TINY HOUSE

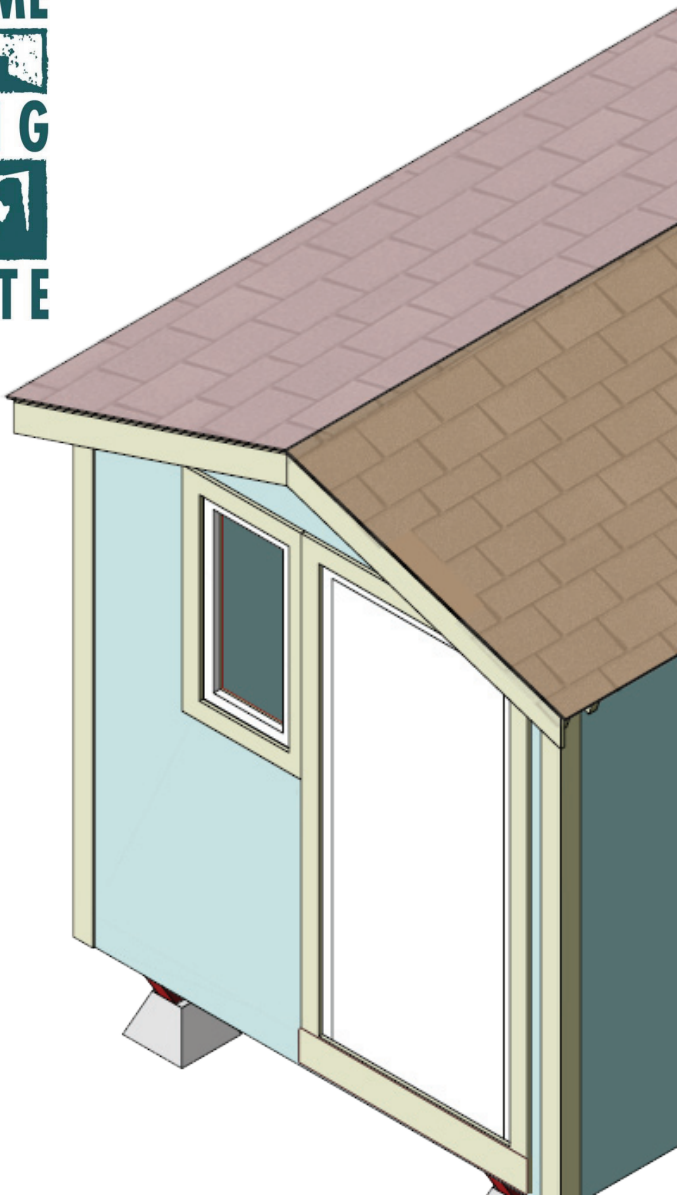
BUILDING ASSEMBLY INSTRUCTIONS

LOW INCOME HOUSING INSTITUTE

SEATTLE CENTRAL COLLEGE

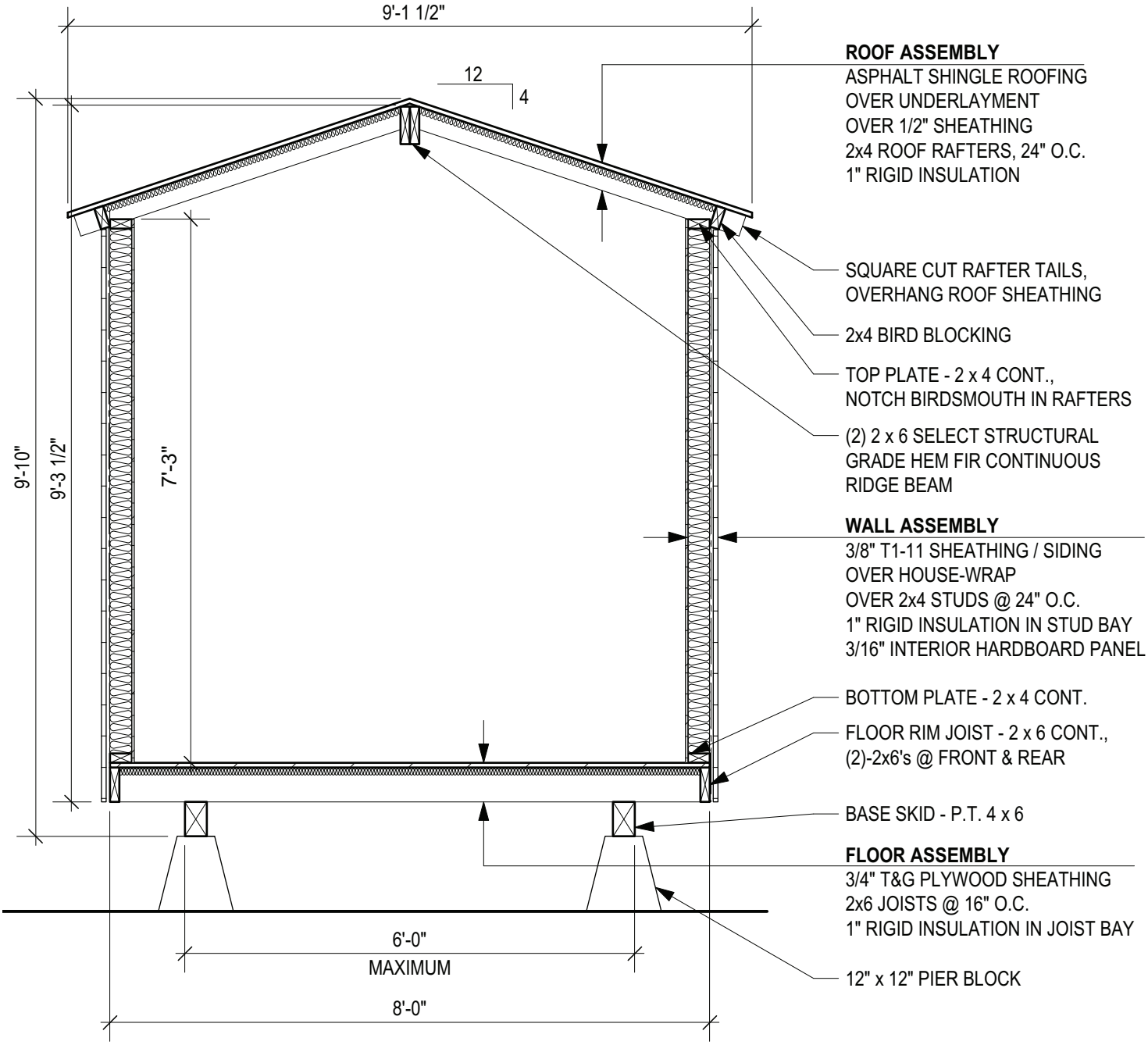
WOOD TECHNOLOGY CENTER

environmental WORKS
Community Design Center



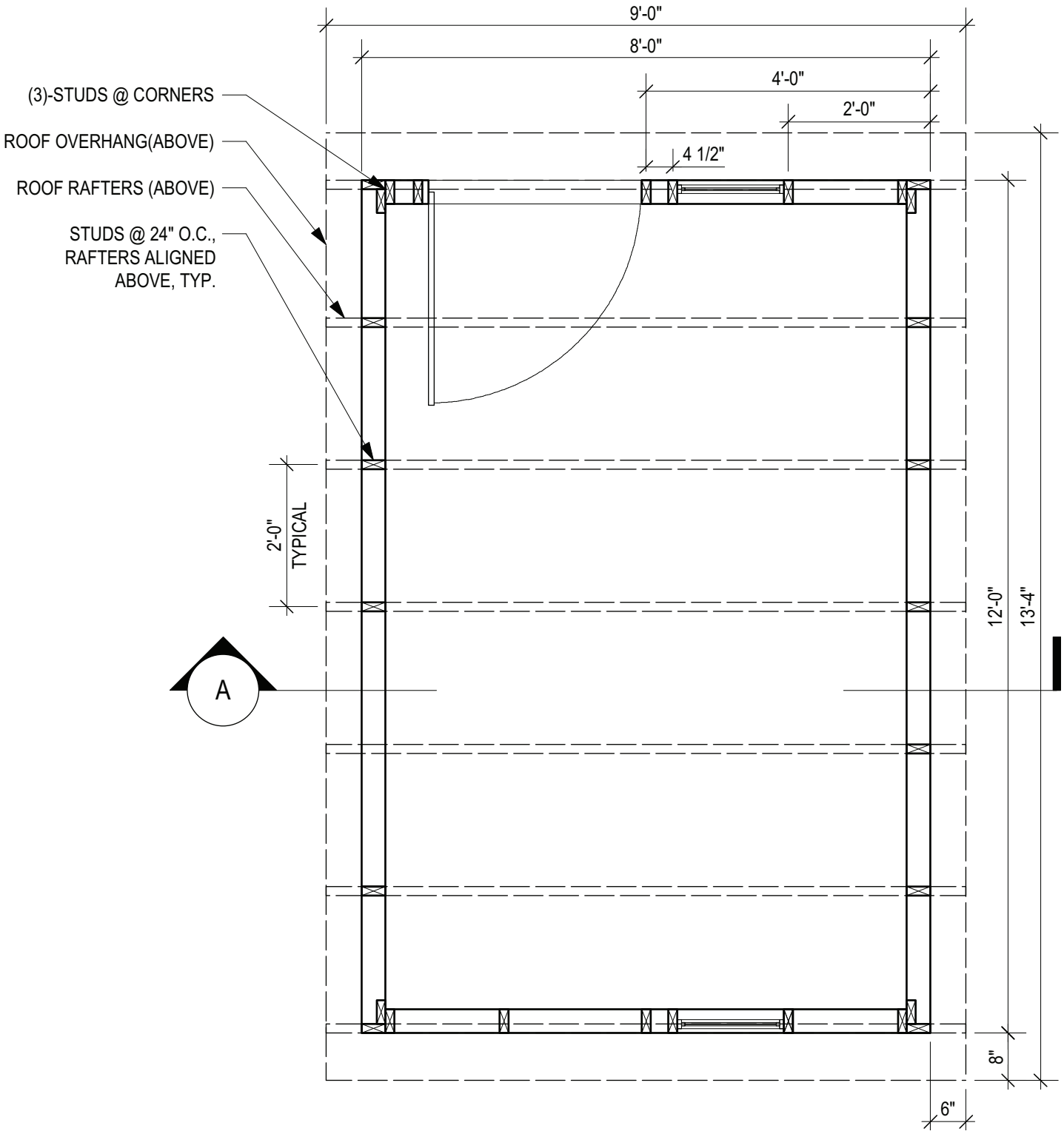
Materials List

PART	TYPE	SKU	DESC	QTY
FOUNDATION				
Skids	pt 4x6	384658	4x6-12F PT CON SELECT FIR	2
Joist Header	2x6	186714	2x6-12F #2/BTR KD HEM-FIR	2
Joists	2x6	186695	2x6-8FT #2/BTR KD HEM FIR	12
Subfloor	t&g 3/4" ply	915394	23/32" 4'x8' T&G PLYWOOD	3
Joist Hanger	hurricane tie	102924	H2.5AZ 18GA ZMAX HURRICANE TIE	24
Nails for hanger	hot galv 1-1/4"	132272	1-1/4" HOT GALV JOIST HGR 1 LB	1
ridgid insulation	1" foam	614637	1"x4'x8' EPS POLY INSULATION	3
WALL A (door)				
studs	2x4	335373	2X4-14FT PREMIUM KD HEM FIR	3
plates	2x4	291981	2x4-16FT PRIME KD HEM FIR	1
gable studs	2x4	161640	2X4-96" PREMIUM KD HEM FIR	1
door & window frame	2x4	335373	2X4-14FT PREMIUM KD HEM FIR	1
door	Right Hung Door	663624	36"x80" RH BASIC FLUSH IS NBM	1
window (Online Item Only)	Single Hung Window	Internet # 203951019	18x36" TAFCO SINGLE HUNG VINYL WINDOW	2
WALL B				
studs	2x4	335373	2X4-14FT PREMIUM KD HEM FIR	5
plates	2x4	186602	2X4-12FT PREMIUM KD HEM FIR	2
WALL C (back)				
studs	2x4	335373	2X4-14FT PREMIUM KD HEM FIR	3
plates	2x4	291981	2x4-16FT PRIME KD HEM FIR	1
gable studs	2x4	161640	2X4-96" PREMIUM KD HEM FIR	1
door & window frame	2x4	161640	2X4-96" PREMIUM KD HEM FIR	1
window (Online Item Only)	Single Hung Window	Internet # 203951019	18x36" TAFCO SINGLE HUNG VINYL WINDOW	2
WALL D				
studs	2x4	335373	2X4-14FT PREMIUM KD HEM FIR	5
plates	2x4	186602	2X4-12FT PREMIUM KD HEM FIR	2
INTERIOR				
fiberglass insulation	23x93" batt	585873	R-13 FACED INSULATION BATTS 23"x98"	2
ridgid insulation	1" foam	614637	1"x4'x8' EPS POLY INSULATION	3
sheathing	4x8 ply		1/4" 4x8' PLYWOOD	
EXTERIOR SIDING				
house wrap	Everbilt	1000001507	EVERBILT 9'x150' 76 GRMS HOUSE WRAP	1
ext sheathing	t&g 3/8" T1-11	509095	3/8" 4'x8' SMART SIDE SIDING	10
ext gable sheathing	lap siding	694876	8'x12' TEXTURED STRAND LAP SDNG	2
gable flashing	z-bar	322946	3/8" GALV Z-BAR	2
corner detail	3/4" cedar	161897	3/4x4-8FT CEDAR BOARD	8
door detail	3/4" cedar	161897	3/4x4-8FT CEDAR BOARD	3
window detail	3/4" cedar	161897	3/4x4-8FT CEDAR BOARD	3
ROOF FRAME				
rafter	2x4	186552	2x4-10FT PREMIUM KD HEM FIR	9
lookout	2x4	186602	2X4-12FT PREMIUM KD HEM FIR	1
ridge	2x6	186728	2X6-14' SELECT STRUCTURAL GRADE HEM FIR	2
bird block	2x4	186602	2X4-12FT PREMIUM KD HEM FIR	2
ROOF				
sheathing	4x8 ply	915378	15/32" 4x8' PLYWOOD	5
felt	#15 felt	258830	#15 FELT 432SQFT	1
drip edge flashing	steel roof edge	894803	1-1/2" GALV STEEL ROOF EDGE	3
shingles	25 yr shingles	1001188139	SUPREME METRIC ESTATE GRAY	8
staples	T50	172618	ARROW 1/4" T50 GALV STAPLES 1250pk	1
roofing nails	3/4" galv	193534	3/4" ELECTRO GALV ROOFING 5 LB	1
HARDWARE				
framing nails	8d	944319	8D 2-3/8" COATED SINKER 5lb	2
framing nails	16d	944327	16D 3-1/4" COATED SINKER 5LB	2
OTHER				
Membrane Flashing	75'	305163	Grace Vycor Plus 6 in. x 75 ft Roll Full Adhered Flashir	1
Sheet Vinyl	8' x 12'	728266		1
Hardboard Panel	3/16" X 4' x 8'	832780	Hardboard Tempered Panel	10
Fascia Board	1" x 6" x 12'	1000935543	1 in x 6in x 12ft SPF S1S2E White Prime Select Fascia	2
Rigid Insulation	1" foam	614637		9



Building Section

SCALE: 1/2” = 1’-0”



Floor Plan

SCALE: 1/2” = 1’-0”

Safety Information

Adapted from the Habitat for Humanity Construction and Safety Policy and Plan http://www.habitatpgw.org/

Introduction

Construction sites can have numerous dangers. Start a project by making safety a primary concern at the job site. Recognize that safety is the responsibility of each member of the build team. Try to be conscious of the safety of others as well as yourself as you move around and work on the job site.

Be cautious in your work and ask questions of experienced build team members. Do not go ahead with a task if you are uncertain about how it is done, or if you are unable to do it. Safety is based on knowledge, skill and an attitude of care and concern. Before work starts a job supervisor should instruct each worker about the correct and proper procedures for performing each task. This should familiarize the worker with the potential hazards of doing the tasks and advise him or her as to how such hazards can be minimized or eliminated.

Guidelines for a Safe Attitude

1. THINK before you do your work or task.
2. If you are uncertain about how to do a task or how to operate a power tool — ASK A SUPERVISOR.
3. Concentrate on your task and eliminate distractions.
4. Know where the first-aid kit is located and how to get emergency help.
5. Inspect all power tools, hand tools, ladders and scaffolding on a daily basis.
6. Advise your supervisor IMMEDIATELY of any unsafe or hazardous tool or condition.

Proper Safety Equipment

Proper clothing is as essential to safety as the proper selection and use of tools. Wear clothes and gloves that are appropriate for the work and weather conditions. Loose clothing is dangerous around power tools.

Workers shall wear work boots or thick-soled shoes at all times when on a construction site. Any worker wearing sandals or other types of inappropriate footwear shall not be permitted to remain at a construction site.

Hard hats are to be worn during the framing phase of construction, or when required by a supervisor, and are to be made available to workers on each job site at all times.

Protective glasses will be available for every construction worker. A worker must wear protective glasses any time he or she is operating a power tool or when instructed by a supervisor.

Each worker must wear a dust mask when installing insulation, sanding or when instructed by a supervisor.

Ear plugs must be worn when using a power tool for a prolonged period of time or when instructed by a supervisor. Ear plugs are to be made available to workers on each job site at all times.

Power Tools and Other Electrical Equipment

A power tool should not be used without proper instruction on its use and on what can happen if the tool is not used properly. The instruction should be done by a qualified person and should be given to all workers; even experienced do-it-yourselfers should receive instruction. The trainee should use the power tool in the presence of the instructor, until the instructor is satisfied that the trainee knows how to use the power tool properly.

Never lower or carry a power tool by its cord. Clean tools daily. Power tools should be checked for defective switches, cords, plugs and proper grounding. Defective tools should not be used and should be reported to the supervisor (do not wait until the end of the day).

To avoid electrical shock, the following rules must be obeyed:

1. A three-pronged plug must be used on all electric power tools.
2. Extension cords must not have frayed insulation or be fastened with staples, hung from nails or suspended from wires.
3. All temporary lights must be equipped with non-conductive guards.

Hand Tools

Always select the correct type and size of tool for your work and be sure it is sharp and properly adjusted. Guard against using any tool if the handle is loose or in poor condition. Dull tools are hazardous to use because excessive force must be used to make them cut. Oil or dirt on a tool may cause it to slip and cause an injury. When using tools, hold them correctly. Most edged tools should be held in both hands with the cutting action away from yourself. Avoid using your hand or fingers as a guide to start a cut, but if it is necessary, use extreme caution.Handle and carry tools with care. Keep edged and pointed tools turned downward. Carry only a few tools at one time unless they are mounted in a special holder or carried in a tool belt. Anyone working with a hammer at a height should

wear a hammer loop or tool belt, and, when not in use, the hammer should be kept in the loop or belt and not placed on a sloping surface or in a precarious position. Do not carry sharp tools in your pockets. When not in use, tools should be kept in special boxes, chests or cabinets.

A special word on saws

1. Don't bind the blade of any saw. When cutting long panels, the blade may bind, and the saw mill will catch and kick back toward the operator. Use small wood wedges or shim shingles to spread the saw cut as you go along.
2. Maintain the blade guard. A spring-actuated blade guard often can become bent and won't slide quickly, or the spring can become stretched so the return is slow. Repair any damage to the guard as soon as it happens, and NEVER tie the guard back out of the way.
3. Support what you are working on properly. Never attempt to cut something that could tilt or fall and cause the saw to slip.

Ladders

Inspect a ladder before you use it. If the ladder is unsafe, don't use it. Look for wear and tear, loose rungs and defects. Use a ladder that will reach the work. An extension ladder should reach 3 feet above the work level. Move your ladder with your work. If both of your shoulders are extended outside the ladder while you are working, you are reaching too far. When using an extension ladder, use the "4-to-1" rule: For every 4 feet of height, move the bottom of the ladder 1 foot away from the wall. A ladder is pitched at the proper, safe angle if you can grasp a rung at shoulder height.

Place your ladder on solid footing. If there is a danger of the ladder moving while you work, tie it down. If there is a danger that the ladder will be hit, barricade it. If the feet of the ladder are not level, dig the ground out under one foot with the claw of a hammer rather than raise one foot with blocks.

Never use an aluminum ladder in the vicinity of electrical lines and never use a ladder outdoors during inclement weather or on very windy days.

Carry tools and materials in proper carrying devices and keep your hands free for climbing. When climbing, always face the ladder.

Clean Work Site

A clean work place is a safe work place. This refers to the neatness and good orderof the construction site. Maintaining good housekeeping contributes to the efficiency of the worker and is important in preventing accidents.

Position building materials and supplies in carefully laid out piles to allow adequate aisles and walkways. Clean up all rubbish and scrap materials on a daily basis. Do not permit blocks of wood, nails, bolts, empty cans, pipe, wire or other materials to accumulate on the work site. They interfere with work and can constitute a hazard. Keep tools and equipment that are not being used in chests, panels or tool boxes. This protects the tools and the workers.

Never leave a work site unguarded unless all tools and materials have been properly secured.

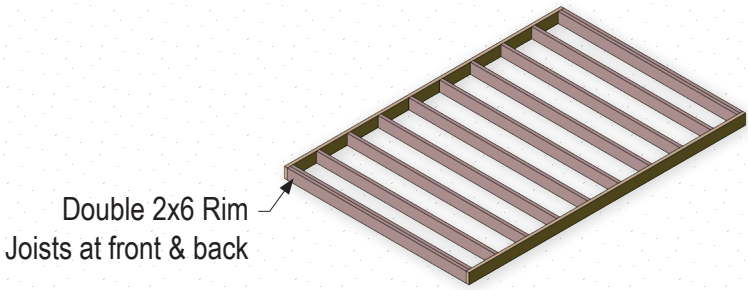
Emergency Medical Care

If someone is injured on the job, contact your supervisor immediately and

summon any needed medical help. You also should use the supplies located in the first-aid kit to stabilize the injury as much as possible until medical help arrives.

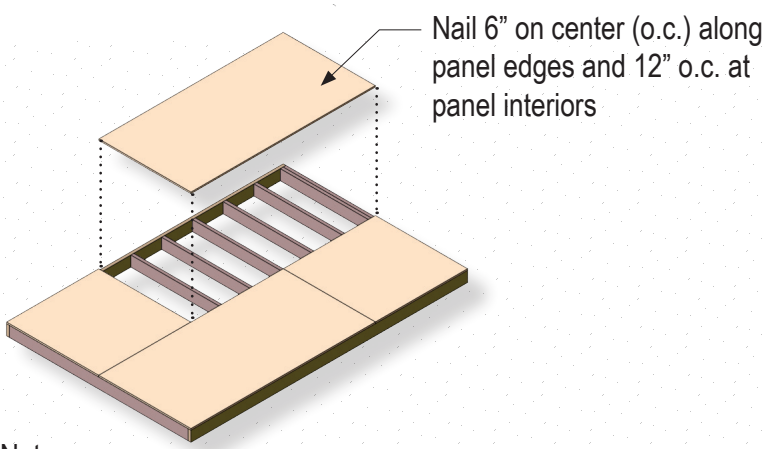
Step 01

Materials: 2x6 Floor Joists - 16d Framing Nails



Step 02

Materials: T&G 3/4” Plywood; 16d Framing Nails

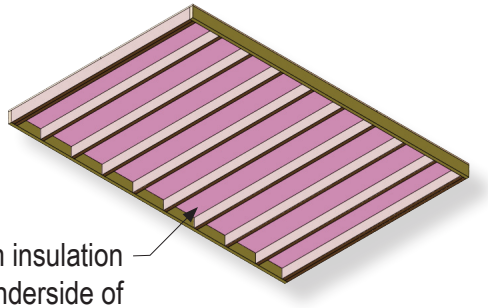


Flooring Notes:

1. Check work by walking floor; Look for missing and improperly installed fasteners; Adjust as needed
2. Nails should be driven into the joists and sink securely into joist and subfloor

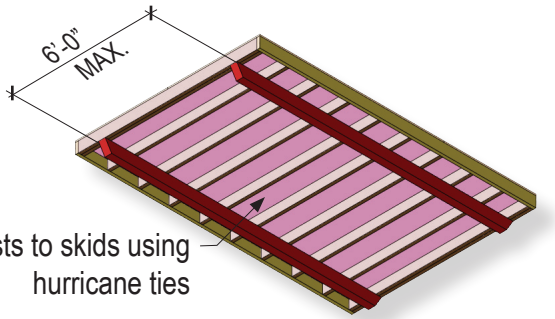
Step 03

Materials: 1” Rigid Foam Insulation



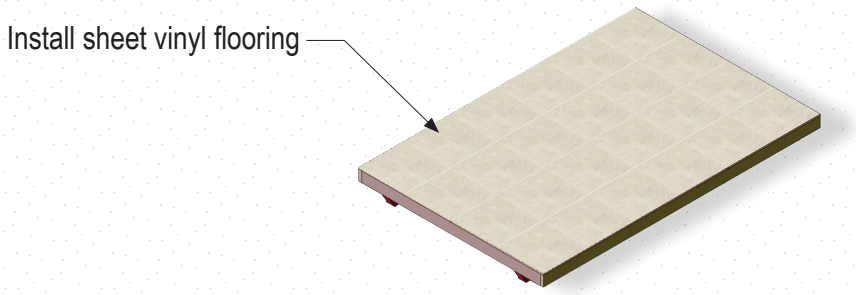
Step 04

Materials: 4x4 Pressure Treated Beam; Hurricane Ties - Hot Galvanized 1-1/4” Nails



Step 05

Materials: Sheet Vinyl Flooring



Flooring Note:

1. Protect installed flooring with cardboard or equivalent material during construction

Step 06

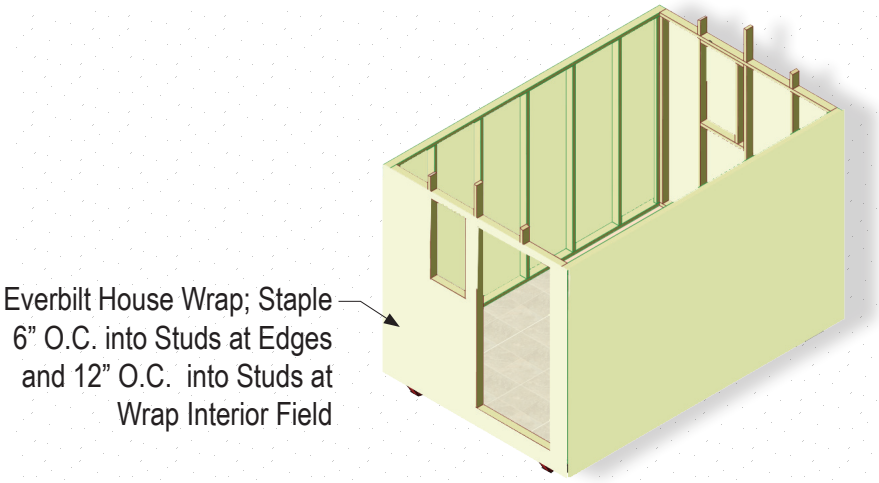
Materials: 2x4 Wd. Studs - 16d Framing Nails;
2x4 Wd. Plates - 16d Framing Nails

Framing Notes:

1. Framing to be plumb, square, and level
2. Secure top and bottom plates to studs w/ 2 nails, min.

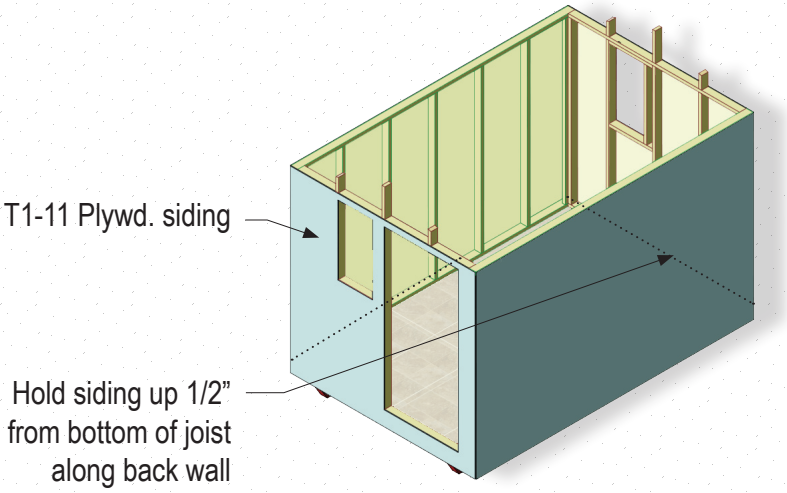
Step 07

Materials: Everbilt House Wrap - T50 Staples



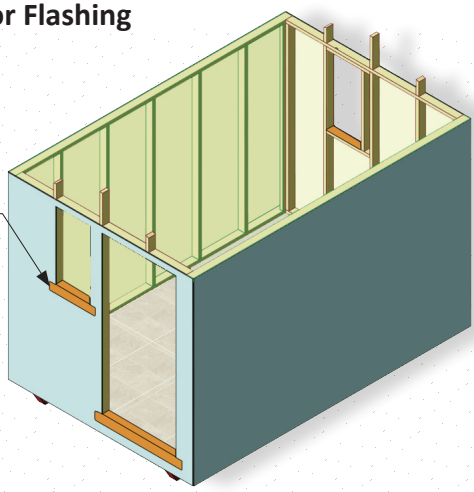
Step 08

Materials: T1-11 Plywood Siding - 8d Framing Nails



Step 09

Materials: Window & Door Flashing



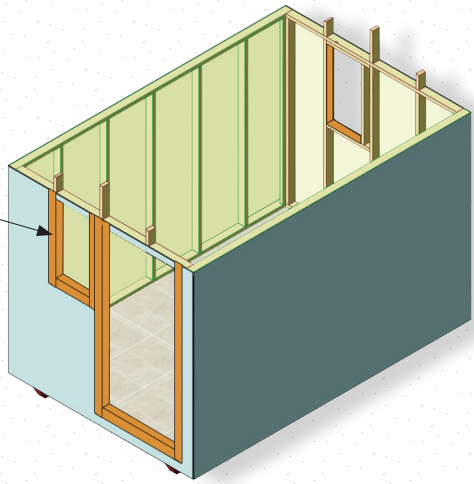
Peel and stick flashing at window and door sills; Wrap into opening leaving 2-1/2" max. on face of sheathing

Flashing Notes:

1. Lap flashing full framing depth into openings
2. Start flashing at sills of openings, then install jamb flashing overlapping the sill flashing, and head flashing overlapping the jamb flashing
3. Allow only 2 1/2" of flashing to be exposed on face of sheathing

Step 10

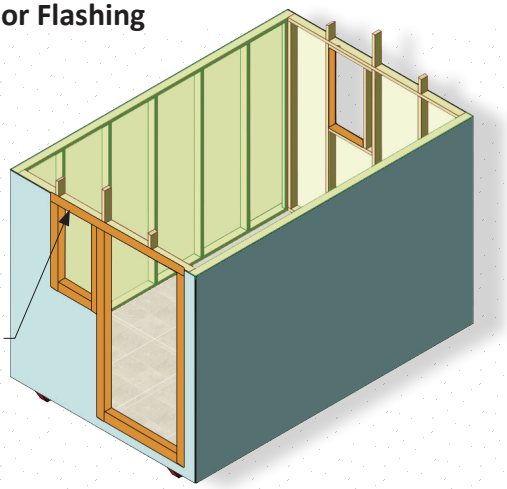
Materials: Window & Door Flashing



Peel and stick flashing at window and door jambs

Step 11

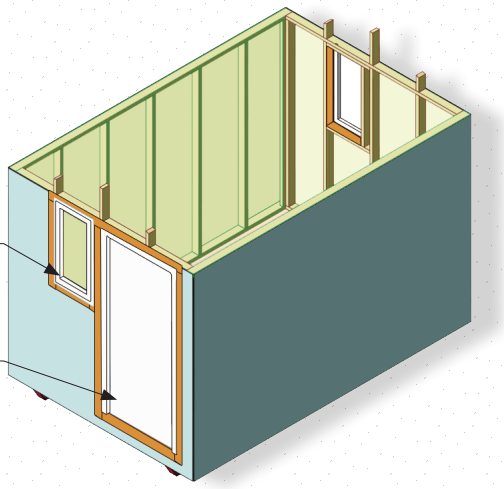
Materials: Window & Door Flashing



Peel and stick flashing at window and door head; Strip can be one continuous piece across both openings; Wrap into openings full depth of framing at both openings

Step 12

Materials: Install Door and Windows

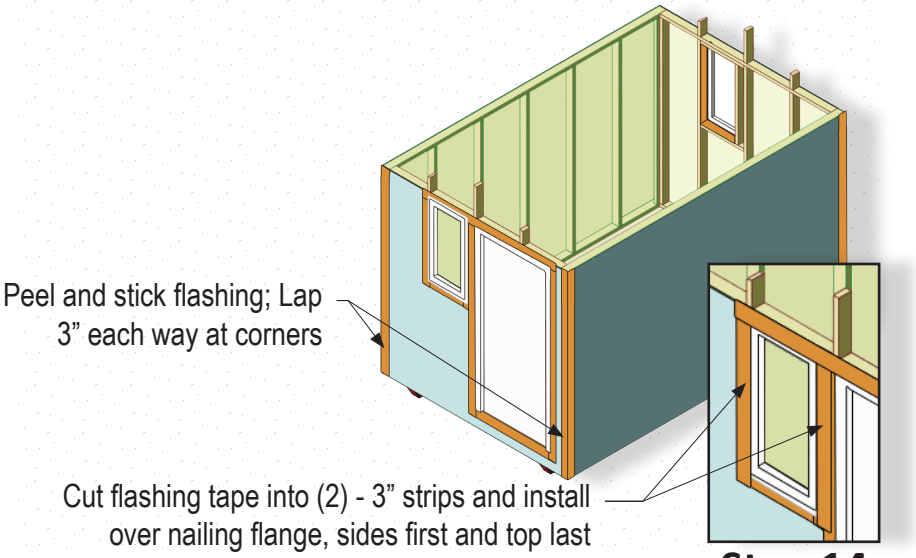


Window; Install per manufacturer's instructions

Door; Install per manufacturer's instructions

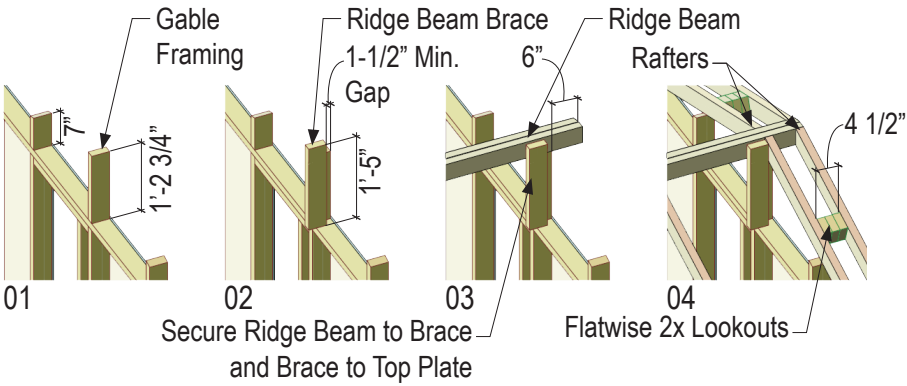
Step 13

Materials: Install Corner Flashing;
Flash around Window Nailing Flange



Step 15

Materials: Roof Framing - 16d Framing Nails

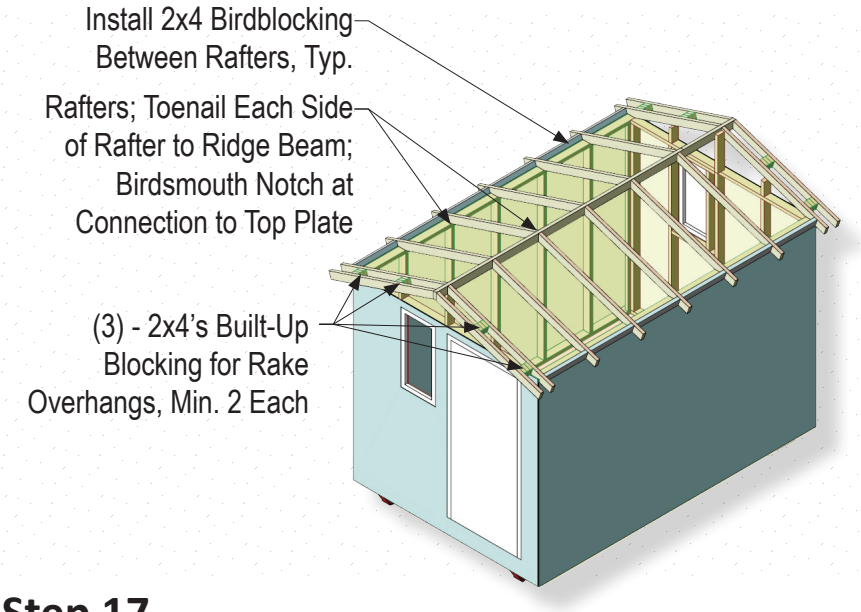


Securing Ridge Beam & Framing End Rafters

1. At detail 01, angle cut top of 7” gable framing supports to accommodate 4:12 roof slope; Toenail supports into top plate taking care that framing is plumb and square
2. Secure a 2x4 brace to each center stud at both gable end walls
3. Lift ridge beam into place and secure to brace and gable framing; Provide 6” overhang at both ends
4. Refer to step 16 for detail 04 rafter framing

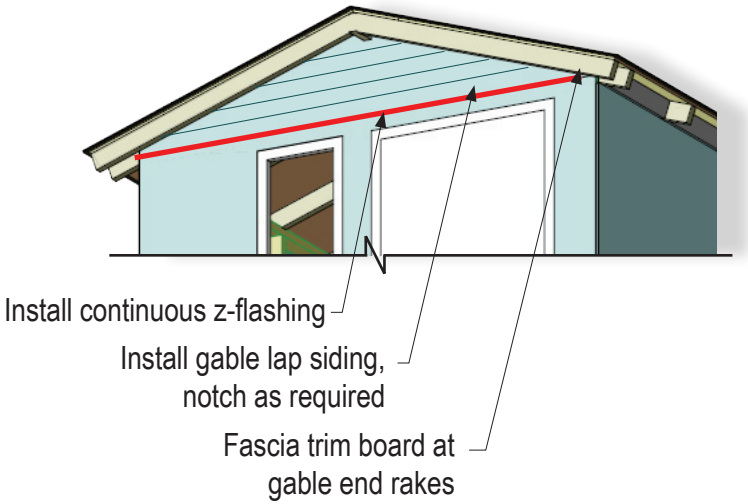
Step 16

Materials: 2x4 Rafters, Barge Rafters, and Birdblocking



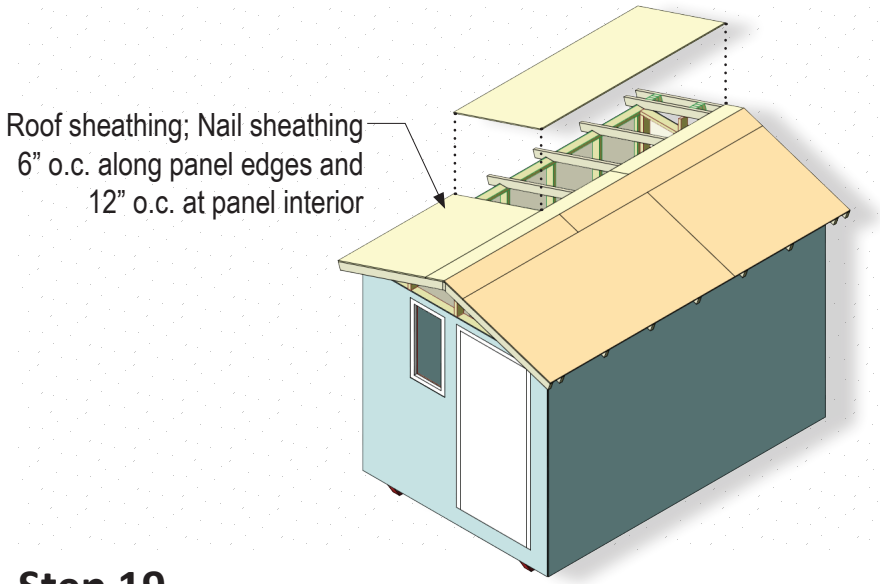
Step 17

Materials: 1x6 Wd. Fascia Board - 8d Framing Nails; Gable siding - 8d Framing Nails



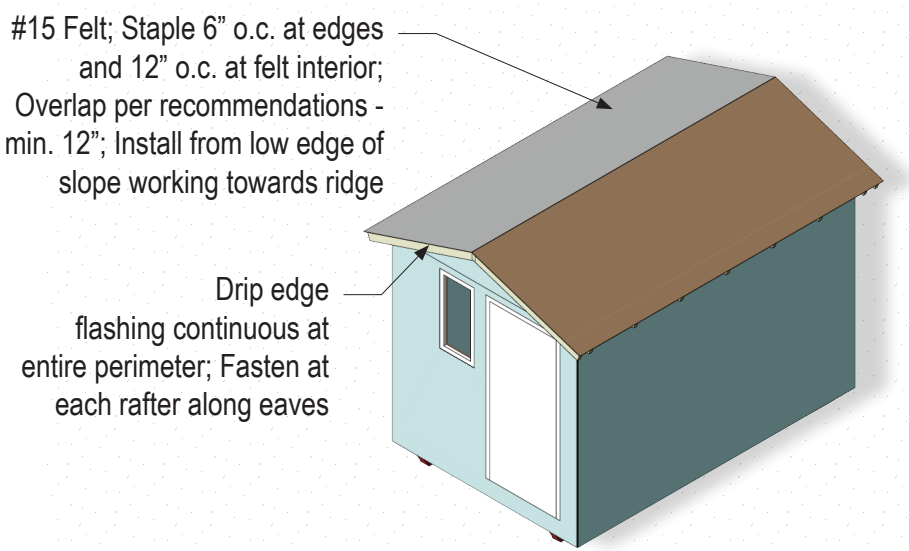
Step 18

Materials: 1/2” Plywd./OSB Roof Sheathing - 16d Framing Nails



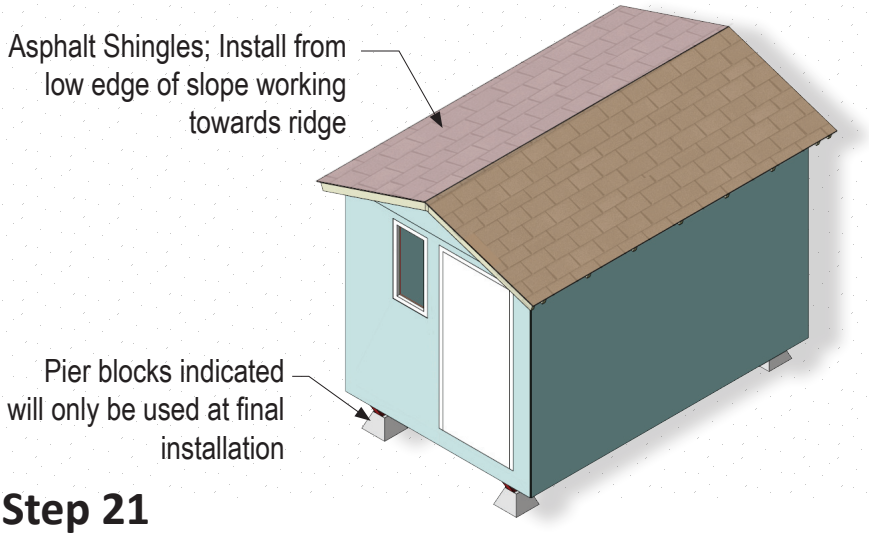
Step 19

Materials: Drip Edge Flashing; 15# Felt; T50 Staples



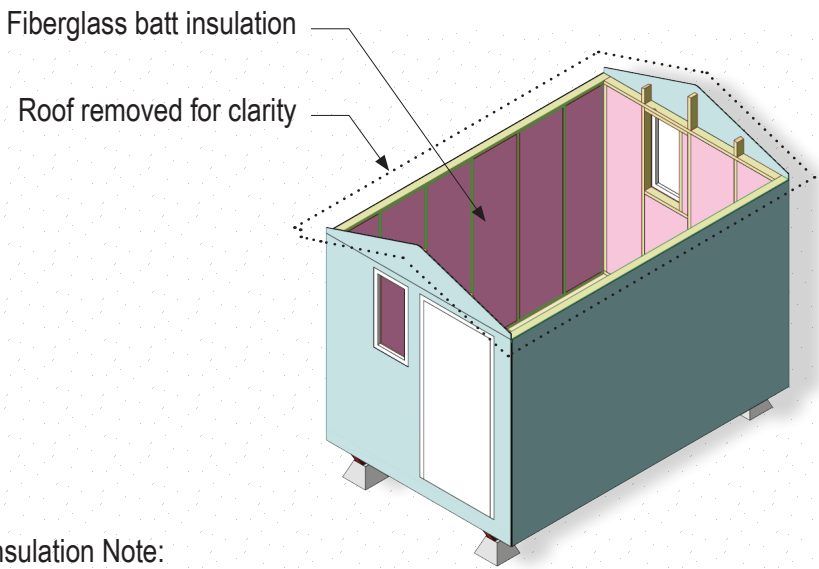
Step 20

Materials: 25 Year Asphalt Shingles; 3/4” Galv. Roofing Nails



Step 21

Materials: 23”x93” Fiberglass Batt Insulation

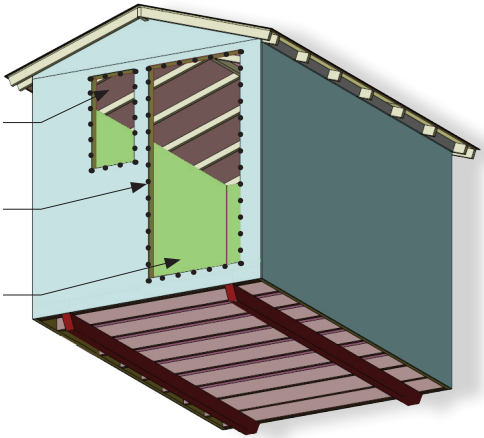


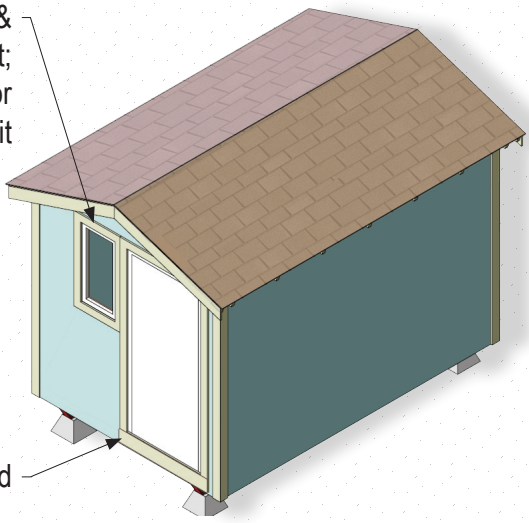
Insulation Note:

1. Wear safety glasses, gloves, and dust mask for insulation work

Step 22

Materials: 1” Rigid Foam Insulation; Hardboard Wall Panels



Step 23

Materials: 1x4 Cedar Trim at Corners, Doors, and Windows