



DOHU Bracket Mount DIY Wood Pole Installation Guidelines

The following are guidelines for the assembly and installation of wood poles used to illuminate sports courts. Local ordinance may require the use of professionals such as a structural engineer and/or an electrician. These installation guidelines are only a recommendation for installation and in no way supersede local ordinance.

Many residential sports courts can be effectively illuminated with poles that are 16.5 feet tall. 16.5' poles can be installed using direct burial by starting with a 20' wood laminated wood pole.

1. Purchase long pressure treated ground contact rated wood beams or build a 20' wood pole
 - a. To build a pole purchase the following to make a 20' wood pole
 - i. Three 2" x 6" x 20' pressure treated ground contact rated wood boards
 - ii. Two or Three 2" x 6" x 20' pressure treated ground contact rated wood boards
 - b. Lay the two or three boards for each pole next to each other
 - c. If you intend to bolt the boards together, drill the holes for the bolts now
 - d. Apply a polyurethane construction adhesive such as [Loctite® PL Premium®](#)
 - e. Put the two or three boards together to make one 20' laminated pole
 - i. Screw the boards together using galvanized or stainless steel wood screws – or –
 - ii. Bolt the poles together with stainless steel bolts, nuts and washers
 - iii. Be sure that while bolting or screwing to apply pressure/augment the adhesive
 - f. Let the glue dry
2. All electrical work should be performed by a licensed electrician
 - a. Run the wiring in the conduit that is attached to the pole
 - b. Terminate the conduit with an exterior grade electrical box
 - i. Be sure to use galvanized or stainless steel screws to attach the conduit and electrical box
 - c. Run the wiring that will power the fixtures up through the conduit and into the electrical box
 - d. When complete, the wiring should come up from the ground via the electrical conduit
 - e. The wire should terminate with enough slack in the electric box where it will connect to the fixture
3. Bolt the luminaire to the wood pole
 - a. Drill holes through the post and bolt the luminaire to the pole about 6" below the top of the pole
 - b. Make sure the luminaire is located so that when it is installed it faces the area to be illuminated
 - i. You will still be able to aim the luminaire up and down
 - c. It is easier to attach and wire the luminaire while the pole is on the ground
 - i. Note that the top of the pole will have more weight during installation
 - ii. Most likely the luminaire will still have to be aimed once the pole is installed
 - iii. You may also mount and wire the luminaire after the pole is installed
4. Dig a hole for the pole remembering that 3 feet is direct buried and 17 feet will remain above the surface
 - a. The hole should be 10 inches larger than widest part of the pole
 - b. The hole should be 6 inches deeper than the depth requirement, a 42" total deep hole
 - c. Soil conditions matter, so consulting a local structural engineer is recommended.
 - i. For example, soil such as sand on a beach will not provide sufficient support

5. Direct burial using concrete
 - a. Fill the base of the hole with small stones so 3' of the pole will be below the surface and not more than 17' rises above the surface
 - b. Make sure the pole is vertical
 - c. Stabilize the pole with rocks in the hole and/or temporary supports
 - d. Pour the concrete so that it's above the soil level.
 - e. Trowel the top smooth and slope it so that water runs away from the post.
 - f. Apply exterior acrylic latex or silicone caulk specifically designed to adhere to concrete, at the base of the post. This will seal the gap between the concrete and post, preserving the concrete

6. Direct burial without using concrete
 - a. Fill the base of the hole with small stones so 3' of the pole will be below the surface and not more than 17' rises above the surface
 - b. Make sure the pole is vertical and stabilize the pole rocks in the hole
 - c. Then fill the hole with rocks and gravel taking the following recommendations into consideration
 - i. Solid Rock Conditions: Crushed rock of 3/4 inch or less or cemented sand should be utilized for backfill.
 - ii. Poor Soil Conditions: Consisting of loose rock, gravel, highly organic solids, or any other type of soil or conditions that inhibits the creation of a stable structural base. Local experts knowledgeable in existing soil conditions in the local area should be consulted to determine proper soil compaction.
 - iii. Average Soil Conditions: Consisting of clay, silt, moderately organic soil, or areas with standing water during rainy season. Additional crushed rock to 3/4 inch or less should be added to the excavated material for backfill.
 - d. Backfill the Hole: Fill and tamp every 6 to 8 inches of backfill. Frequent tamping is important.
 - e. Optional - Additional support may be added by adding a mound of rock and dirt around the pole between 7" and 1' above the ground surface.

7. Turn the power on for the luminaires

8. Aim the luminaire as directed in the photometric

9. Enjoy your new sport court!