

Bat Condo



Wisconsin Department of Natural Resources
Bureau of Natural Heritage Conservation
Wisconsin Bat Program

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WDNR: dnr.wi.gov

WI Bat Program: wiatri.net/inventory/bats



Introduction

This bat condo is designed to house little brown bats (*Myotis lucifugus*). Given the area and baffles, this condo can house up to 3,000 bats during their maternity season in summer. The condo mimics a barn or attic where little brown bats are often found roosting. This condo can be placed in conjunction with exclusion in barns and buildings and it not only keeps the beneficial animals in the area, it can also make the exclusion much more successful because the condo offers the bats an alternative place to roost.

Several bat condos of this design have been placed in areas throughout the state. Devil's Lake State Park, Kohle-Andrae State Park and Peninsula State Park have all installed condos over the past few years to help manage existing colonies and encourage bat habitation in the parks. Little brown bats will use these condos from April through October every year. Creating roost structures such as this condo offers the bats a safe, warm place to raise their young during a critical time in their life cycle.

The attached plans are adapted from those created by Pennsylvania Game Commission. The structure is half the size of Pennsylvania's Bat Condo which measures eight feet by eight feet, and is eight feet tall. The condo developed by Wisconsin Department of Natural Resources measures four feet by four feet, and is four feet tall.

Check out Pennsylvania's plans for more information on condos: http://www.batsnorthwest.org/bat_condo.pdf

Instructions and where to place the condo

There are a few tips that should be followed to increase the chance of bats using the condo.

- Do not use green treated lumber for the interior of the condo. Bats will generally avoid such wood because of the smell and potentially toxic materials used to treat the lumber.
- All interior surfaces should be scored or roughened so the bats have something to hang onto. This can be time and labor intensive, but it is critical to offer appropriate bat habitat.
- To maximize likelihood of bat usage, the condo should be **placed where the bottom is at least 8 feet from the ground, where the structure will get 10 or more hours of sun per day, located within 1/4 mile of water, within 30 yards of cover (trees, bushes), and in an area where it is reasonably protected from human disturbance.**
- This means the condo **should not be placed in a shaded location, near burn barrels or campfires, or close to busy roads or other high human traffic areas** to minimize disturbance.

Ways to build the bat condo:

- Hire a professional contractor
- Coordinate a group of volunteers or students with guidance from a carpenter

Please contact Heather Kaarakka with questions related to condo construction and placement.

Heather.kaarakka@wisconsin.gov or 608.266.2576



Gibraltar High School Ecology Club students pose inside the frame of the condo they helped build for Peninsula State Park. Kathleen Harris, WDNR

Materials List

Item	Project Use
Posts & Anchors (changed to a “post in ground” installation)	

(4) 6" x 6" x 12'	treated posts
(4) 6" x 6" x 16'	treated posts
(4) 6" x 6" professional	Post Anchors
(12) ft 3/8" Rebar 10'	concrete reinforcement
(4) 16" Sona Tubes 4' long	concrete forms
(23) cu ft concrete (16" holes)	51 bags / .45 CF
(9) cu ft concrete*	20 bags / .45 CF
*13 cu feet – 4 cu feet = 9 cu ft (4-12" diameter holes, 4 feet deep, with a 6" x 6" post installed full depth).	

Floor

(2) 4" x 6" treated x 8'	structural sill
(4) 4" x 4" loose pin hinges	hinge
(1) 4" x 4" X 4' treated	sill spanner
(1) ½" exterior grade plywood	doors
(3) 2" x 3" x 8' treated	door stops
(4) 3" barrel blots	door locks

Walls

(2) 2" x 4" 8' treated	wall sill
(8) 2" x 4" 8' treated	wall uprights
(4) 2" x 4" 8' treated	wall top plate
(2) 2" x 6" x 8' treated	roost bundle supports

Siding

(4) 1" X 4" X 8' cedar	corner trim
(13) 3/4" x 8" x 8'	Cedar Bevel Siding

Trusses

(4) 2" x 4" x 12'	Trusses & Fascia
(2) 2" x 4" x 12'	Roof Extensions
(3) (2) 4' x 8' x ½" CDX	Roof Plywood

Item	Project Use
(3) D style	Roof Edge (Black)
(4) (1) 4' x 8' x ¼" BCX	Soffit Plywood
(1) Tar Paper	30 pound
(2) Bundles Shingles	Black Architectural
(1) Hip Cover	Black 3 tab

Baffles

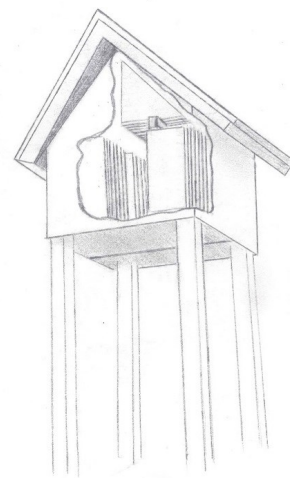
(13) 4' x 8' x ¼" BCX	Baffle Plywood
(32) 3/8" x 2' threaded rod	Baffle supports
(64) 3/8" - 16 nuts	Baffle supports
(64) 3/8" washers	Baffle supports
(7) ¾" PVC 10'	Baffle spacers
(1) 1" x 8" x 8' cedar	Lower baffle land board.
(2) 2 x 4 8'	Upper Baffle Supports

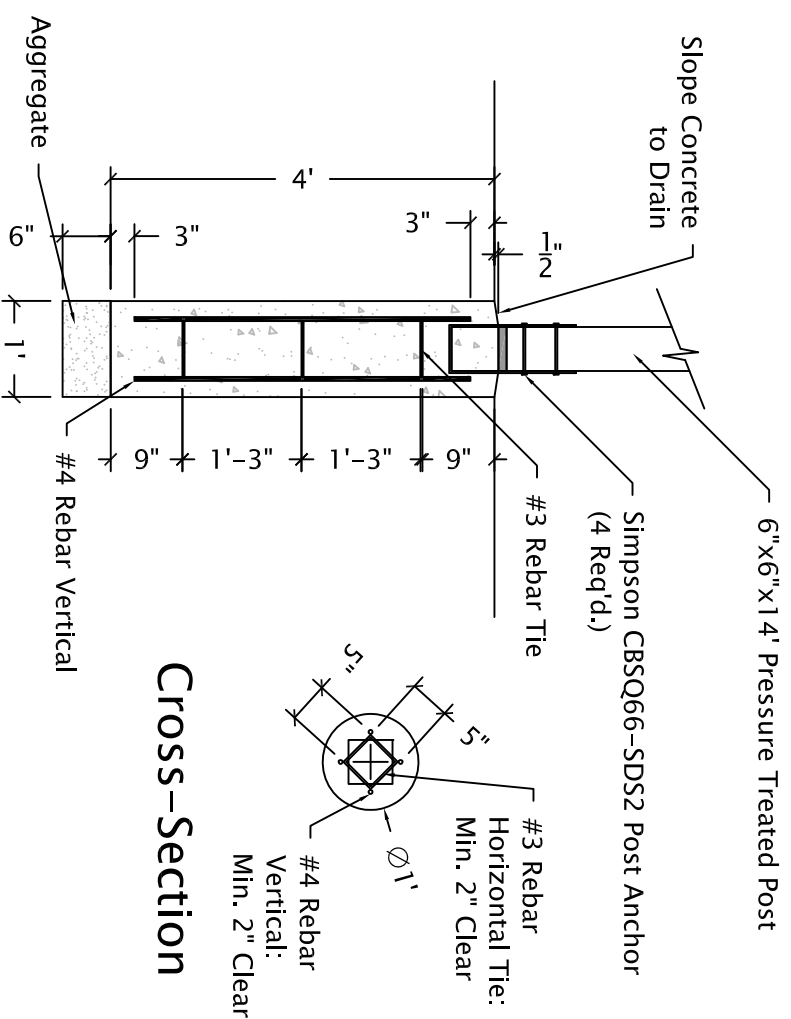
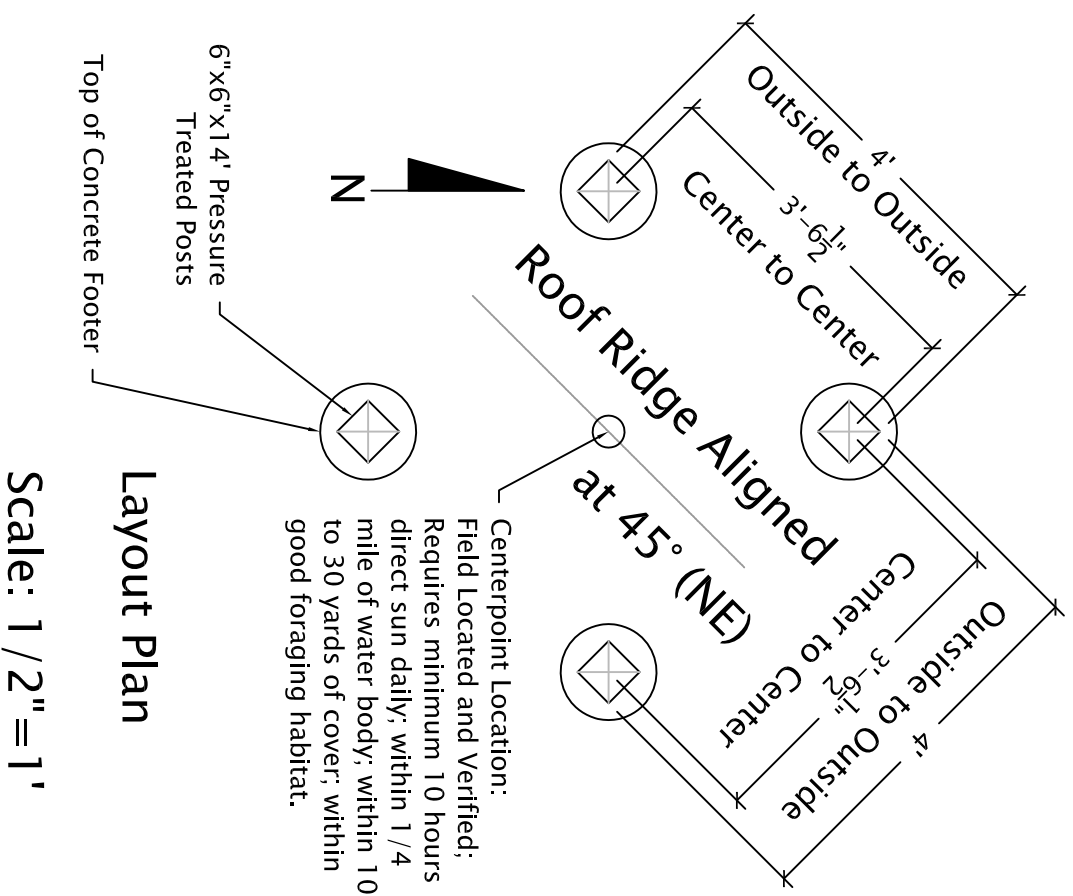
Hardware

Siding Nails 8D	non-splitting
Roofing Nails 1 ¾"	
Roughing Nails 16D	
Decking screws	
Black Stain	

* " = inches; ' = feet

Cost estimate for materials alone is between \$1,000 and \$1,500.





Cross-Section

Post Footer: Section

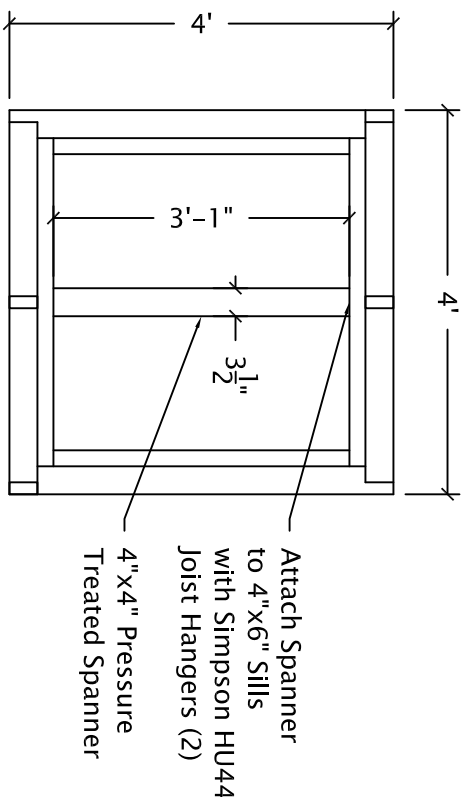
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Footer Material List

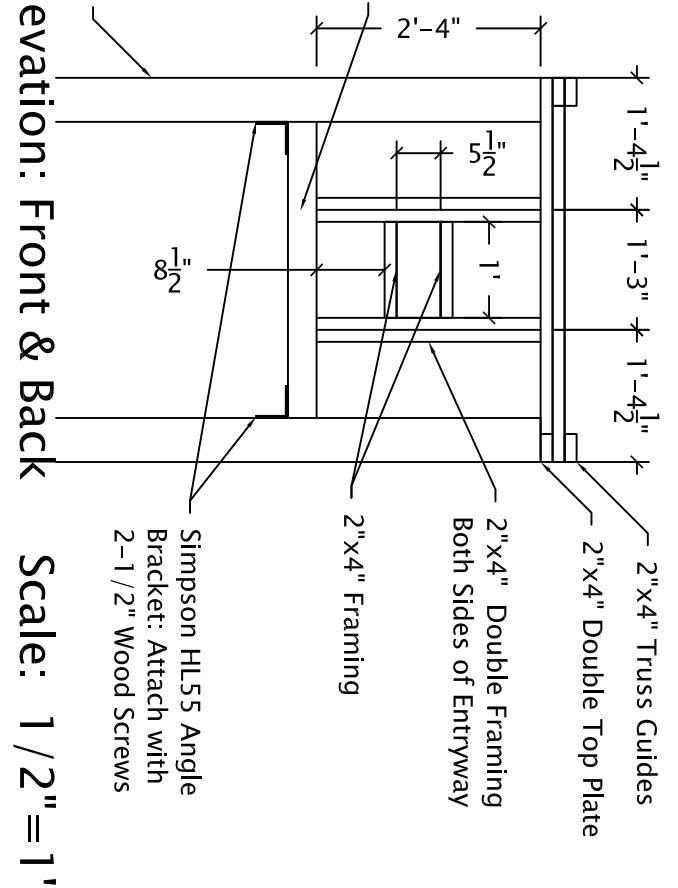
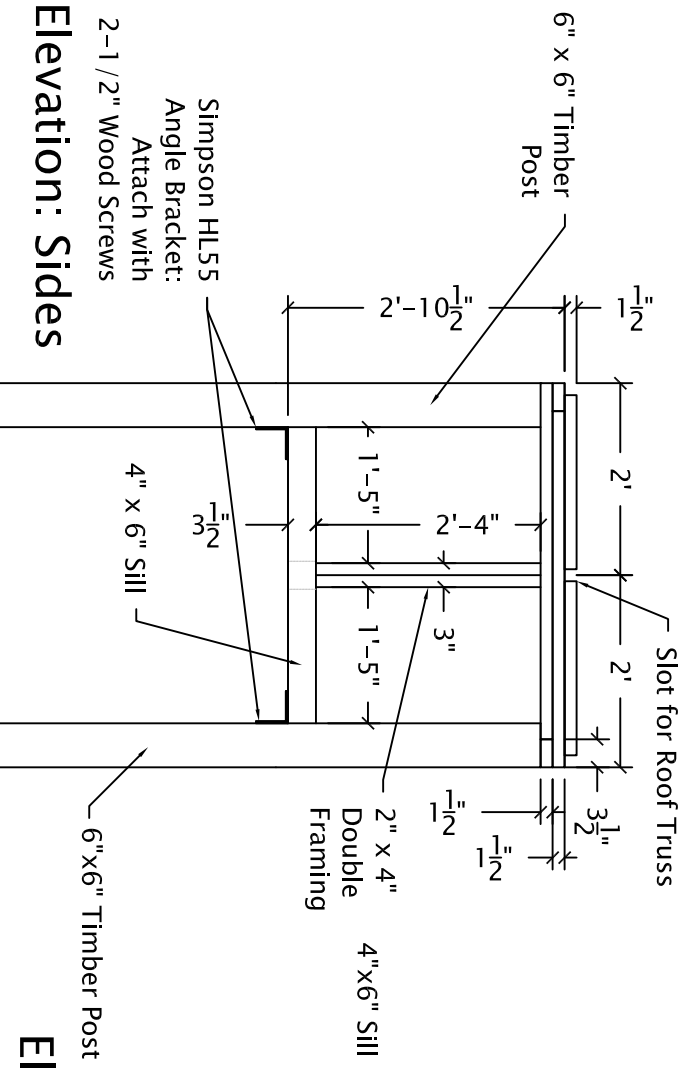
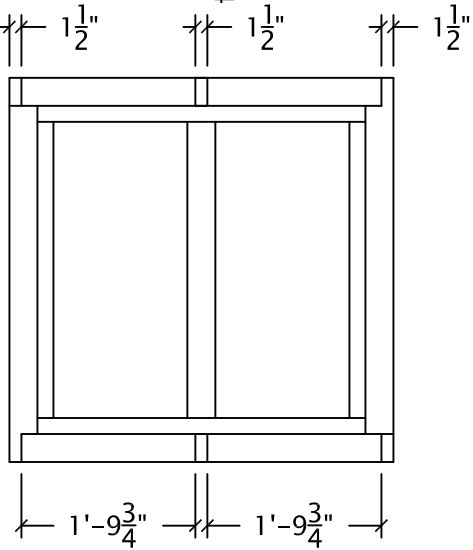
- (4) Simpson CBSQ66-SDS2
- (12) #3 Rebar - 20" (horizontal)
- (16) #4 Rebar - 42" (vertical)
- (4) 12" Diameter Sono-tubes - 5'
- (0.5) Cubic Yards Concrete
- (1.6) Cubic Feet Aggregate

 DEPARTMENT OF NATURAL RESOURCES BUREAU OF FACILITIES AND LANDS ENGINEERING SECTION	Project Title: Bat Condo – Version2 Project Location: Statewide Properties	Sheet Title: Post Footing Details – Concrete Pier Option	<table border="1"> <tr> <td>Designer Drafter</td><td>KMK KMK</td></tr> <tr> <td>Set Type</td><td>CD</td></tr> <tr> <td>Date Issued</td><td>4/16/12</td></tr> </table>	Designer Drafter	KMK KMK	Set Type	CD	Date Issued	4/16/12
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Top View: Side Orientation



Top View: Front Orientation



Elevation: Sides

Elevation: Front & Back Scale: 1/2"=1'



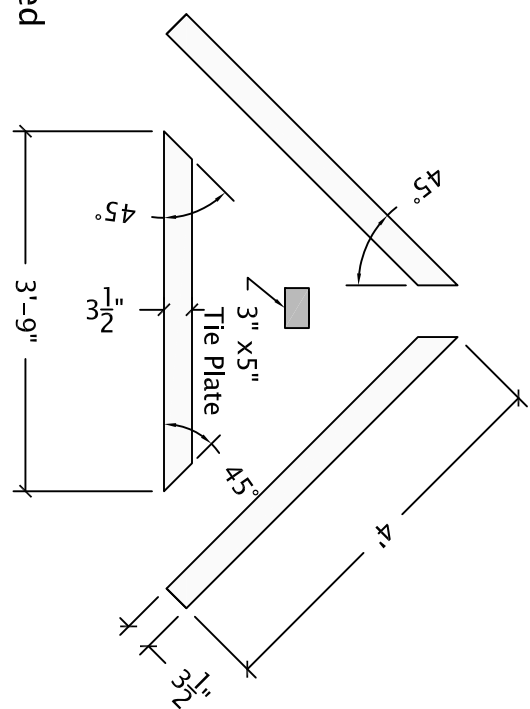
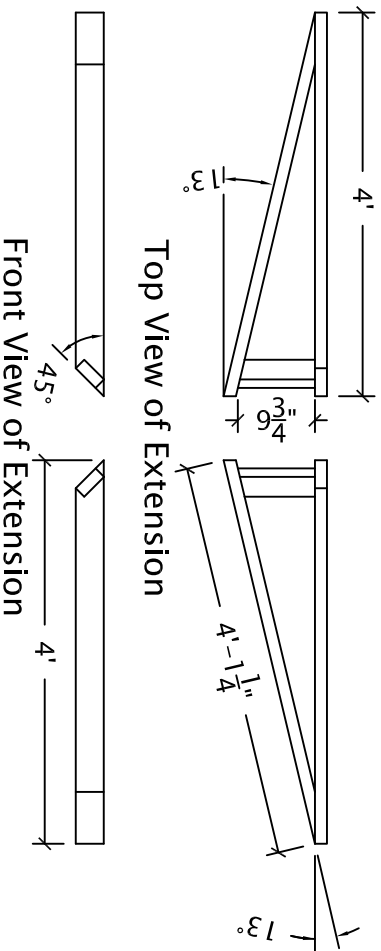
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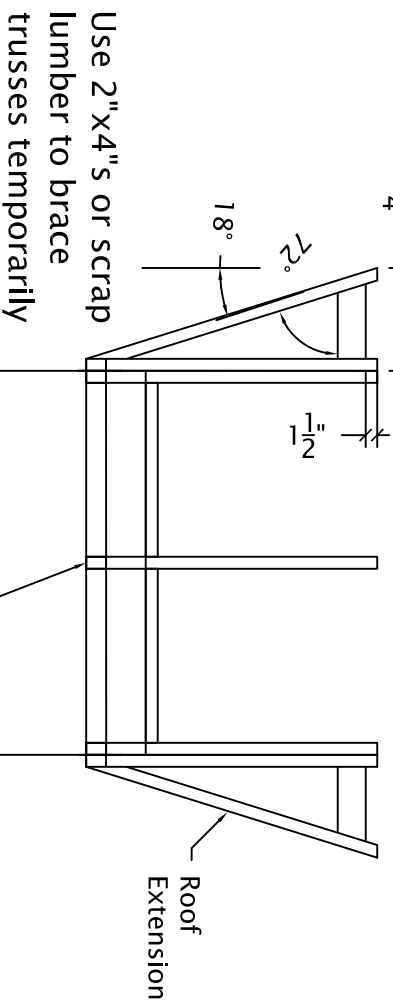
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**Structure Framing
Detail Sheet**

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Top View of Two Sections Assembled



Side View

Extensions Constructed of 2"x4" Lumber

- 3 Roof Trusses Req'd.
- Constructed of 2"x4" Lumber
- 6 Tie Plates for each truss – 3 per side

Roughen surfaces of trusses for bat movement

2"x4"x4' Fascia attached to truss ends

Roof Truss Detail
Scale: 1 / 2" = 1'



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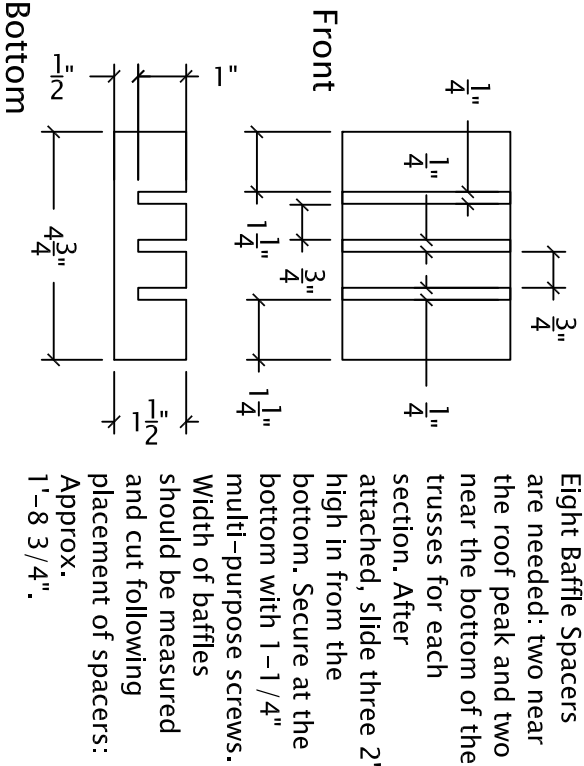
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Sheet Title:
**Roof Framing
Detail Sheet**

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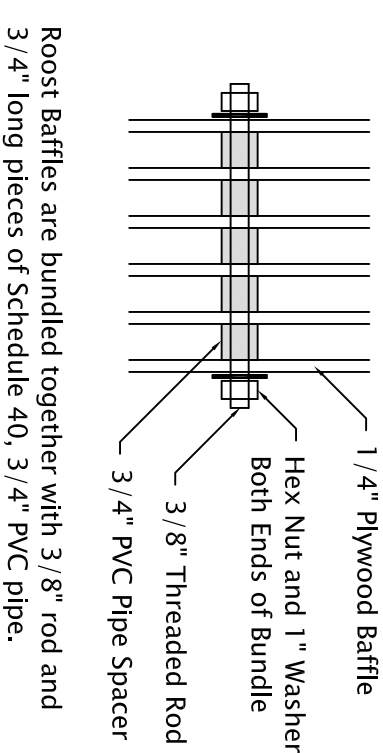
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Peak Baffle Spacer

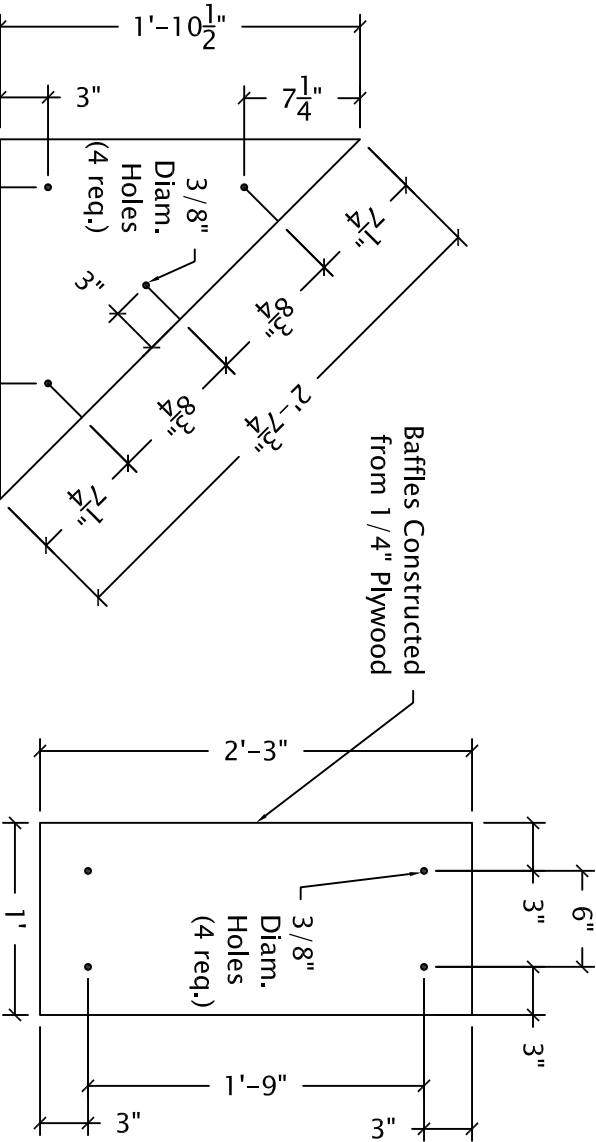


Eight Baffle Spacers are needed: two near the roof peak and two near the bottom of the trusses for each section. After attached, slide three 2' high in from the bottom. Secure at the bottom with 1-1/4" multi-purpose screws. Width of baffles should be measured and cut following placement of spacers: Approx. 1'-8 3/4".

Roost Bundle Attachment



Roost Baffles are bundled together with 3/8" rod and 3/4" long pieces of Schedule 40, 3/4" PVC pipe.



Upper Roost Baffles: 4 Bundles needed (21 Baffles per Bundle)

Lower Roost Baffles: 4 Bundles needed (21 Baffles per Bundle)



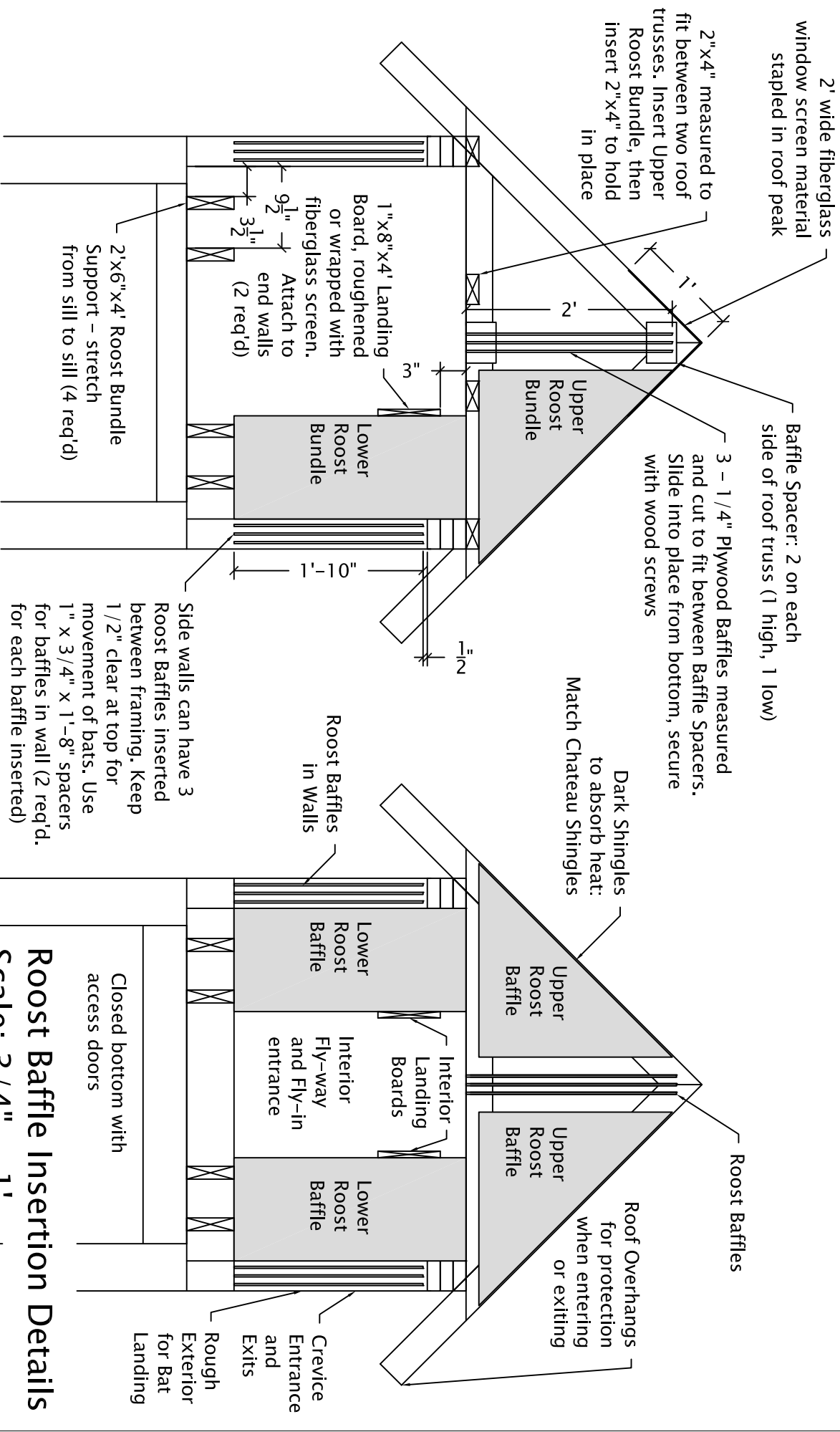
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Project Location:
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Sheet Title:
**Roost Baffles
Detail Sheet**

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Bat Condo – Version2

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Statewide Properties

Sheet Title:
**Roost Baffle Insertion
Detail Sheet**

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Drafter	KMK
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Diagram illustrating the cross-section of a roof assembly, showing the following layers and materials:

- 25 Yr. Shingles to Match Character of Buildings on Property;
- over #30 Roof Felt Paper & 1/2" Plywood Sheathing
- Brown Aluminum Drip Edging Under Shingle Edges
- 6'-1 3/4"
- 5'-5"
- 1 1/2" Pl

The diagram illustrates the construction of a double door assembly. It includes two views: an end view (top) and a side view (bottom).

End View Labels and Dimensions:

- 4"x6" Sill**: Points to the bottom horizontal frame member.
- End**: Labels the end of the assembly.
- 2"x3" Door Stops - Recessed 1/2" from Bottom of Sills & Spanner**: Points to the stops on the bottom frame.
- 4"x4" Spanner**: Points to the vertical frame member on the right.
- 2'-10"**: Dimension for the width of the door opening.
- 3'-1"**: Dimension for the total width of the assembly.
- Secure Doors with Sliding Bolt Latch**: Points to the latch mechanism on the door.
- 2 Hinges Per Door Panel:**: Points to the hinges on the door.
- Set to swing downward**: Indicates the door's operation.
- 3'-1" x 1'4 3/4"**: Dimension for the door panel.
- 2 Bottom Doors: 1/2" Exterior Plywood**: Points to the bottom door panel.

Side View Labels and Dimensions:

- Side**: Labels the side of the assembly.
- 4"x4" Spanner**: Points to the vertical frame member on the left.
- 2"x3" Door Stops - Recessed 1/2" from Bottom of Sills & Spanner**: Points to the stops on the side frame.
- 4"x6" Sill**: Points to the bottom horizontal frame member.
- 2'-10"**: Dimension for the width of the door opening.
- 3'-1"**: Dimension for the total width of the assembly.
- Secure Doors with Sliding Bolt Latch**: Points to the latch mechanism on the door.
- 2 Hinges Per Door Panel:**: Points to the hinges on the door.
- Set to swing downward**: Indicates the door's operation.
- 3'-1" x 1'4 3/4"**: Dimension for the door panel.
- 2 Bottom Doors: 1/2" Exterior Plywood**: Points to the bottom door panel.

'Hardiepanel Sierra 8'
Fiber Cement Siding
Match Color of Other
Property Buildings

Vents/Crawl-In Entrances
1 1/2" Height - 4 per side

Side View

Scale: 1/2" = 1'

12/12

5 1/2"

1'-5"

3"

1'-5"

5 1/2"

1'-6 1/2"

2'-7"

scale: 1/2" = 1'

End View

Labels and Dimensions:

- 1/2" Plywood Sheathing & #30 Roof Felt Paper
- Hardpanel Sierra 8"
- 5 1/2" Fiber Cement Siding
- Match Color of Other Property Buildings
- 1'-2"
- 1'-6"
- 1'
- 1'-6"
- 5 1/2"
- 2'-1"
- Soffit: 1/2" Exterior Plywood 11" x 4', roughened on inside
- 2"x4"x4' Fascia on truss ends Stained Dark Brown
- 1/2" to 3/4" Bat Exit Between Fascia and Soffit
- Fly-in Entrance, Both Ends

Note: Interior and Exterior siding surfaces must be roughened for bat landing

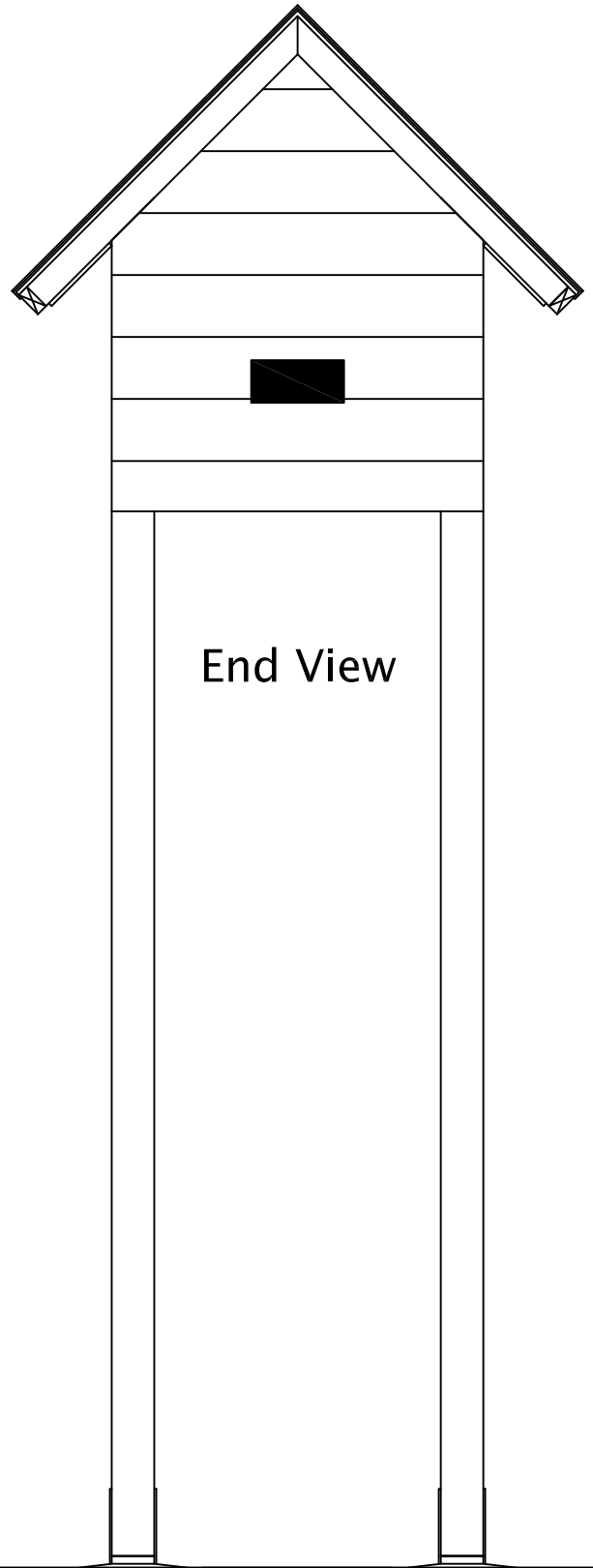
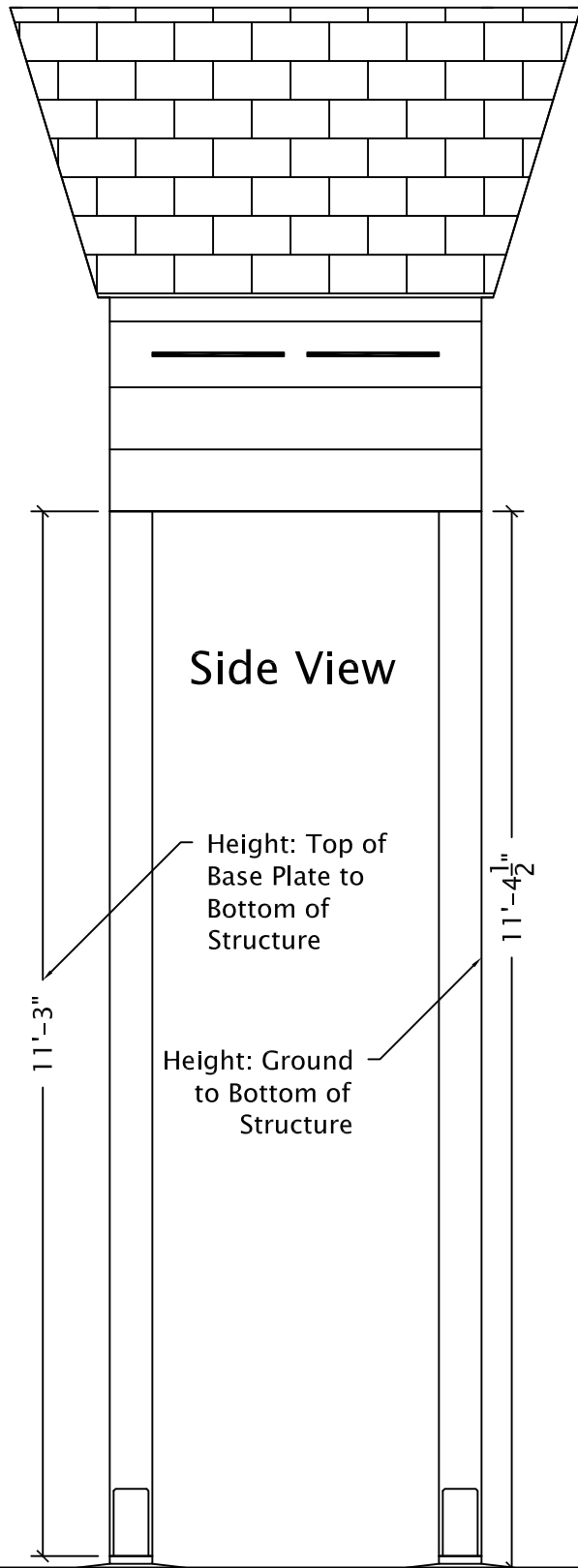


Bat Condo - Version2

Statewide Properties

Exterior Finishes Detail Sheet

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Scale: 1/2" = 1'



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Sheet Title:
Elevations

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