ANCHOR KIT OPTIONS

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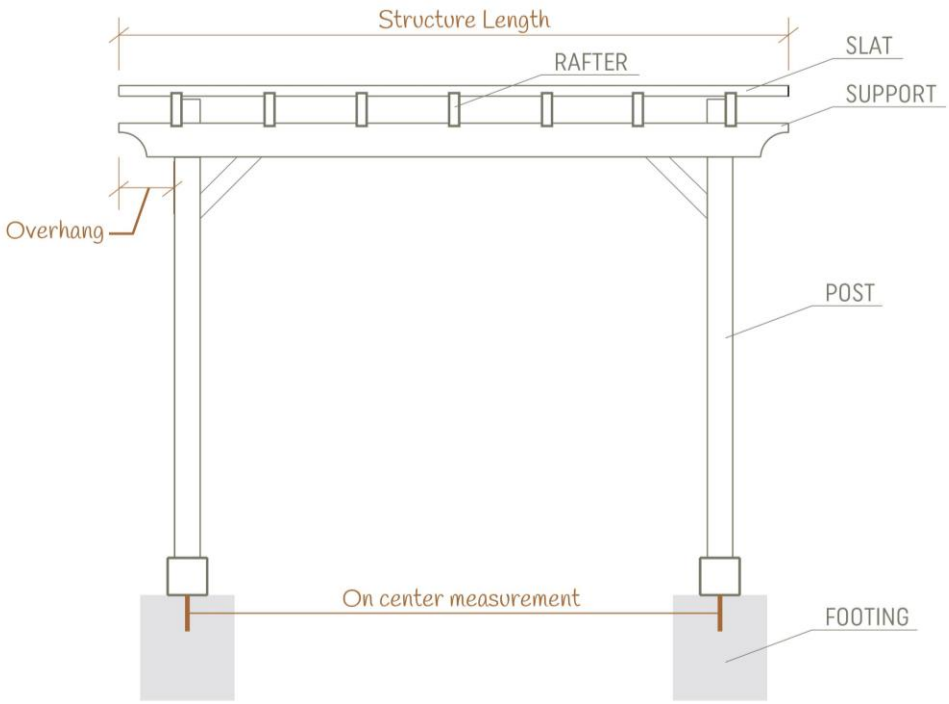
1. CONFIRM YOUR STRUCTURE DRAWINGS BEFORE LAYING FOUNDATIONS

Ideally, confirm your structure drawings before laying foundations – especially for paver or flagstone patios.

By confirming your Structure drawings first you may realize that you overlooked something or you may want to make a change that will affect the length or width. For example, for a standard 10' x 12' Arched Pergola Kit, the posts are recessed back 12 inches from the edge of the roof. This places your posts at 8' x 10' to the outside 4 corners of the posts and at 7' 6 1/2" x 9' 6 1/2" on center. If you are certain this is what you want, you can do the footings before ordering your Structure and before you receive your drawings for your order (all Structure orders receive drawings within 5 business days for your review to give you the time and tool to make adjustments before building). Often, when customers see their drawings, they decide to change some detail like adding more space between the posts or going taller.

If you are in the process of laying a foundation for a Structure that will require footings (recommended for flagstone or paver patios), it is best to have the design finalized so that you or your contractor can place the footings in the exact location. Once footings are installed you will not be able to move the post positions causing yourself an unnecessary headache.

If you decide to order the Anchoring Kit, you'll have all the hardware you need and will not need anything from the hardware store if you are attaching to an existing deck.



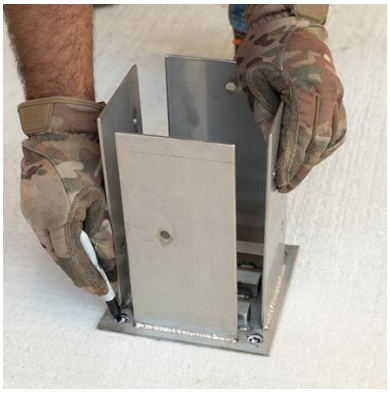
2. PAVILION/PERGOLA POST ANCHORING

All posts should be attached to the ground. Below are the most common scenarios.

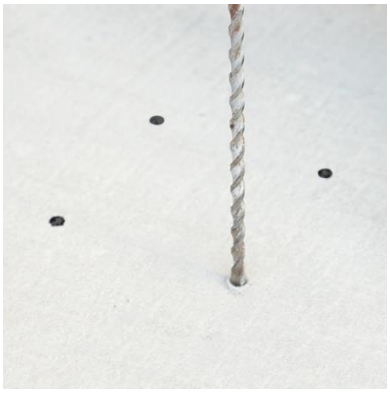
The anchor kits can be made of stainless steel or standard steel. Standard Steel anchors are painted black while the stainless are left unpainted. We recommend stainless steel anchors and bolts only for moist areas, waterfront, or areas where groundwater is nearby. For most applications, standard steel will last decades. Our anchor kits, whether for concrete or wood decks, come with everything you need to attach your structure securely.

A. OPTION 1: Standard Anchor Kit

The standard anchors sit on the surface and attach using either 4 expansion anchor bolts (for concrete) or 4 lag bolts (if attaching to a wood deck). The posts sit in the anchor's saddle and are attached to the anchors with lag bolts provided. A wood trim box is included to hide the hardware from view (see anchor kit installation instructions below).




STEP 1:
Place the anchor where it will be installed; mark the ground as shown.




STEP 2:
Drill for holes as shown ½" wide hole 4" deep and hit down the anchor bolts (1/2" x 4") with a hammer. Then take off the nut before you place the metal anchor **(note: for wood deck use lag bolts).**


STEP 3:
Place and attach the metal anchor to the concrete with an anchor bolt *(1/2" x 4")* and place the post.


STEP 4:
Drill holes in the post and attach it to metal anchors with lag bolts *(5/16” x 3”)*

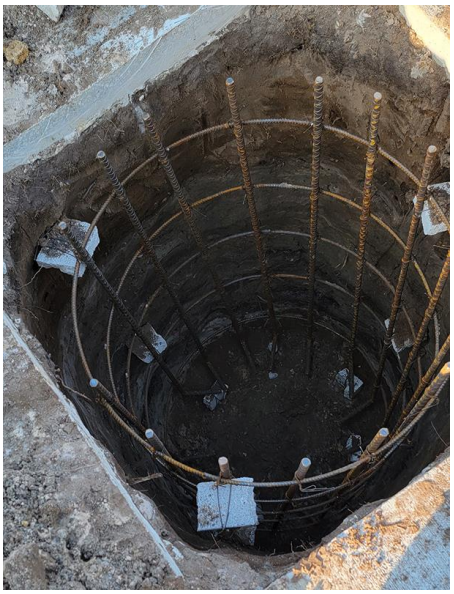

STEP 5:
Place the wood boots over the anchors, fixed it with the screws.

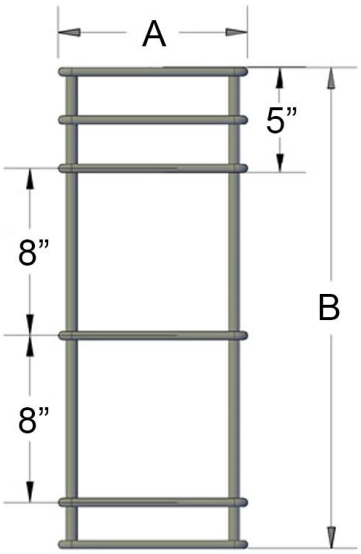
The photos above show the 5 simple steps to follow once your surface below the Structure is in place. Choose the anchor kit for the appropriate surface:

- **Stone, Brick or Concrete - Anchor Bolts** (1/2”) for attaching to stone, brick, or concrete.
- **Wood (e.g., Wood Deck) - Lag Bolts** (3/8”) for attaching to a wood deck.

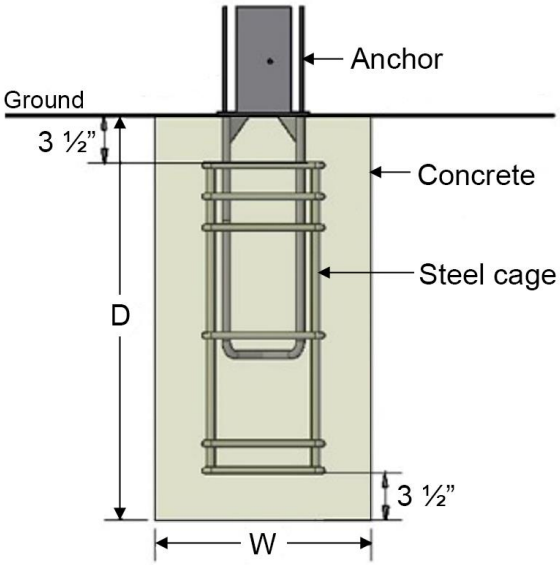
Read more about anchoring your Structure in our FAQ, including the best grade of wood to choose for your climate.

B. OPTION 2: High-Wind Anchor Kit

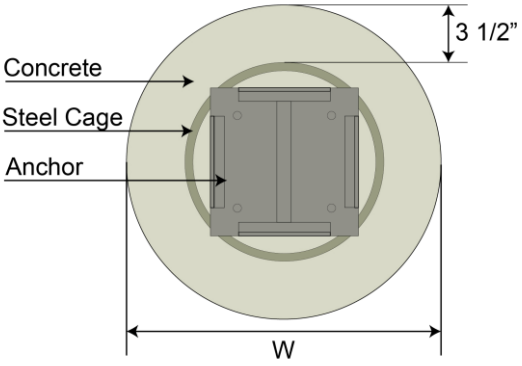




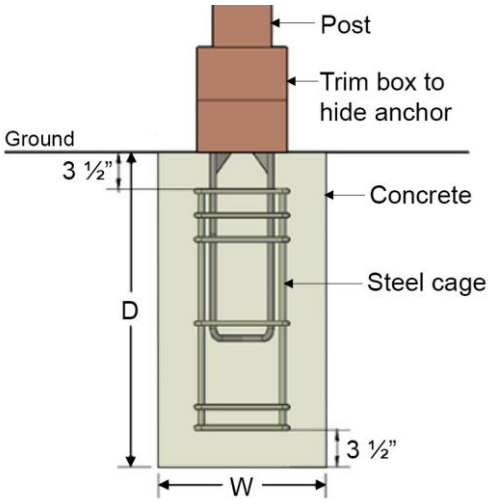
STEP 1: Dig a footing hole per size shown on your drawings. Add a 3 ½” concrete base to then place the rebar cage as shown (you may use a Sono Tube).



STEP 2: Place the high wind anchor level (you can use some timbers as shown to keep it in place). Make sure all the anchors are level to one another and square to one another.



STEP 3: Pour concrete to a few inches below grade as shown. This way you can place your final hardscape over most of the footing so it will never be visible. If you are pouring your concrete pad before the installation of the anchors, place the Sono Tubes to avoid cutting the new concrete pad when you have the make the footings.



STEP 4: Attach the post to the anchor with lag bolts, then place the wood boots over the anchors and fix it with the screws.

POSTS	ANCHOR BASES				STEEL CAGE		FOOTING	
Sizes	**PTR Gauge**	**Anchor Steel Base (PTR)**	**Steel Base Diameter**	**H**	**A**	**B**	**W**	**D**
3-3/4” x 3-3/4”	1/8”	6”	3/8”	12”	7”	23”	14”	30”
5-1/2” x 5-1/2”	1/8”	8”	3/8”	18”	9”	29”	16”	36”
7-1/4” x 7-1/4”	1/8”	8”	3/8”	18”	11”	29”	18”	36”
9-1/4” x 9-1/4”	1/8”	10”	½”	20”	13”	35”	20”	42”
11-1/4” x 11-1/4”	1/8”	10”	½”	24”	17”	35”	24”	42”

Note: *At least 3-1/2” clearance between edge of footing and anchor is recommended.*

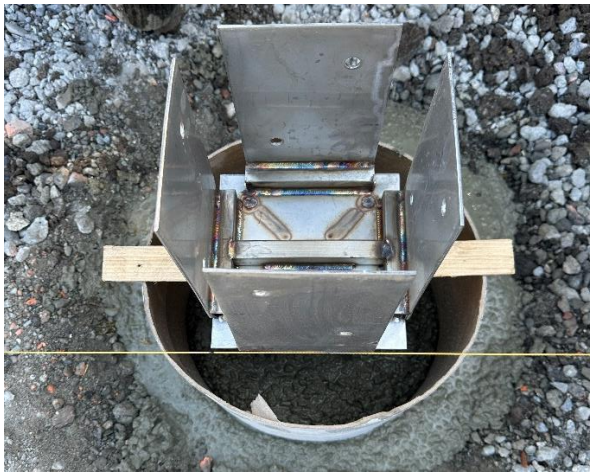
The High Wind anchor is rated to withstand winds of up to 150 mph. See the chart above for the typical recommended footing depth, but the final footing design will be part of your final approved working drawings that you will receive as part of the ordering process. They are normally installed at a 30 to 42 inch with a significant portion of the anchor in concrete underground as shown in the drawings above. For best results, we recommend doing the concrete work at least 3 days ahead of the Structure installation so the concrete will cure before attaching the Structure to it. You then place the wood posts in the cradle and bolt the wood to the anchor. We supply wood trim pieces to hide the hardware so the bottom of the posts look like they have a wooden boot around them when installation is complete.

3. PAVER, STONES OR FLAGSTONE PATIOS

For paver, stone or flagstone patios we don't recommend attaching directly to these surfaces because you may have cracking or movement long term. Instead, we recommend installing footings (concrete foundations for the posts) to make sure you have zero issues in the long term.

For most applications, we recommend digging holes 30" deep (in snow areas adjust depth to go below the frost line by 6"), place cardboard Sono tubing in the hole up to ground level. Then place a rebar cage and pour concrete flush to ground level (or level with the walking surface area of your paver or flagstone patio). Allow up to 3 days for the concrete to cure before attaching metal anchors at the top of the concrete pour (see below). You can use fast drying concrete if you don’t want to wait.

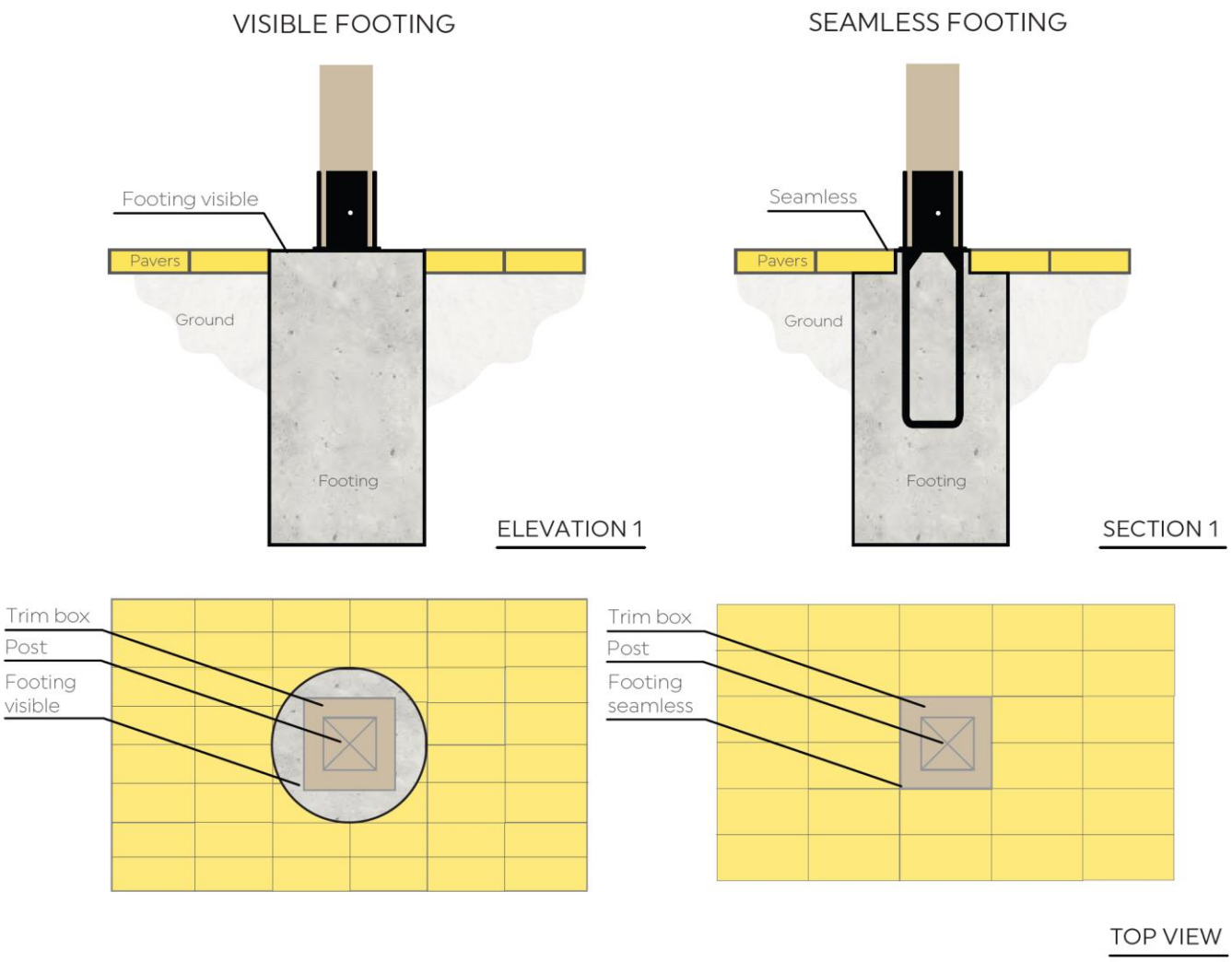
By leveling the footings with the finished pavers, after adding the trim, the bottom of the trim will rest atop the pavers seamlessly. Since the paver patio is usually a few inches above grade, you may have to pour a bit higher than on undeveloped ground to get the post height to line up exactly with the paver height. The design engineer that will be assigned to your project will detail the footings work needed as part of your design work. Below is a typical set up:



POST	ANCHOR BASES		FOOTING	
Sizes	**Base Steel Gauge**	**H**	**W**	**Deep**
3-3/4" x 3-3/4"	1/8"	6"	14"	30"
5-1/2" x 5-1/2"	1/8"	8"	16"	30"
7-1/4" x 7-1/4"	1/8"	8"	18"	30"
9-1/4" x 9-1/4"	1/8"	10"	20"	30"
11-1/4" x 11-1/4"	1/8"	10"	24"	30"

4. SEAMLESS FOOTING LOOK

For a seamless look, use the High Wind Anchor Kit, even for Pergolas. The footings are poured to align with the top of the final patio surface, and the anchor is set in the wet concrete. After the footings cure, a portion of each footing is removed so it is not visible once the wood trim is installed. See diagrams below:



5. BOOTS

To avoid posts to wick up moisture, we add spacers to the anchors, so the posts will sit ¾" from the ground level. We also add acrylic at the bottom of the trim boxes, so the boxes don't sit directly to the ground (see photos below).

6. DECK OPTION

You may consider decking options. Structures can be sold with wood decking inside, outside, or both. Be sure to discuss your need for decking and facing components with your project engineer, especially in areas with inclines or stepped changes in elevation.

On a substantial slope, footings and a deck are sometimes more sensible than a concrete pad. Footings and a deck can be designed, built, and handled by our Complete Nationwide Assembly crew. Concrete pads are best handled by a local mason or landscape contractor.

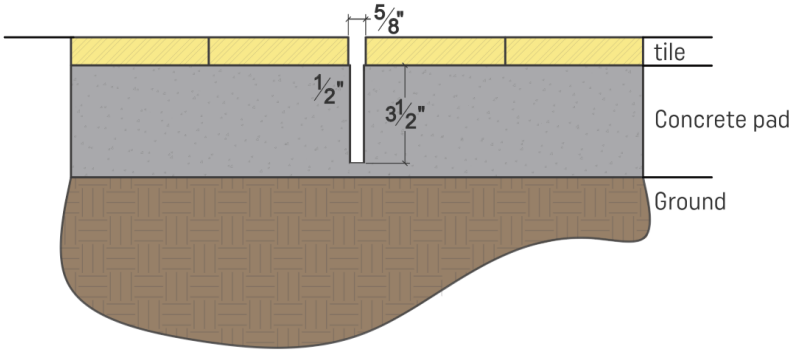
7. TILE OR STONE OVER CONCRETE PAD

If you have either tile or stonework above your concrete pad, please take the following steps to avoid damaging your tile or stonework:

1. We drill first through the tile or stonework with a 5/8” sized drill bit. We use the Diamond Plus Hole Saw. Just drill through your stone or tile only. Don’t drill into the concrete.

2. Then change to a ½” sized bit and drill into the concrete for 3 ½ inches or more.

3. The slightly larger holes in the tile or stone surface protect them from cracking as you ratch down the expansion bolts. The bolts expand only in the concrete below and don't stress or crack your surface hardscape.



8. FROST LINE MAP

Frost Line Map across the United States (If your structure is placed in a snow area, the concrete must be 6 inches below the frost line).

This map is from the National Snow and Ice Data center and shows the frost line map across the United States. Note how it moves down from 72-inches depth to a 6 inch depth.