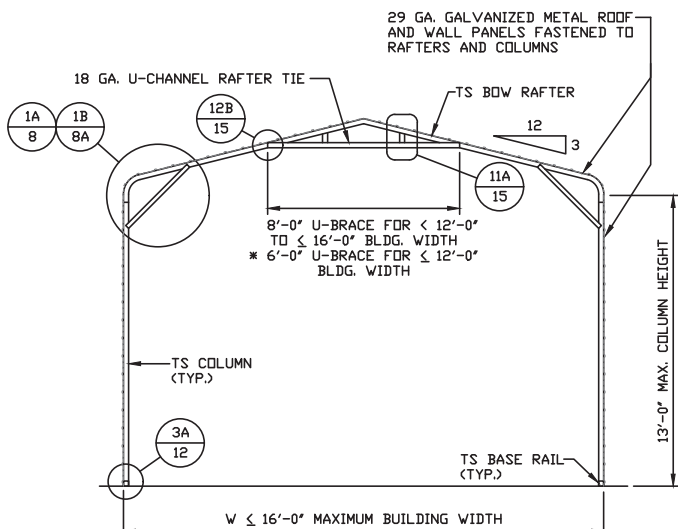
**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

SCALE: NTS



**TYPICAL INTERIOR RAFTER/  
COLUMN FRAMING SECTION**

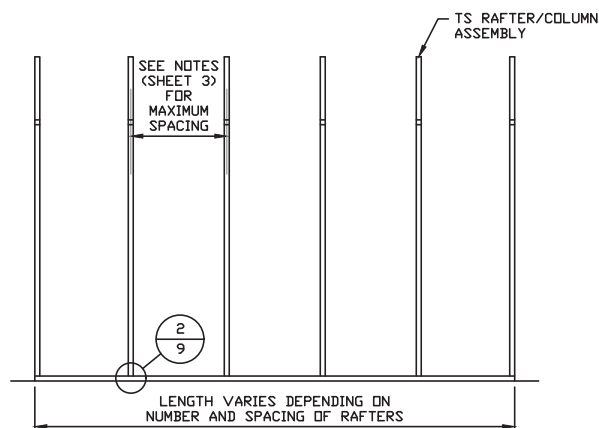
SCALE: NTS



**TYPICAL INTERIOR RAFTER/COLUMN  
FRAMING SECTION FOR GROUND SNOW  
LOAD ≤ 20 PSF**

SCALE: NTS

\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR  
THESE TIE LENGTHS.



**TYPICAL RAFTER/COLUMN  
SIDE FRAMING SECTION**

SCALE: NTS

**Validity Notice**

**Plans Expiration Date:**

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**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

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210 AIRPORT ROAD  
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**DATE: 8-21-25**

**SHT. 7A**

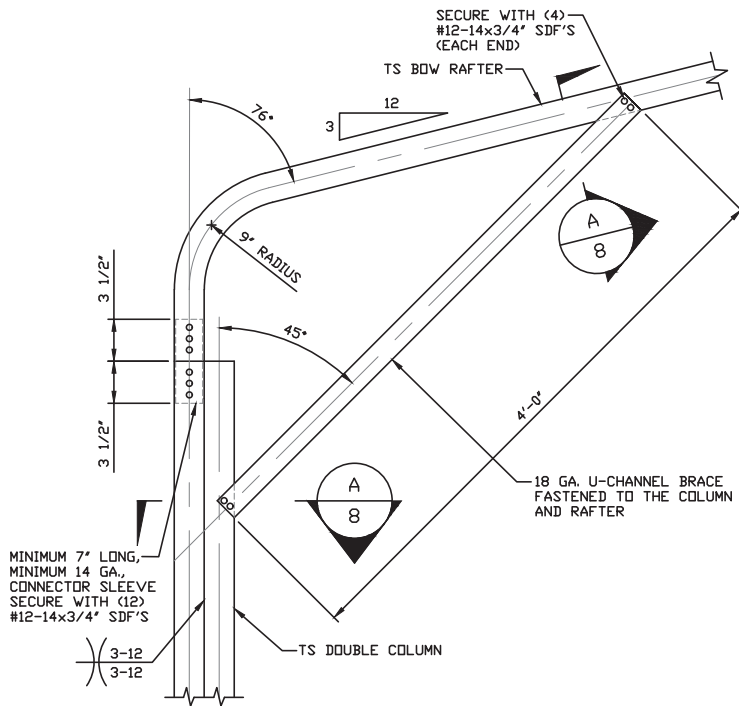
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**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

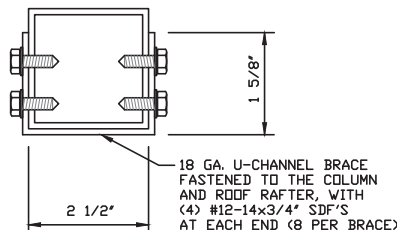
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**BOW EAVE RAFTER COLUMN  
CONNECTION DETAIL FOR EAVE  
HEIGHTS 13'-0" < TO ≤ 16'-0"**

1

SCALE: NTS

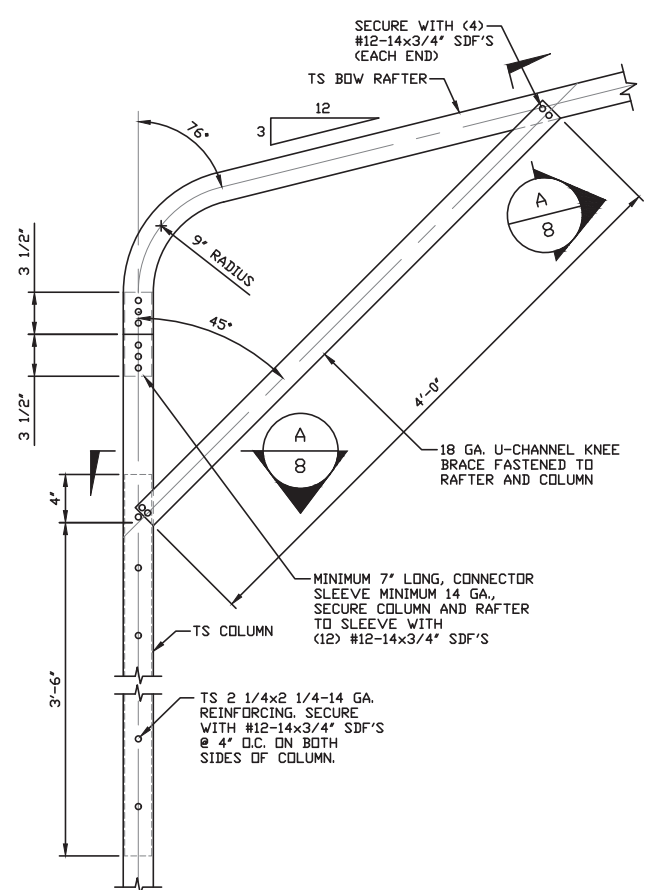


**BRACE SECTION**

SCALE: NTS

NOTE: DOUBLE TUBE COLUMN NOT  
SHOWN FOR CLARITY.

A



**BOW EAVE RAFTER COLUMN  
CONNECTION DETAIL FOR EAVE  
HEIGHTS 11'-0" < TO ≤ 13'-0"**

1A

SCALE: NTS

### Validity Notice

Plans Expiration Date:

31 July 2027

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PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 8

SCALE: NTS

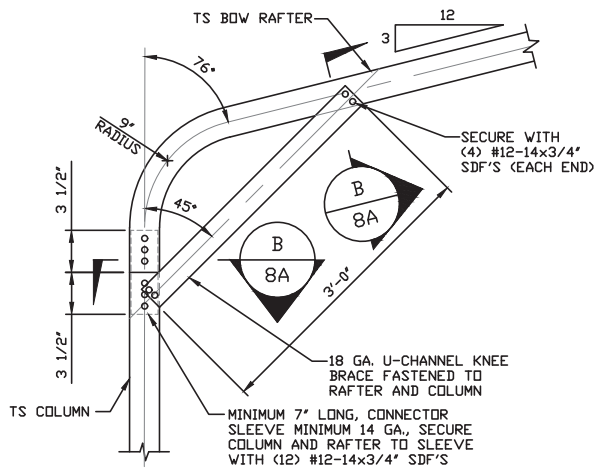
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JOB NO:

24146S/24199S/25207S

REV: 4

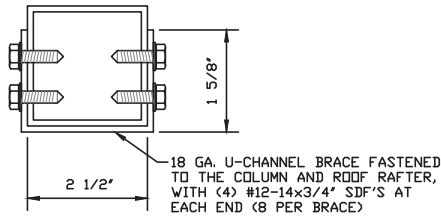
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# **BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS $\leq 11'-0"$**

**1B**

SCALE: NTS



**B**

## **BRACE SECTION**

SCALE: NTS

### **Validity Notice**

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**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 8A**

**SCALE: NTS**

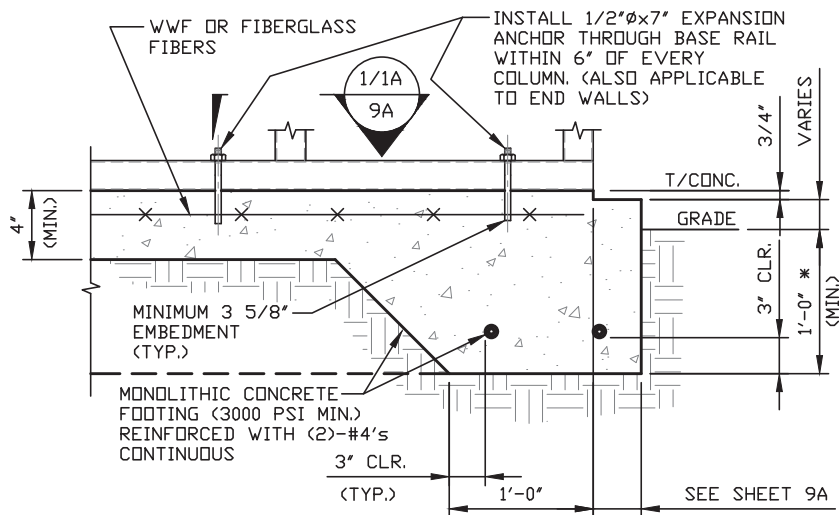
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**JOB NO:  
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## BASE RAIL ANCHORAGE OPTIONS



2

### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

NOTE: SEE SHEET 9A FOR MINIMUM EDGE DISTANCE.

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

### 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  
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.
3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT  
BE FIELD BENT.

**Validity Notice**

**Plans Expiration Date:**

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DATE: 8-21-25

SHT. 9

SCALE: NTS

DWG. NO: SK-3

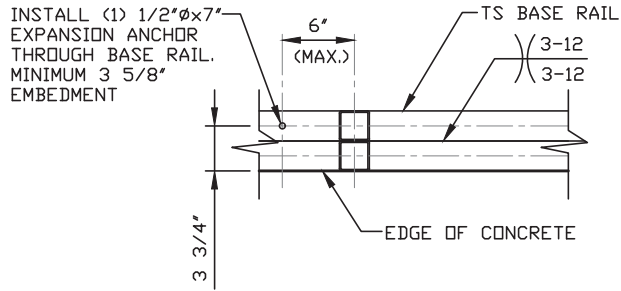
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24146S/24199S/25207S

REV: 4

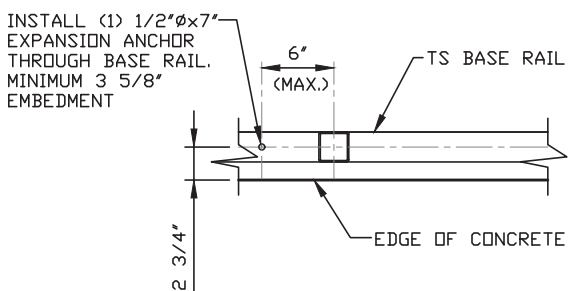
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# BASE RAIL ANCHORAGE OPTIONS



1 SECTION  
SCALE: NTS



1A SECTION  
SCALE: NTS

## Validity Notice

Plans Expiration Date:

31 July 2027

MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.

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DATE: 8-21-25

SHT. 9A

SCALE: NTS

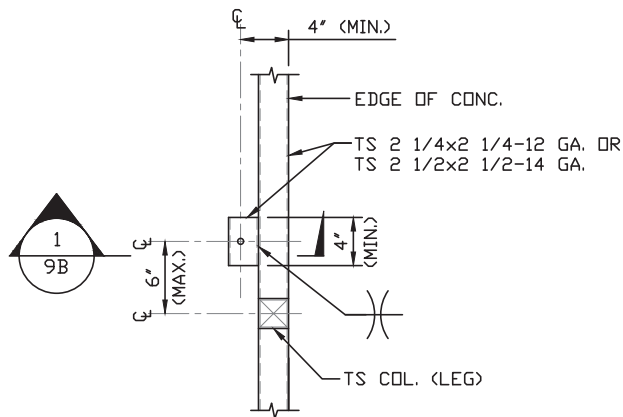
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JOB NO:  
24146S/24199S/25207S

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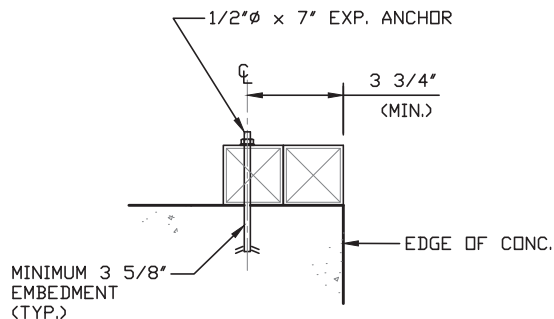
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## BASE RAIL ANCHORAGE OPTIONS



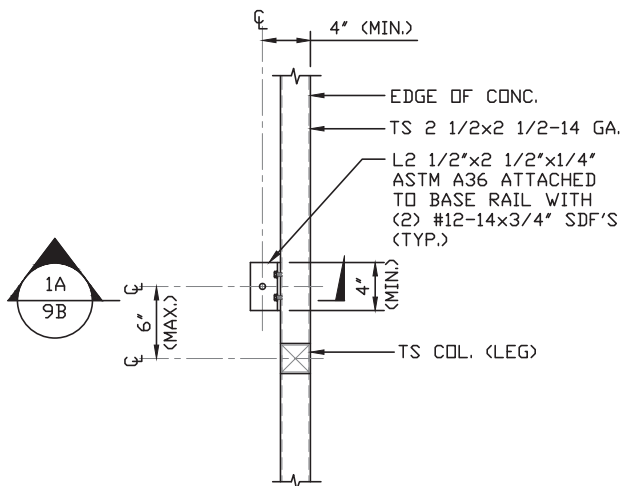
**TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE**

SCALE: NTS



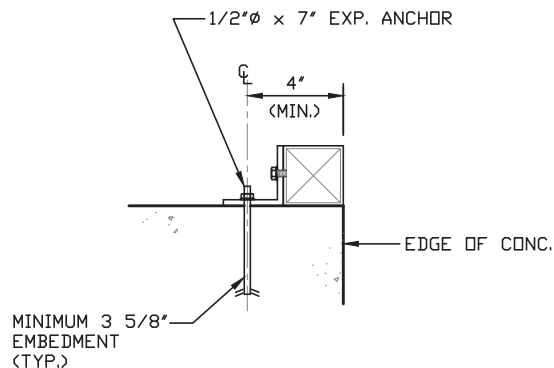
**SECTION 1 9B**

SCALE: NTS



**TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE**

SCALE: NTS



**SECTION 1A 9B**

SCALE: NTS

### Validity Notice

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31 July 2027

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ENGINEERING AND CONSULTING, INC.**

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**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
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30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 9B**

**SCALE: NTS**

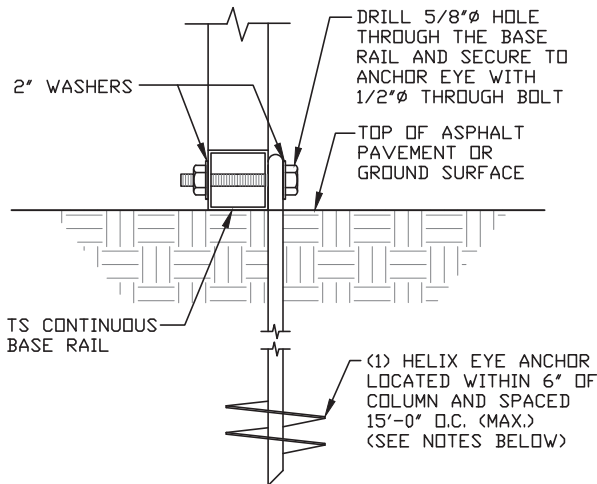
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**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

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## BASE RAIL ANCHORAGE OPTIONS

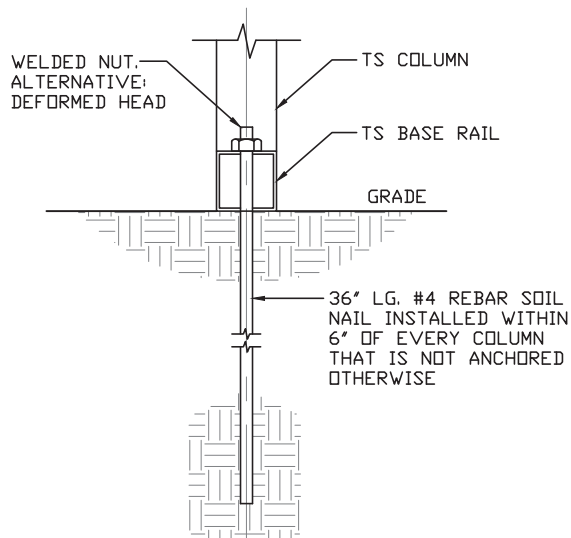


2A

### GROUND BASE HELIX ANCHORAGE WITH ATTACHED LEAN-TO

SCALE: NTS (CAN BE USED FOR ASPHALT)

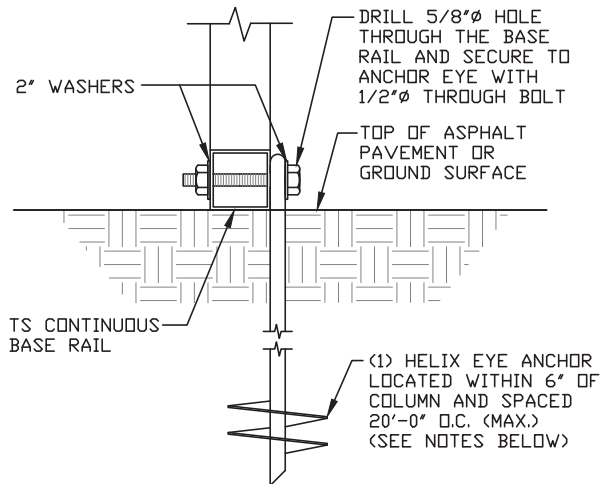
\* COORDINATE WITH LOCAL CODES/ORD. REGARDING REQUIRED ANCHOR LENGTH.



2C

### GROUND BASE SOIL NAIL ANCHORAGE

SCALE: NTS

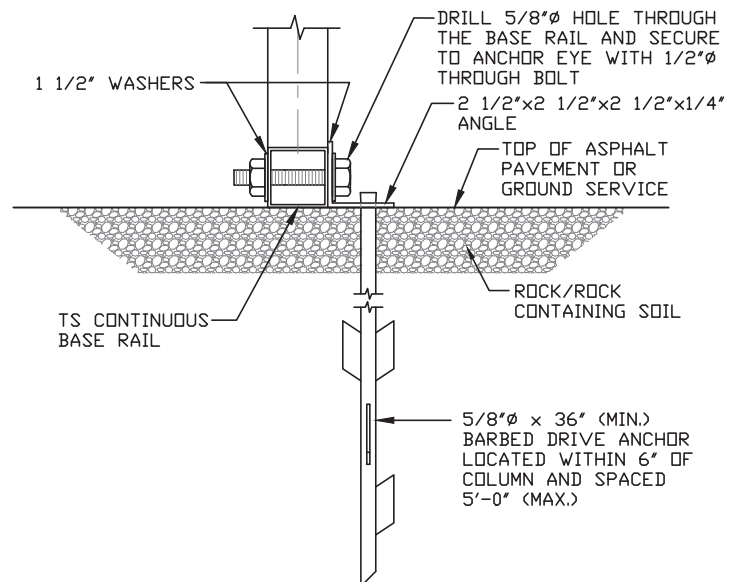


2B

### GROUND BASE HELIX ANCHORAGE WITHOUT ATTACHED LEAN-TO

SCALE: NTS (CAN BE USED FOR ASPHALT)

\* COORDINATE WITH LOCAL CODES/ORD. REGARDING REQUIRED ANCHOR LENGTH.



2D

### BARBED DRIVE BASE ANCHORAGE

SCALE: NTS

#### 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 LOOSE 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.

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS**

**210 AIRPORT ROAD**

**MOUNT AIRY, NC 27030**

**30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 9C**

**SCALE: NTS**

**DWG. NO: SK-3**

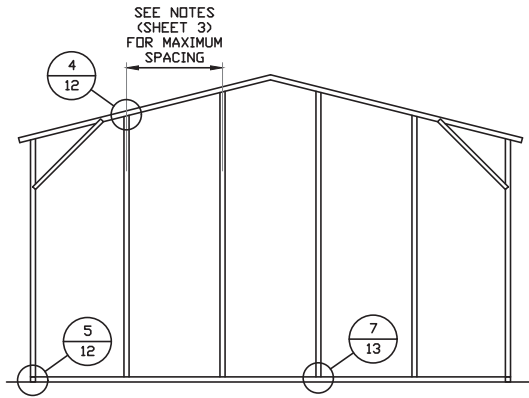
**JOB NO:**

**24146S/24199S/25207S**

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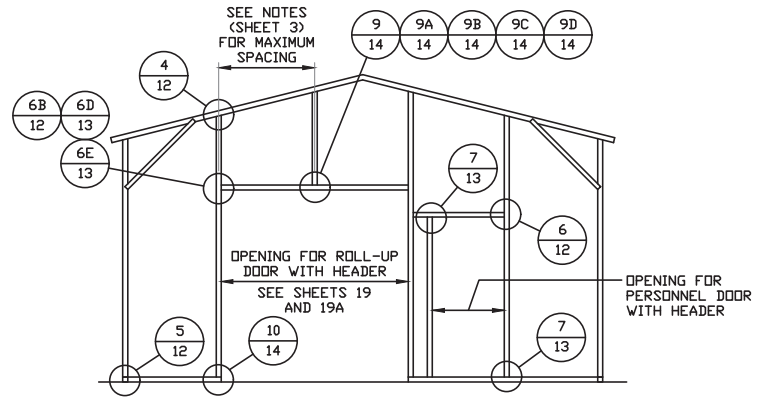
# BOX EAVE RAFTER END WALL AND SIDE WALL FRAMING SECTIONS



**TYPICAL BOX EAVE RAFTER  
END WALL FRAMING SECTION**

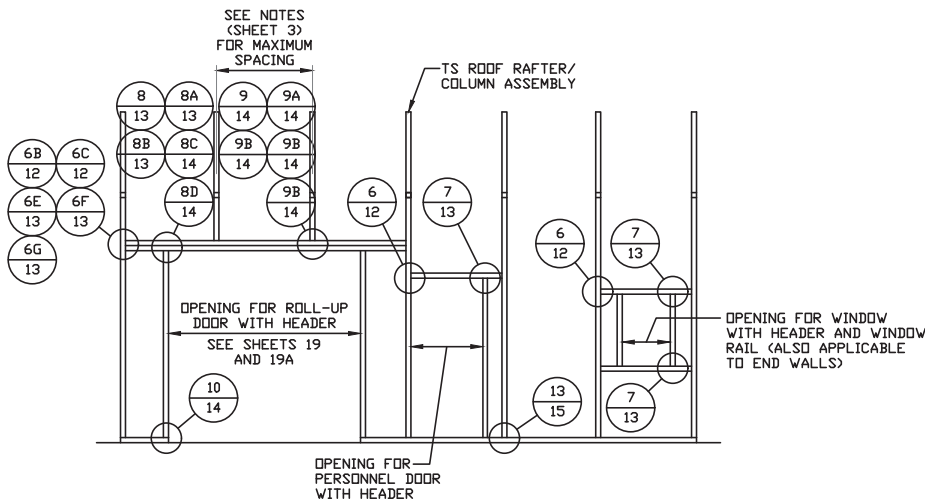
SCALE: NTS

NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES:  
DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS 12'-0" < TO ≤ 16'-0",  
SINGLE TUBE COLUMNS WITH INSERTS FOR EAVE HEIGHTS 11'-0" < TO ≤ 12'-0",  
SINGLE TUBE COLUMNS FOR EAVE HEIGHTS ≤ 11'-0".



**TYPICAL BOX EAVE RAFTER END  
WALL OPENINGS FRAMING SECTION**

SCALE: NTS



**TYPICAL BOX EAVE RAFTER SIDE WALL  
OPENINGS FRAMING SECTION**

SCALE: NTS

## Validity Notice

Plans Expiration Date:

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 10**

**SCALE: NTS**

**DWG. NO: SK-3**

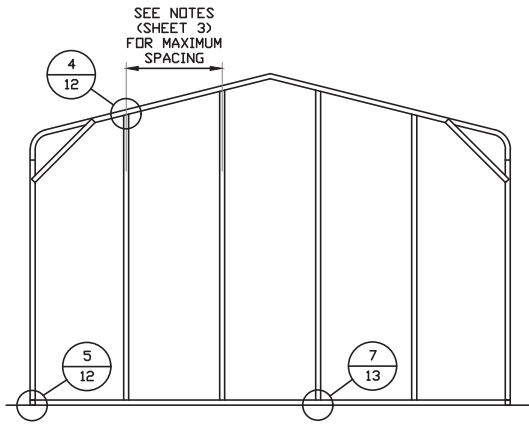
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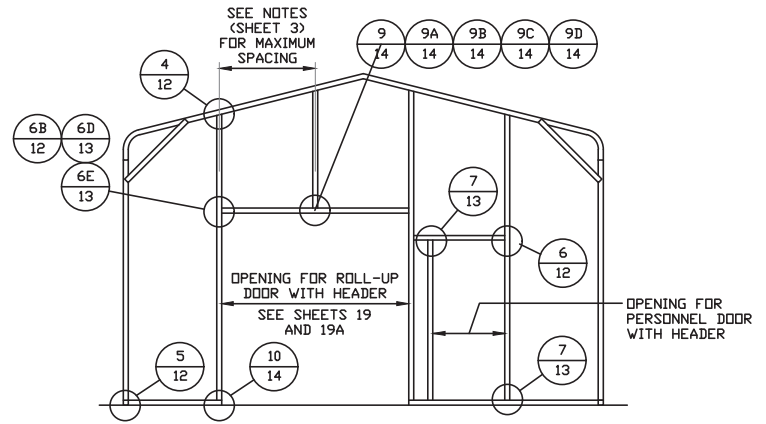
## BOW RAFTER END WALL AND SIDE WALL FRAMING SECTIONS



### TYPICAL BOW RAFTER END WALL FRAMING SECTION

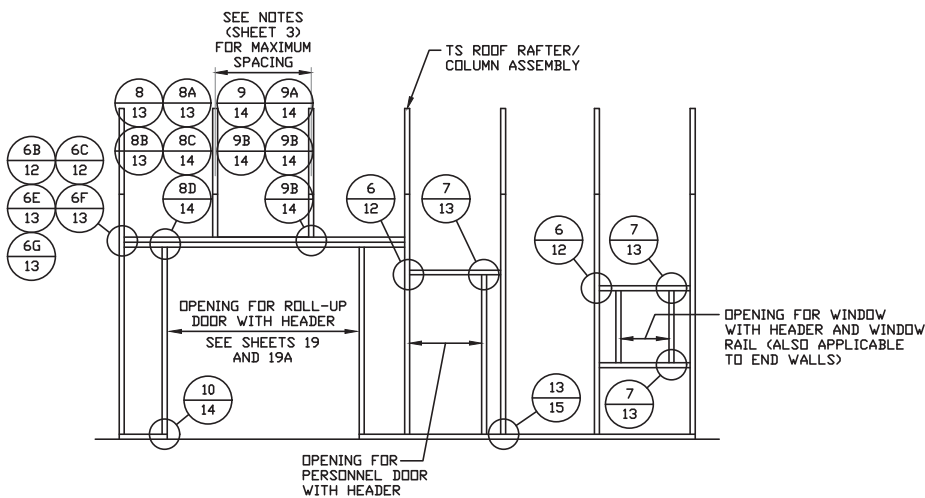
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NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES:  
 DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS 12'-0" < TO ≤ 16'-0",  
 SINGLE TUBE COLUMNS WITH INSERTS FOR EAVE HEIGHTS 11'-0" < TO ≤ 12'-0",  
 SINGLE TUBE COLUMNS FOR EAVE HEIGHTS ≤ 11'-0".



### TYPICAL BOW RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



### TYPICAL BOW RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

## Validity Notice

Plans Expiration Date:

31 July 2027

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PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SCALE: NTS

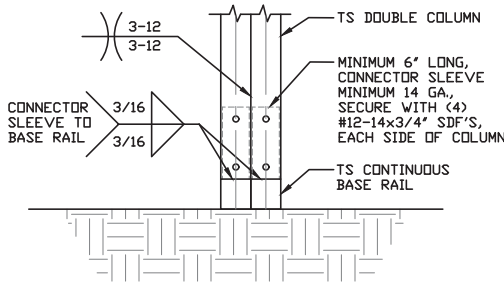
DWG. NO: SK-3

JOB NO:  
24146S/24199S/25207S

REV. 4

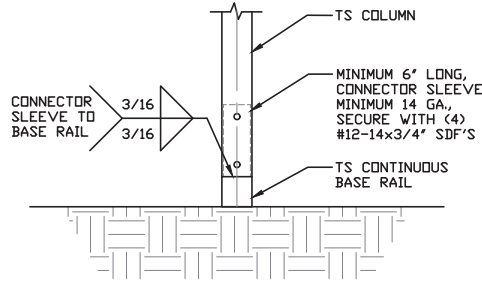
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## CONNECTION DETAILS



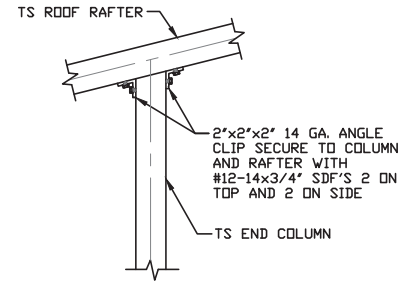
**3** RAFTER COLUMN/  
BASE RAIL  
CONNECTION DETAIL

SCALE: NTS



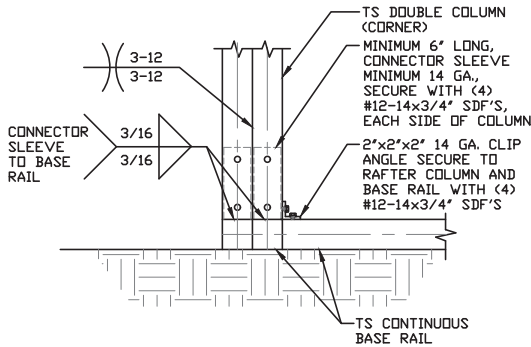
**3A** RAFTER COLUMN/  
BASE RAIL  
CONNECTION DETAIL

SCALE: NTS



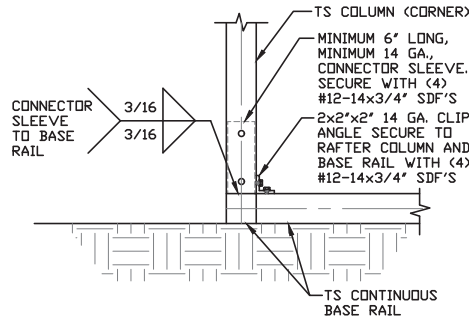
**4** END COLUMN/RAFTER  
CONNECTION DETAIL

SCALE: NTS



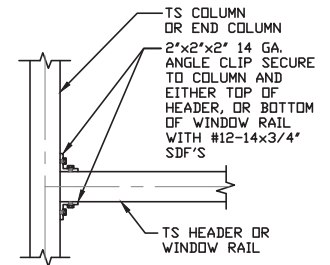
**5** END COLUMN/BASE RAIL  
CONNECTION DETAIL

SCALE: NTS



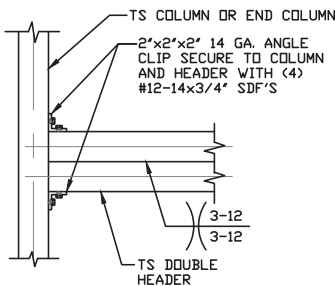
**5A** END COLUMN/BASE RAIL  
CONNECTION DETAIL

SCALE: NTS



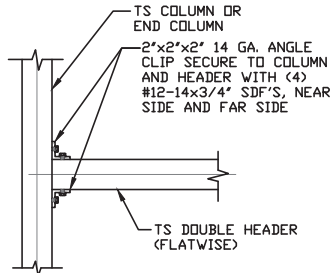
**6** COLUMN OR WINDOW  
RAIL/GIRT TO POST  
CONNECTION DETAIL

SCALE: NTS



**6B** DOUBLE HEADER  
TO COLUMN  
CONNECTION DETAIL

SCALE: NTS



**6C** DOUBLE HEADER  
TO COLUMN  
CONNECTION DETAIL

SCALE: NTS

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

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**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 12**

**SCALE: NTS**

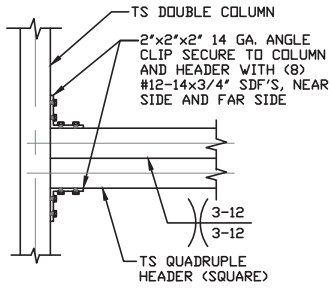
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**JOB NO:  
24146S/24199S/25207S**

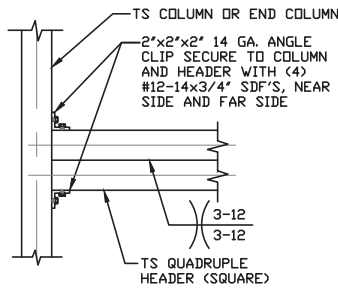
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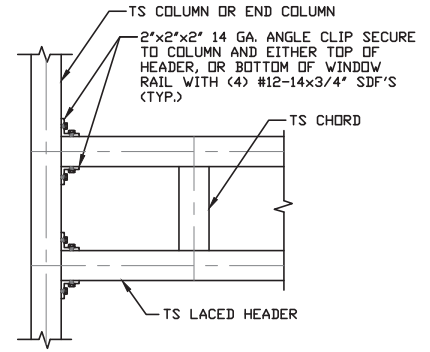
# CONNECTION DETAILS



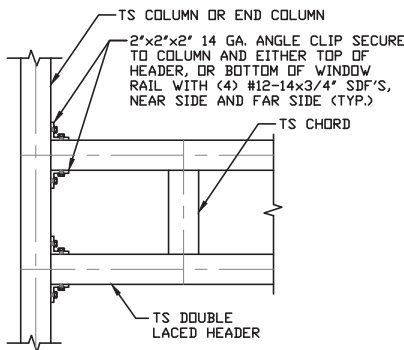
**6D**  
**QUADRUPLE HEADER TO COLUMN CONNECTION DETAIL**  
SCALE: NTS



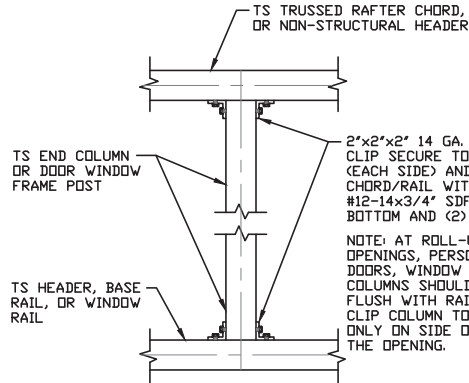
**6F**  
**QUADRUPLE HEADER TO COLUMN CONNECTION DETAIL**  
SCALE: NTS



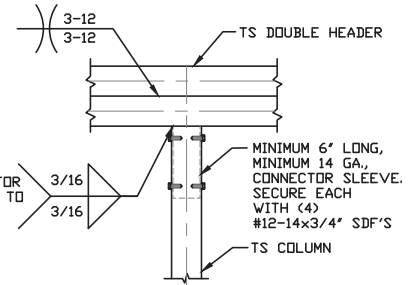
**6G**  
**LACED HEADER TO COLUMN CONNECTION DETAIL**  
SCALE: NTS



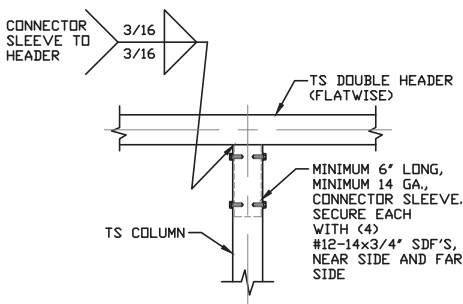
**6H**  
**DOUBLE LACED HEADER TO COLUMN CONNECTION DETAIL**  
SCALE: NTS



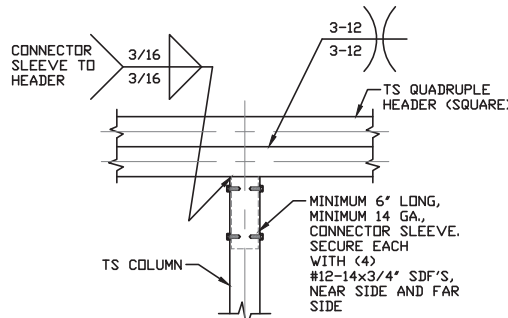
**7**  
**COLUMN TO WINDOW RAIL CONNECTION DETAIL**  
SCALE: NTS



**8**  
**DOUBLE HEADER/ COLUMN CONNECTION DETAIL**  
SCALE: NTS



**8A**  
**DOUBLE HEADER/ COLUMN CONNECTION DETAIL**  
SCALE: NTS



**8B**  
**QUADRUPLE HEADER/ COLUMN CONNECTION DETAIL**  
SCALE: NTS

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

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**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 13**

**SCALE: NTS**

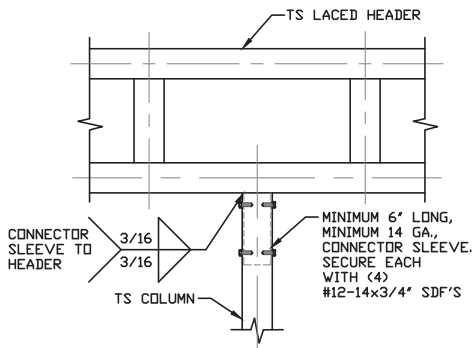
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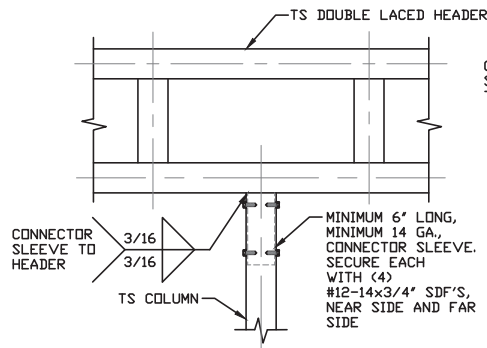
# CONNECTION DETAILS



8C

## LACED HEADER/COLUMN CONNECTION DETAIL

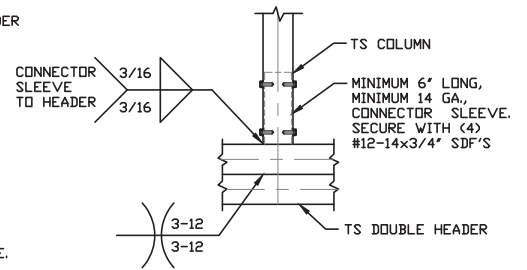
SCALE: NTS



8D

## DOUBLE LACED HEADER/COLUMN CONNECTION DETAIL

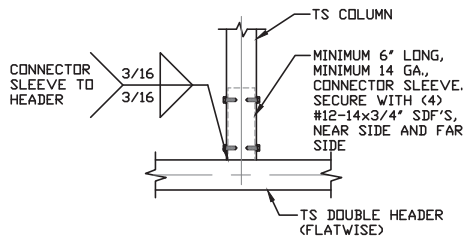
SCALE: NTS



9

## COLUMN/DOUBLE HEADER CONNECTION DETAIL

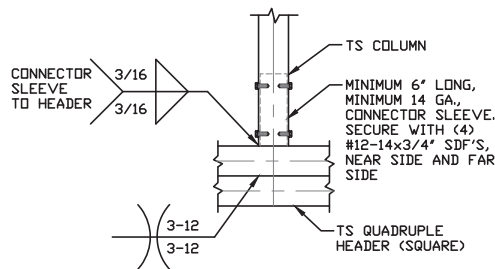
SCALE: NTS



9A

## COLUMN/DOUBLE HEADER CONNECTION DETAIL

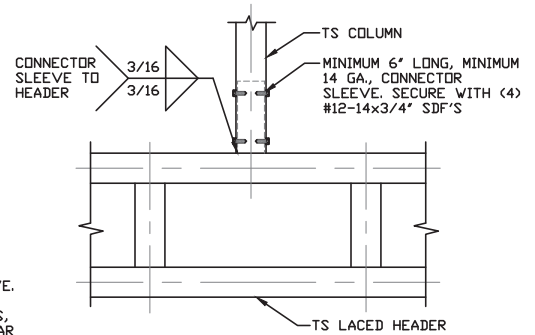
SCALE: NTS



9B

## COLUMN/QUADRUPLE HEADER CONNECTION DETAIL

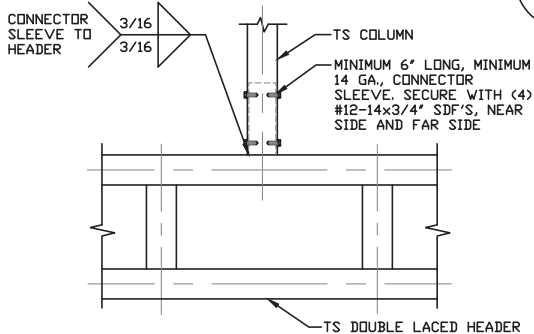
SCALE: NTS



9C

## COLUMN/LACED HEADER CONNECTION DETAIL

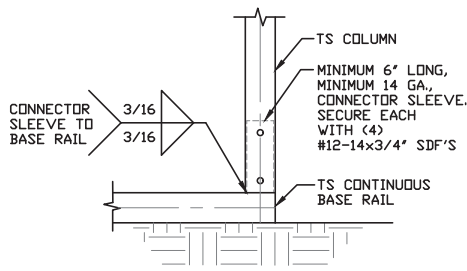
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9D

## COLUMN/DOUBLE LACED HEADER CONNECTION DETAIL

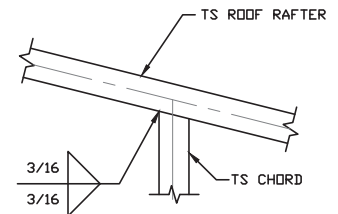
SCALE: NTS



10

## COLUMN/BASE RAIL CONNECTION DETAIL

SCALE: NTS



11

## RAFTER TO CHORD CONNECTION DETAIL

SCALE: NTS

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**Plans Expiration Date:**

**31 July 2027**

MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JG

CHECKED BY: AM

PROJECT MGR: JRP

CLIENT: EAGLE CARPORTS

EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 14

SCALE: NTS

DWG. NO: SK-3

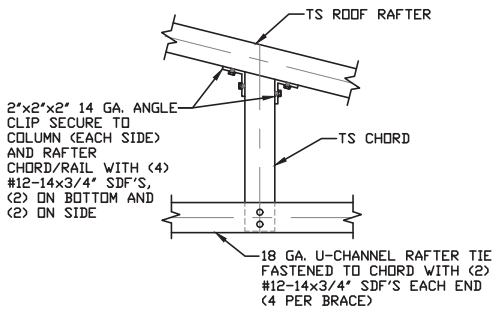
JOB NO:  
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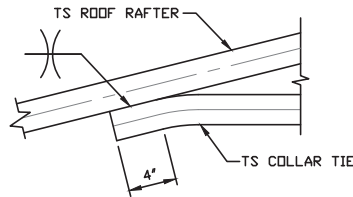


# CONNECTION DETAILS



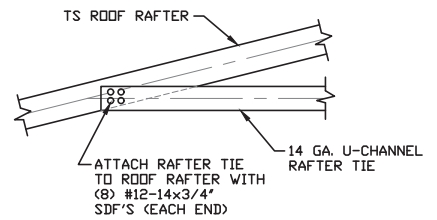
11A

**RAFTER/U-CHANNEL  
TO CHORD  
CONNECTION DETAIL**  
SCALE: NTS



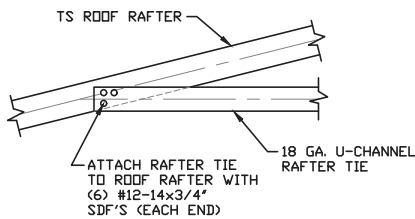
12

**COLLAR TIE  
CONNECTION DETAIL**  
SCALE: NTS



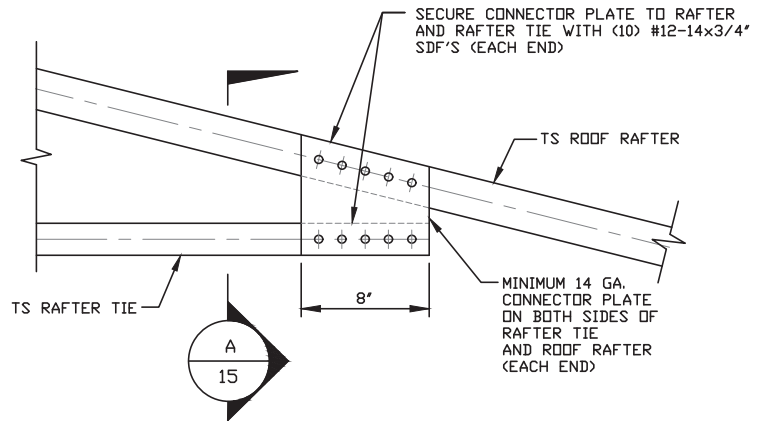
12A

**COLLAR TIE  
CONNECTION DETAIL**  
SCALE: NTS



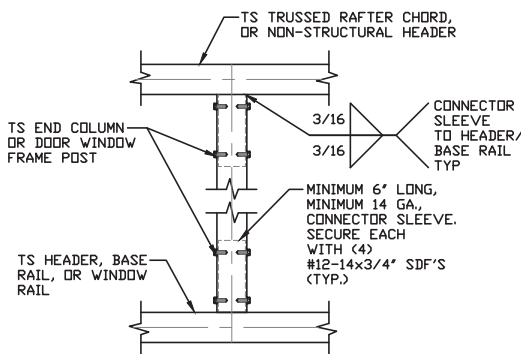
12B

**COLLAR TIE  
CONNECTION DETAIL**  
SCALE: NTS



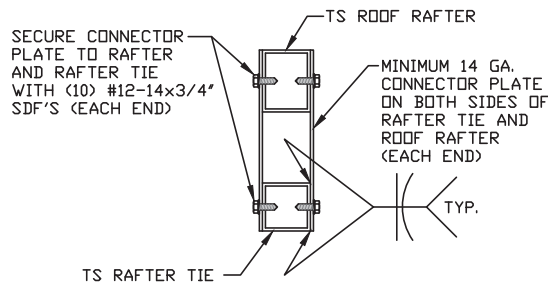
12C

**ROOF RAFTER TIE CONNECTION DETAIL**  
SCALE: NTS



13

**COLUMN TO HEADER  
OR BASE RAIL  
CONNECTION DETAIL**  
SCALE: NTS



A

**SECTION**  
SCALE: NTS

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

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**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 15**

**SCALE: NTS**

**DWG. NO: SK-3**

**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

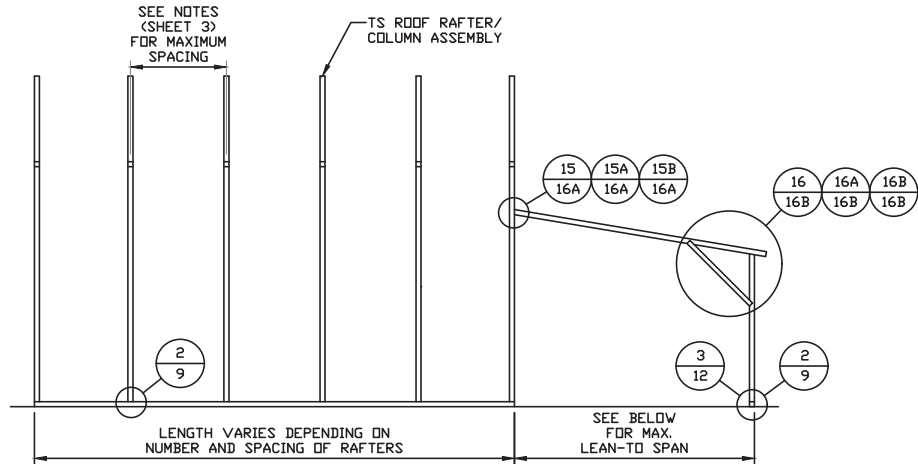
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The diagram illustrates three structural options for a building: **ROOF EXTENSION OPTION**, **MAIN STRUCTURE**, and **LEAN-TO OPTION**. The **MAIN STRUCTURE** is the central part, flanked by the other two options. Dimensions and callouts are as follows:

- Roof Extension Option:**
  - Top left callout: 16/16B, 16A/16B, 16B/16B.
  - Top middle callout: 14/16, 14A/16, 14B/16.
  - Bottom left callout: 3/12, 2/9.
  - Bottom middle callout: SEE BELOW FOR MAX. LEAN-TO SPAN.
- Main Structure:**
  - Bottom middle callout:  $W \leq 30'-0"$  MAXIMUM RAFTER SPAN.
- Lean-To Option:**
  - Top right callout: 15/16A, 15A/16A, 15B/16A.
  - Top far right callout: 16/16B, 16A/16B, 16B/16B.
  - Bottom right callout: 3/12, 2/9.
  - Bottom far right callout: SEE SHEET 16A FOR MAX. LEAN-TO SPAN.

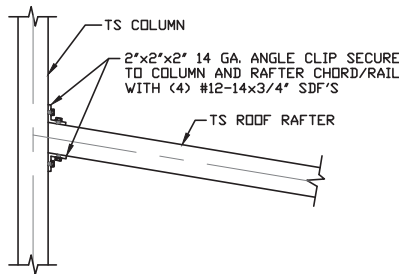
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# BOX EAVE RAFTER END WALL LEAN-TO OPTIONS



## TYPICAL BOX EAVE RAFTER END WALL LEAN-TO OPTIONS FRAMING SECTION

SCALE: NTS

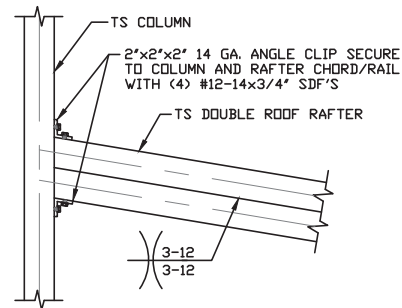


### 15 LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 12'-0''$

SCALE: NTS

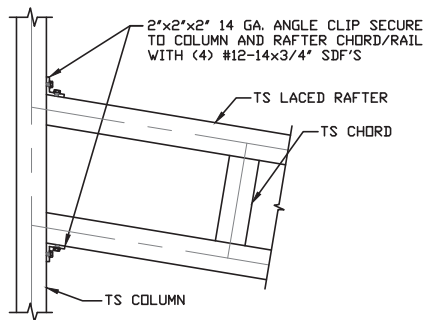
NOTE: 2'-0" U-CHANNEL KNEE BRACE CAN BE USED FOR COLUMN HEIGHTS  $\leq 10'-0''$ .

3'-0" U-CHANNEL KNEE BRACE CAN BE USED FOR COLUMN HEIGHT  $\leq 11'-0''$ .



### 15A LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $12'-0'' < \text{TO} \leq 16'-0''$

SCALE: NTS



### 15B LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $16'-0'' < \text{TO} \leq 20'-0''$

SCALE: NTS

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**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS**

**210 AIRPORT ROAD**

**MOUNT AIRY, NC 27030**

**30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 16A**

**SCALE: NTS**

**DWG. NO: SK-3**

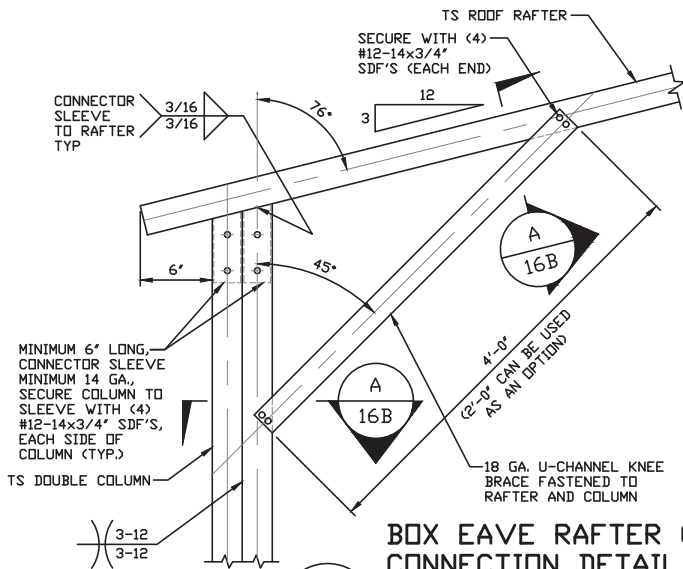
**JOB NO:**

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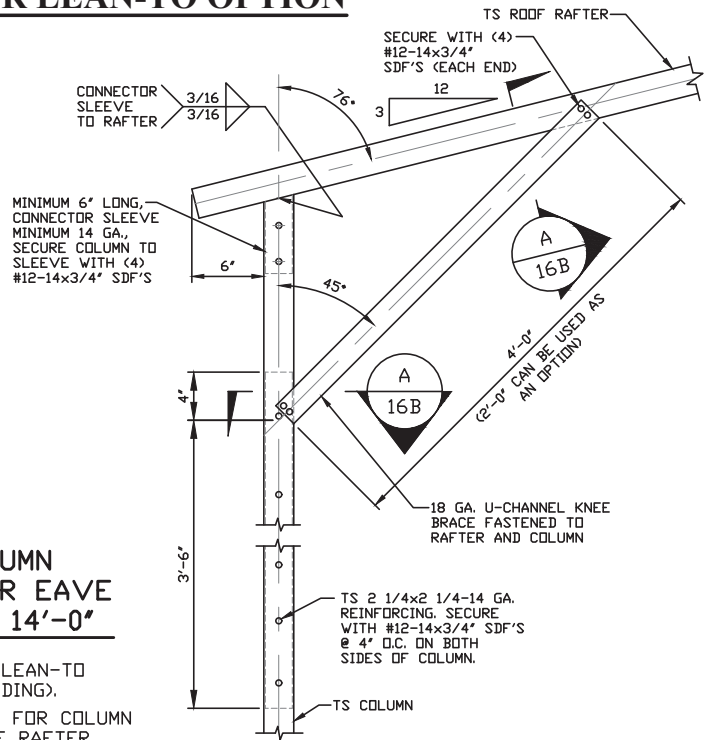
# BOX EAVE RAFTER LEAN-TO OPTION



16

## BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 12'-0" < TO ≤ 14'-0"

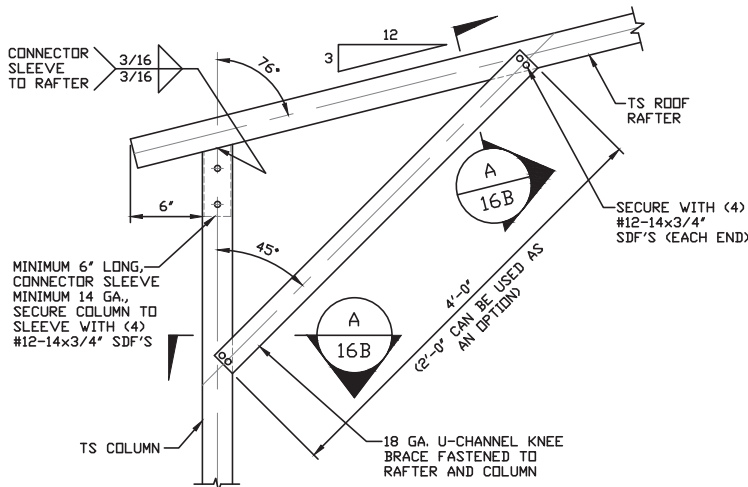
SCALE: NTS  
HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



16A

## BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 10'-0" < TO ≤ 12'-0"

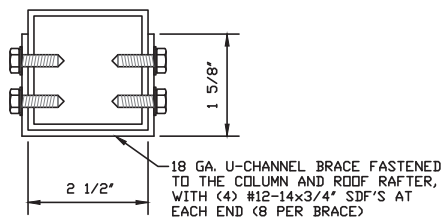
SCALE: NTS  
HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



16B

## BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS ≤ 10'-0"

SCALE: NTS  
HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



A

## BRACE SECTION

SCALE: NTS  
NOTE: DOUBLE TUBE AND LACED SECTIONS NOT SHOWN FOR CLARITY.

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 16B**

**SCALE: NTS**

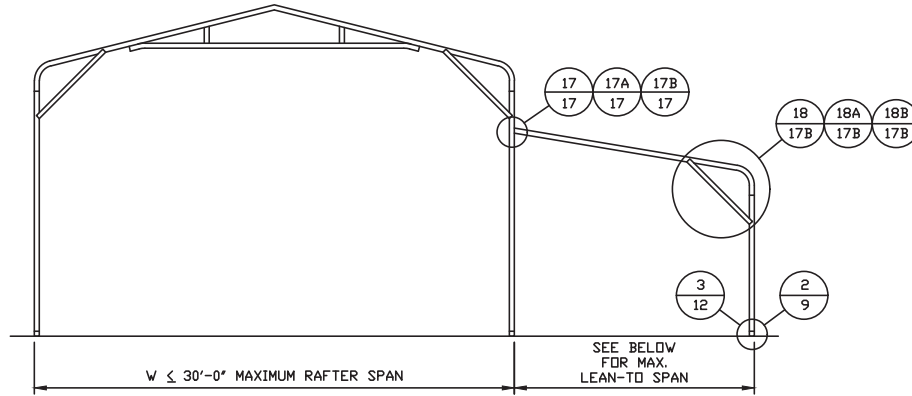
**DWG. NO: SK-3**

**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

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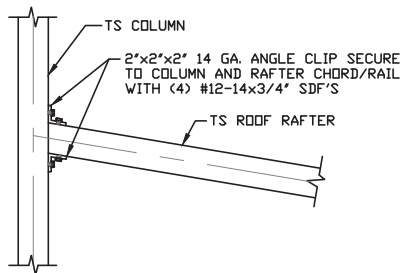
## BOW RAFTER LEAN-TO OPTION



### 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 16'-0".  
 MAXIMUM WIDTH OF LACED MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 20'-0".  
 MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 12'-0" < TO ≤ 16'-0".  
 MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS WITH INSERTS FOR EAVE HEIGHTS 10'-0" < TO ≤ 12'-0".  
 MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS ≤ 10'-0".



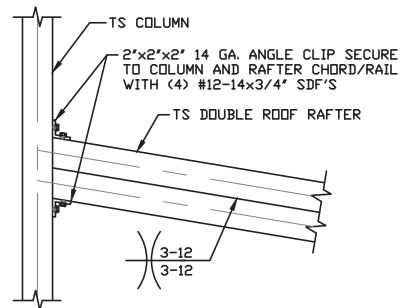
#### **LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 12'-0"**

**17**

SCALE: NTS

NOTE: 2'-0" U-CHANNEL KNEE BRACE CAN BE USED FOR COLUMN HEIGHTS ≤ 10'-0".

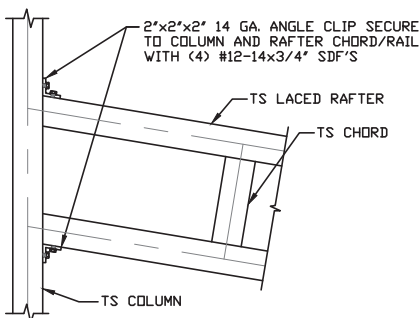
3'-0" U-CHANNEL KNEE BRACE CAN BE USED FOR COLUMN HEIGHT ≤ 11'-0".



#### **LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 12'-0" < TO ≤ 16'-0"**

**17A**

SCALE: NTS



#### **LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 16'-0" < TO ≤ 20'-0"**

**17B**

SCALE: NTS

#### Validity Notice

Plans Expiration Date:

31 July 2027

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030**

**30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 17**

**SCALE: NTS**

**DWG. NO: SK-3**

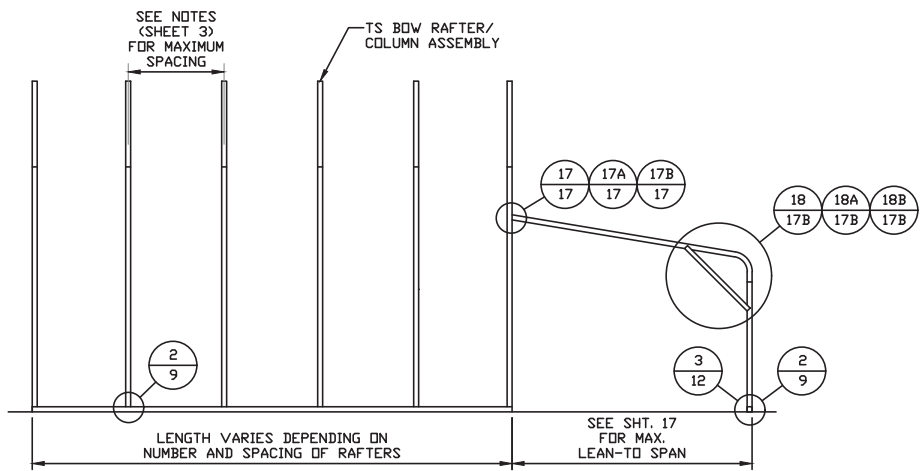
**JOB NO:**

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**BOW RAFTER END WALL LEAN-TO OPTION**



**TYPICAL BOW RAFTER END WALL LEAN-TO OPTION FRAMING SECTION**  
SCALE: NTS

**Validity Notice**

Plans Expiration Date:

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 17A**

**SCALE: NTS**

**DWG. NO: SK-3**

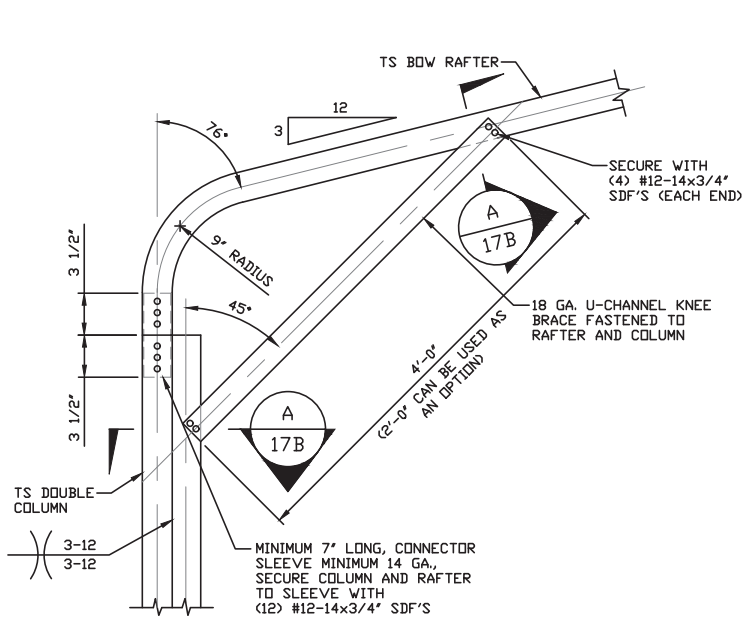
**JOB NO:  
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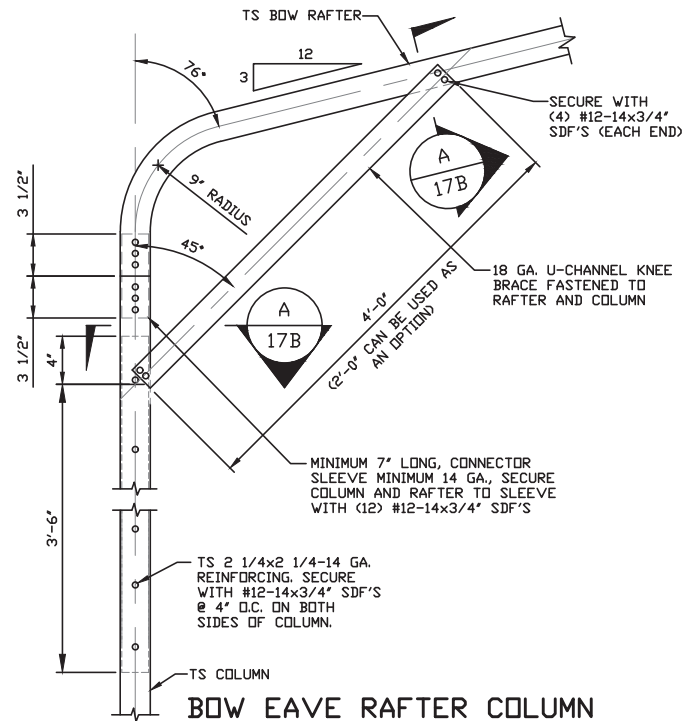
# BOW RAFTER LEAN-TO OPTION



18

## BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 12'-0" < TO ≤ 14'-0"

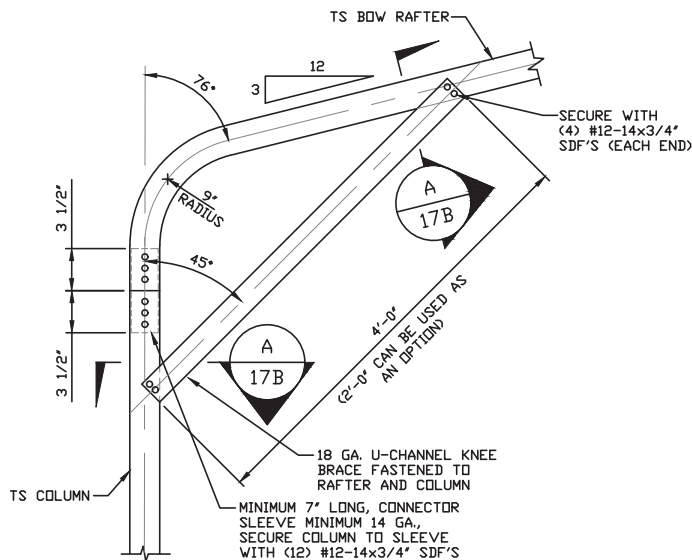
SCALE: NTS  
HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



18A

## BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS 10'-0" < TO ≤ 12'-0"

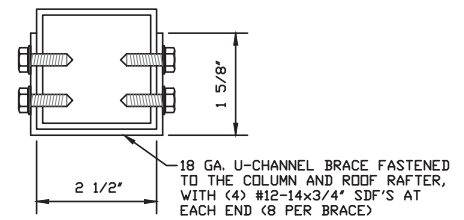
SCALE: NTS  
(HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING)).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



18B

## BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR EAVE HEIGHTS ≤ 10'-0"

SCALE: NTS  
(HORSE BARN OPTION (REQUIRES A LEAN-TO ON BOTH SIDES OF THE MAIN BUILDING)).  
NOTE: 3'-0" KNEE BRACE REQUIRED FOR COLUMN HEIGHT ≤ 11'-0" SINGLE TUBE RAFTER.



A

## BRACE SECTION

SCALE: NTS  
NOTE: DOUBLE TUBE AND LACED SECTIONS NOT SHOWN FOR CLARITY.

**Validity Notice**

**Plans Expiration Date:**

**31 July 2027**

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SHT. 17B**

**SCALE: NTS**

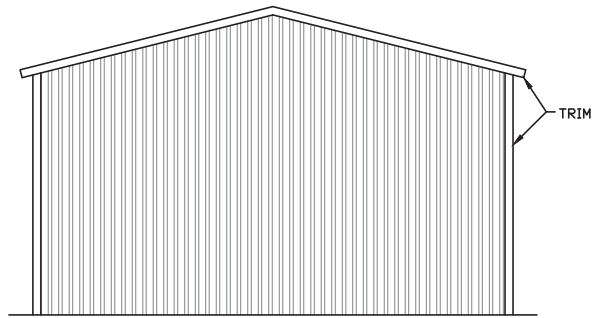
**DWG. NO: SK-3**

**JOB NO:  
24146S/24199S/25207S**

**REV: 4**

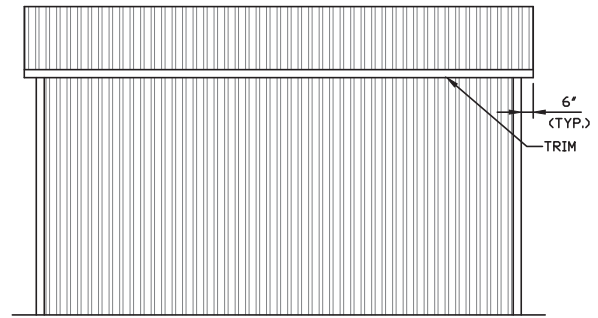
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## BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



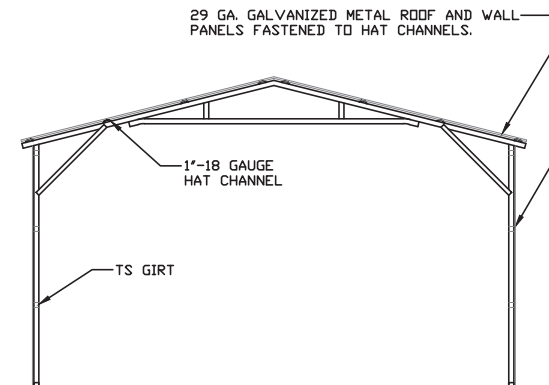
**TYPICAL END ELEVATION  
VERTICAL ROOF/SIDING**

SCALE: NTS



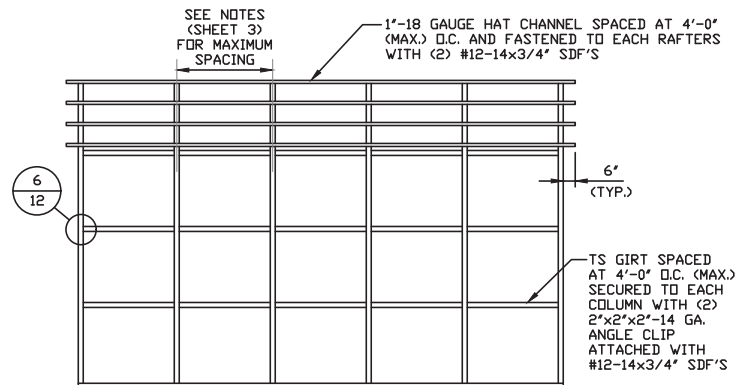
**TYPICAL SIDE ELEVATION  
VERTICAL ROOF/SIDING**

SCALE: NTS



**TYPICAL SECTION VERTICAL  
ROOF/SIDING OPTION**

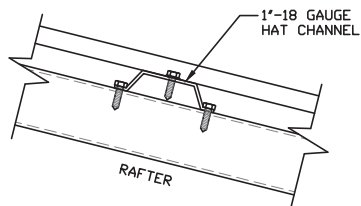
SCALE: NTS



**TYPICAL FRAMING SECTION  
VERTICAL ROOF/SIDING OPTION**

SCALE: NTS

NOTE: HAT CHANNELS CAN BE USED AS AN OPTION IN PLACE OF TS GIRTS.



**PANEL ATTACHMENT**

(ALTERNATE FOR VERTICAL ROOF PANELS)

SCALE: NTS

### Validity Notice

Plans Expiration Date:

31 July 2027

**MOORE AND ASSOCIATES  
ENGINEERING AND CONSULTING, INC.**

**DRAWN BY: JG**

**CHECKED BY: AM**

**PROJECT MGR: JRP**

**CLIENT: EAGLE CARPORTS**

**EAGLE CARPORTS**

**210 AIRPORT ROAD**

**MOUNT AIRY, NC 27030**

**30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B**

**DATE: 8-21-25**

**SCALE: NTS**

**DWG. NO: SK-3**

**JOB NO:**

**24146S/24199S/25207S**

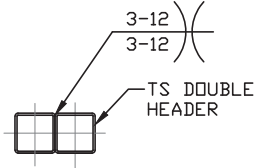
**SHT. 18**

**REV: 4**

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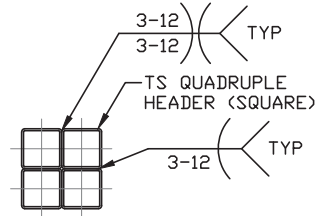
## SIDE WALL HEADER OPTIONS FOR DOUBLE TUBE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



HEADER DETAIL FOR  
DOOR OPENINGS  
LENGTH  $\leq 10'-0"$

SCALE: NTS

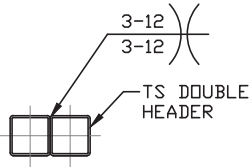


HEADER DETAIL FOR  
DOOR OPENINGS  
 $10'-0" < \text{LENGTH} \leq 16'-0"$

SCALE: NTS

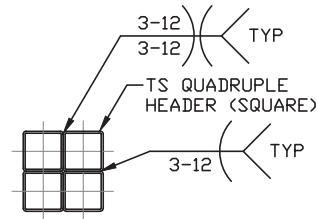
## END WALL HEADER OPTIONS FOR DOUBLE TUBE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



HEADER DETAIL FOR  
DOOR OPENINGS  
LENGTH  $\leq 12'-0"$

SCALE: NTS



HEADER DETAIL FOR  
DOOR OPENINGS  
 $12'-0" < \text{LENGTH} \leq 16'-0"$

SCALE: NTS

### Validity Notice

Plans Expiration Date:

31 July 2027

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EAGLE CARPORTS  
210 AIRPORT ROAD  
MOUNT AIRY, NC 27030  
30'-0"x16'-0" SP ENCLOSED STRUCTURE EXP. B

DATE: 8-21-25

SHT. 19

SCALE: NTS

DWG. NO: SK-3

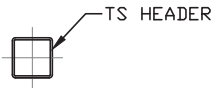
JOB NO:  
24146S/24199S/25207S

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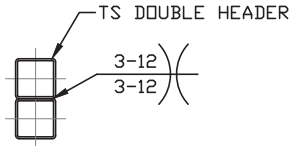
## SIDE WALL HEADER OPTIONS FOR SINGLE TUBE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



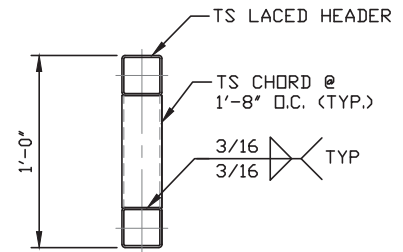
HEADER DETAIL FOR  
DOOR OPENINGS  
LENGTH  $\leq 7'-0"$

SCALE: NTS



HEADER DETAIL FOR  
DOOR OPENINGS  
7'-0" < LENGTH  $\leq 11'-0"$

SCALE: NTS

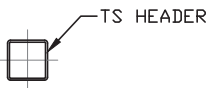


HEADER DETAIL FOR  
DOOR OPENINGS  
11'-0" < LENGTH  $\leq 16'-0"$

SCALE: NTS

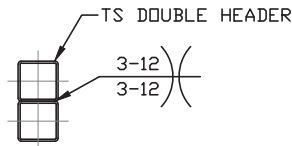
## END WALL HEADER OPTIONS FOR SINGLE TUBE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



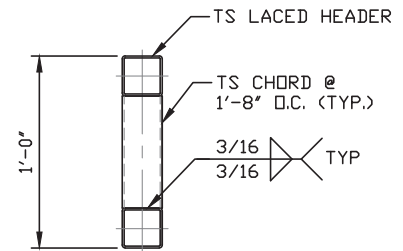
HEADER DETAIL FOR  
DOOR OPENINGS  
LENGTH  $\leq 9'-0"$

SCALE: NTS



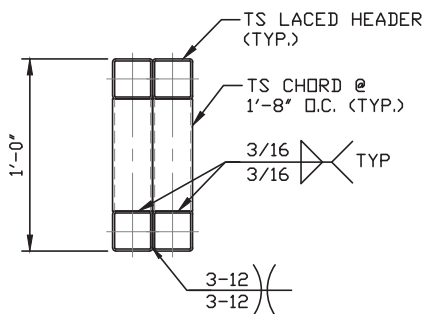
HEADER DETAIL FOR  
DOOR OPENINGS  
9'-0" < LENGTH  $\leq 14'-0"$

SCALE: NTS



HEADER DETAIL FOR  
DOOR OPENINGS  
14'-0" < LENGTH  $\leq 15'-0"$

SCALE: NTS



HEADER DETAIL FOR  
DOOR OPENINGS  
15'-0" < LENGTH  $\leq 16'-0"$

SCALE: NTS

**Validity Notice**

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DATE: 8-21-25

SHT. 19A

SCALE: NTS

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