

14.0 SIDING AND SOFFITS SECTION

1. Introduction

At the present time, Habitat homes in St. Louis are being sided in vinyl. This is to keep the price down, and to provide the homeowner with a relatively maintenance-free house. Experience has shown us that volunteers like to side houses. This is because of the visible change that takes place very quickly and it delivers a real sense of satisfaction. On most Habitat projects the vinyl siding can be completed during 3-4 scheduled workdays: one siding preparation day, and two siding installation days.

2. Safety Issues

- Wear ear & eye protection when using power saws.
- Use a ladder that will reach the work. Move the ladder with your work & don't lean. Place ladders and scaffolding on solid footing and have spotters holding the bottom of the ladders.
- Don't bind the blade of any saw. When cutting long panels, the blade may bind and kick back toward the operator.
- Don't leave objects loose on a ladder or scaffolding. Keep your tools in your tool belt at all times.
- Use extra caution when on scaffolding & watch your footing at all times.
- Utility knives - keep your hands out of the path of the blade. Always retract blade when not in immediate use.
- Habitat requires that hard hats be worn if work is occurring overhead.

3. Prior tasks to have been completed before starting

- Rough framing complete (overhangs and gable ends)
- Windows and doors installed
- Blue Board insulation (and Tyvek house wrap if used) installed on exterior of house
- Brick porch built or at least marked out as to the location of it where it will abut the exterior walls
- Insulation baffles installed between roof trusses and overhangs

4. Recommended Staff/Crew Assignments

On the Siding Preparation workday the crew should consist of at least 2-3 experienced siding crew leaders. (May be done during the week by Wednesday Crew if possible) An experienced crew can normally prepare a house for siding during one workday. If more crews are available on the preparation day, they may also begin the regular siding installation. NOTE: Make sure to educate the volunteers on the proper way to nail siding to allow for movement!

It is suggested that approximately 15 volunteers, including 4 crew leaders, be recruited for Siding. Divide the crews up by distributing the experience level among the crew leaders. Each crew should be assigned to work on a particular side of the house until that section of the house is completely finished, with the exception

of one crew who should do the majority of the soffit work and aluminum fascia for continuity's sake.

5. Order/Tasks to be completed

By Whom?

___ 1. Install & wrap box returns with alum. fascia	3 people
___ 2. Install 3-1/2" lineal around windows/doors	1 crew
___ 3. Set up ladder jacks / scaffolding	All crews
___ 4. Install soffit and fascia (including front porch beam)	1 crew
___ 5. Install vinyl corner posts	2 people
___ 6. Lay off and install starter strip	1 crew
___ 7. Install vinyl siding and gable vent	All crews
___ 8. Install porch ceiling	2 people
___ 9. Clean site, restack materials	All crews

6. Tools/Equipment list

Tools & Equipment Needed at Each Site:

- Twelve-Gauge Drop Cords (50'-100' as needed for power at site)
- Heavy-duty Power Strips
- Circular Saw (7¼")
- Plywood Saw Blade (7 1/4" installed backward)
- Hand Held break (Bender)
- Extension Ladders (16' Minimum)
- Step Ladders (8')
- Step Ladders (6')
- Siding Saw Table
- Metal Scaffolding with Walk Boards and/or
- Ladder jacks with Walk Boards
- Saw Horses
- Snap Lock Punch
- Zipper tool

Tools Each Crew Leader Will Need:

- 30' Measuring Tape
- 4' Level
- Framing Square
- Chalk Line
- Siding snips

(tool list cont. on next page)

Tools Each Crew Member Will Need:

- Hammer (16 oz. Min.)
- Nail Apron
- Retractable Utility Knife with Extra Blades
- Measuring Tape (16' Min.)
- Square (Speed or Combination)
- 2 Pencils
- Siding Snips
- Safety Glasses
- Work Gloves
- Ear Protection
- Hard Hats (if work is going on overhead)

7. Material List

Siding

- Siding Panels (12'-6" in length -- color dependent on owner choice)
- Starter Strip (10'-0" in length -- may be aluminum or vinyl)
- Outside Corners (10'-0" in length)
- Inside Corners (10'-0" in length)
- 3-1/2" lineal door and window trim (20'-0" in length)
- Window trim corner blocks
- Door and window starter strip (10'-0" in length)
- J-Channel (10'-0" in length)
- Under Sill Trim (10'-0" in length)
- Vented Soffit (10'-0" in length)
- Regular Soffit (10'-0" in length)
- "J-Boxes" (siding accessory for mounting outlets and lights)
- Gable vent(s)

Nails

- Siding Nails (1-1/2" to 2" galvanized nails -- similar to roofing nails)
- White Fascia Nails (1" white dipped aluminum nails)
- 16d Common Nails (for misc. blocking)

Fascia

- 6" Fascia (pre-formed alum. Panels – 12' in length)
- 8-10" Fascia (used as needed around porch and soffit returns)

Miscellaneous

- Chalk
- Caulking
- Scrap Blue Board
- Scrap 2x lumber

8. Quality Checkpoints

- ___ Starter strip level and straight (start with lowest corner on building)
- ___ Corner posts straight and plumb
- ___ Door and Window trim installed securely w/corner blocks
- ___ Ladders / ladder jacks securely braced
- ___ Siding panels level and nailed with a 1/16" space so panels can still move horizontally
- ___ Lap joints in siding away from main traffic pattern
- ___ Siding trim at top of walls properly installed
- ___ Last piece of siding at top of wall crimped and securely fastened
- ___ 1/4" gap where siding is cut around windows and doors and at corners
- ___ Soffit properly installed
- ___ Corners of fascia lapped correctly
- ___ All materials restacked, site cleaned up, tools accounted for and put away

9. Construction Drawings and Text

NOTE: The following drawings, diagrams, and text are to be used on the job site when a question arises as to methods and procedures associated with the task. The notes on the drawings have been geared toward use as a quick reference. If a more in-depth explanation is needed, please read the text description. But most importantly, consult your Habitat Site Supervisor and Construction Manager for advice as needed.

This section is organized in one order of installation. Often the number of skilled siding crew leaders and available ladders and ladder jacks may facilitate a different order; i.e. working on only one side of the house at a time. Keep in mind that when the house is completed, the volunteers are gone, and the family moves in, the house's exterior is an enduring representation of Habitat to all who pass and see it. Take the time to do the work correctly and well.

1. Layout / Installing Starter Strip

To ensure that the siding is level and even around the house, layout for the starter strip by measuring down from the bottom of the truss overhang to a point where, when it is installed, the bottom edge of the strip will extend approximately 1/2" below the top of the masonry foundation wall. (Check these points with a transit to make sure no one corner is extreme, and then establish the low point of the house to start the siding off at.) Establish additional points, the same distance down from the trusses at all house corners, on both sides of any door openings, and in the middle of any long walls. Connect the points by striking a chalk line. In order to keep the siding panels straight and level, chalk additional reference lines around the house just below and just above the window openings. Determine the initial points for these lines by measuring up from the top of the starter strip.

Beginning approximately 4" from any house corner and 2" from each side of a door opening, attach the starter strip to the house with 1 1/2" to 2" galvanized siding nails at 16" o.c. Continue until the strip extends around the entire perimeter of the house, leaving approximately 1/2" space between the pieces of starter strip for expansion. Unlike nailing the typical siding panels, these should be nailed tight.

2. Installing Soffit and Fascia

Soffit at Eaves

To catch the aluminum (or vinyl if supplied) soffit panels at the house, aluminum F-Channel must be installed along the length of the house with the nailing flanges against the side of the house wall. Using a 2' or 4' level, level across from 2X6 wood fascia board to the house and make a mark. Make a few marks along the wall and snap a chalk line here. This is where the top of the F-Channel will be. The "F" shaped slot should face away from the house to receive the soffit material. Nail the F-Channel to the wall sheathing using 1-1/2" roofing nails (or similar).

Next, measure the distance from inside the F-Channel to the outer edge of the gutter board. Make several measurements along the length of the house to ensure that the size remains constant, then cut the aluminum (or vinyl) soffit to this dimension, less 1/4"

NOTE: All of the soffit for one side of the house can be cut quickly and accurately on the siding saw table by setting up a stop or marking the correct dimension on the saw table fence. (Using a saw with a backward plywood blade installed.) If a saw table is not available, the soffit can also be cut with siding snips.

To install the soffit, start at one end of the house and slide a piece of soffit into the F-strip. Make sure to leave the end long so that it will be covered with the aluminum box wrap later. Attach the outside corner of the soffit to the bottom of the gutter board by nailing through a nailing slot in the nail flange, using a 7/8" roofing nail nailed tight. Lock the next piece of soffit on to the first in the same way that siding panels are locked together. Before nailing, evenly and gently pull the piece of soffit so it is tight and square. Continue sliding each succeeding piece into the F-Channel, locking it onto the preceding piece, and nailing at the outside corner until you reach the opposite end of the house. Cut the last piece to proper size using siding snips and slide into place.

Aluminum Fascia at Eaves and Returns

After the wood box return and aluminum (or vinyl) soffit are installed, first cover the return with a piece of 8" wide aluminum fascia material which has been cut to the proper size and shape. Fold and position the aluminum fascia so that it extends down to catch the installed soffit from the side of the house, and then attach it to the box return with 2d white fascia nails. NOTE: Be sure not to drive the nails all the way or you will dent the fascia. Finish the nailing with a nail punch.

The aluminum fascia is then installed so that the 3/4" part of the "L" locks over the soffit and the 4" leg covers the gutter board and slides under the metal drip-edge on the roof. The fascia is attached by nailing through the center of the 8" leg approximately every 2' using a 2d, white, pre-finished stainless steel nail. Prior to nailing, check for ripples in the fascia by sighting down the gutter

board. Avoid nailing within 1' of the open end of a piece until the next piece is in place so the “tongue” can be inserted behind the previous piece.

Before installing the first piece of fascia, cut a 45-degree miter on the 3/4" part of the “L”. Then position the piece so the 4" leg is flush with the outside corner of the previously installed aluminum corner (return) wrap. Push or tap into place using the heel of your hand. Check to make sure that the 3/4" leg is snug against the bottom of the soffit and that the outer edge of the soffit is completely covered by the fascia. Nail as described above. NOTE: Aluminum fascia can be cut with siding snips; however, a better cut can be made across the 8" leg by scoring the material with a sharp utility knife and bending it back and forth until it breaks.

Install the next piece of fascia by sliding the tongue into the opposite end of the adjacent piece so that the 3/4" legs are overlapping each other by a few inches, and nail as before. Continue until the entire gutter board is covered, finishing with a piece cut to the proper length. Make sure that the 45-degree miter cut is made on the last piece of fascia similar to the cut on the first piece. NOTE: As with the siding, try and lap the fascia along the side of the house so that the lap is hidden from the most prominent view.

Soffit at Gable Overhangs

Soffit material is installed at the gables in the same way as in the eaves, first leveling across and installing F-strip, etc. Start at the lowest point on either side of the gable and continue up and over the highest point, finishing at the opposite side of the gable. The last piece is cut to the proper size with snips. The piece at the top of the gable is simply bent to the proper angle and continued down the other side. NOTE: It is possible to install soffit from both ends of the gable. In that situation, the last piece installed is the piece that bends at the top of the gable. Cutting it with a small overlap and nailing it with white fascia nails is one of many ways to finish it off. Consult experienced siding crew leaders for advice if necessary, as it always seems that at least one unique situation arises with each application.

Fascia at Gable Overhangs

Beginning at the lowest point at each side of the gable, cut a “seat cut” (depending upon the roof pitch) across the face of the fascia material. Install the fascia so that the cut edge of the “seat-cut” extends over the aluminum corner wrap that is already in place. Install a second piece of fascia in the same way as was done on the eaves. When you reach the top of the gable, cut the upper end of the fascia on the specified roof pitch (using a speed square) so that the short point of the angle is in line with the center of the roof. Cut the fascia for the opposite side at the roof pitch and overlap the first piece to give the appearance of “plumb-cut” at the apex of the gable.

3. Porch Ceilings / Beam Wrap

Beam covering

The porch beams are to be entirely wrapped in preformed aluminum fascia material like you used on the rest of the overhangs, except this may be deeper material (where before you used 6” or 8”). Install the 2 side pieces of fascia first on the front of the porch, remembering to wrap them around the corners and cut the 3/4” leg with the 45 degree angle like before when turning a corner. Then apply the long front piece. Since the beam will be about 4” thick, you will need to “rip” a strip of

fascia to this dimension that will be captured when the inner 12" fascia is then installed in a similar manner to the outer fascia. Where the beam meets the house, run the aluminum onto the house wall face if possible.

Porch ceiling

Porch ceilings are made of solid aluminum (don't necessarily need to be vented) soffit material which is installed like all other soffit although it will be nailed to the plywood (or at least nailer strips) that make up the sheathing on the porch ceiling. First install J-Channel nailed to the plywood so that it will catch the edges of the ceiling panels. Run the soffit perpendicular to the trusses inside the J-channel. Nail the soffit sufficiently so that it doesn't sag in the center. Again, don't nail it tight, and cut it 1/4" - 3/8" less than the full dimension between the J-Channels.

4. Installing Vinyl Corner Posts

Since the corner material is somewhat flexible, it is necessary to strike a chalk line from top to bottom of both sides of the house corner in order to keep the vinyl corner plumb and straight. Use a scrap piece of outside corner material to determine the distance from the house corner to the outside of the nail flange on the siding corner post. Mark this dimension at the top and bottom at both sides of the house corner, and then chalk a line between these points.

Fasten the corner posts to each inside and outside corner of the house with 1 1/2" or 2" galvanized siding nails, every 12", nailing in the pre-punched holes of the nailing flange. Keep the post square when nailing and nail tight. Butt the top up tight to the already installed soffit. (Leave a 1/2" gap between the post and the bottom chord of the truss for the soffit if installing before doing overhangs.) The corner post should extend 1" below the starter strip.

5. Installing 3-1/2" lineal box trim at windows (and doors)

HfH St. Louis has started to use 3-1/2" vinyl trim around the windows and doors. The first part of the installation is to apply the special "starter-strip" around each edge of the window (or 3 sides of door). Cut it 1" less than the dimension of the window, and then install leaving 1/2" back at each corner. The trim is then cut using a circular saw (or miter saw) with a backwards blade installed. Cut the side pieces exactly to the measurement of the window and then cut the top and bottom pieces 1/4" more than the window dimension. Install the corner blocks along with the lineal trim and nail the trim tight after the corner block had been fit. It may be necessary to cut a slot into the lineal trim to allow the corner block to slide in properly.

6. Installing Vinyl Siding Panels

Laying-Out Panels

Plan the panel layout so that all the cut ends will be covered by a "factory" edge or be hidden by a corner post or J-Channel. **NOTE:** Always overlap joints with the factory edge exposed and away from the point of greatest traffic (so that the ends of the panels are less visible). Overlap ends of panels approximately 3/4". Stagger end laps at least 3' so that one lap is not directly above another, unless separated by at least 3 courses of siding. Do not use pieces less than 24" long.

Allow ¼” – 3/8” clearance between the end of the siding panels and any abutting corner posts and J-Channel. Cut away a portion of the flange, if necessary, to allow the panel to “float” in the horizontal direction.) Do not allow the nailing flanges of two adjacent panels to touch.

Cutting Panels

Vinyl siding can be cut with siding snips, a siding saw (circular saw with plywood blade installed backwards) or by scoring with a utility knife and bending the siding back and forth until it snaps.

Nailing Panels

Attach panels to the exterior walls of the house with 1½" to 2" galvanized siding nails. Make sure the panel is completely and firmly engaged at the bottom and pushed (not forced, but firmly locked) upward before nailing. **NOTE:** Drive nails in the center of the pre-punched nail slots to allow for normal expansion and contraction of the panels.

Be sure to try and drive the nails into a wall stud if possible, or at least through the plywood wall sheathing (foam sheathing boards are not designed to hold nails securely.) **DO NOT nail through the vinyl or at the edge of a slot.**

Be sure to drive nails straight and level as crooked nails cause distortion and buckling of the siding panels. Leave approximately 1/16th" between the nail head and the surface of the siding nail flange. After nailing, check each piece of siding to make sure it will slide back and forth the length of the nail slot. Loosen any nails that are too tight.

Installing Vinyl Siding Panels on Side Walls

Starting at a corner post at the back of the house, away from the highest traffic area, attach the first siding panel to the starter strip, making sure that it is properly locked-in. Slide the panel into the corner leaving a ¼" space for expansion, then nail in place as indicated above. Moving toward the front of the house, attach the next panel, overlapping the first panel approximately ¾".

When you reach the end of the wall or an opening, cut the last panel to fit, making sure to leave at least ¼" for expansion. Continue installing siding toward the top of the wall, beginning at the same end of the house as before. Check every other row of siding for horizontal alignment by measuring from the top of the siding panel to the bottom of the roof trusses (or chalk lines put on by the Siding Preparation crew) approximately every 8' along the side of the house.

Installing Panels at Window and Doors

Notch siding panels to fit around the bottom of each window opening. (Avoid having butt joints near openings.) To layout the notch: measure the distances from the last piece of siding to the opening, measure the width of the opening and the depth of the notch, then transfer these measurements to a piece of siding, and make the necessary cuts. Leave ¼" on either side for expansion.

NOTE: Since it is difficult to obtain accurate measurements for the depth of the notch, a small scrap piece of siding can be used to layout the cut. Lock the scrap piece into the nail flange of the piece of siding below the window and slide it against the edge of the window. Then mark a line on

the scrap where it meets the bottom of the window and transfer this dimension to the actual piece of siding.

Before installing the siding panel under a window, cut and nail in place a piece of undersill trim to cover the horizontal cut edge of the notch. Next, use a Snap Lock Punch to crimp the siding along the notch so it will “lock-in” to the undersill trim and hold the panel in place. (When using the Dutch Lap siding, the undersill trim may be too large to use, so the piece of siding that was cut off to make the notch may be able to be substituted for it.) Use the same process to measure at the tops of windows and doors to layout the notches. There is, however, no need to “lock-in” the siding at the tops of openings, so omit the undersill trim and crimping steps.

Installing the Top Piece of Siding Panel at Eaves

After the last full piece of siding has been installed, measure the remaining space from the locking flange to the bottom of each truss and transfer these dimensions to a piece of siding. This then becomes a cut line. Cut the piece of siding ¼" short of the cut line and crimp slots along the top edge with a snap lock punch tool. Use undersill trim here to accept the top slotted edge. It is also recommended to put a dab of clear silicone caulk in the locking leg every 12” before pushing it up for the final fit.

Installing Gable Vents

The gable vent is flush mounted in the center of the gable and just low enough so that it is at least 6" away from the ladder overhang. Large gables take an 18x24 vent and smaller ones a 12x18. No additional blocking is necessary. The gable vents come with a pre-built J-Mold wrap that is removed during siding and replaced after the siding panels are in place. This “gable vent” is typically only ornamental, so there’s no need to cut through the sheathing behind it.

Installing Vinyl Siding Panels on Gable Walls

Follow instructions for installing vinyl siding on sidewalls until you reach the gable.

Siding panels are laid out and cut the same way as side walls, except you must cut the ends that fit against the gable overhang on the same angle as the roof pitch. Use scrap pieces of siding to mark for these cuts. Lock a short piece of siding on top of the last piece of siding that has been installed and slide it toward the gable overhang until the top edge of the siding touches the inside of J-Channel. Lay another scrap piece of siding, parallel to the J-Channel, and mark along the edge where it crosses the first short siding panel. Cut the angle on the horizontal piece of siding and use this piece as a pattern for marking the other pieces to be cut.

The last piece of siding, at the top of the gable wall, will be cut at an angle on both ends, forming a small triangle without a nailing flange. This piece of siding is best attached to the wall by using silicone caulk in the locking leg as with the final panel at the eaves. If this doesn’t work, then consider nailing through the face of the siding panel into the sheathing, using one or two white nails.

Installing "J-Boxes"

These accessory pieces are used at each place where an exterior outlet or light fixture will be installed. They are simply nailed in place at the specific locations shown on the building

elevations, In reality, however, these boxes are usually installed retroactively at the places where the electricians put their wire through the wall. It is just a matter of cutting them out later.