

# The QUWF Turkey Nesting Box – FREE Plans

The plight of the wild turkey is causing drops in populations across the landscape. The survival rate from the nest has decreased steadily because of many factors. Some factors are; extreme weather changes, heavy cold springs rains, loss of habitat, increased predation due to longer nest times (staying on the nest longer) as the hen protects her eggs which exposes the hen and the entire nest to increased predation.

To offer an option to help with this perfect storm, we decided to try a turkey nesting box. It has worked for about all species and where used, seems to be a strong indicator for much better nest survival. Similar types of nesting boxes have been traditionally used on farms and ranches (not commercial turkey farms) Our QUWF design is based on a compilation of those ideas. Initial observations by farmers shows once turkey begin using the boxes, they continue and it is used for generations. Scientific data has yet to be recorded but let's help nature out a bit.

## The QUWF Turkey Nesting Box provides more than a few advantages;

**The Plans are FREE in PDF form: Estimated time to Complete: approximately 16 hours, a good**

**weekend. To Print, select: print both sides, flip on long edge.**



1. The nest is off the ground 18 inches, keeping the nest drier.
2. The box is closed on three sides and top, protecting the nest from predator approach especially avian, and is constructed to be weather resistant to any water getting in the nest from the sides or top. The box should be positioned in a good nesting area with the back of the box towards the prevailing weather and winds in your area. Nest selection areas should avoid mowing, flooding, haying dangers.
3. The box protects the nest from extreme weather and is built with a center hold-down anchor fixture to keep the nest from blowing over in the highest of winds. Avoids wet hen scenario. Assists with chick survival from weather elements.
4. The box has air vents to keep it cool in hot weather but keeps bugs, snakes and bees from enter through the vents.

5. The front of the box has a natural- roost bar for the new poults to be able to exit the box easier.
6. The entire box is intentionally built with common materials available at any lumber supply store with tools commonly owned by many. It is hoped the building of the box would be a family project with the kids, grandkids or youth groups.

Feel free to modify the plans as you wish, materials and size as you wish but it is hoped you will make the box and get it out there on the field edges and brushy cover areas where the turkey like to nest. Don't forget to anchor it!!

**Above all, be patient, and don't rush a good thing.** Double checking measurements, making precise cuts, checking square and true good angles are the mark of success in woodworking or any building project. I cannot tell you how many times during the building process I caught my own mismeasurement mistakes that the double check caught.

Don't "press" at the end of the day to "hurry to get it done", that is when things can go wrong.

**The nesting box must fit tightly together, be water proof on its three sides, bottom and roof so close enough is NOT good enough. NEVER have any screws protruding into the box anywhere that could injure the hen or the poults.**

### **Common tools you should have for building the QUWF Turkey Nesting Box:**

#### **You will need:**

1. A circular saw, or table saw and a miter saw (chop saw) comes in handy.
2. Japanese finish saw or small hand or miter saw to finish cuts at the corners
3. A good bench to work on, I used two Dewalt sawhorses with 2x4 supports
4. A good speed square, 6 and 10 inch and traditional carpenter's square. We suggest Empire or Woodpeckers, both American made. (Measure twice, check again twice, cut once).
5. A good tape measure and ruler with 1/16<sup>th</sup>, 1/8<sup>th</sup> marks, 36-inch etched steel is great for the ruler
6. Several good pencils- keep them sharp
7. Drills (recommend 2) and bits, 1.5-inch Forstner bit for the 1.5 inch vents. Set the drill on a low drive number for driving all cabinet screws. I used a 5/64 diameter bit for the pilot holes, have several ready.
8. Two each 24-inch one hand clamps, 4 each 12-inch one hand clamps, 2 each 6 inch one hand clamps, one handed is best. You never can have too many clamps.
9. Use the speed square to also check angles of the roof and sides
10. Kreg Pocket joiner jig, jointing screws
11. If possible, have an air hose source, if possible, to clean off saw dust and shavings as you work. I also used air tools to put in the staples for the tar paper and shingles, and to apply the caulking
12. Hand orbit sander, 80 or 60 grit discs for sanding edges. This is a key operation, make sure your edges are true, flat and line up squarely.

13. Framing clamp: Get a good picture framing clamp, it dramatically makes glue up of the frames much easier. You can adjust the frames in the clamp once glue is applied to get true joints, then fully tighten. Yes, you can make picture frames easily with it later on.
14. Jawhorse Cutting support stand, make sure each piece you are cutting off will be supported when the cut is complete. We cut to the marks then used a Japanese finish saw (note above) to make the final clearing cuts for sharp and splinter free corners supported by a brace underneath, the Jawhorse stand, so the material so it did not fall. This also allows better use of the remaining wood. **DO NOT LET YOUR PIECES FALL.**
15. Hand caulking gun for roof adhesive and silicone exterior caulking
16. Staple gun, or air staple gun with ½ staples for tar paper and shingle install.

## **SAFETY:**

- A. Wear hearing protection whenever using the saws, sanders or other loud equipment
- B. Work in a very well-lit area.
- C. Always wear eye protection.
- D. ALWAYS check in and under the material (staples on ends) to be cut or drilled and make sure the blade or bit will not contact anything on the bench, the sawhorse or anything else. Look twice.
- E. **Take breaks, take pictures, don't rush it. Marvel at your work, you have earned it.**
- F. Keep the area around your feet and hands clear of any obstacles or extension cords at all times. Set up the bench so you are facing where people might come from so you see them coming and are not surprised or startled.

## **How to mark and cut wood:**

**This is a great teaching project for youth and the young at heart that have not worked with wood before or very often. It's even for us old heads who need practice. Patience is key.**

With the nesting box plans, or any woodworking project, you must allow for the saw kerf width, normally 1/8 of an inch. Keep a sharp pencil for good lines.

**NOTE: Rubbing Alcohol on a clean rag or shop towel, will remove pencil marks from wood very quickly. Keep a bottle on the bench.**

**Safety Note: Always clamp the work to the bench to make sure it is secure and does not move.**

**Check the ends of the wood for staples and make sure they are square before you measure, trim if necessary!!**

**ALWAYS cut to the outside of your pencil line, never on it. Cut slowly and carefully, don't force the saw or drill. Remember the saw kerf is 1/8 wide.**

**Cut each piece individually by measuring it (measure twice, check twice, cut once) then cutting, don't try and layout several pieces side by side then cut, most likely you will be short.**

Use the factory sides of the plywood or lumber for initial cuts and marking, they will be square and jointed.

**NOTE: Exterior plywood and treated lumber should be used pretty quickly once you get home. It will warp and twist as it dries out, store it flat if at all possible.**

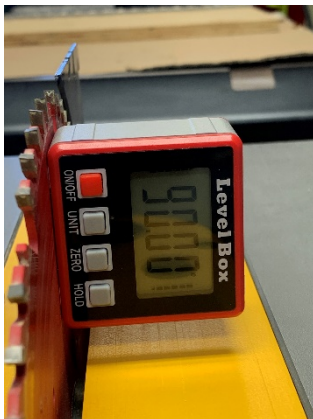
**ALWAYS check for square** before assembling (gluing them or using pocket jointing) the inner frames by lightly clamping them together. We used a Kreg #4 Pocket Joiner jig and 1.5-inch pocket screws to add more security to the joints and we tend to overbuild. Periodically check square over the entire box.

### Set up your bench and support first:



I used two DeWalt sawhorses, two scrap 2x4s 8-foot long in the slots, then laid the 3/4 inch plywood pieces on them. I used a JawHorse support stand as well to support cut pieces.

### Check the blade alignment on your saws now, before making the first cut, 90 degrees:



The digital angle gauge is the most accurate, and not expensive, but in a pinch use a good square like the Woodpeckers square pictured. Check the saws often and before each day's works to ensure they stay at 90 degrees. Good time to sharpen all your pencils each day as well. Blow out any accumulated sawdust and remove debris at the end of each day, clean up your work area and all saws daily.

### Step one, Inner frame base Assembly. Lower and Upper: Good use of a chop saw or miter saw.

1. Measure, mark with the speed square and Cut 4 pieces of \*2x2 18-inches long.
2. Measure, mark with the speed square and Cut 4 pieces of 2x2 15-inches long.
3. Check the measurements after cutting to make sure they are exact.
4. Delay the last 2 x 2 15-inches, the center base support, until the base frame is assembled to ensure you have the right length for the center support. It should be 15-inches but it can vary because of the wood thickness from the box stores.

## Lower Inner base Frame:

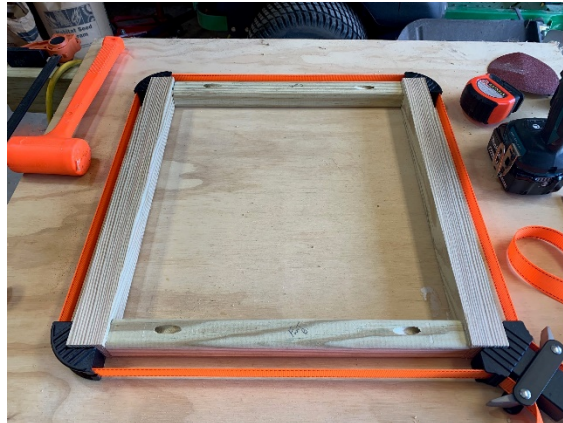
**NOTE: \*the size of a 2x2 varies by store. Mine were 1.5 by 1.5 true as I ripped them from 2x4s. the second batch was 1.25 x 1.25 purchased.**

You can also rip\* (cut lengthwise) a treated 2 x 4 on a table saw to use up scrap treated lumber to 1.5 inches. Set the fence at 1.5-inches from the blade tooth right edge to the fence. This is what I did for the lower frame to use treated lumber.

I do recommend using treated lumber for the lower frame as it is exposed to weather. Don't use banister railing wood, it is very poor quality, which I don't like. This means to rip a treated 2 x 4 to get the pieces you need. The lumber yard should do this for you or you can do it on a table saw.

**NOTE: always watch for end labels and staples, remove them before cutting and check for end square before measuring.**

First, checking for a square end to measure from, cut them to length first, either 18 or 15 inches. Then double checking the length after cutting.

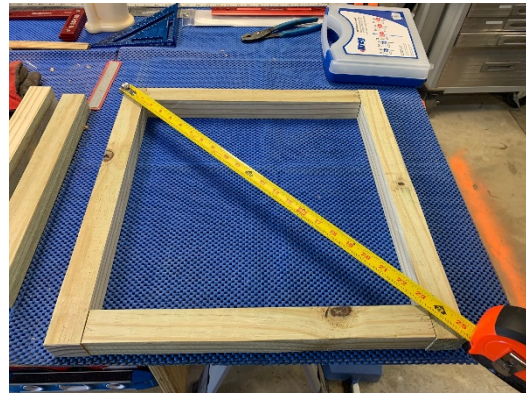


**Lay out the pieces as in the plan on a bench**, two each 18-inch pieces on each side, and two 15-inch pieces at the top and bottom that form an 18 in square frame. Lightly clamp the frame together using the two 24-inch hand clamps on the top and bottom or use a picture frame clamp (highly recommended, photo above right) to hold all corners at once.



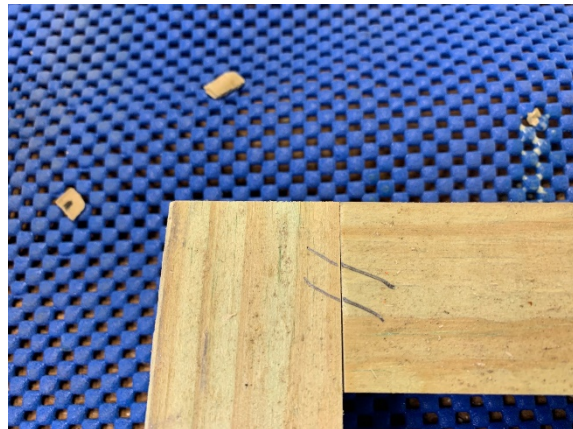
Check the measurements for square diagonally at 25-inches 7/16, corner to corner, both ways (see photo left). This measurement must be square and true. Check that it is 18-inches outside measurement side to side. Adjust as required but if you cut right, it should be right on. Yes, you are using Algebra,  $A^2 + B^2 = C^2$  square root. It's called the Pythagorean Theorem, good point to tell the kids.

Check square, make sure.



**NOTE:** We will add the center brace after the lower frame is glued and screwed together. You might want to wait to cut it until you need it, in case you need to adjust the length.

**When you are confident you have it square, lightly mark each corner starting at your left facing the frame with one pencil mark across the joint of the front 15-inch piece and the left side 18-inch piece. (see photos below)** Next go to the top left joint, mark across it with two pencil mark lines. Then the right top joint with three pencil marks. Finally, mark the right front corner with four-line pencil marks. Put a small F on the front center of the 15-inch piece to designate the front of your nest frame, and an R on the center of the top 15-inch piece to designate the rear of the nest frame.



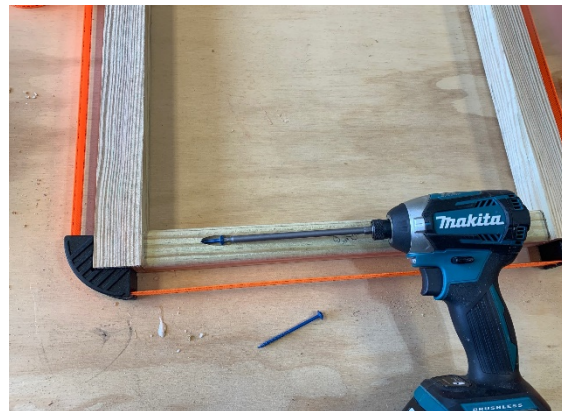
**Adding the Pocket Screw holes on the 15-inch pieces:**

**It is mentioned here that this box has to withstand extremes of weather and winds, therefore using pocket screws with glue adds significant strength to the entire nest box design.**

We used a Kreg Jig and pocket screws to add rigidity to the nesting box frames, drilling the pocket holes on the 15-inch piece ends on the top side of the frame, the side that will have the base added to it. We also glued the pocket plugs into the pockets to prevent an insect attraction. Put the glue on the plugs.



The Kreg system is easy to use and comes with a chart of suggested sizes of their screws. Anytime you are joining two pieces this really adds strength. Used with glue as we did and you have a very strong storm-resistant build.



We added the screws after securing the frames with glue, checking for diagonal square of 25 7/16 corner to corner, then both ends of the 15-inch pieces were coated with glue. The frame clamp was tightened and corners rechecked for square again. Being careful not to add the pocket screws until the glue sets a bit, about 10 minutes. After about an hour it is ready. On the front and back 15-inch frame pieces, mark a line at 9-inches which is the center of the center support brace.

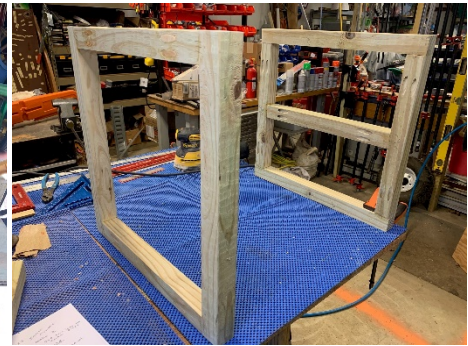
**Now, measure, cut and add the center support:**

Let the glued and screwed lower frame dry for about an hour in the frame clamp, you can leave the clamp on for the next step. Measure between the front and back frame at the 9-inch center points. it should be 15-inches, but because of wood thickness you may have to cut it longer. Cut the center support to the length you need. Position the center support, make sure it is a tight try-fit, then remove it to install pocket holes. Add the pocket holes, reposition in the frame, centered at 9-inch marks, glue and clamp. After 10 minutes wipe any excess glue and add the pocket screws, and plugs. Let it dry for an hour. Put the glue on the plugs and insert into the pocket holes, push in until they are flush.

Lightly sand the entire top surface of the lower base floor frame so it is level and plumb and has no high or low spots.



Repeat the process for the upper frame, but remember it does not have a center support. Take your time, check lengths and diagonal square all the time. You should end up with the two inner frames ready to go. The lower frame top side, is the side with the Kreg plugs showing (see photos left and below).



If you did not already, lightly sand the lower frame top, so there is no uneven areas or glue residue from the plugs. The next step, after cutting the plywood, is gluing and securing the 18 x 18 base nest floor to the top of the lower frame. It needs to be flush and sit squarely on the frame.

## Cutting the Plywood:

Follow the included drawings for the layout locations on the two 4-foot x 4-foot pieces or sheets (4 x 8 piece cut in half) to limit waste. Remember, your saw will have a 1/8 kerf width, cut to the exact outside of your lines. Adjust your saw, check 90° degrees, and so it cuts through the plywood with an 1/8 inch extending below the bottom surface of the plywood.

***Measure twice, check twice, cut once!! Most of your mistakes will occur here in measuring and layout.***

**Sheet 1 will produce:** One 18x18 base floor, 2 sides, 2 fronts (with an extra front)

**Sheet 2 will produce:** One back, 1 roof, another 18x 18 base floor (if you bugged up the first one), and another front nest piece of 10 ¼ x 22 5/8 or you can leave duplicates uncut using the plywood for your spare pile and not cut them.

As you look at the cut layout instructions of sheet 1, facing the 4 x 4 sheet of plywood, with the factory edges to the left, bottom and top. The base floor will be located in the upper right corner. Use the factory top edge and check the cut edge from the lumber store to ensure exact straight edges. Measure and layout an exact 18-inch by 18-inch square for the base floor of the nest. Double check for exact 18 x 18 and diagonals of 25 7/16. A traditional larger carpenter's square helps here.

In the upper left corner, AND the lower right corner, two (2) front pieces of the nest will be measured and marked again using two (2) square edges of the plywood. Keep 1 front for the next nest or another project. Lay out measurements of 22 5/8 long and 10 ¼ high. Follow the layout plan to limit waste.

On the lower left side of the 4 x 4 sheet of plywood, lay out and measure one side of the nest box using two factory sides of the plywood. Measure up 36 inches on the left factory edge and place a small mark, Measure over 18 inches on the bottom factory edge and place a small mark. Lay your larger speed square on the bottom edge, use the 36-inch ruler against the speed square (see photo below, right) and go up 26 inches from the 18-inch mark and make a small mark at 26 inches. Double check it is exactly 26 inches.

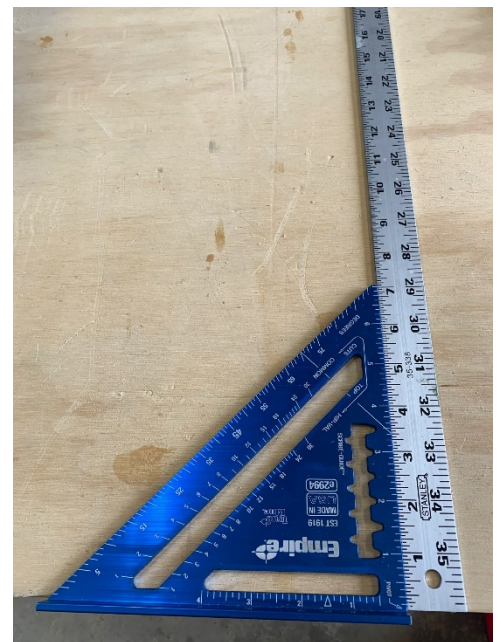
Using the larger speed square again on the 36-inch side, lay the ruler against it at a location that exactly lines up with the 26-inch mark across the side and measure from the long side and check exactly 18 inches from the 36-inch side to the 26-inch mark. Double check all measurements. If they align, draw the line from the bottom 18-inch mark to the 26-inch mark. Again, check the measurement to that mark of 18 inches.

Check the 36-inch length on the long or back side of the nest again. Check the 26-inch on the short or front side and that they are exactly 18 inches apart at all points. If all measurements are good, draw a line from the 26-inch point to the 36-inch point. The roof angle formed will be 30° degrees.

**Check again, all measurements and the layout.** Once you are confident in all layout measurements, begin cutting the pieces out of the plywood. Place the support stand under the piece you are cutting, **NEVER let the piece you are cutting fall.**

**Clamp the 4 x 4 plywood sheet to the bench** so it does not move and your cut is clear of any obstructions under the sheet. Make sure there is enough weight on the opposite end of the bench so it does not tip up. Move and re-clamp as necessary between cuts.

If using a circular saw as we did, cut to the outside of all lines slowly and STOP the cut when you touch the end of the line. *Do not go past the cut line.* Make any second cuts the same way. With the piece



supported by the mobile stand, use the Japanese finish hand saw to finish the cuts in both directions. This will leave an exact, clean cut.



First side cut with stand supporting (photo left). Remember to clamp the work piece at all times and move the clamps or work piece and re-clamp for subsequent cuts. Note the clamps.

The Japanese finish saw (photo below) does a super job of the finish cuts and is not expensive. Support the work being cut out.



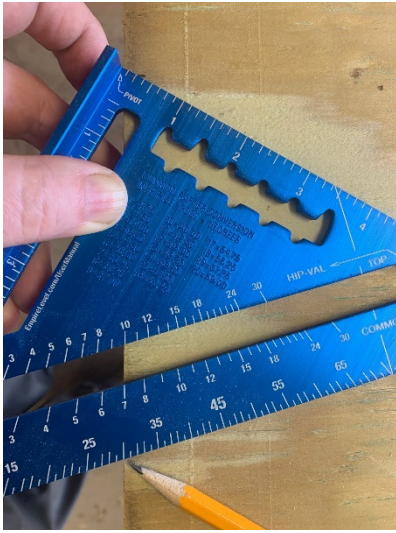
Cut all pieces you have laid out so far, the base, the one side, both front pieces (one extra). After cutting them, Check the 26-inch edge you cut from the side piece on the bench (see above photo). It must be straight. Check it with the square and ruler. If you need to trim a bit do it. This side left on the bench will now be a 36-inch cut for the second nest side.

Reposition the piece on the bench and clamp it down for measuring. Measure the second side the same way. Go up 36 inches on the long side being careful to follow the 26-inch cut edge line from the first cut into the uncut wood. Go over 18-inches on the factory edge bottom, mark it, then go up 26-inches on the short side from the 18-inch mark. It must be exact and square so cross check all measurements again. Make sure the distance is consistent from the 36-inch side to the 26-inch side at 18-inches all the way up to the roof angle.

When all measurements are triple checked, draw the line connecting the 26-inch mark to the 36-inch mark, forming the 30° angle of the roof. Now go over all measurements again.

Trust me, this is where the majority of mistakes are made, check twice before you cut the final side.

**Speed is not your goal when working with wood, accuracy and efficiency is. Your final product takes all of your attention in the smaller steps or it will not be right.**



Support the final side, check for any obstructions under the sheet, and slowly cut to the outside of your lines. Use the Japanese finish saw so you do not overcut. Once cut, double check all measurements again.

You can check the angles of the roof by putting the speed square on the point of the 36-inch side, with the pivot point (marked on the speed square) on the exact top edge, rotate the square down until it aligns with your drawn line or the actual cut roof angle. It will read 30 degrees on the bottom scale (see photo left). You have just learned how to use your speed square as a protractor.

The first 4 x 4 sheet of plywood has been cut. Put the second sheet on the bench and clamp it to secure while you do some assembly. Make sure there is counter weight on the back of the bench so it does not tip

up. I used scrap plywood as a counter weight.

Now we move on to assembly.

### **Putting the 18 x 18 base of the nest on the bottom frame.**

Put the lower base frame on the bench, pocket plugged side up and with the center support marked “F” facing you. Make sure it is sanded level and smooth and clean of any sawdust. Clean the base floor of any sawdust and decide which side should be the inside towards the turkey. I put any knots or rough sides down. Place the base floor on the frame and check for exact try-fit on all sides. If you need to trim or adjust, do it now but if you followed the measurements it will square up plum. Remove the base floor and apply the glue all around on the top of the base frame and the center support. Spread it evenly with your finger, cover all the surface. Replace the base floor exactly on the frame, line up all sides square and plum. Clamp it down by sliding it to the side of the bench and clamping the base frame to the bottom floor. Drill pilot holes through the plywood about  $\frac{3}{4}$  of an inch in from the edge, into the lower frame about every 6 inches apart around the frame and the center support brace using a  $\frac{5}{64}$ th drill bit and then install the 1.5-inch GRP Cabinet screws with the setting of the drill at minimum pressure.



**Note:** I drew a line from the front to the back of the center support brace on the floor from the 9-inch center marks and used the speed square to do it. This helps you know where to drill and fasten to exactly hit the support brace.

The screws should be tight but not crush through the surface of the plywood. Adjust your drill if required. The glue should lightly ooze out if done correctly. Wipe off any excess glue.

**Note:** We use cabinet screws because they have a very large pan head which helps when using

plywood, and a course thread for good holding strength.

Once dried, visually look at the sides and make sure they are smooth, plum and square. Take a small square and check around the base to check the sides are square with the bottom. This ensures the sides fit snugly. Lightly sand the sides of the floor base to ensure a smooth even surface to attach the sides, back and front. The corner-to-corner diagonals should be 25-7/16 inches. Mark front, back, left and right on the floor as references. The base floor assembly is complete.

### **Putting on the sides to the base floor assembly:**

Put one of the sides of the nesting box on the bench, letting the bottom overhang about 3 inches. Place the base floor assembly on it with the center support parallel to the side and the front on the 26-inch side. Do a rough try-fit, check the side and base alignment along the bottom and are square to the back and front. Use a small square to check the side to the base (see photo at right) being square. Lightly clamp it for the first try-fit, take a pencil and draw a line along the inside top of the floor on the side panel when you feel it is square and plum. Remove the base floor, apply a glue coating to the entire side of the base floor. Place the Base floor on the side using the line as a guide.



Reset the base on the glue as you had it the first time making sure it aligns with the bottom, front and back of the side. Clamp it in place securely with at least 2 clamps and wipe off excess glue. Rotate it up on the bench so you can pre-drill the screw holes and install the GRP 1.5-inch screws. Stay  $\frac{3}{4}$  of an inch from the bottom of the base floor edge and side, drill pilot holes every 4 to 6 inches with the first hole being  $\frac{3}{4}$  of an inch from the end of the base and side joint. Let the glue dry for about an hour.



You can begin the second side as soon as you have the screws installed from the first side. Leave the clamps on for at least an hour.

With the nest box rotated up from the first side, place the second side against the base floor, lightly clamp, check for square and plum and mark the side for a glue line.

Once all the cross checks are done, remove the side and apply the glue evenly over the entire base floor side. Reset the side, align it with the line you drew, check square and plumb and clamp it in place.



Once clamped in place pre-drill the pilot holes and install the 1.5-inch cabinet screws as before.

Wipe off any excess glue (see photo at left).

At this point here is what it should look like (see photo at right). A level bench helps set the sides. Always check they are square and align smoothly so the parts are flat against each other.

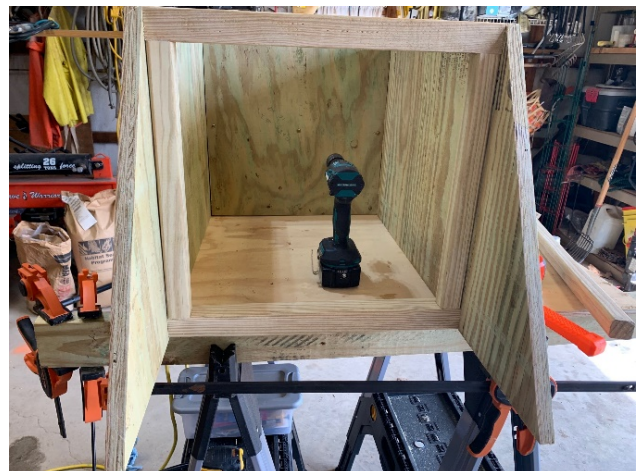
Note the extra clamp, I had an area that needed a little extra pressure to insure a good contact and seal. You never have enough clamps.

Once all the screws are in and the glue sets, about an hour from the last set up, we will begin installing the upper frame brace.



### **Installing the Upper Frame Brace:**

The upper frame brace can now be installed which adds rigidity and support to the entire nest. With the nest box laying on the bench, rotate it so the 26-inch side (front) is up and the top nearest you on the bench and slide it so the 26-inch point is just off the bench to allow for clamping (see photo right and below). Slide in the top brace in so it aligns with the 26-inch point on the sides (see photo right). It must fit exactly at the 26-inch point, sitting below the point to the bottom of the nest. Adjust the brace so it aligns with both sides on the 36-inch back side and is flush and square with them.



Mark both sides along the top of the brace, the side facing you, use this as an alignment line when you reposition.

Remove the brace and apply glue to both sides where it will contact the sides. Reposition the brace back in place, aligning to the lines you drew. Make sure it is flush with both back edges and sits exactly below from the 26-inch point. Clamp it at the top and bottom with 24-inch clamps once final positioning is complete.

Mark the center of the brace on the outside of the sides, top and bottom, so you can draw a screw line between them for the pilot holes and installing the screws.



I rotated the box so you could get a better idea of the alignment location of the upper brace. The clamps in the photo left are not being used for anything, just resting there. Note the alignment of the brace with the 26-inch point on each side.

Because we are using plywood, we will now add two braces on the 36-back side, so the back can be fastened to a 2x2 and not just plywood to plywood which would split. So, rotate your work on the bench just like this picture and leave the 36-inch side just off the bench for clamping room.

### **Adding the Back 2 x 2 Braces: This will be used to better secure the back of the nest.**

With the box on its side as shown above, measure the distance between the floor and the bottom of the top brace on the back side of the nest (see photo below). Cut a 2x2 to the exact length. Do a try fit to make sure it is snug. Make sure the surfaces are clean from sawdust and apply glue to the 2x2 side which will be against the side. Reposition it and clamp it in place making sure it is flush with the side of the nest the entire way. Repeat the opposite side the same way and clamp it in place as well. Once both



are clamped in place, turn the box so it is on its 26-inch front. Then, pre-drill each side and add the 1.5-inch cabinet screws to both sides into the braces. Keep them  $\frac{3}{4}$  of an inch from the edge and space them 4 to 6 inches apart. Let it dry for about an hour.

Measure the back brace from the base floor to the bottom of the top brace (see photo at left).

Ours measured 22 3/16 in length using the 36- inch steel ruler (See photo right).



(Photo at left) the first back brace is installed, repeat for the other side. This now gives you a good brace to screw into when attaching the back of the nest. Mark the outside of the nest for the center of the back braces to be able to draw screw lines for the back.

***NOTE: The nest box has to be able to withstand extremes in weather-from high winds, and driving rains to very cold temperatures, ice and snow all of which DID occur during the middle of the nesting season in 2021 while designing and building this box.***

Wipe off any excess glue. Sand the rear surfaces where the back will attach ensuring a smooth, level frame. Now that the back braces are installed, we will install the top roof / top back brace. Again, this feature adds a good anchor for the screws instead of plywood to plywood, which is not strong enough for this nesting box.

### **Adding the Top Roof Brace / Support:**

This brace aligns the sides to the top, adding rigidity to the top of the box and a solid point to attach not only the roof but the back. When installing the brace, make sure no portion of the brace extends above the sides either on the back or top which might interfere with the attachment of the back or roof of the nest (see photo below). Measure for the length of the 2x2 to cut, it should be at or very close to 18 inches if all your hard work is square. The variance at this point could very well be the treated plywood not being straight, but it should not be much. Again, measure twice, check twice, cut to the outside of the line and cut once.



Position the brace and clamp it with a 24-inch clamp allowing room to pre-drill and screw in the cabinet screws on each end. I did not add glue here but you can to the ends.

Photo at left shows the top brace cut and installed using two 1.5-inch screws, one on each side, screwed to the center of the brace.

Note how the brace is angled and aligned flush with the edges of the sides to clear the back and roof but located to be a good anchor point for the screws. Now, leaving

the box in this position on the bench, we are ready to add the back onto the nesting box. You can add marks on the outside to create screw lines for the brace center.

### **Installing / Adding the back to the Nesting Box:**

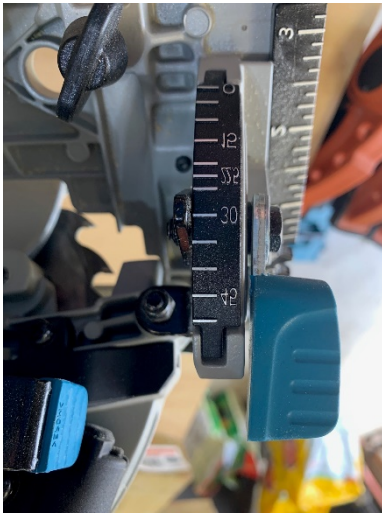
Place the 19 ¾ x 36.5 inch back on the nest box, best side to the inside of the nest for a try-fit. See if all aligns squarely and evenly on the base, and all the sides. If the back has bowed a bit just because it is exterior lumber, place the bow towards the nesting box, the screws will pull it in. If the back needs to be trimmed, line it up and mark where you have to trim. If you are short, you may need to cut another back to the dimensions of the actual box now.



If the back fits good, you will need to mark and cut the 30° angle in top of the back where the roof will attach (see photo left). With the back laying on and positioned on the box, the top edge of the back should extend beyond the top of the 36-inch sides by ½ inch to Allow for the angle cut. With a pencil, draw a line from the top corner of the back to the top of the sides, on both sides. It should be 30°. Check it with your speed



square. Remove the back from the box and with your ruler draw a line connecting both sides at the lower angle of the back where it will meet the sides.



Set your circular saw to 30°. Line up the saw to cut the angle across the top of the back. Double check you have the correct angle, the right line and are cutting from the top edge of the back with the angle going down to the inside of the box. Cut the angle slowly and stay just outside the line, touching but not on it.

Lay it back on the nesting box for a try-fit, it should be just fine if it lines up with the angle of the sides (see photo below). Cross check all sides are flush and square with the edges of the box base and sides.

The back should line up like the photo at right.



If all lines up with the try-fit, remove the back and apply glue to the base, sides, top inner brace. Reposition the back on the nest box, adjust until square and flush.

Clamp on the top roof brace and the bottom base floor. You also can clamp from the front of the box to the back with a 24-inch clamp but it has to be clear of the bench. **Mark on the outside** of the sides with a vertical line where the top brace, and inner brace centers are on both sides. Draw a line across for your screw locations. On the side braces, make sure your pilot holes are 1.25 inches in from the edge to catch center of the braces spacing 4 to 6 inches apart.

On the bottom, come up  $\frac{3}{4}$  of an inch to locate your screw line across the back, spacing 4 to 6 inches apart.

On the top roof brace, put the pilot holes in following the center of the brace line you drew.

Pre-drill one hole on each side in the middle of the plywood,  $\frac{3}{8}$  of an inch from the edge (center of the plywood side) between the top roof brace and the inner top brace. Put in a 1.5- inch cabinet screw being very carefully to not break the plywood surface. This is to hold the glue surfaces together for better weather proofing.

Pre-drill on the bottom base, top inner brace, side braces and top roof brace. Install a few screws to begin at the corners and sides then go back and fill in to secure it. Wipe off any excess glue.

The next step is to add 2x2 braces on both sides from the roof brace to the top inner brace providing a good anchor point for the roof itself, not using the plywood again. This brace must sit flush with the sides and not protrude above it so the roof fits flush with no space (see picture below).

Rotate the box again so it is on it back with the top facing you on the bench.

## Adding the 2x2 roof braces: Grab a scrap piece.

Measure the distance from the top inner brace to the roof brace and cut a 2x2 to that exact length. Now on one end of the 2x2 you have to cut an angle for the brace to fit flush on the top inner brace. If the angle of the roof is 30°, this angle should be the compliment of 60°, if your angle is square from the top inner brace. From the top edge of a **scrap piece of 2x2**, with your speed square or a protractor, mark a 60° angle. Clamp the scrap 2x2 to the bench and cut it with your circular saw which should be set back to 90°. Try the angle and see if it sits flush with the sides, it just has to be close and not be above the sides of the nest box. If it is good, cut your angle in the actual brace.



Note in the photo at left, I did not get the angle quite right when I cut but it is OK as the 2x2 is fine along the side edge providing a flush, solid anchor to screw the roof to. I did fully glue the side, clamp, drill pilot holes through the plywood  $\frac{3}{4}$  of an inch down from the edge and put in the 1.5- inch cabinet screws about every 6 inches.

Please also note this was an earlier version and I had not yet attached the back. Since this first prototype model, I changed the sequence to make things easier and maximize bench time.

Repeated the process for the other side as well.

Now we have the back on, roof bracing ready but before we install the roof, while on the bench, we will put on the front nest board and the cable bracket on the bottom of the center brace of the base floor. First up the front nest board.

## Installing the Front Nest Board:

The Front Nesting board protects the nest and allows the 8-inch depth turkeys like for a nesting. This board is 10  $\frac{1}{4}$  inches high and 22  $\frac{5}{8}$  long, and protects the height of the nest inside the nesting box. It also covers the base frame and the front of the two front side legs, one on each side, tying it together securely. The nesting box should still be on the bench resting on its back. Work with the bottom of the box facing you.



Try-fit the front nesting board to make sure it is flush with the bottom of the box and at each side extends 1.5 inches from the box just like the photo at left.

Apply glue to all surfaces of the base floor frame and up the sides to equal the height of the board. Put the board in place checking flush on the bottom and extending 1.5 inches on both sides. Clamp it in place on the bottom, with 12-inch clamps and sides with 24-inch clamps. Pre-drill holes on the bottom that go into the base frame  $\frac{3}{4}$  of an inch up from the edge and spaced every 4 to 6 inches. Install the 1.5-inch cabinet screws. Install one

cabinet screw, predrill a hole centered in the plywood side, on each side of the front board half way up the plywood sides, and snugly tighten but be careful not to over tighten. This is to help the glue bind until the legs are installed and a more secure attachment is made to the legs.



While the glue sets on the clamped main box front board, install the ground anchor cable bracket in the center of the center support. Measure down 9.75 inches (half way) from the outside edge of the box (photo left) itself and install the bracket with the 4 or 2 screws provided. (photo right)

With the box still on the bench we are going to install the front and back legs of the box. This is where we will use 3 1/8 inch cabinets screws.



### Installing the legs, front and back, on the nesting box:

For the back leg, roughly check the measured length from the top edge of the 36-inch side, along the back edge of the nesting box and extending 18-inches from the base floor frame bottom. It should be 54.5-inches or very close to it.

**NOTE: all legs must be exactly the same length from the bottom of the floor frame. Measure twice, check twice, cut once.**

Check the end of the 2x4 is square you are measuring from and insure there are no staples. Square the end if needed. Cut a 2x4 54.5 inches or to your measured length. Rough try-fit the 2x4 along the side of the box with the top edge exactly flush with the side panel (see photo below left). Lightly clamp it. Align the 2x4 along the edge of the side panel all the way to the base floor frame so it too is flush with the



side panel, clamp it at that end. Check that your first clamp stayed true and that the top is exactly aligned with the top of the side panel.

Mark the angle on the 2x4 to cut to match the 36-inch side panel (see photo at left). Unclamp and cut off the angle to the outside of the line. Reposition the leg again for final install. Check the length again to ensure you have 18-inches from the base of the nest lower frame to the end of the 2x4.

Check the top angle is flush and true, clamp it firmly. Check the leg is flush with the side the entire way and clamp it firmly at the bottom. Attach the legs with 3 1/8 cabinet screws with pre-drilled pilot holes. The screw should go through the 2x4, through the 3/4 side panel of plywood and into the 2x2 inner brace. A very solid build.



Rear leg with two cabinet screws installed (see photo at left).

Then pre-drill and put the long screws, 2 each location, in the legs at the location of the upper inner frame and the lower base floor frame, anchoring to the 2x2 bracing.

Repeat the process with the other side. Double check the length of each leg is exactly the same from the bottom of the base floor frame to the end.

Roll the box over. It is getting heavy now, take it easy, placing the 26-inch side is on the bench. This positioning makes attaching the front legs much easier.

For the front leg, roughly check the measured length from the top edge of the 26-inch side, along the front edge of the nesting box and extending 18 inches from the base floor frame bottom. It should be 46.25- inches or very close to it.

Check that the end of the 2x4 you are measuring is square and that there are no staples. Square the end if needed. Cut a 2x4 46.25 inches or to your measured length. Rough try-fit the 2x4 along the side of the box with the top edge exactly flush with the side panel.

Again, rough fit the 2x4 along the side of the box with the top edge exactly flush with the 26-inch side panel (see photo below). Lightly clamp it. Align the 2x4 along the edge of the side panel all the way to the base floor frame so it too is flush with the side panel, clamp it at that end. Check your first clamp stayed true and that the top is exactly aligned with the top of the side panel.



Mark the angle on the 2x4 to cut to match the 26-inch side panel (see photo at left). Unclamp and cut off the angle to the outside of the line. Reposition the leg again for final install. **Check the length again to ensure you have 18 inches from the base of the nest's lower frame to the end of the 2x4. All legs need to be the same length.**

Check the angle is flush and true, and that it is snugly against the front nest board. Check the leg is flush with the side the entire way and clamp it firmly at the bottom. Attach the legs with 3 1/8 cabinet screws with pre-drilled pilot holes. The

screw should go through the 2x4, through the 3/4 side panel of plywood and into the 2x2 inner brace on the upper frame, lower base floor frame and;

**Note:** On the front legs, they will rest snugly against the front nest board and be secured there also by 1.5-inch screws through the front board into the front legs. Pre-drill and use 2 screws on each side.



Your angles need to look like this, photo at left, flush and square so the roof goes on securely and flush to all the frame work. Sand lightly to ensure a good fit.

Repeat for the other front leg. **Remember all legs have to be the same length from the bottom of the base floor frame to the end**

**NOTE:** As you will notice, I tend to overbuild. My logic, I don't want to do it twice and I want it to be super sturdy construction to last for years in the field.



At this point (see photo at left), I added optional pieces, from a 2x6 artificial wood board, to the bottom of the legs so the lumber did not contact the ground. I had scrap pieces left over from another project. I cut them 1.5 inches wide x 5 inches long (standard artificial board width) and pre-drilled two holes in each to attach with 2-inch Cabinet screws.

Taking it off the bench, here is what it should look like at this point (see photo at right). We are getting closer to the finish line. The next steps will be attaching the roof, putting the roost rail on, caulking with vent installation, staining, tar papering and shingles, nesting straw and leaves. Then we will be off to the location so the turkey can begin using it.



Last item-- on the outside of legs put a mark where the center of the top and back braces are. Then mark the back and front for the centers of the inside roof braces so you can draw lines for the roof screws.

Let's get the roof on next.

## **Putting on the roof: Get an extra set of hands to help.**

You can now place the nesting box on the floor. It may take two to make sure it does not fall. *Two people can make the roof install much easier as well.* If alone, I used a large pipe clamp to help me. Try-fit the 22 ¾ x 26" roof with the best side facing to the inside of the nest. Make sure it lines up flush with the outside of the legs. Slide the roof up to mark the 30° angle on top the same as you did for the back to cut the angle. Have someone hold the roof in place while you mark both sides so it matches the back angle.

This method allows the tar paper and shingles to come over the top of the roof and down the back about 4 inches without an overhang to interfere (See photo below left).

Remove the roof and mark the roof angle the same as you did for the back side. Set your saw to 30° degrees again, double check the angle. Draw the cut line across the roof top and make sure to clamp the roof down to the bench for a solid cut. Cut slowly along the outside of the cut line.

It should look like the photo below left. Slide the roof on again for alignment and final check. If all lines up, remove it, apply glue to the sides, back leg tops, then put the roof back on. With either a large pipe clamp or someone holding the roof in place, pre-drill a hole on one corner and put in a 1.5-inch screw. Now, do the other top corner, predrill and put in a 1.5-inch screw.



Using the previous marks you made on the legs indicating where the cross bracing is, draw lines to use as a guide for more screws. Pre-drill and attach using 1.5-inch screws.

The roof is now on and should look like the photo at right.

The QUWF nesting box is basically assembled with the vents and roost bar braces installation left to do. The vents are installed with the caulking process so they have added sealant to the nest itself.

### **Installing the Vents and Caulking:**

The next step is putting in the 4 vents, two in the sides at the top, and two in the base bottom. Location is not really critical, just insure they are put in snugly. Coat the drilled vent walls with sealant as you tap them in using the edges, not the vent fins.



Drill the 1.5- inch holes with the Forstner bit and your drill. Let the chips fall into the nest, they make good nesting material. One vent on each side, top section of the nest installed from the outside.



This (photo left) is the 1.5-inch Forstner bit installed on the drill used to make the vents holes. Drill slowly, the bit is very sharp so be careful.

Coat the vent sides with sealant and tap them in place only hitting them on the edges, if you compress the fins, take a small bladed screw driver and open them up being careful not to damage the screen.



Install the bottom vents inside the nest, coat the vent walls with caulking and lightly tape the edges in place.

The vents allow airflow in case the nest gets hot and keeps bugs and snakes from entering through the holes.

Next, caulk the entire nesting box along the under sides of the roof, back of the roof, the legs, front nest, anywhere water could enter the nest itself or get behind the

legs.

At this point I also used plastic wood to fill in any plywood gaps, exposed knots or anything else that could attract insects or allow water entry or collection.

I used white exterior caulking as it was the least expensive, you could also use clear but our local store was out of stock.

Let the caulking dry per directions. Now we can add the roosting and brush braces on both sides.

I highly suggest whether caulking for sealing or the roofing cement *you wear nitrile gloves*, its messy and they will protect your hands. Furthermore, I have a dedicated work watch I wear that I don't care if it gets dusty or stuff on it.

The manual caulking gun (see photo at right) as pictured works fine. Remember to cut a slant on the tip of the tube and then take a long nail and run it down the tip into the tube to make sure it is not bound up with both the caulking and roofing cement.



### Adding the Roosting Braces / Brush holders:



Diagram Sheet 3.

We are going to cut 2 each treated 2x2 side braces 28 inches long, one for each side. We will use 2.5-inch GRP cabinet screws to attach them to the outside of the 2x4 legs, two screws per leg.

The bottom of the braces should be flush with the bottom of the nest, front and back. Use two 12-inch clamps to hold them in place. Pre-drill and install screws.

Repeat for the other side. Now you can add the natural roost bar using a 2.5 to 3-inch diameter piece of a natural tree branch. See included

### Adding the Natural Roost Bar:

It is recommended to use a piece of natural tree limb for this piece because it is what wild turkey roost on and should feel and look natural to them. Cut a piece that is 4 inches longer than the outside measurement distance of your roost braces. I used 4-inch Timber screws, pre-drilling a pilot hole slightly

smaller than the shank of the screw, through the roost bar and the bar braces on each end of the bar. Then attach it to the bar braces, one screw on each end.



*Make sure to pre-drill the 2x2 braces as well, the larger timber screw will split them if you do not.*

## Next Step Staining and Sealing the Exterior:

The last step before putting on the tar paper and shingles is applying two coats of cedar stain/sealer on the entire exterior of the box, but NOT INSIDE the box. Use a water-based sealer only. I spent a little more money here and got a good stain/sealer labelled to be a 5-year protection. Brushes clean up

with soap and water.

**NOTE:** The caulking may not take stain but that is OK.

We used Olympic Brand, 716 Natural Cedar from Home Depot. Forgive the can picture but we had some left over from other staining and weatherproofing projects. This is a good product and lasts a few years. Following Directions, apply two coats on the outside of the Nesting box, but not in the inside. It is fast drying so you should get both coats on in a few hours. Clean your brushes with soap and water.

I also stained/sealed the ends of the roost and any raw wood exposed. The next and final step for the box itself, roof materials installation.



## FINAL STEP for the QUWF NESTING BOX – Roof Materials Installed.

Cut a piece of tar paper off of the roll about 48 inches long, and have a pair of old scissors to trim it with.

Measure a few guide lines on the box that will be the edges of where the paper should line up. I use 4 inches on the back, two inches on the sides and legs. The speed square works neat here, just hold the marker on the measurement and pull across the box (see photos below).



These lines also help you apply the roofing cement, stay above the lines.

On the front of the box, the tar paper should wrap up and under the roof overhang about 3 inches to protect it from rain running down the roof and following under the roof as it drips off.

Apply the roofing cement with the caulking gun. The use of the nitril gloves will really be helpful here. It may take an entire tube of roofing cement per nesting box. It helps adhere the paper and protect the roof wood at the same time.



Take the tar paper and line it up with the back edge line you drew and lay it on the roof, lengthwise, as it came off the roll. When you get it flat and smoothed on the cement, put  $\frac{1}{2}$  in staples along the back about every 3 inches. You can use a manual stapler or an air stapler. I like the air stapler (photo below left). Make sure nothing protrudes to the inside of the box.



Next hand smooth the paper from the back to the front of the box and install staples when you feel it is lying flat and smooth, space them about every 6 inches.

Next, I worked the side edges, hand folding and smoothing as I went and trimming the sides so it wrapped over the edge under the roof edge and down the sides to the 2- inch line. Staple under the roof edge and along the side.

You can make triangular cuts on the legs, trim the excess and wrap it on the corner for a nice fit. Staple as you go.

Make sure you do not cover the air vents and that they are not dented (see photo at right). This does not have to be a Christmas present wrapping job, cover it so the roof is waterproof.



Once the paper is all on, it should be ready to add the shingles as an extra layer of long-term protection (see photo at left).

I used three section (perforated) shingles so they were easy to adjust length with. Two sections easily fit the roof without having to cut.

I applied the roofing cement to the paper for the first shingle, stapled it in place and added the roofing cement on the shingle itself for the second layer (see photo below left). Staple along all edges to prevent wind from lifting the shingles.



Notice I turned the shingles up so the solid portions are exposed and stapled just above the tar line (see photo at left). If you need to cut shingles to length, you can use a box cutter blade with your speed square.

Make sure the edges of the shingles and the edges of the box itself are flush so wind does not lift them up in bad weather.

When you get to the top, separated the 3 sections of the last shingles, applied the roofing cement and put them across the top and down the back of the box equal with the tar paper line. This



method seals the back roof of the box. I used the extra roofing cement to seal any gaps in the edges with the roof or sides just as a secondary check for water tightness (see photo left).



Your final product should look something like the photo below left.



The QUWF nesting box is now ready for placement and anchoring in the field. In preparation for that, prepare the ground anchor cable, turnbuckle and wire clamps.

Cross check the inside of the box has no protruding screws and no sharp edges. Lightly sand off the edges of the sides and front nest board (entrance to the nest) insuring no sharp edges.

## The Big Day – Setting Out the Nesting Box

### Scout first:

Try to pick the location where you have previously spotted turkey nests. Areas with brushy or large grassy clumps along field edges or just off the field edges are the best choices of where to place the QUWF wild turkey nesting box. Try to position the Nesting Box with its back to incoming weather and prevailing winds and in a fairly level location. DO NOT place the nesting box near overhanging limbs or trees. These provide perching opportunities for avian predators. Also, remember the sides of the box are designed to let you put branches down through them, giving it a brush surrounded look. Make sure to use this feature.

### Hardware Prep:

Get the hardware ready. Cut the coated cable about 40 inches long. Open the turn buckles up to their full-open position but keep threads inside the buckle itself. Place a cable clamp on one cable end, then loop it through one end of the turnbuckle and back through the cable clamp. Tighten the cable clamp securely.



Fully open the turnbuckle and attach the cable to one end.  
(see photo at left)

Don't forget to grab the ground anchor itself  
(see photo at right)



**Now time to load up.** You will need;

- the second cable clamp
- the cable with open turnbuckle attached at one end
- a small adjustable wrench to tighten the nuts on the clamp (bring an extra clamp in case you drop it or the tiny nuts into the leaves)
- a level to check level
- pliers if the wire is stiff
- snips if you want to trim the cable after installation
- the ground anchor and a large screw driver and hammer to make a pilot hole in the ground and to turn the anchor to screw it into the ground.
- Get a large piece of cardboard to lay on while you connect the Nesting Box to the ground anchor to avoid ticks.
- A Cuddeback Game Camera (fresh batteries and chip installed) and mount to observe the nesting box and record



### **Load the Nesting Material:**

We took the time to put in 2 inches of fluffed up straw in the box, then about 5 inches of dried leaves and twigs from the location itself. Note: you can use shredded chips from the big box stores in the pet department. A bag is very cheap and will do many nests. Be certain any twigs are not sharp to damage the eggs or the poults. We brought it to the site with the tractor lifting it with the forks.

Also, if you see any turkey feathers in your scouting, put them in the nest as well.

### **Take it to the site:**

We took the nesting box to the selected site using the tractor with front forks installed, lifting the QUWF nesting box to transport. This makes it much easier to position (see photo below left) as well.



Once positioned to be in approximately the center of the nesting box, make a pilot hole in the ground with the large screwdriver and hammer then twist the ground anchor into the ground (see photo at right).



Position the nesting box over the anchor, adjusted the ground to get a level position for the legs and box. Put the cable through the bracket on the nesting box, and the cable protecting sleeve if used, through the ground anchor, add the final clamp. Then thread the cable back through the remaining eye of the turnbuckle. Run the cable back through the clamp and tightened it as much as possible against the turn buckle taking out as much slack as possible. Tighten the clamp securely. Then turn the turnbuckle to tighten the cable to the ground anchor. **DON'T overdo it, it should be tight but not overtightened.**

If you have extra cable left over as we did, I simply double it over on the turnbuckle so if we ever want to move it we had the cable to play with or you can cut it off.



Once it was securely in place we began cutting and putting small limbs and brush along the sides inside the roost braces, from the ground well up over the box to make it appear like it was in a brush clump, add as much as you can fit, both sides.

Did I mention this is a great kids project?

Last item is to place a game camera looking on the QUWF Nesting Box to see the reactions.



**CONGRATULATIONS:** you are now among those who go beyond the average sportsman or conservationist to help our wildlife, less than 1% of the hunters or landowners.

It may take some time for wild turkeys to accept the nesting box and I can attest the deer thought it was an invading alien spaceship of some sort right out of the gate.

We have just built our second one to cross check all measurements, directions etc. and will place it in another field. Note: we had a 3 inch snow storm in the middle of the 2021 nesting season, with cold rains.



The second nesting box (photo at left) is in place on another field. We will build and install a total of 6 boxes in the known wild turkey nesting areas on the QUWF Headquarters land to begin. The last photo below is why we do this at QUWF.



This is a work in process and an experiment/research to help the nesting turkeys, you can modify measurements, change the dimensions and try several versions. If you do, let us know what works, how long it took to get a turkey in the box or what else you do to help the wild turkey. Send pictures!!

**Contact us at: QUWF, P.O. Box 947, Buffalo MO 65622. Email at [admin@quwf.net](mailto:admin@quwf.net)**

NOTE: the materials list assumes you have nothing for supplies and you will need to purchase everything. You might have some supplies to save costs. During the build process, the price of plywood, 2x2's and 2x4s doubled from that listed. Hopefully it will come down soon.

The cut diagrams are for a 4 x 8 sheet of  $\frac{3}{4}$  inch treated plywood, cut in half into two 4 foot by 4 foot pieces for easier handling. They are to scale as indicated.

**Special recognition to these QUWF National Sponsors that made this project possible:**

**These brands are also part of the 1% of manufacturers willing to step out of the box for wildlife solutions and research needed for today's habitat, weather conditions and predation factors. SUPPORT THEM!!**

Cuddeback Game Cameras



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DooLittle Trailer Manufacturing



Truax Seed Drills



RUGER Firearms and Accessories



The Turkey Nesting Box was Designed and prototypes created, along with this instruction plan and all photos / graphics by Craig Alderman, Executive Director of QUWF.

Special thanks to;

**QUWF Chief Biologist Nick Prough** for his total support of the idea, review, edits and suggestions combined with his passion for turkey hunting.

**QUWF Missouri Regional Biologist, Bob Peterson** for his review, edits and suggestions and help with PDF development.



**Attachments: Materials List; Cut layout diagrams; Frame Assembly Diagrams**

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**Materials List: One Nesting Box.**

**Lumber and Plywood: Home Depot.**

- 1 1 each 4x8 sheet of  $\frac{3}{4}$  inch exterior plywood, cut in half for easier transport at the lumber supply
  - a. The plywood will make the base, 2 sides, back, front and roof with enough for another base \$55.78 Each

- 2 4 each 2x2x8 foot exterior lumber (get them as straight as you can) \$5.27 each \$21.08 total
  - a. These will make the base inner frame, upper inner frame, roof braces, and roost arms
- 3 3 each 2x4x8 foot treated Lumber (note if you have a table saw you can rip treated 2x4s)
  - a. These will make both sets of legs and extra can be used to rip and get 2x2s (1.5 x 1.5) for the inner frames and roof braces Home Depot \$8.77 each \$26.31 total

**Lumber and plywood total \$103.17**

**Other Materials:**

- 4 One tube of roofing adhesive (put on under the tar paper to help hold it down) with caulking gun Home Depot \$1.97
  - Manual Gun \$2.75
- 5. Approximately 4 foot of 15 or 30 pound felt paper (per nest box) for the roof before shingles are installed (local lumber supply might have small pieces to give you) I bought a 100 foot roll bc I will make multiple boxes, Home Depot \$15.71
- 6. 1 package of asphalt shingles (the local lumber supply might have open or damaged packages they will donate to you)
- 7. ½ inch staples and staple gun – attach the tar paper and the shingles \$5.95
- 8. 1 tube of clear silicone exterior caulk to seal all joints to the nest with caulking gun \$3.78
- 9. 1 roll of vinyl coated cable for hold down to ground anchor,100ft, Home Depot \$9.98
- 10. Cable clamps 1/16th, small, Home Depot, \$1.98 each \$3.96
- 11. Kreg pocket plugs, 50 Pack, Home Depot \$5.47
- 12. Kreg 1.5 inch pocket screws, course thread, pack of 100 \$5.27
- 13. Tight Bond 111 Wood Glue, Outside, waterproof Grade \$7.98
- 14. 1.5 inch screened vent inserts, Maurice Franklin Louver Co, RL-100, pack of 6 Amazon You will use 4 but can put in all 6 \$11.02

**Screws and fasteners:**

- 15. Small safety hasp, you only need the loop portion at local hardware (4 screws) \$2.79
- 16. GRK Cabinet Screws 8x2, Pack of 100 Home Depot \$8.97
- 17. GRK Cabinet Screws 8x1.5, pack of 100 Home Depot \$6.87
- 18. GRK Cabinet Screws 8x3 1/8, pack of 50 Home Depot (for legs) \$6.97
- 19. Turn buckle, small 7/32 x 6. ¼ inch, Home Depot \$2.07
- 20. 2 each 4 inch timber screws, ¼ shank-roost- Home Depot has a pack of 12 \$4.20

# QUWF Nesting Box Base Frame and Upper Frame Assembly

25 7/16 diaganol

25 7/16 diaganol

18 inches square

15 inch treated 2 x 2

18 Inch treated 2 x 2

18 inch treated 2 x 2

15 inch treated 2 x 2

18 inches square

**Measure Twice  
Check Twice  
Cut once  
Check for Square w/  
diagonal measurement**

Diaganol is measured corner to corner

NOTE: use of a picture frame clamp  
is very useful here.

**Note: a 2 x2 measures 1.5 x 1.5**



25 7/16 diaganol

25 7/16 diaganol

Indicates Kreg pocket holes face to side grain 

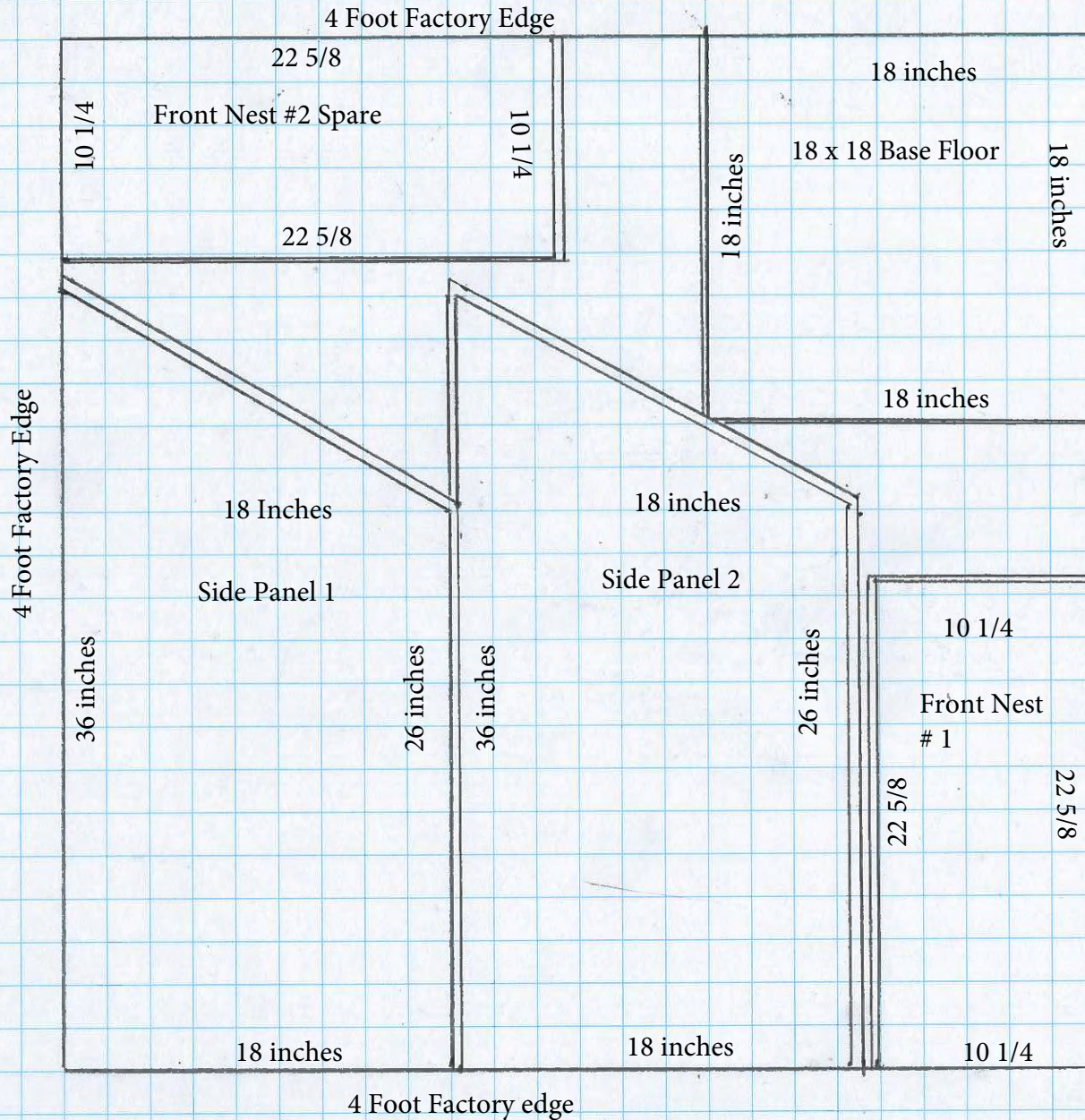
Base frame assembly (above) has center piece, upper frame does not

Scale: 3

# QUWF Nesting Box Cut Diagram Sheet 1

4 x 4 3/4 Treated Plywood

NOTE: Illustration shows saw kerf cut lines, Not to scale



**Measure Twice  
Check Twice  
Cut Once**

Cut Edge  
**Check Square on this side**

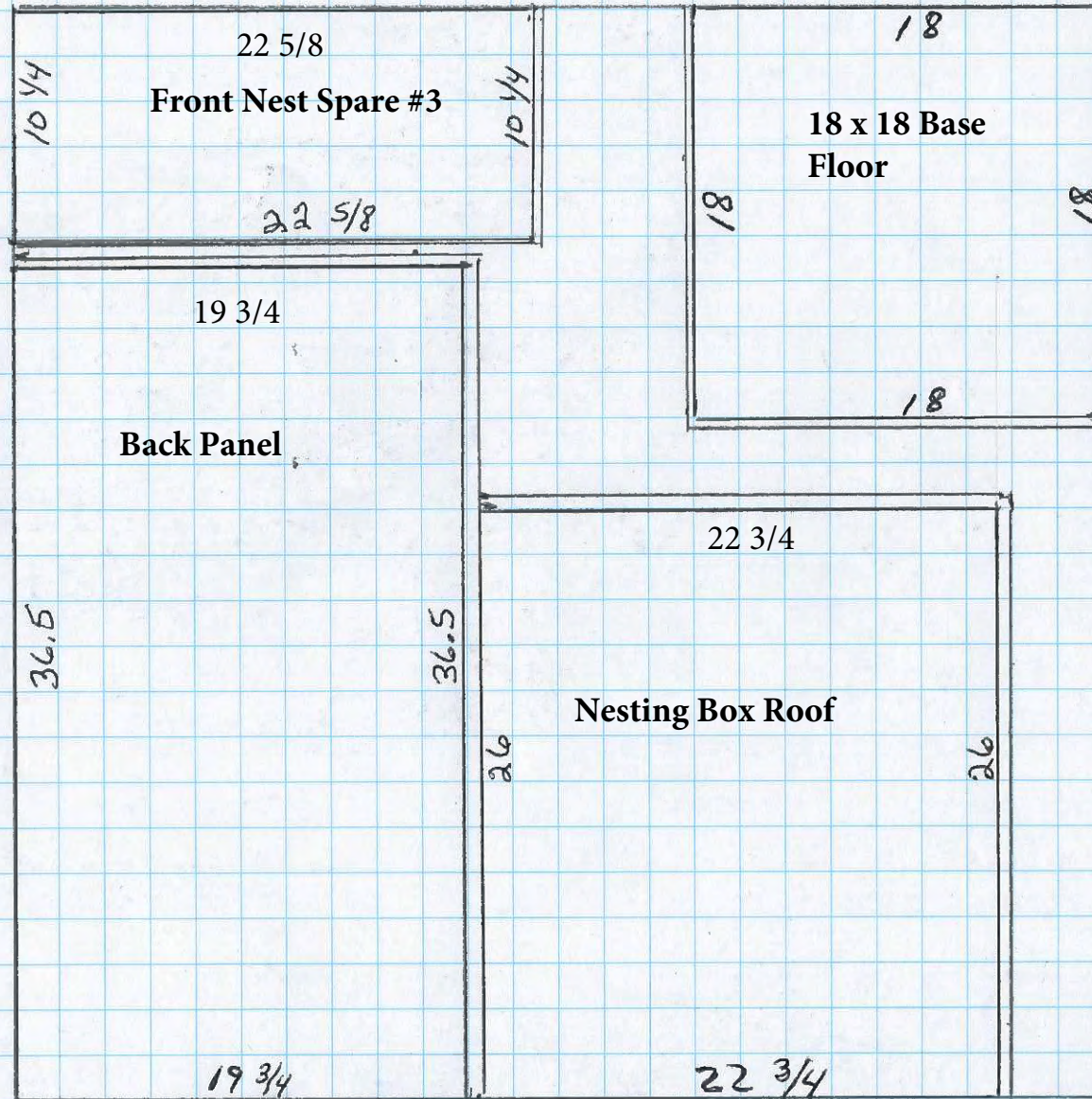


Scale: 1 1/2

# QUWF Nesting Box Cut Diagram Sheet 2

4 Foot Factory Edge

4 x4 3/4 inch treated plywood



**Measure Twice  
Check Twice  
Cut Once**

4 Foot  
Factory Edge

Cut Edge  
Check Square on this side



4 Foot Factory Edge

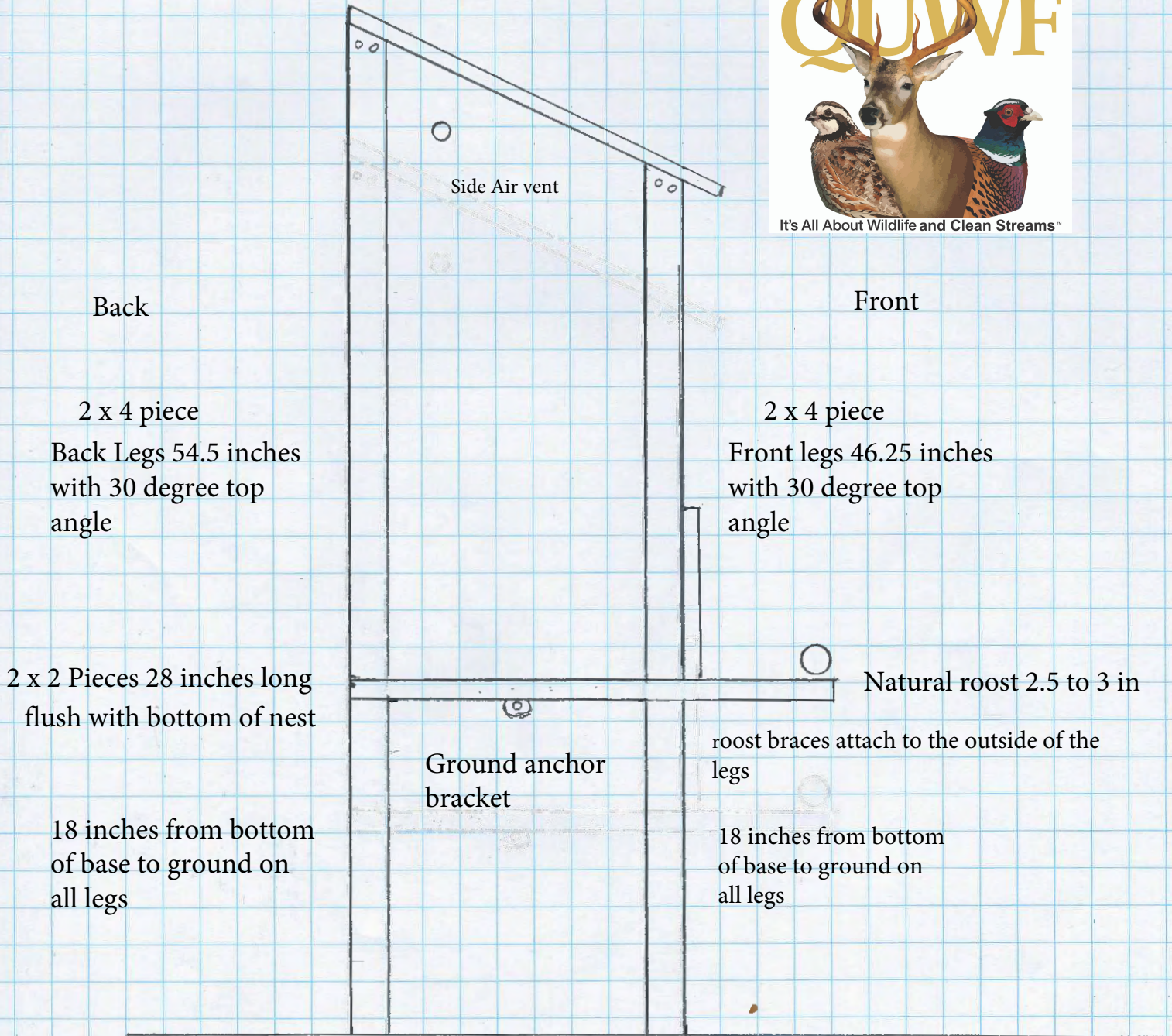
Scale : 1 1/2

**NOTE: Illustration shows saw kerf lines**

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# QUWF Nesting Box Side View Diagram Sheet 3

Angle of leg tops to roof is 30 degrees



Scale: 1 1/2