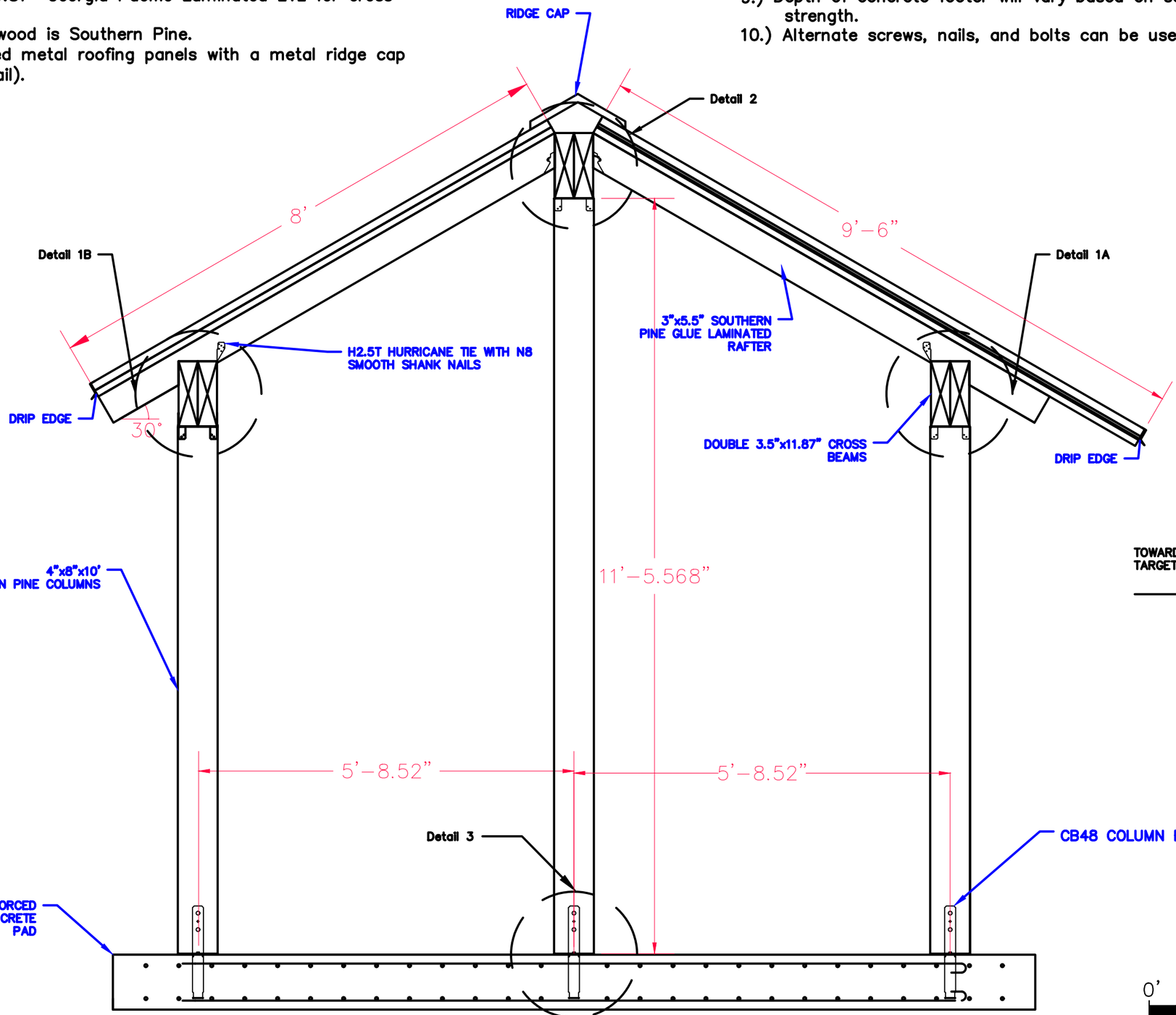
Notes:

1.) All wood is No.1 Dense: 2"–4" Thick: 2"–4" Wide southern pine wood where unless stated otherwise.
2.) Use glue laminated 3"x5.5" Southern Pine wood for rafters.
3.) Use double 3.5"x11.87" Georgia Pacific Laminated LVL for cross beams.
4.) All non–specified wood is Southern Pine.
5.) Use 1.5" corrugated metal roofing panels with a metal ridge cap (See Roof Detail).
6.) Roof/Rafter angle is at 30° from horizontal.
7.) Rafters will need to be cut to fit on top of the lower cross beams.
8.) .25" AR400 steel will be used for the steel plate (See Roof Detail).
9.) Depth of concrete footer will vary based on soil quality and strength.
10.) Alternate screws, nails, and bolts can be used.



Know what's **below.** **Call** before you dig.

0' 2' 4'

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DOUGLAS COUNTY COLORADO
Engineering Division
100 Third Street
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Shooting Gallery Side View

Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 20"
Job No.	

SHEET 1 OF 14 SHEETS

G:\PW\Projects\Special Projects\DSFS Ranges Map\DSFS Shooting structure and baffle design\Shooting Gallery and Baffle Design V_1.dwg

Notes:

1.) 3"x5.5" Glue Laminated rafters are spaced 14" apart.

2.) GA2 must be installed on the outward facing side of the 2 middle most rafters. GA2 must also be installed on the outer most rafter on the side facing towards the middle of the structure.

3.) GA2 will be installed using 0.131"x1–1/2" Smooth–Shank nails into the rafters and #8x1–1/4" Truss–Head screws installed into plywood roofing.

4.) H2.5T ties must be installed on the inside of the cross beams when connecting to the rafter.

5.) LPC4Z Must be installed in pairs on both the inside and outside of the cross beams.

6.) LCP4Z will be installed using 0.148"X3" Annular Ring Shank nails into the cross beam and 0.148"x1–1/2" Annular Ring Shank nails into the column.

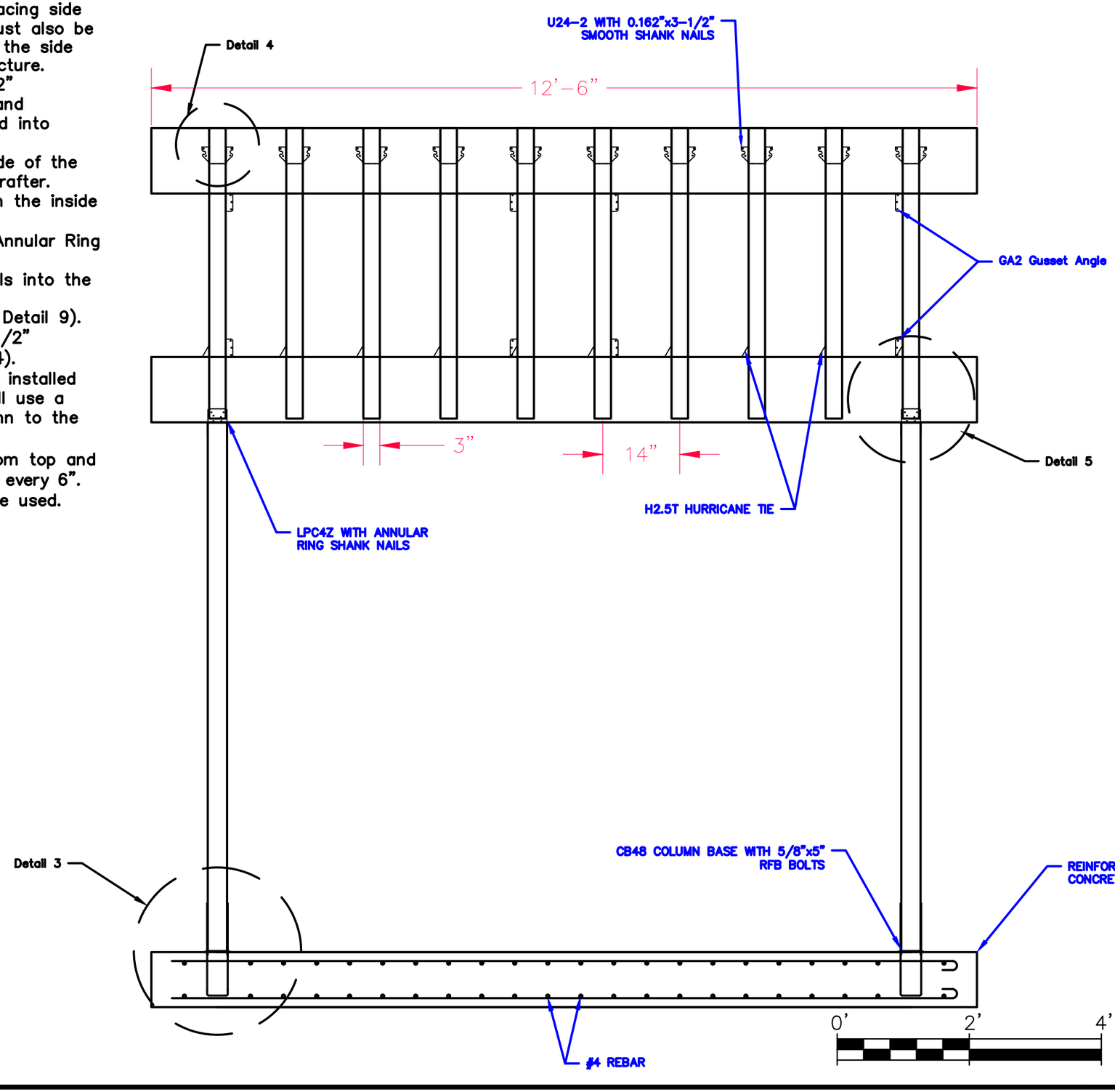
7.) Cross Beams must be 12'–6" long (See Detail 9).

8.) U24–2 will be installed using 0.162"x3–1/2" Annular Ring Shank nails (See Detail 4).

9.) The CB48 Column Base will need to be installed by laying concrete over top it, and will use a 5/8"x5" RFB bolt to secure the column to the CB48 (See Detail 3).

10.) #4 Rebar must be placed in slab 2" from top and bottom of slab and must be installed every 6".

11.) Alternate screws, nails, and bolts can be used.



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DOUGLAS COUNTY COLORADO
Engineering Division
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Stand Alone Shooting Gallery Front View

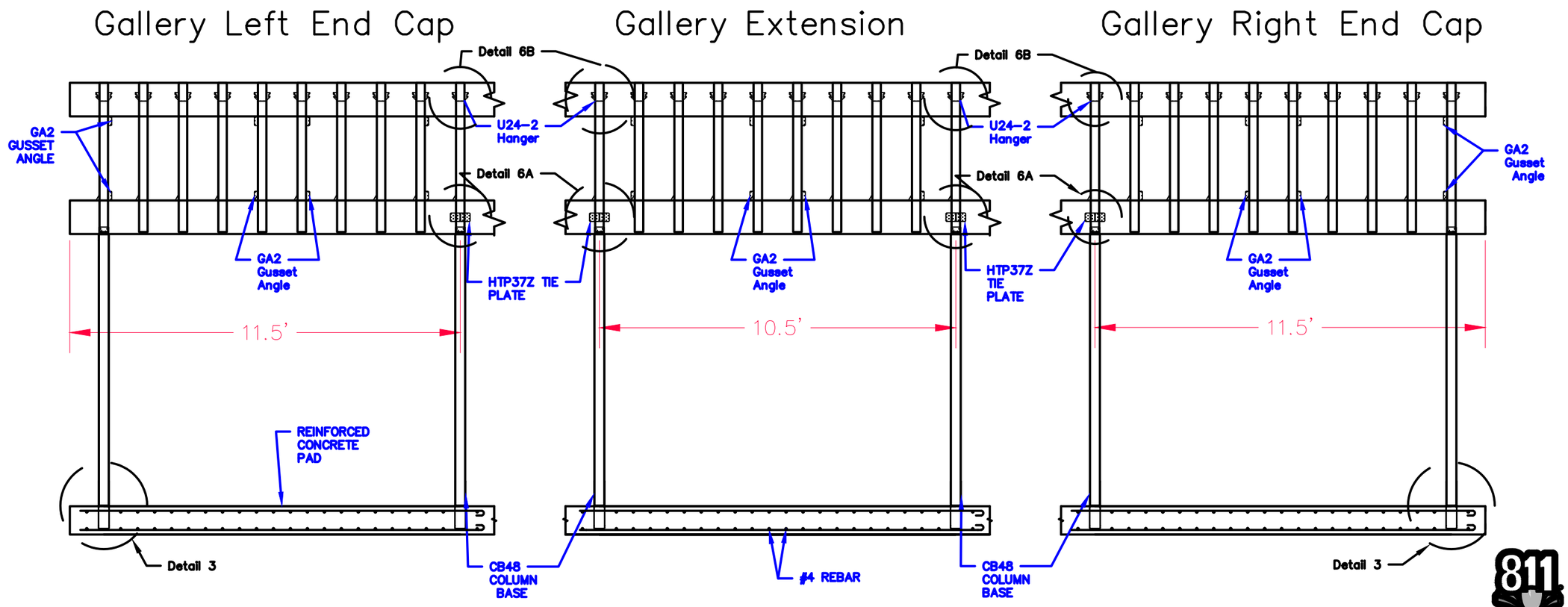
Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 20'
Job No.	

SHEET 2 OF 14 SHEETS

Notes:

1.) In cases with multiple galleries on a single firing line, use the galleries below. These galleries are the same as the standalone, but are designed to be modular with the use of tie plates.
2.) The Gallery Extension can be inserted multiple times to extend the length as needed, but must have the end caps on each side.
3.) All columns, rafters, and beams used in standalone gallery will be used here. Use 3"x5.5" Glue Laminated southern pine for rafters, doubled 3.5"x11.87" Georgia Pacific Laminated LVL cross beams, and 4"x8" Southern Pine columns.
3.) GA2 must be installed on the outward facing side of the 2 middle rafters. GA2 must also be installed on the outer most rafter on the inside facing towards the middle of the structure.
4.) GA2 will be installed using 0.131"x1–1/2" Smooth–Shank nails into the rafters and #8x1–1/4" Truss–Head screws installed into plywood roofing.
5.) When extending a gallery the cross beams will be connected using HTP37Z at the end of the cross beams. The mid–point of the HTP37Z will be installed directly in the middle of the shared column (See Detail 6A). To connect the rafters to the top cross beam use both a U24–2 and a LPC4Z pair (See Detail 6B).
6.) U24–2 will be installed using 0.162"x3–1/2" annular ring shank nails.
7.) The CB48 Column Base will need to be installed by laying concrete over top it, and will use a 5/8"x5" RFB bolt to secure the column to the CB48 (See Detail 3).
8.) When constructing the roof for an extendable gallery, contractor will use the same design as the standalone gallery.
9.) #4 Rebar must be placed in slab 2" from top and bottom of slab and must be installed every 6".
10.) Alternative screws, nails, and bolts can be used.



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Extendable Shooting Gallery
Front View

Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 40'
Job No.	

SHEET 3 OF 14 SHEETS

0' 2' 4'

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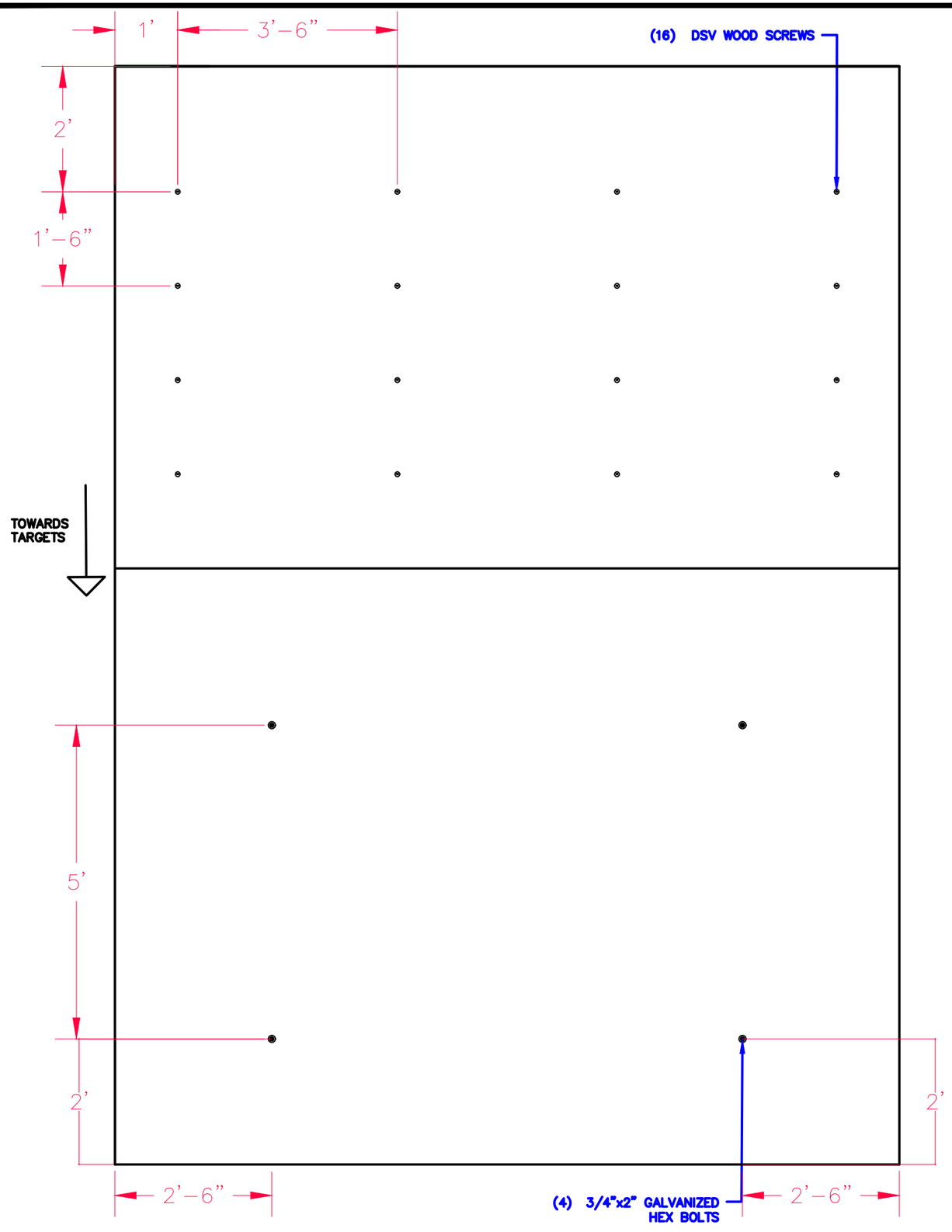
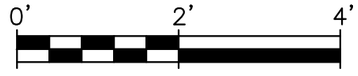


Notes:

1.) Roof facing towards target side contains the connection method for 1.25" plywood, 0.25" AR400, and 0.5" plywood (See Roof Side View Install Detail).
2.) The roof on the side facing away from the targets is made up of 1.25" plywood and will only have decking and plywood layers. This view indicates how to connect the plywood to the rafter.
3.) Use 3/4"x2" Galvanized hex bolts to install metal plate to plywood.
4.) Hex Bolts are only to be used on the side that is facing towards targets.
5.) Use 3/4" metal roofing screws to install roof paneling to AR400 steel plate.
6.) On Side facing away from targets, install plywood to rafter with #8x2–1/2" DSV Wood Screws. These will be installed every third rafter (3'–6"). There will be 4 rows spaced 1'–6" apart and will start 2' from the bottom of the plywood.
7.) Ridge caps will be installed on top of metal decking.
8.) Alternative screws, nails, and bolts can be used.



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DOUGLAS COUNTY COLORADO
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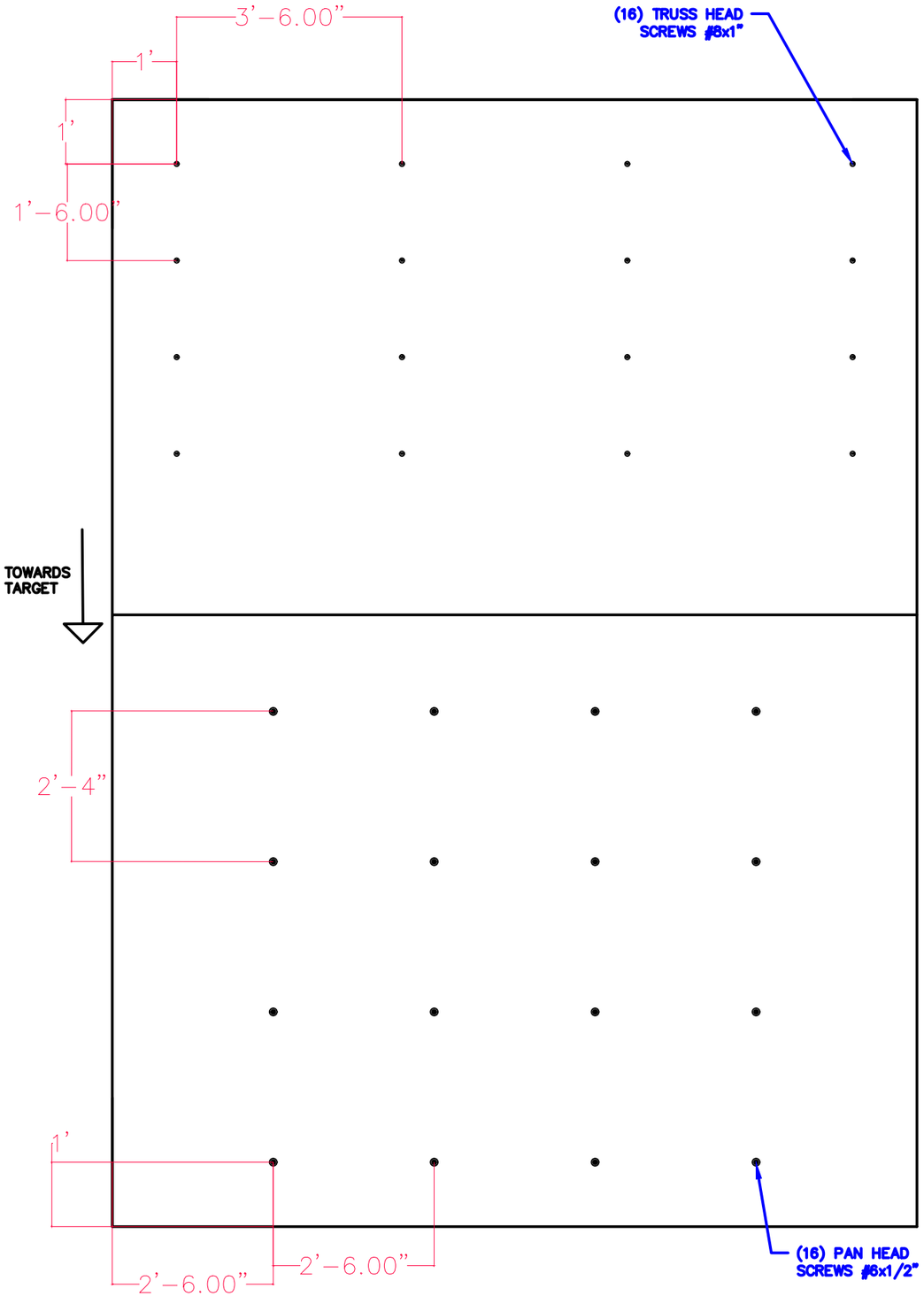
Roof Plan View With Bolt Pattern

Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 22.5'
Job No.	

SHEET 4 OF 14 SHEETS



Notes:

1.) This view indicates the connection method of metal decking to roof paneling.
2.) #6x1/2" Pan Head screws with a rubber grommet are only to be used on the side that is facing towards targets.
3.) #8x1" Truss Head screws are only to be used on side facing away from targets.
4.) Use #6x 1/2" Pan Head screws with a rubber grommet spaced 2'-6" apart horizontally and 2'-4" apart vertically to install metal plate to plywood.
5.) #8x1" Truss Head screws should be installed every third rafter (3'-6"). There will be 4 rows spaced 1'-6" apart and will start 1' from the bottom of the plywood.
6.) Metal decking will be longer on side facing towards targets due to the extended overhang.
7.) Ridge caps will be installed on top of metal decking.
8.) Alternative Screws, nails, and bolts can be used.

0' 2' 4'

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Roof Paneling With Screw Pattern

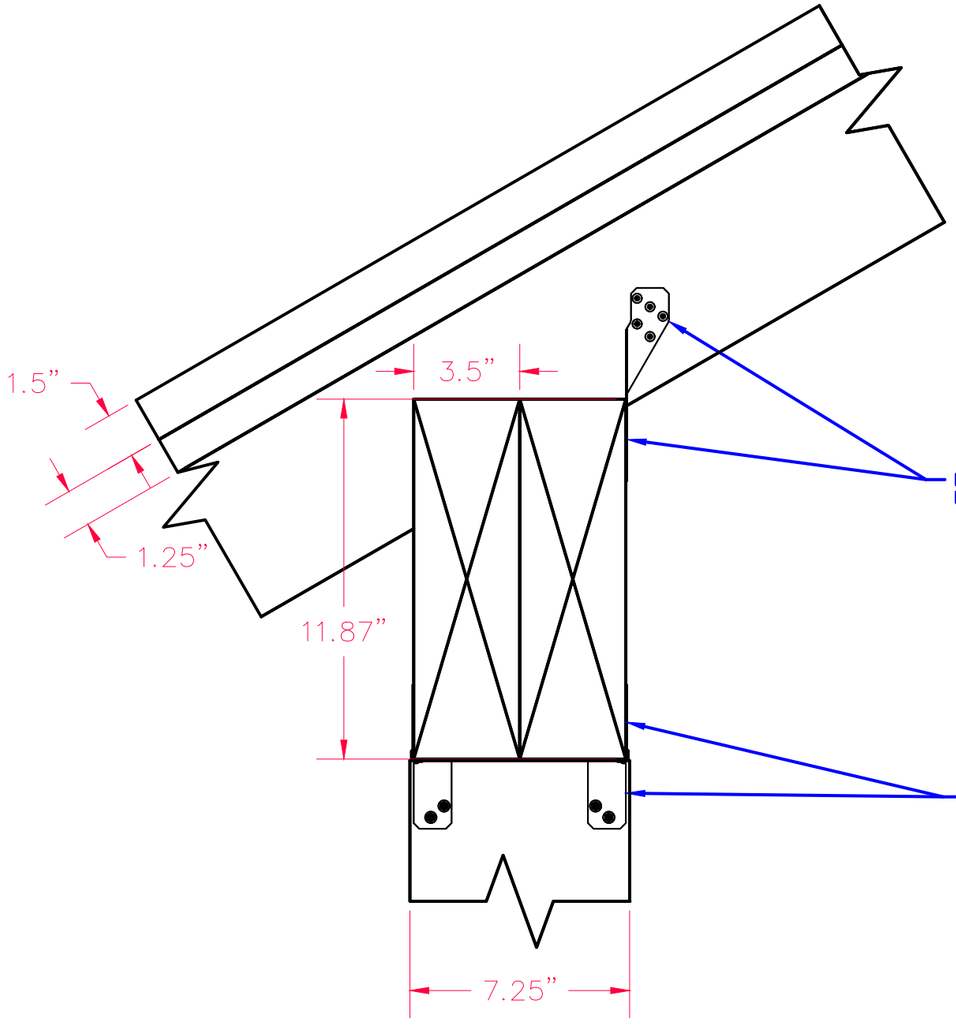
Shooting Gallery Structure Design

Design	7/20/2022
Drawn	7/20/2022
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 25'
Job No.	

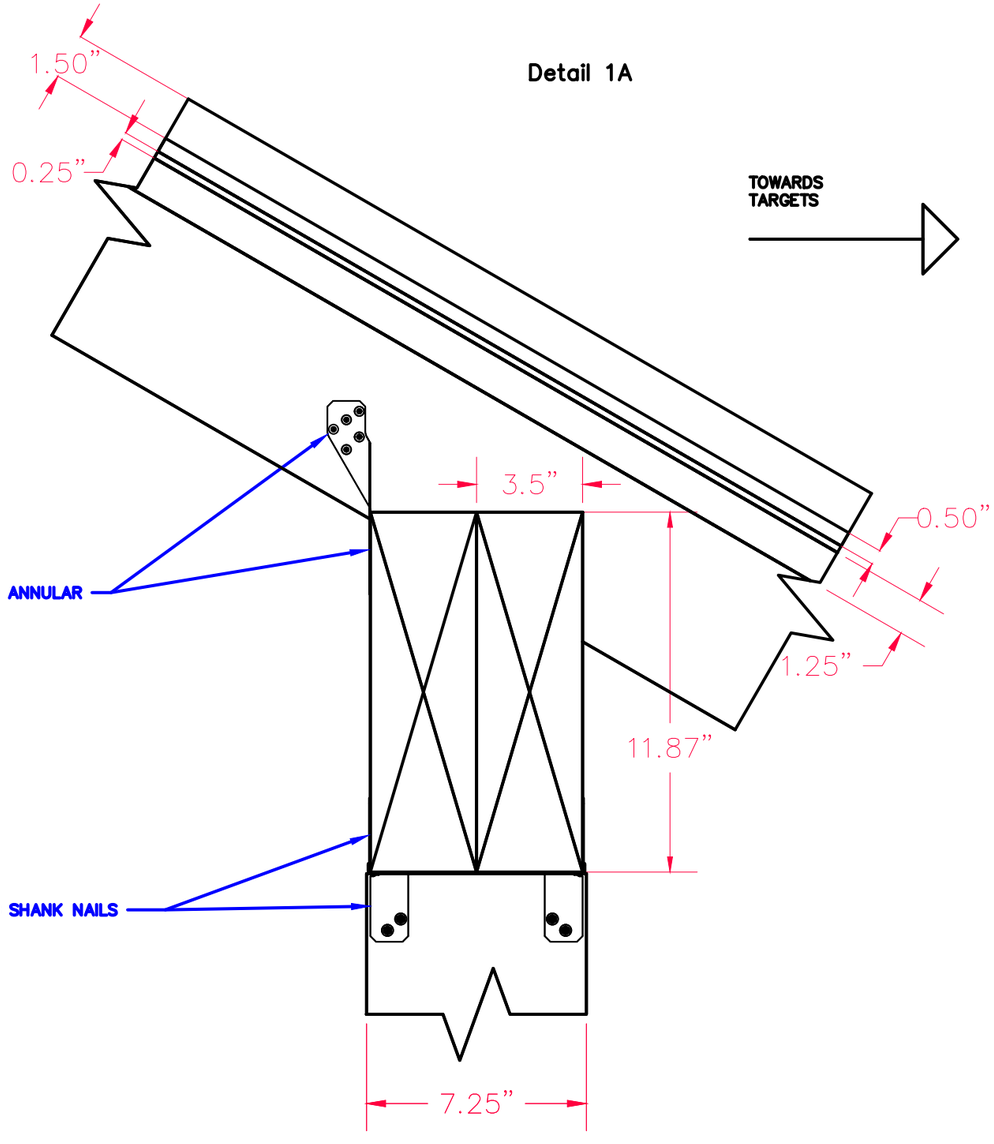
SHEET 5 OF 14 SHEETS

Notes:
1.) The roofing will be 1.25" plywood, 0.25" AR400 Steel, 0.5" plywood, and 1.5" corrugated metal decking towards shooting range (Detail 1A).
2.) The roofing on the side opposite of the firing direction will be 1.25" plywood and 1.5" corrugated metal decking (Detail 1B).
3.) See page 11/12 for Roof Details (Roof Side View Install Details and Roof Side View Rafter Install Detail).
4.) H2.5T must be installed using 0.131"x2–1/2" Annular Ring Shank nails.
5.) H2.5T should always be installed on the inside of the cross beams.
6.) LCP4Z must always be installed in pairs using 0.148"X3" Annular Ring Shank nails into the cross beam and 0.148"x1–1/2" Annular Ring Shank nails into the column.
7.) Rafters need to be cut to install over top of the doubled 3.5"x11.87" cross beams.
8.) Alternative screws, nails, and bolts can be used.

Detail 1B



Detail 1A



0' 6" 12"

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Shooting Gallery Structure Design

Detail 1: Rafter to Edge Beam Connection

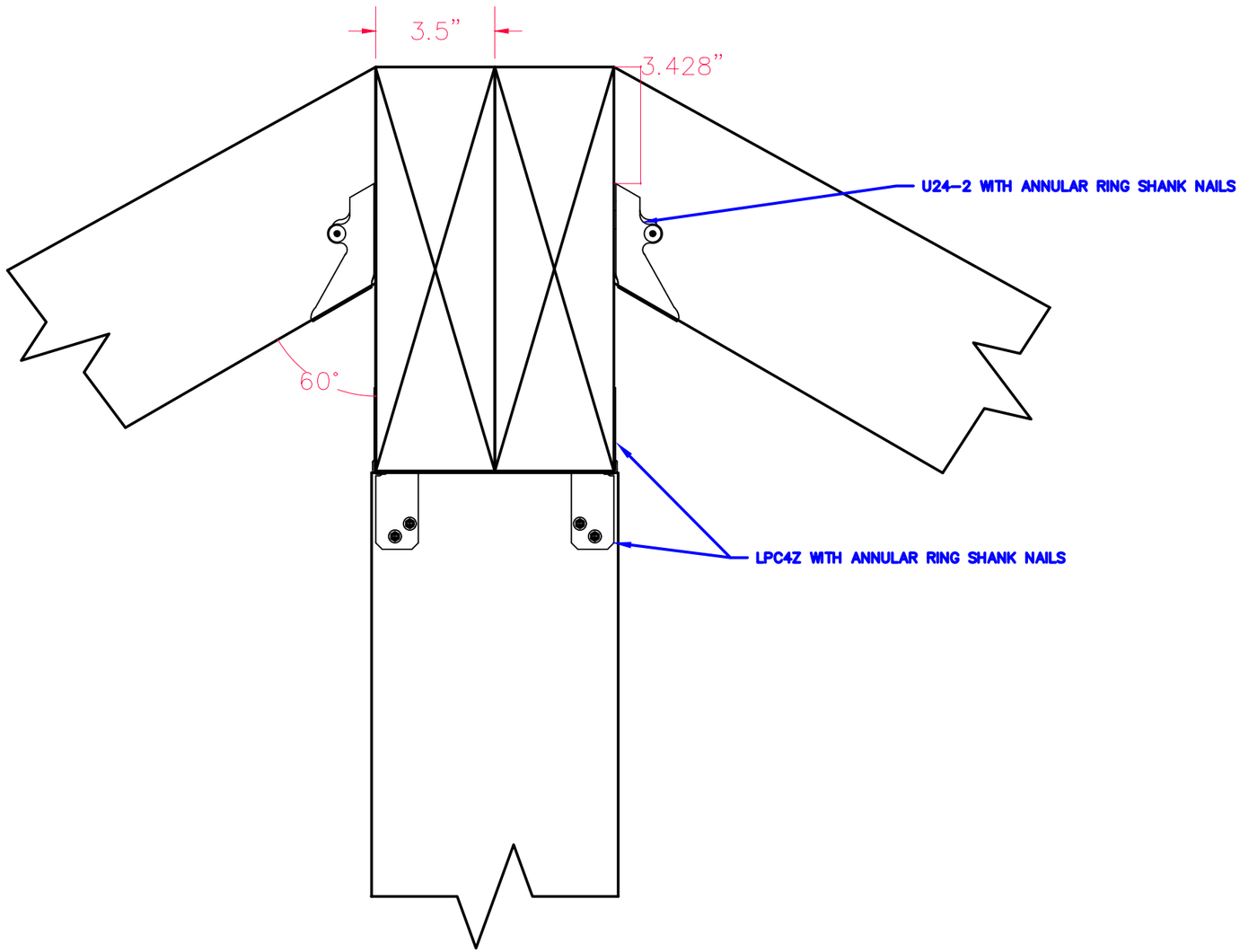
Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 5'
Job No.	

SHEET 6 OF 14 SHEETS

Notes:

1.) The top of the U24–2 must to be installed 3.428" from the top of the cross beam.
2.) LPC4Z should be installed on the cross beams before it is installed on the columns and must be installed in pairs.
3.) LCP4Z must be installed using 0.148"X3" Annular Ring Shank nails into the cross beam and 0.148"x1–1/2" Annular Ring Shank nails into the column.
4.) U24–2 will be installed using 0.162"x2–1/2" Annular Ring Shank Nails going into the cross beam and 0.148"x 1–1/2" Strong Drive Annular Ring Shank nails going into the rafters.
5.) Rafters will be hung at an angle of 60° from the vertical.
6.) U24–2 must be bent 30 degrees from horizontal before rafter is installed.
7.) Alternative screws, nails, and bolts can be used.



0' 6" 12"

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Detail 2: Rafter to Middle Beam Side View

Shooting Gallery Structure Design

Design	1/20/2022
Drawn	1/20/2022
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 4"
Job No.	1

SHEET 7 OF 14 SHEETS

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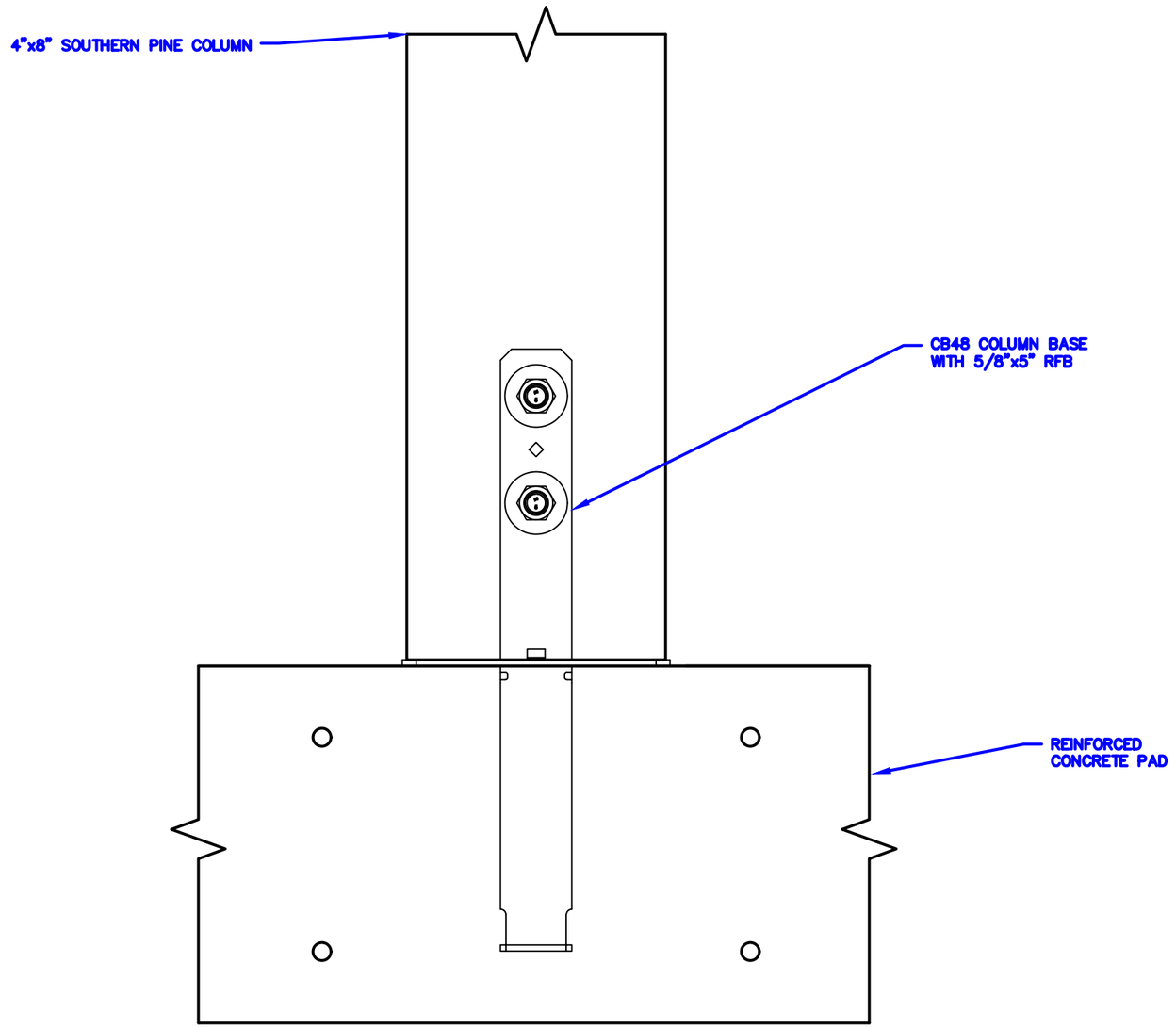
Notes:
1.) For every column a CB48 Column Base must be used
2.) Bolts used must be 5/8"x5" RFB (retrofit bolt).
3.) CB48 must be installed and have concrete poured over top of it
4.) Bolt Holes may need to have a pilot hole predrilled before bolt install.
5.) The CB48 must be placed so that the columns mid point is where bolt holes are located.
6.) Depth of concrete pad will vary based on soil quality and strength.
7.) Alternative Screws, nails, and bolts can be used.



0' 6" 12"

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Detail 3: Shooting Gallery
Column to Base

Shooting Gallery Structure Design

Design	
Drawn	7/20/2022
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 4"
Job No.	

SHEET
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OF **14** SHEETS

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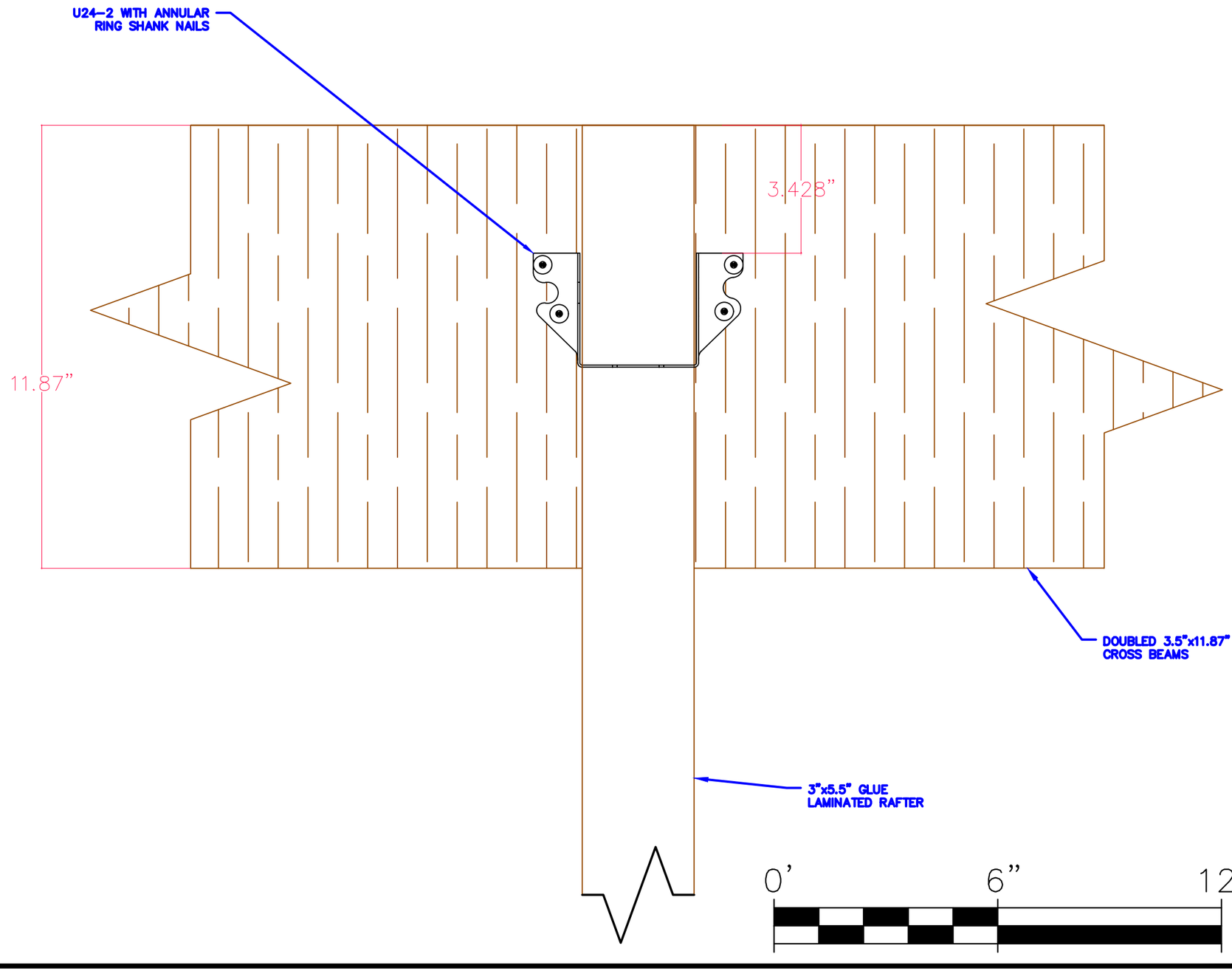
Notes:
1.) U24–2 must be installed on every rafter to connect the rafter to the top cross beam.
2.) U24–2 needs to be installed 3.428" from bottom of top of cross beam.
3.) U24–2 will be installed using 0.162"x2–1/2" Annular Ring Shank Nails going into the cross beam and 0.148"x1–1/2" Strong Drive Annular Ring Shank nails going into the rafters.
4.) Alternative screws, nails, and bolts can be used.



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Detail 4: Rafter to Middle Beam Front View

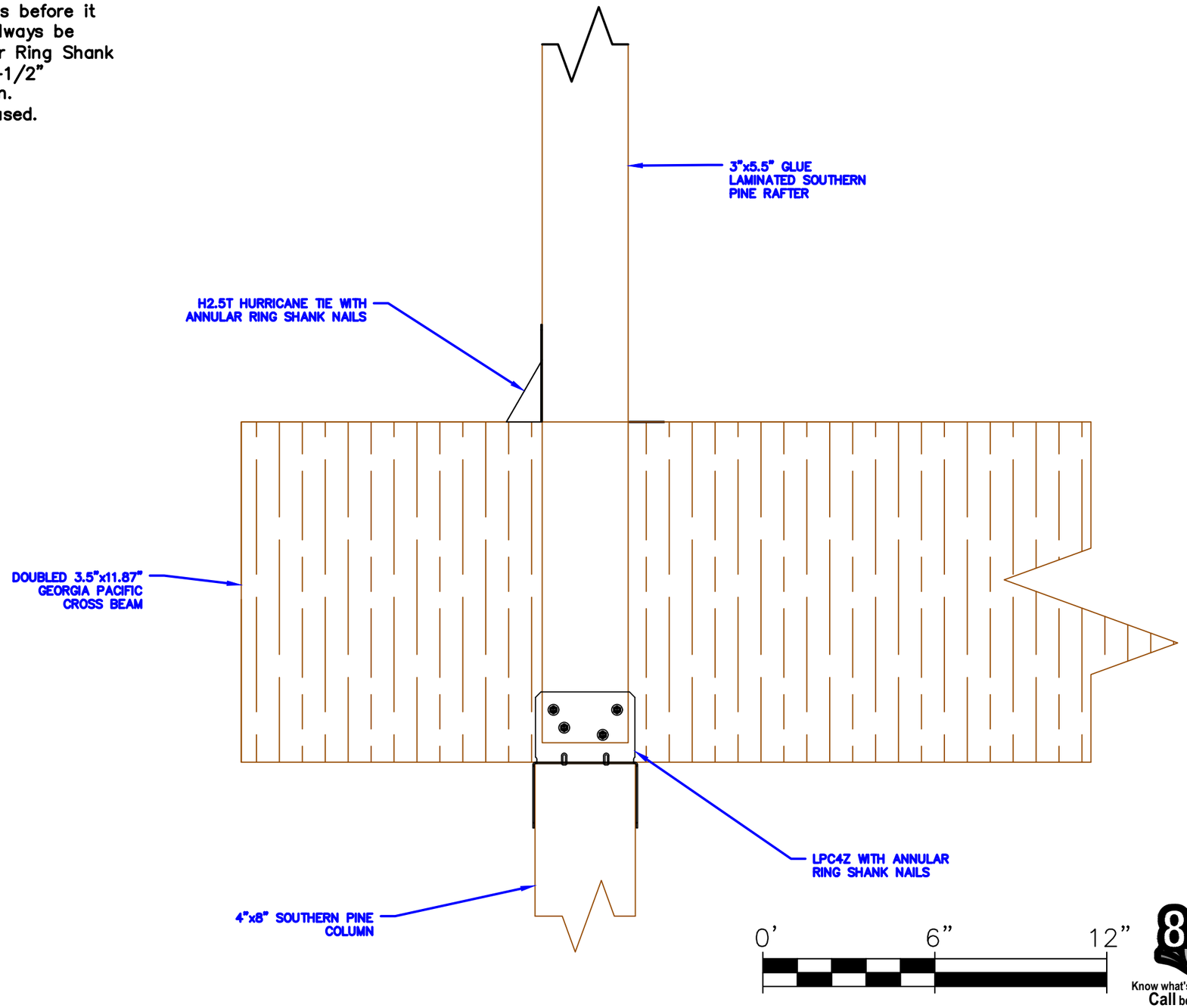
Shooting Gallery Structure Design

Design
Drawn 7/20/2022
Checked
Date Created 7/20/22
Date Modified 7/20/22
Scale 1" = 3"
Job No.

SHEET 9 OF 14 SHEETS

Notes:

1.) This will be installed on every rafter to lower (8') column connection.
2.) H2.5T must be installed on the inward side of the edge beam.
3.) H2.5T will be installed on every rafter and connect the rafter to the lower cross beam.
4.) H2.5T will be installed using 0.131"x2–1/2" Annular Ring Shank nails in both the rafter and the cross beam.
5.) LPC4Z must be installed on the cross beams before it is installed on the columns, and must always be installed in pairs using 0.148"X3" Annular Ring Shank nails into the cross beam and 0.148"x1–1/2" Annular Ring Shank nails into the column.
6.) Alternative screws, nails, and bolts can be used.



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Detail 5: Edge Column to Rafter Connection

Shooting Gallery Structure Design

Design	1/20/2022
Drawn	
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 4"
Job No.	

SHEET 10 OF 14 SHEETS

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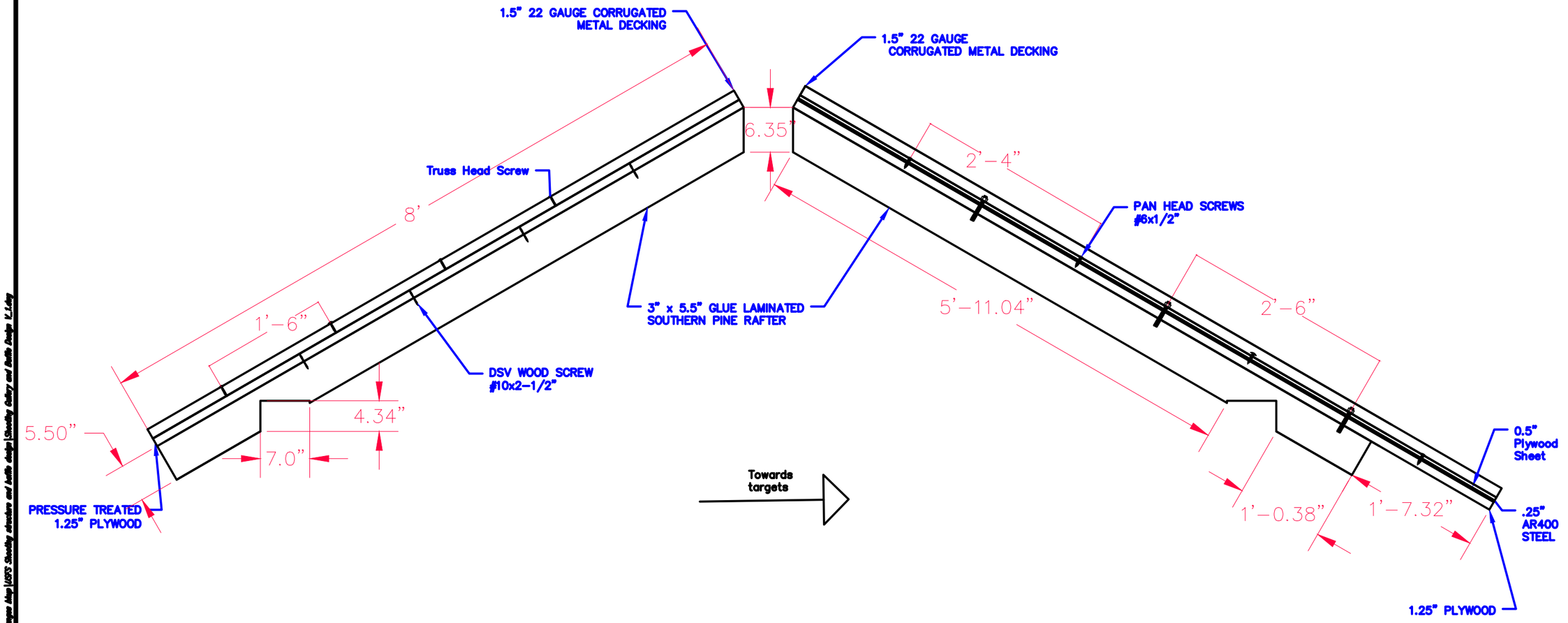
Notes:
1.) After rafters have been cut the top must be 8' long.
2.) Area of rafter that must be cut for the columns is 7" horizontally and 4.34" Vertically.
3.) Rafters will also need to be cut at one end to create a flat connection surface with top cross beam.
4.) Before installing 1–1/4" plywood, 0.25" AR400 steel plate, and 1/2" plywood; install 1/2" x 2" bolts through all materials and install on roof as singular unit.
5.) Screws securing metal roofing to plywood on side facing targets will have a spacing of 2'–4" and the rows will be spaced 2'–6" apart and will be in 3 rows.
6.) Screws on the non target facing side that secure the decking should be spaced 1'–6" apart and have 4 rows.
7.) Alternative screws, nails, and bolts can be used.



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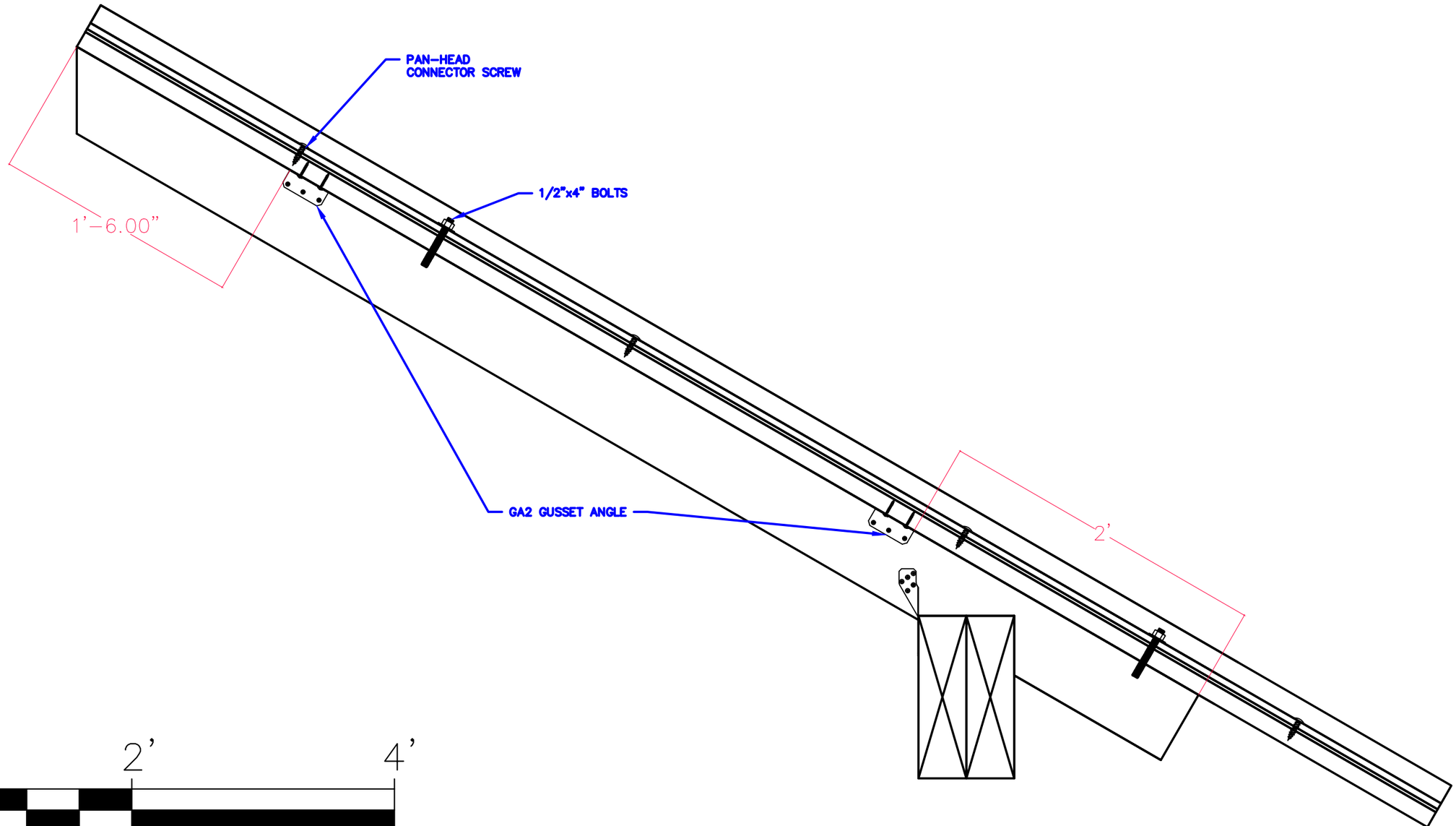
Roof Side View Install Details

Shooting Gallery Structure Design

Design	7/20/2022
Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 15"
Job No.	

SHEET 11 OF 14 SHEETS

Notes:
1.) GA2 Gusset Angles must be installed 1'–6" from the top of the rafter and 2' from the bottom of the rafter.
2.) GA2 will be installed using 0.131"x1–1/2" Smooth–Shank nails into the rafters and #8x1–1/4" Truss–Head screws installed into plywood roofing.
3.) Use #6x1/2" Pan–Headed screws to secure metal decking to 0.5" plywood.
4.) Use 1/2"x4" Bolts to secure 1.25" plywood, 0.25" AR400 Steel plate, and 0.5" plywood together. Holes may need to be predrilled through materials.
5.) Bolts and Pan–Headed screws will not be installed into rafters.
6.) Alternative screws, nails, and bolts can be used.



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0' 2' 4'

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Roof Side View Rafter Install Details

Shooting Gallery Structure Design

Design	
Drawn	7/20/2022
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 10'
Job No.	

SHEET
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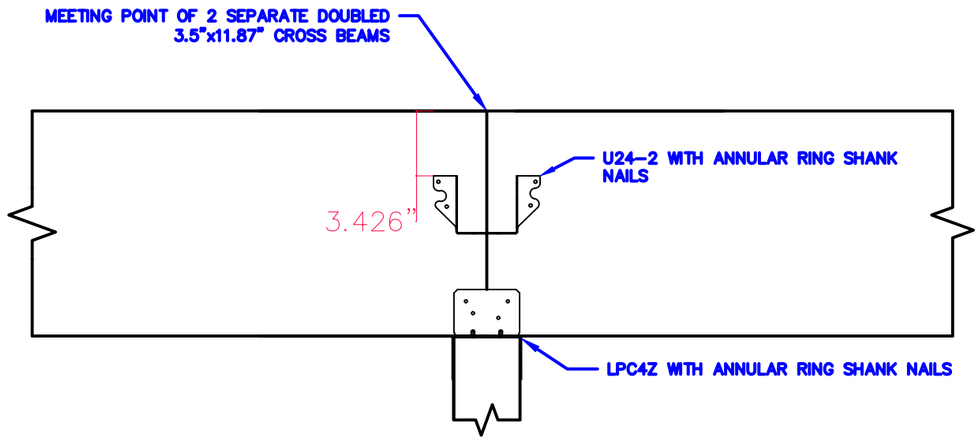
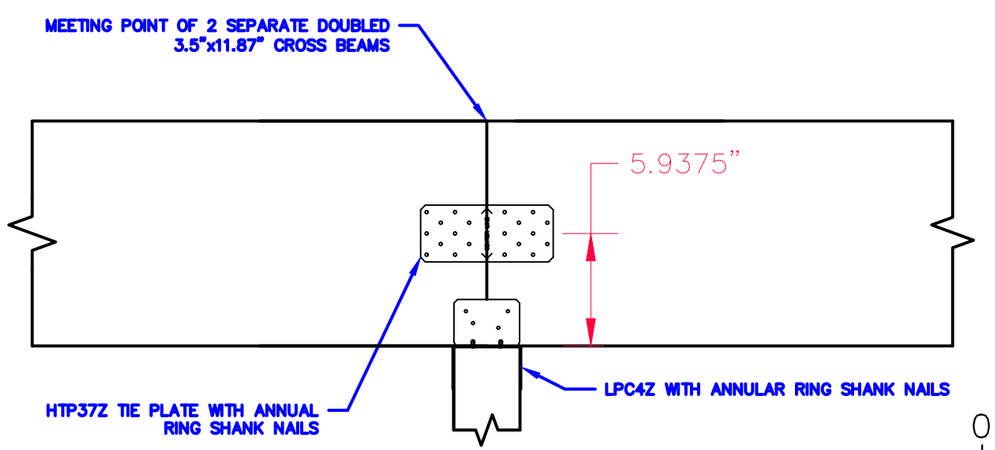
OF **14** SHEETS

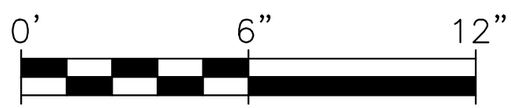
Notes:
1.) Use U24–2 to connect upper cross beams and should be evenly placed between the 2 (See Detail 6B).
2.) Tie Plates should be placed only on the lower cross beams and should be evenly placed between the two (See Detail 6A).
3.) Tie plates should be installed on the outer side of the cross beams to reduce interference with the H2.5T on the inner side (See Detail 1).
4.) Use 0.148"x1–1/2" Annular Ring Shank screws to install the HTP37Z tie plate onto the cross beam.
5.) The U24–2 will be placed evenly between the meeting points of the two cross beams.
6.) LCP4Z must always be installed in pairs using 0.148"X3" Annular Ring Shank nails into the cross beam and 0.148"x1–1/2" Annular Ring Shank nails into the column.
7.) Alternative screws, nails, and bolts can be used.

Detail 6B



Detail 6A





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Detail 6: Cross Beam Connection Method

Shooting Gallery Structure Design

Design	7/20/2022
Drawn	7/20/2022
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 4"
Job No.	

SHEET 13 OF 14 SHEETS

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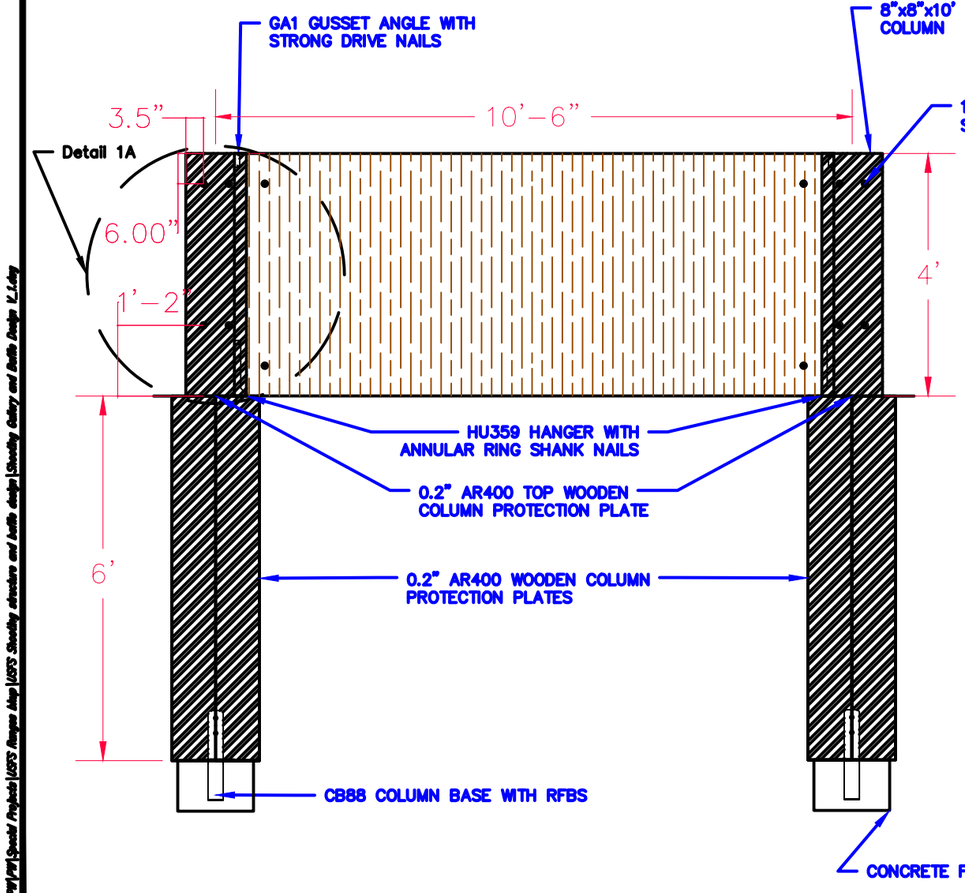
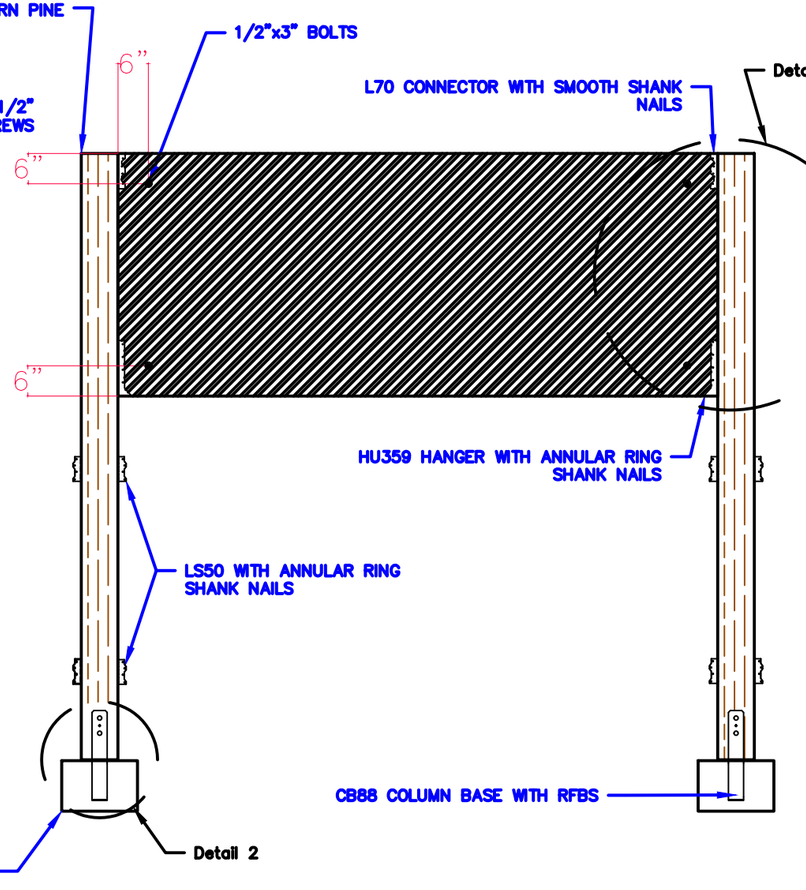
Notes:
1.) Use 1.25" thick plywood in front of a 0.75" AR400 steel plate. This plate is intended to stop 5.56 rounds and reduce the velocity of 7.62 rounds.
2.) 0.2" thick steel plate installed on wooden column using LS50 Connectors, adding protection to the wooden column.
3.) Baffles can be extended left or right by adding connection methods, (HU359, L70, GA1) on opposite sides of the shared column.
4.) Steel plates will have predrilled holes for screws to be installed.
5.) Wooden column protection plates will be placed on the ground and connected to the post using a LS50. 0.148"x1–1/2" Annular Ring Shank nails will connect the LS50 to the post and 3/16"x1" bolts will be used to connect the LS50 to the steel plate.
6.) 0.2" thick 1'x4' AR400 steel top wooden column protection will lay flat the steel plate will cover baffle by 2.25" on both sides to protect the connectors. (4) 1/4"x1–1/2" SDS Heavy–Duty Connector Screw or similar will be used to connect the Steel plate to the column.
7.) When replacing column protection plate only disconnect plate from LS50 in order to reduce wear on columns.
8.) To connect GA1, L70, and HU359 see detail 1.
9.) 1/2"x3" bolts will be used to connect the AR400 and 1.25" plywood together, Steel plate will need predrilled holes for bolts.
10.) Wood to steel bolts will be installed 6" from the wood column and 6" from the bottom of the plywood/steel plate.
11.) Wood side view is always towards the shooter. Steel side view is always towards the targets.
12.) Depth of concrete footer will vary based on soil quality and strength.
13.) Alternative screws, nails, and bolts can be used.

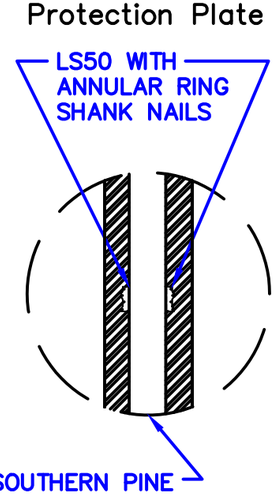
Wood Side/Shooter Side View



Steel Side/Target Side View



Backside View of Wooden Column Protection Plate



0' 2' 4'

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DOUGLAS COUNTY COLORADO
Engineering Division
100 Third Street
Castle Rock, Colorado 80104
(303) 660-7490

Wooden Baffle Front and Back View

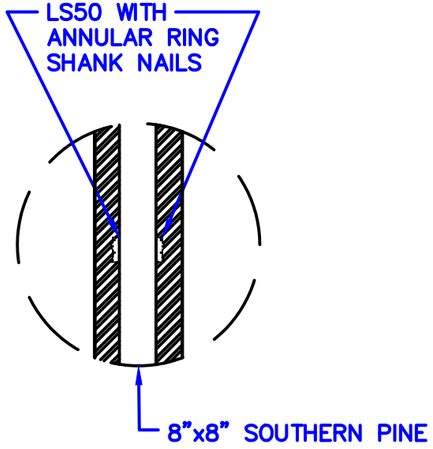
Baffle Structure Design

Design	1/20/2022
Drawn	
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 30'
Job No.	

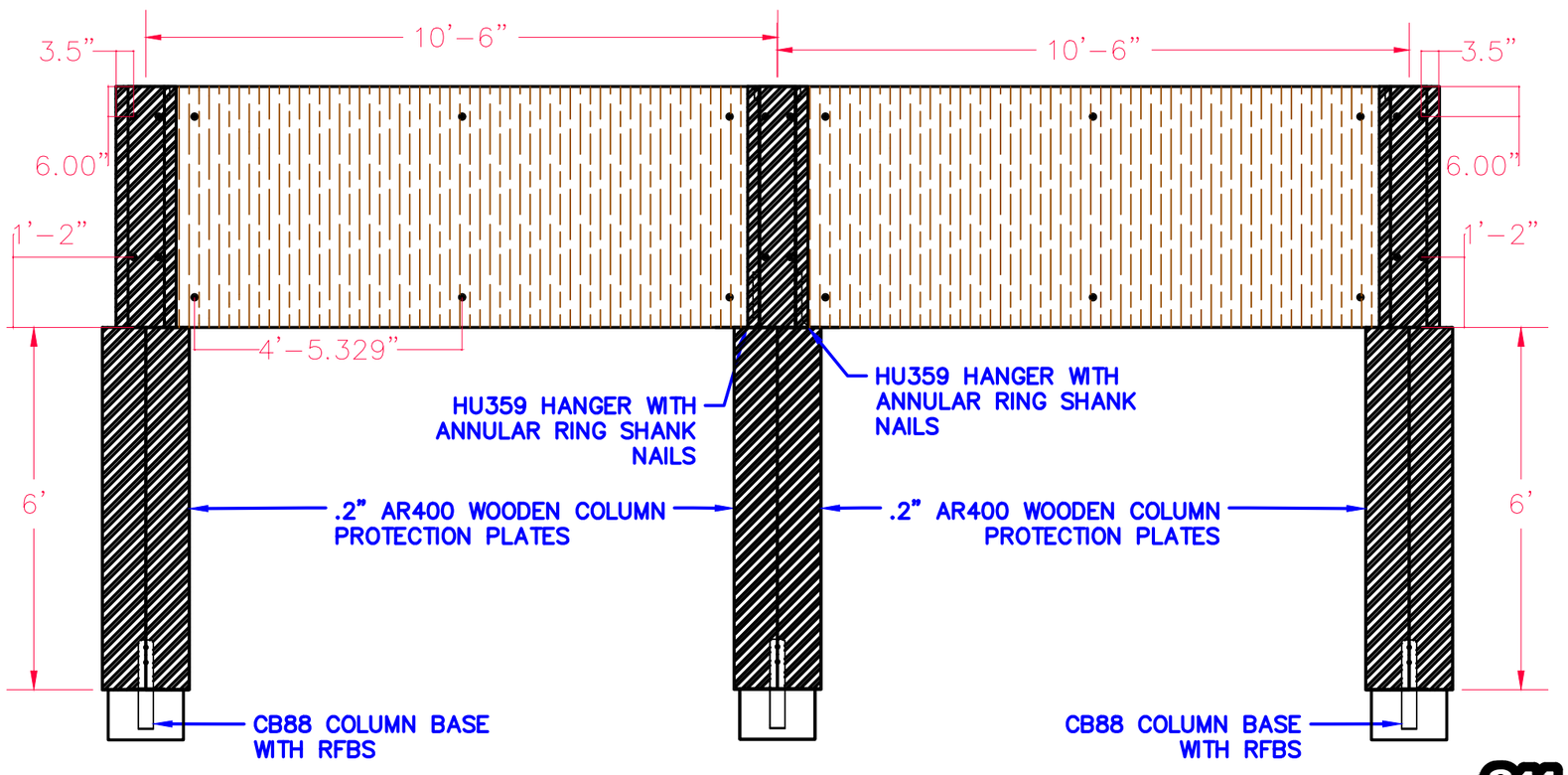
SHEET 1 OF 6 SHEETS

Notes:
1.) Baffles can be extended left or right by adding connection methods, (HU359, L70, GA1) on opposite sides of the shared column.
2.) Use 1.25" thick plywood in front of a 0.75" AR400 steel plate.
3.) 0.20" Thick steel plate installed on LS50 Connectors, adding protection to the wooden column from projectiles.
4.) Wooden column protection plates will need to have predrilled holes for screws to be installed into.
5.) Wooden column protection plates will be placed on the ground and connected to the post using a LS50. 0.148"x1–1/2" Annular Ring Shank nails will connect the LS50 to the post and 3/16"x1" bolt will be used to connect the LS50 to the steel plate.
6.) When installing HU359 Hanger into wood column use 0.162"x3–1/2" Annular Ring Shank nails, and when installing hanger into the plywood use 0.162"x 1" Annular Ring Shank nails.
7.) 1/2"x3" bolts will be used to connect the AR400 plate and 1.25" plywood together, the steel plate will need predrilled holes for bolts.
8.) Outer bolts (closest to posts) will be installed 6" from the wood column and 6" from the bottom of the plywood/steel plate, and middle bolts will be installed 4'–5.329" from the outer bolts and 6" from the bottom of the plates.
9.) Wood side view is always towards the shooter. Steel side view is always towards the targets.
10.) Alternative screws, nails, and bolts can be used.

Backside View of Wooden Column Protection Plate



Wood Side View



0' 2' 4'

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DOUGLAS COUNTY COLORADO
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Castle Rock, Colorado 80104
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Extended Baffle Front View

Baffle Structure Design

Design
Drawn 1/20/2022
Checked
Date Created 1/20/22
Date Modified 1/20/22
Scale 1" = 30'
Job No.

SHEET 2 OF 6 SHEETS

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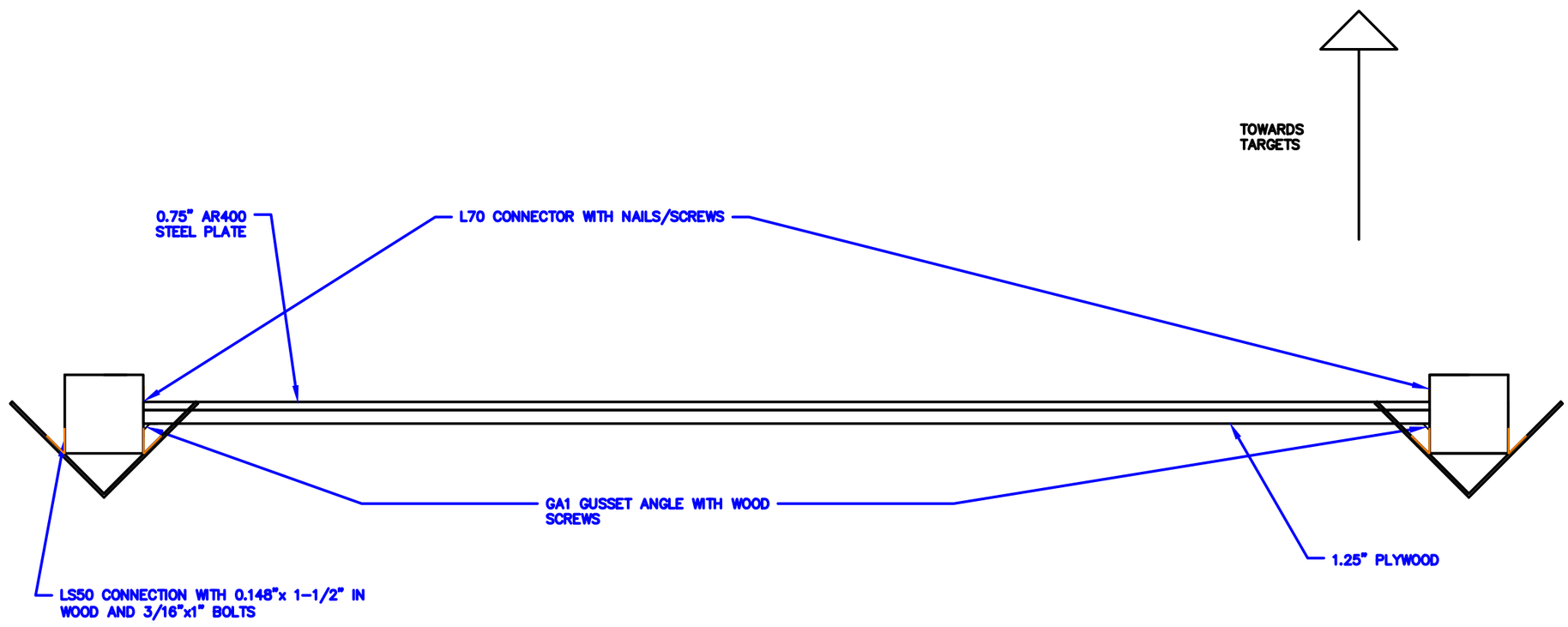
Notes:
1.) LS50 Angle Bracket need to be bent at a 45° angle
2.) Plywood side must always face towards shooters.
3.) L70 must be installed on steel facing side and GA1 must be installed on wood facing side.
4.) GA1 Gusset Angle will have #9x1–1/2" wood screws attaching it to the column and #9x1–1/4" wood screws attaching it to the plywood.
5.) L70 connector will have #10x3/4" Strong drive XE Exterior Structural Metal screw to connect the AR400 to the connector and 0.148"x1–1/2" Annular Ring Shank Nail into the columns.
6.) Wooden Column protection plate will be placed on the ground and connected to the post using a LS50. 0.148"x1–1/2" Annular Ring Shank nails will connect the LS50 to the post and 3/16"x1" bolts will be used to connect the LS50 to the steel plate.
7.) Alternative screws, nails, bolts can be used.



0' 2' 4'

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DOUGLAS COUNTY COLORADO
Engineering Division
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(303) 660-7490

Baffle Post Connection Top View

Baffle Structure Design

Design	
Drawn	1/20/2022
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 20'
Job No.	

SHEET 3 OF 6 SHEETS

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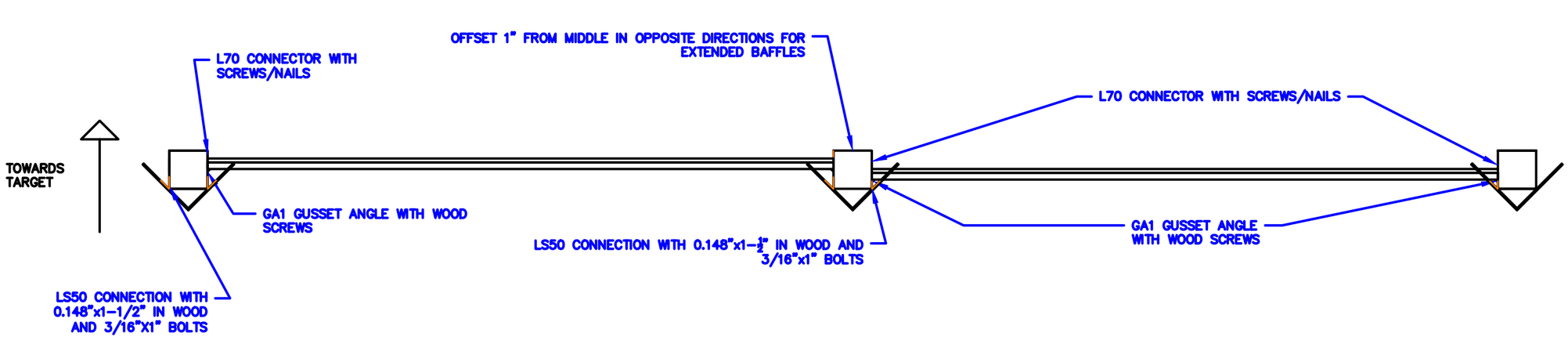
Notes:

1.) When baffles are extended the plywood and steel plates need to be offset 1" from the center of the columns.
2.) Wooden column protection plate will only be installed on side facing towards shooters.
3.) GA1 Gusset Angle will have #9x1–1/2" wood screws attaching it to the post and #9x1–1/4" wood screws attaching it to the plywood.
4.) L70 connector will have #10x3/4" Strong drive XE Exterior structural metal screw to connect the AR400 to the connector and 0.148"x1–1/2" Annular Ring Shank Nail.
5.) Wooden column protection plate will be placed on the ground and connected to the post using a LS50. 0.148"x1–1/2" Annular Ring Shank nails will connect the LS50 to the post and 3/16"x1" bolts will be used to connect the LS50 to the steel plate.
6.) When installing HU359 Hanger into wood column use 0.162"x3–1/2" Annular Ring Shank nails, and when installing hanger into the plywood use 0.162"x 1" Annular Ring Shank nails.
7.) Alternative screws, nails, and bolts can be used.



0' 2' 4'

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Engineering Division
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Extended Baffle Top View

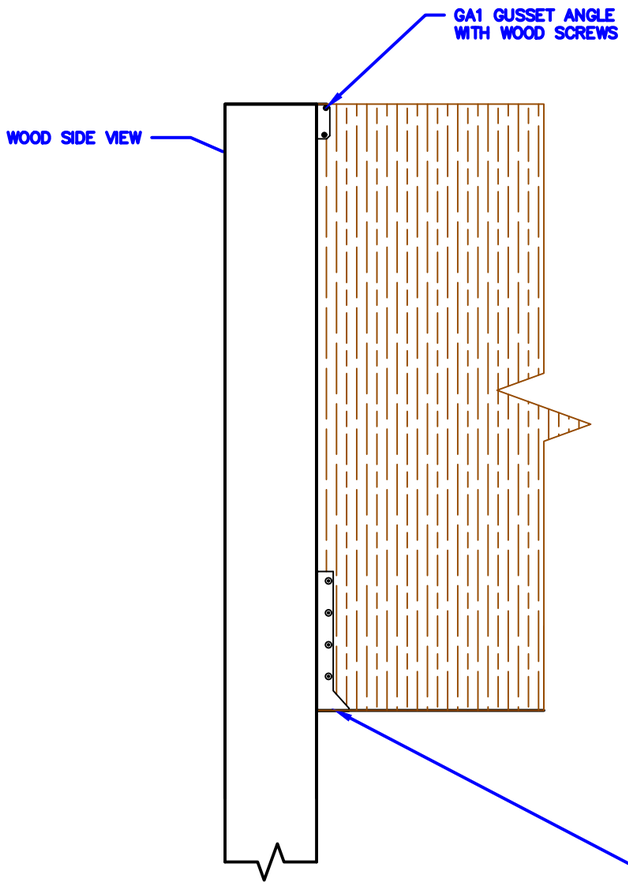
Baffle Structure Design

Design	1/20/2022
Drawn	
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 22.5'
Job No.	

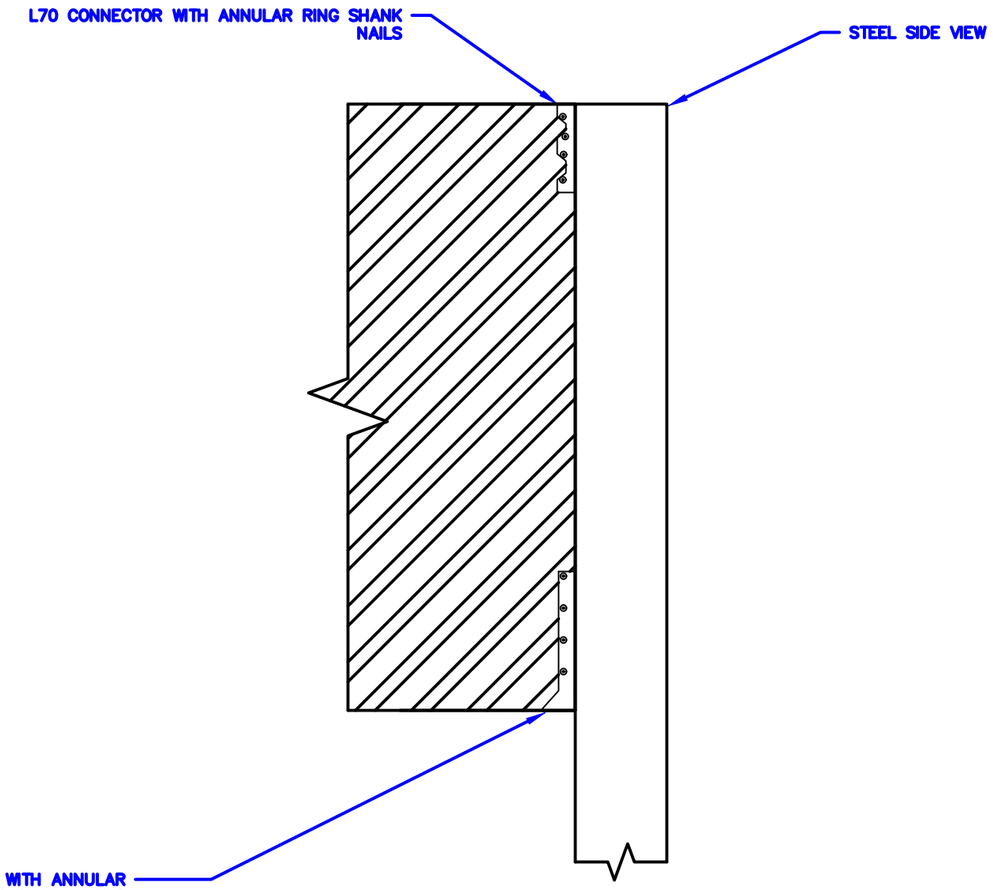
SHEET 4 OF 6 SHEETS

Notes:
1.) Wood side view should always face towards shooters.
2.) Top of plywood and steel should be even with the top of posts.
3.) L70 and GA1 are installed at very top to increased stiffness.
4.) GA1 Gusset Angle will have #9x1–1/2" wood screws attaching it to the post and #9x1–1/4" wood screws attaching it to the plywood (Detail 1A).
5.) L70 connector will have #10x3/4" Strong drive XE Exterior structural metal screw to connect the AR400 to the connector and 0.148"x1–1/2" Annular Ring Shank Nail (Detail 1B).
6.) When installing HU359 Hanger into wood column use 0.162"x3–1/2" Annular Ring Shank nails, and when installing hanger into the plywood use 0.162"x 1" Annular Ring Shank nails.
7.) Alternative screws, nails, and bolts can be used.

Detail 1A



Detail 1B



0' 2' 4'

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Engineering Division
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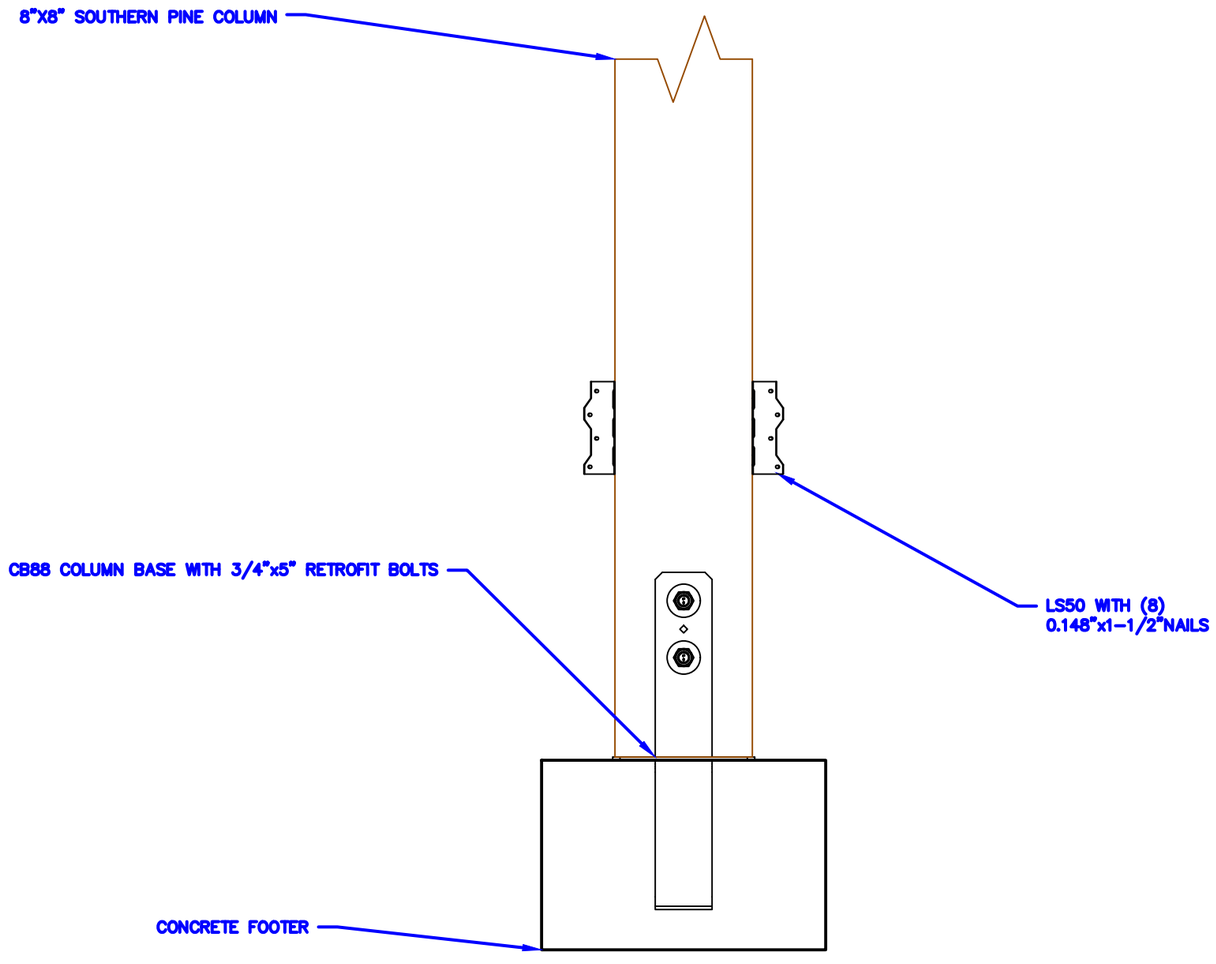
Detail 1: Baffle Post Connection

Baffle Structure Design

Design
Drawn 7/20/2022
Checked
Date Created 7/20/22
Date Modified 7/20/22
Scale 1" = 12'
Job No.

SHEET 5 OF 6 SHEETS

Notes:
1.) CB88 Column bases must be set and have the concrete poured over top of them.
2.) Must use 2–3/4"x5" RFB bolts to connect column to CB88.
3.) The CB88 must be placed so that the columns mid point is where bolt holes are located.
4.) Bolt holes may need to have a pilot hole predrilled.
4.) Depth of concrete footer will vary based on soil quality and strength.
5.) 0.2" wooden column protection plate will be laid on top of footer and attached to LS50 with 3/16"x1" bolts. .
7.) Alternative screws, nails, and bolts can be used.



0' 6" 12"

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Detail 2: baffle Column to Base

Baffle Structure Design

Design	1/20/2022
Drawn	
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 6"
Job No.	

SHEET 6 OF 6 SHEETS

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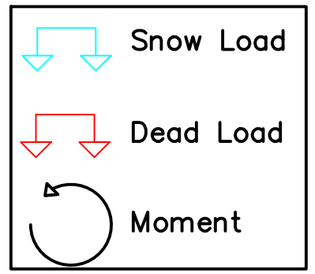
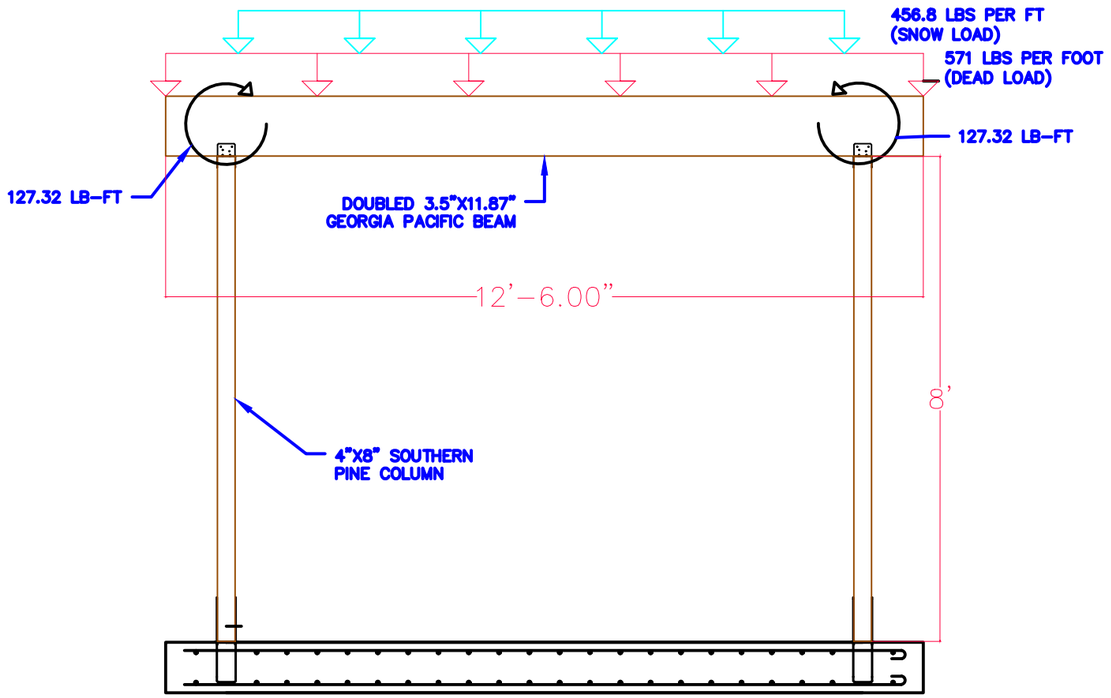
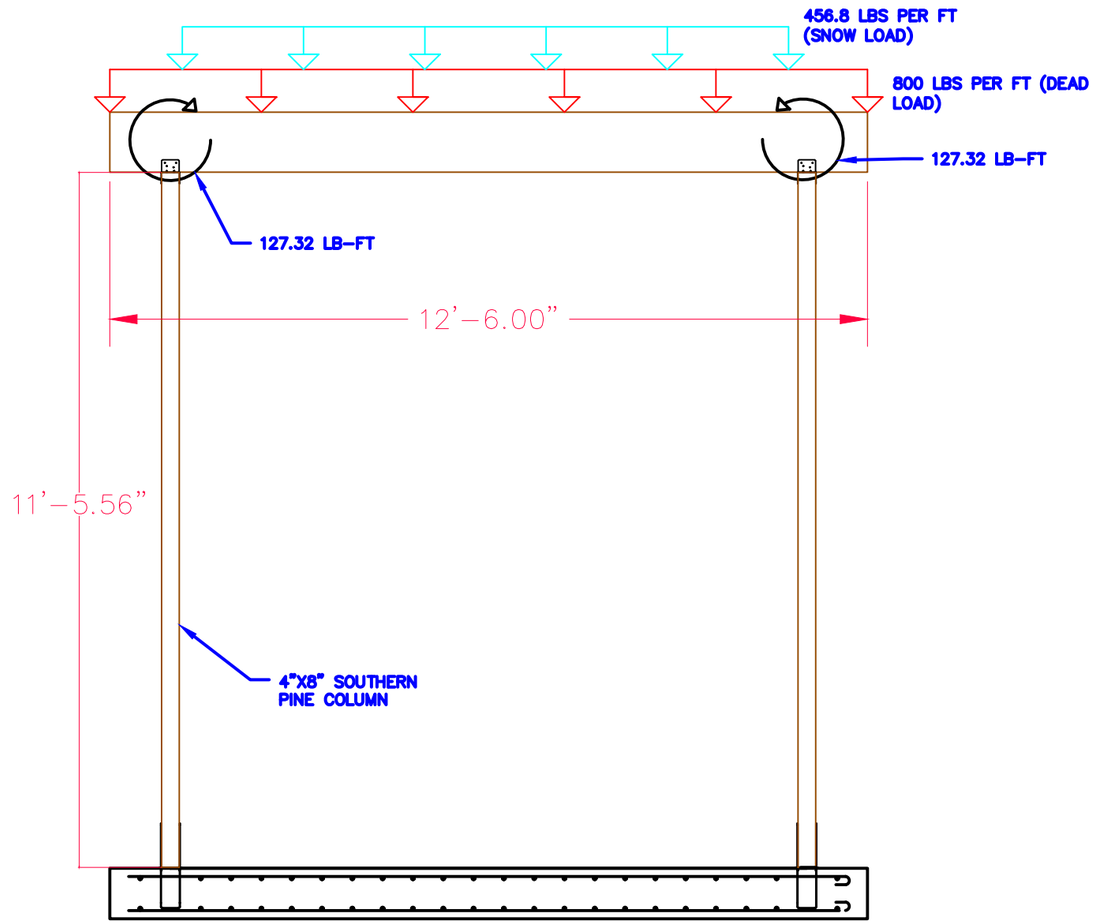
Notes:
1.) All wood is No.1 Dense: 2"–4" Thick: 2"–4" Wide southern pine wood where unless stated otherwise.
2.) Use glue laminated 3"x5.5" Southern Pine wood for rafters.
3.) Use double 3.5"x11.87" Georgia Pacific Laminated LVL for cross beams.
4.) Wind Load was designed using 115 MPH wind. Exposure level 2 was used and a Risk factor level 2.
5.) Greatest bending forces will be in the middle of cross beams.
6.) Greatest moments will be at the column to cross beam connections.
7.) Cross beams will be made using doubled 3.5"x11.87"x12.5' Georgia Pacific Glue Laminated LVL.
8.) Columns will be made using 4"x8"x8' for the lower cross beam and 4"x8"x11'–5.56" for the top cross beam.



Lower Cross Beam



Top Cross Beam



0' 2' 4'

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Shooting Gallery Load Path

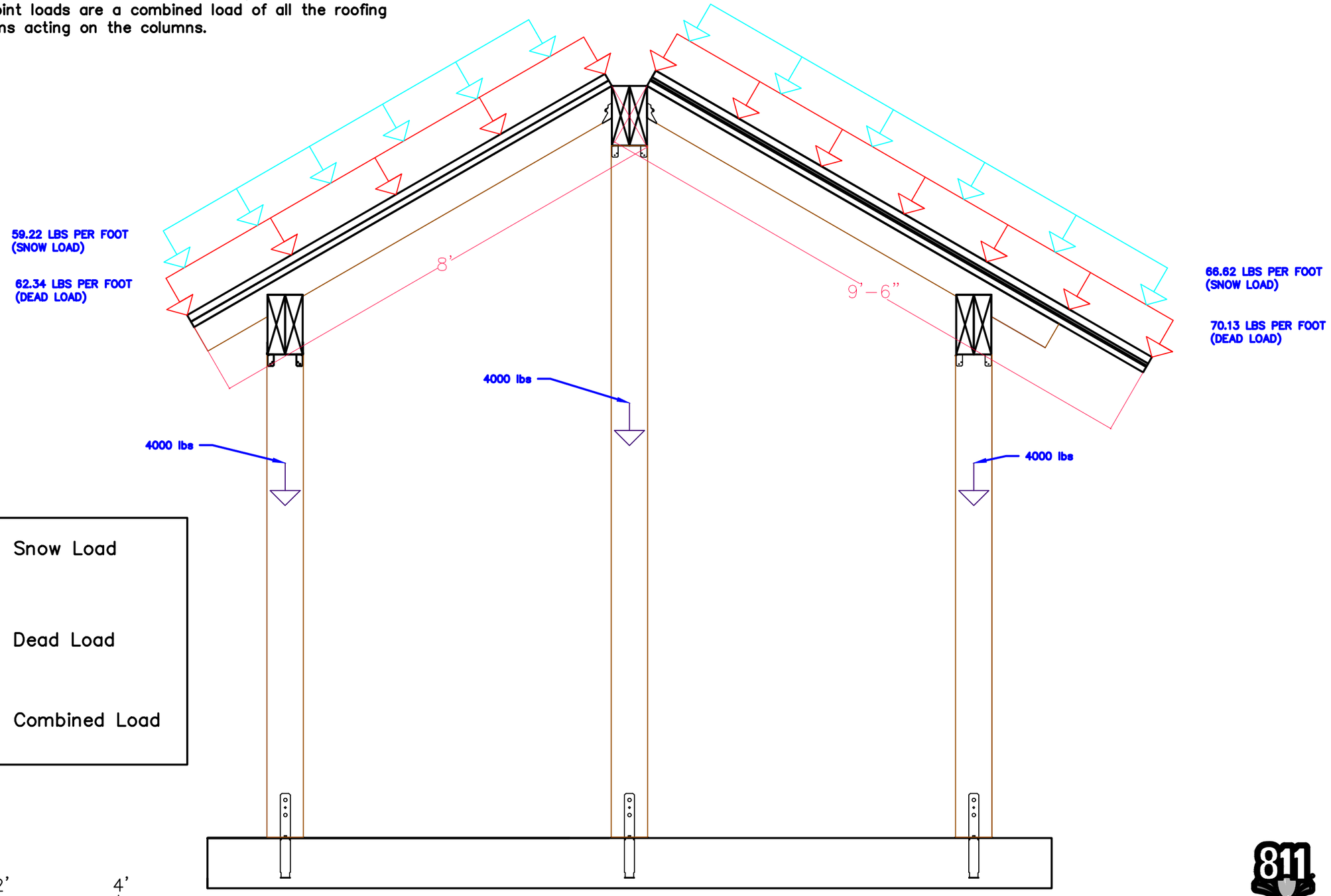
Shooting Gallery Structure Design

Design
Drawn 7/20/2022
Checked
Date Created 7/20/22
Date Modified 7/20/22
Scale 1" = 30'
Job No.

SHEET
1
OF 2 SHEETS

Notes:

1.) All wood is No.1 Dense: 2"–4" Thick: 2"–4" Wide southern pine wood where unless stated otherwise.
2.) Use glue laminated 3"x5.5" Southern Pine wood for rafters.
3.) Use double 3.5"x11.87" Georgia Pacific Laminated LVL for cross beams.
4.) Wind Load was designed using 115 MPH wind. Exposure level 2 was used and a Risk factor level 2.
5.) 4000 lb point load is the absolute maximum point load on columns.
6.) The 4000 lb point loads are a combined load of all the roofing and beams acting on the columns.



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Shooting Gallery Load Path

Shooting Gallery Structure Design

Design	1/30/2023
Drawn	
Checked	
Date Created	1/30/23
Date Modified	1/30/23
Scale	1" = 20'
Job No.	

SHEET 2 OF 2 SHEETS

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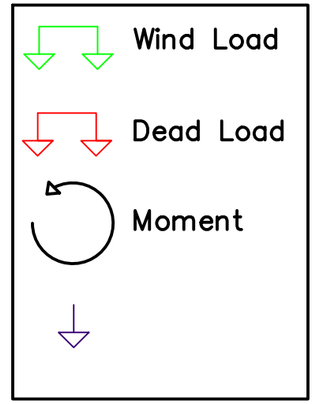
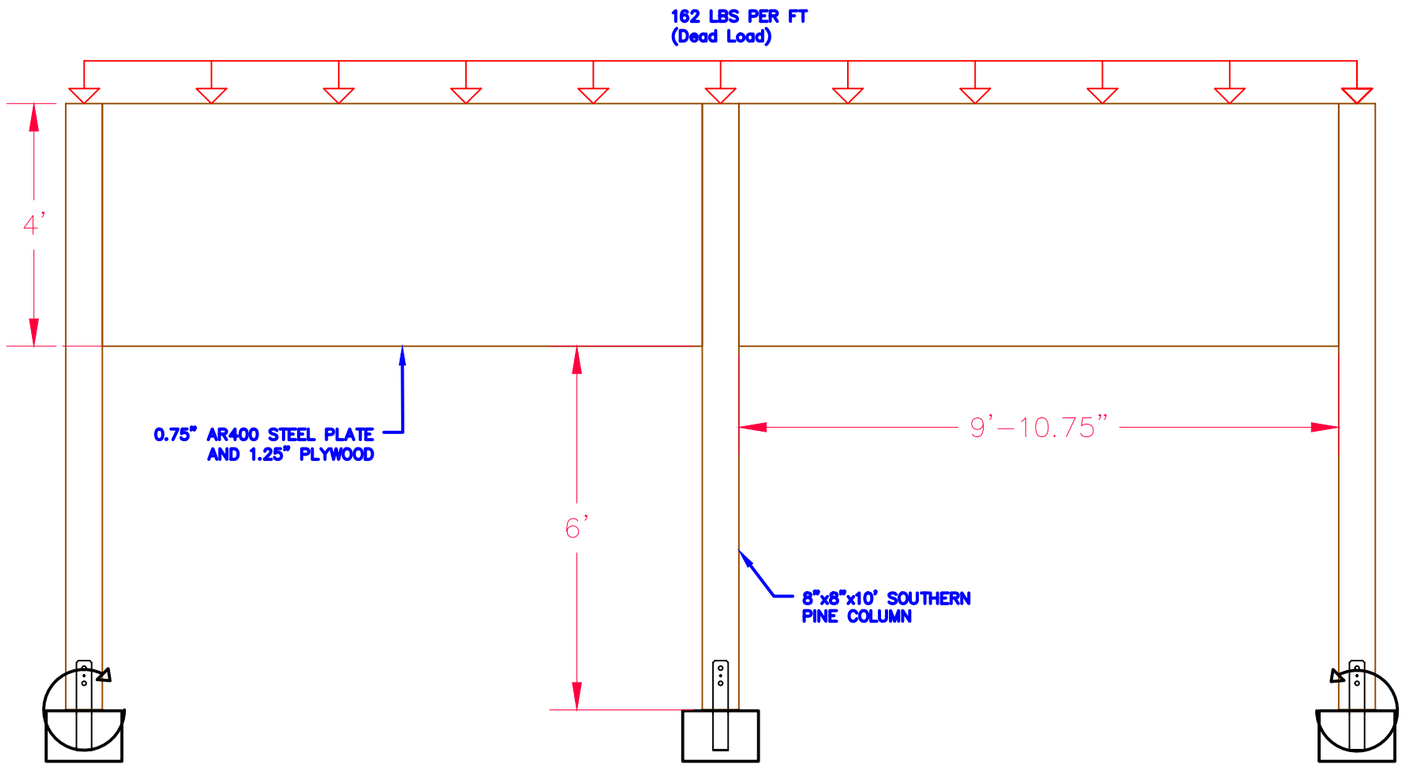
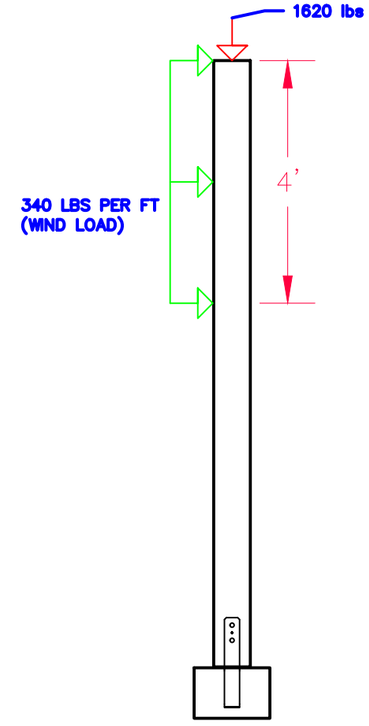
Notes:

1.) All wood is No.1 Dense: 2"–4" Thick: 2"–4" Wide southern pine wood where unless stated otherwise.
2.) Columns are 8"x8"x10' tall Southern Pine.
4.) Wind Load was designed using 115 MPH wind. Exposure level 2 was used and a Risk factor level 2.
5.) 4000 lb point load is the absolute maximum point load on columns.
6.) Columns will be made out of 8"x8"x10' Southern pine
7.) The baffle will be composed of 0.75"x4'x9'–10.75" AR400 Steel plate and 1.25"x4'x9'–10.75" plywood sheet.







0' 2' 4'

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Baffle Load Path

Baffle Structure Design

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Drawn	
Checked	
Date Created	1/20/22
Date Modified	1/20/22
Scale	1" = 30'
Job No.	

SHEET 1 OF 1 SHEETS

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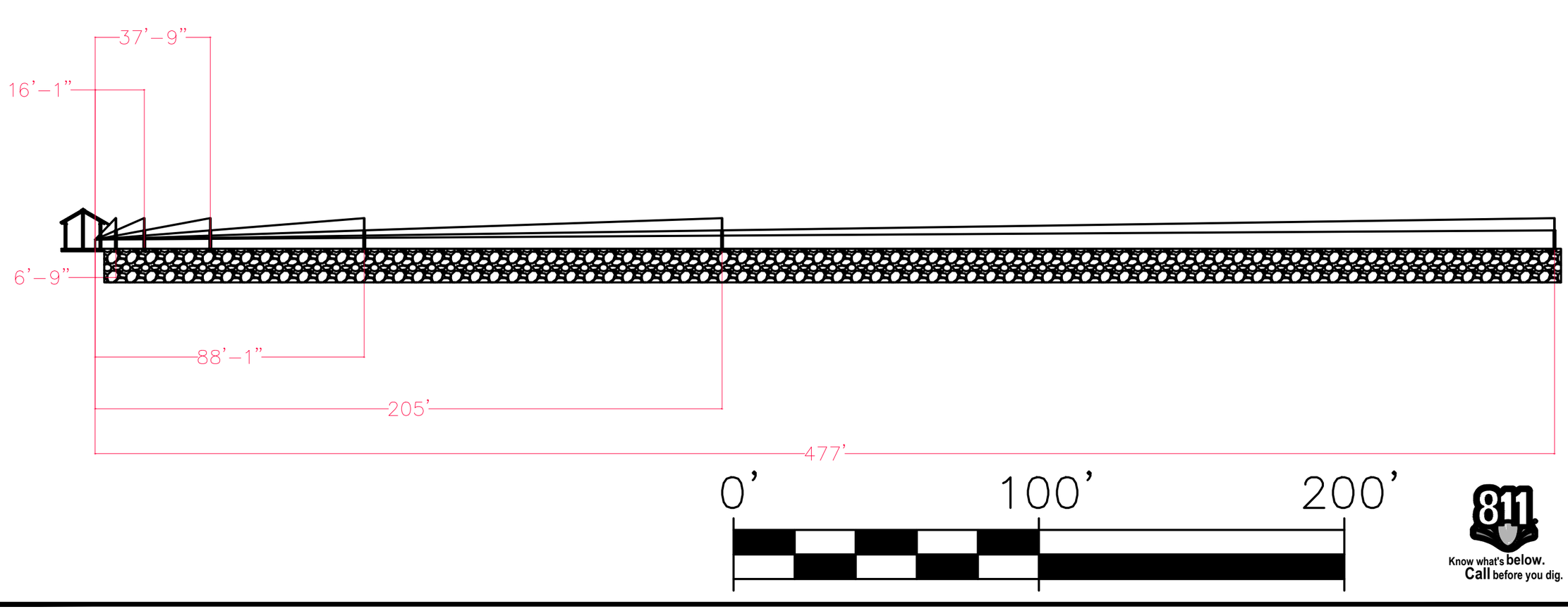
Notes:
1.) Firing position is assumed to be 3' from edge of concrete foundation and 3' above the concrete foundation.
2.) Baffle located at 477' is only needed on ranges equal to or longer than 900' (300 Yards).
3.) First baffle must be installed 6'–9" from the end of shooter position.



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Baffle and Projectile Path

Shooting Gallery Structure Design

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Drawn	
Checked	
Date Created	7/20/22
Date Modified	7/20/22
Scale	1" = 100'
Job No.	

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