

BEAVER CREEK WILDLIFE EDUCATION CENTER CHIMNEY SWIFT TOWER PROJECT

Funding provided through a grant from TC Energy.



In October 2024, the Beaver Creek Wildlife Education Center received a generous grant from TC Energy to build and place chimney swift towers in Columbiana County.



Chimney Swifts are amazing birds that spend most of their time flying. They eat up to one third of their weight in insects each day. They only land when they go to their nest or when they roost at night. They have bristle-tipped tail feathers and specialized feet they use to cling to vertical surfaces inside chimneys. Their feet structure prevents them from standing, walking, or perching like other birds.

Chimney swifts historically nested and roosted in hollow trees. As the number of trees available to them declined as people cleared forests and built houses, the swifts began to use chimneys. Their numbers are now declining as people no longer build homes with chimneys, and those buildings with chimneys are putting caps and nets over the tops.



Chimney Swifts are very beneficial to humans as they can eat nearly 1/3 of their body weight in flying insect pests such as mosquitoes and biting flies every day. Since they are not able to perch like songbirds, Chimney Swifts must have deep shafts in which to raise their families and roost at night.

This project is designed to help the population of Chimney Swifts increase by providing them with wooden “chimneys” for them to nest and roost in each night. At dusk they gather in flocks and enter chimneys in a swirling vortex. They stay there all night and fly out again in the morning. They are often called “flying cigars” because of their shape.

The birds migrate north each spring, arriving in Ohio in late April, nesting and raising young from May to September. They migrate back to South America in early October.

The following pages are the instructions of how the chimneys we have built were made.

Location of the towers built and installed through this grant

- Beaver Creek Wildlife Education Center – 2 towers
- Fairfield Township Government property – 2 towers
- Leetonia Trail Head on the Greenway Trail – 1 tower
- Franklin Square Trail Head on the Greenway Trail – 1 tower
- Elkton Community Park – 2 towers
- New Waterford Dog Park – 1 tower
- Salem Waterworth Park – 2 towers
- Leetonia Sportsmen’s Club – 1 tower

Materials needed:

- 12 – 2x4x8 pine studs
- 3 – Rough T1-11, 19/32” x 4’ x 8’
- 3 – Smart Side Siding, Cedar Panel 3/8” x 4’ x 8’
- 2 – Insulation board 1 1/2” x 4’ x 8’
- 12 – 1” x 4” x 12’ trim pieces
- 4 - 6 bags Sika Post Fix
- Metal flashing
- Hardware cloth with 1/2” holes
- 1 Exterior Vent 16” x 4”
- 4 – 4” x 4” x 8’ treated posts
- 8 Hurricane Strips 12” or 8”
- 1 piece of treated plywood – 24” x 24”
- 1 piece Weathershield treated pine 1” x 8” x 8’
- 1 piece Weathershield treated pine 2” x 2” x 8’



Screws and nails

- 75 - 3” for putting side 2 x 4’s together and attaching cap.
- 30 - 4” screws for attaching legs and anchoring boxes together
- 50 – 1 1/2” Roofing nails for attaching hurricane strips and flashing
- 16 – 2” deckmate screws for attaching chimney cap to lid
- 6 – stainless steel screws for attaching vent
- Staples – 18 gauge.



- 1 1/2” for putting T1-11 on 2 x 4’s and attaching Smart Side Siding to the outside.
- 1 1/4” for connecting trim pieces, putting trim pieces on and attaching flashing.

- 12 Bolts – HeadLOK 4 1/2” for attaching legs to 1st box.



- 12 - Steel Cap Shank Roof Nails for attaching wire mesh under box #1



Landscape fabric

- Mulch – we used 2 1/2 bags under each tower

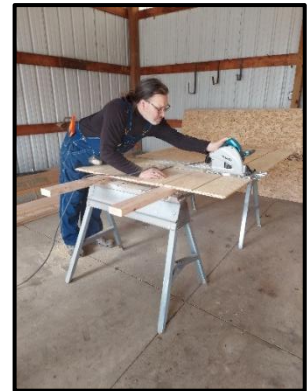
Steps:

1. Call OUPS (811) before you dig!! It takes them a couple days to give their OK for you to dig the 3' holes.
2. Cut the 12 – 2" x 4" x 8' pieces in half so you have 24 pieces 4 feet long.



3. Screw the 4-foot pieces together with 3" deck screws, 4 screws evenly spaced on each.

4. Cut the inner walls of rough T1-11. 6 pieces at 17 1/4", and 6 pieces at 16".



5. Using 1 1/2" staples, attach the 17 1/4" pieces to the 2 x 4 frame pieces. The rough side will be on the inside and the grooves will be horizontal. See the picture below for placement.



6. Then use 1 1/2" staples to attach the 16" pieces on the sides opposite the 17 1/4" pieces to make a box. Be sure all sides are level and square. Again, the rough side on the inside of the box with the grooves horizontal. See the picture below for placement of the 16" pieces. When finished the inside of the box will be 16" square.



7. Repeat for the next 2 boxes. You will then have 3 boxes which will make one tower. We built multiple towers so there are more boxes showing in this picture.



8. Cut the 1 1/2" thick insulation pieces.
Cut 6 pieces 13 1/8"
Cut 6 pieces 10 1/8"
These will go between the 2 x 4's on each side.

9. Cut the Smart Side Cedar Panel pieces – cut 12 pieces at 19". Draw arrows up on the boards so the overlap part is at the top. For four of the pieces, cut off 6" and save these for the top of box #3.



10. Cut the 4" x 4" x 8' legs off on one end at a 45-degree angle. This will be the top of the leg that is inside the bottom box. The angle is to prevent debris from getting on top of the leg.

11. Mark each leg: 3 feet from the bottom and put a line. This will be the depth of the legs into the holes. Then draw a line 2 feet above the first line at 5 feet. This will be the bottom of the first box. The rest of the leg will be up into box #1.



12. Using 4 1/2" HeadLOK bolts, attach the legs inside box #1, using 3 bolts on the wide side of the 2 x 4's, and 3 – 4" deck screws on the narrow side to anchor the legs into box #1. The legs extend 3 feet up into box #1 with the angled end facing up.





13. Install the wire hardware cloth to the hole in the bottom of box #1. You will need to cut the shape to fit over the hole and around the 4 x 4 legs. Use the steel cap nails to anchor.



14. Build the chimney cap for on top of box #3.

a. Purchase or cut a 24" square of $\frac{3}{4}$ " treated plywood. Then cut a hole in it 13" x 9". Cut the hole offset to one side so it will be on the north side of the chimney when set in the ground. See the picture to the right.

b. Using treated 1" x 8" wood, cut the side pieces for the chimney. Cut 2 pieces 13 $\frac{1}{2}$ " and 2 pieces 10" for the sides. Use 1 $\frac{1}{4}$ " staples to put the box together.

c. Using 2" x 2" treated wood, cut 2 pieces 17 $\frac{1}{2}$ " long and 2 pieces 12 $\frac{1}{2}$ " long for the edging pieces. Staple these to the outside of the chimney you made above and attach it to the top of box #3 using 3" screws, one in each corner. We applied Silicone sealer around the trim pieces of the chimney box.



15. Attach box #3 to the top of box #2. Attach with 4 hurricane strips – two on opposite sides as shown in the picture. Anchor box #2 and #3 together with 3" deck screws on each corner.



16. Dig 4 – 3-foot deep holes for the legs. Measure the distance between the holes so they line up accurately with the legs. We used an auger to dig our holes and cleaned them out with a hand post-hole digger. Some soil was difficult to get good clean holes with the auger! Once you dig each hole, cover it with a piece of wood or metal to keep dirt from falling back into the hole as you dig the other holes.



17. Lift and place box #1 into the holes. Level it carefully. We used 2 x 4's to hold it in place to keep it level until the Sika was added and the legs were set in the ground. It is critical this first box is exactly level on all sides and standing straight up!



18. Pour one bag of Sika Post Fix into each hole. If your holes caved in you might need an extra bag or two of Sika to adequately fill around the legs. Read the directions carefully and work quickly. Wear gloves and goggles. It sets up fast!! Backfill the holes once the Sika sets up.



19. Once box #1 is set, put the insulation pieces between the 2 x 4's and then attach the Smart Side Siding pieces over the insulation. Attach these with 1 1/2" staples. The Smart Side pieces are the ones you cut 6" shorter. That is to allow overlap with the Smart Side pieces you will place on box #2. We let box #1 settle into place for a few days before placing boxes #2 and #3 on top.





20. You connected boxes #2 and #3 back in step 15. Now place box #2 and #3 on top of box #1. Attach with 4 hurricane strips – two on opposite sides and adjacent to the ones holding box #2 and #3 as shown in the picture at the right. Then anchor the boxes together with 4” deck screws, one on each corner.



21. Attach the insulation pieces and Smart Board pieces to boxes #2 and #3. The 6” pieces you cut off earlier will go at the top on box #3.

22. Connect the trim pieces at a 90 degree angle with 1 ¼” staples. Attach the trim pieces to each corner with 1 ¼” staples. We used Common Board trim on most of the towers, but used green painted pine trim pieces on the one Wildlife Education Center tower.



23. Attach flashing at the top of each tower to prevent critters from entering. We had a volunteer bend the flashing for us using his break. We used 1 ¼” staples on the flat pieces and 1 ½” roofing nails on the corner pieces.



24. Drill a 4” hole near the bottom of box #1 to allow for clean-out each winter. Cover the hole with the vent using stainless steel screws.



25. Landscape under the towers to make it easy to mow around. You can use landscape cloth and then put mulch or gravel on top. Watch for ants and treat if necessary.

Completed Towers on the Greenway Bike Trail

