

# **GROUND PLATE INSTALLATION GUIDELINE** **FOR IRRIGATION DECODER/2-WIRE/2-CORE SYSTEMS**

**CAUTION! WEAR WORK GLOVES AND OTHER APPROPRIATE SAFETY EQUIPMENT TO AVOID INJURY.**

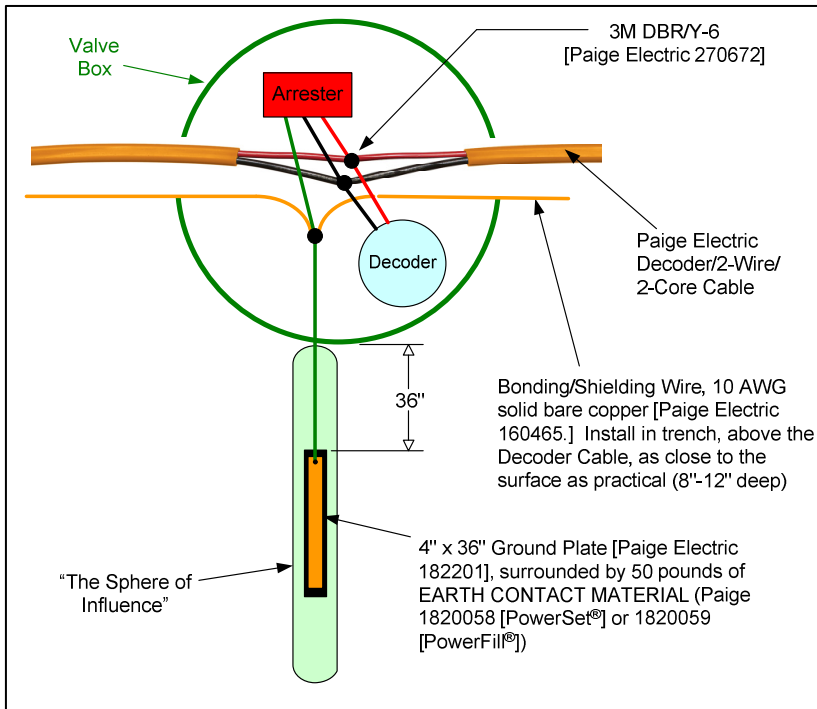
Proper earth grounding of irrigation system electronic equipment is essential in order to provide a path for the equipment's lightning arrester to discharge energy into the ground. If this installation does not yield the required earth ground resistance, additional electrodes can be installed to further reduce it.

- ▶ Select the location where the enclosed ground plate will be installed. Install the grounding electrodes per the dimensional drawings below.
- ▶ The shaded area in the TOP VIEW of the details below shows "The Sphere of Influence" of the ground plate. No Decoder/2-Wire/2-Core cables should be installed within this area. The area should be moist at all times so that the soil can conduct the lightning energy for dissipation into the earth. Minimum moisture content should be 15% by weight.
- ▶ Cut a 6-inch wide trench from the valve box to the ground plate location. This trench should be perpendicular to the Decoder/2-Wire/2-Core cables. The ground plate should be installed at a minimum depth of 30".
- ▶ Clean the bottom of the trench for the ground plate so that there is a 4-foot long flat bottom at a depth of about 36 inches.
- ▶ Pour half of the 50-pound bag of "Earth Contact Material" (Powerset® or Powerfill®) within the 4-foot trench bottom and rake evenly. A 50-pound bag of earth contact material can be mixed with 3-½ gallons of water to create a slurry, which is easier to pour into the trench.
- ▶ Place the copper plate in the trench, over the earth contact material, and unwind the 10 AWG insulated wire within the trench and into the valve box. **DO NOT CREATE ANY SHARP BENDS. IF NECESSARY TO BEND THE WIRE, DO SO IN A SWEEPING LINE.**
- ▶ Cut-off any excess 10 AWG insulated wire and connect it to the ground wire of the decoder/arrester and the 10 AWG bare copper Bonding wires using a 3M DBR/Y-6 connector.
- ▶ Pour the other half of the 50-pound bag of earth contact material over the ground plate and rake it evenly. ***Make sure that the earth contact material covers the insulated green wire and that no bare copper is showing near the weld joint.***
- ▶ If the soil is dry, a means of irrigation (bubbler, emitter, etc.) should be installed over the center of the ground plate. The irrigation controller can then be used to maintain proper moisture.
- ▶ Backfill and tamp the soil in the trench. Do not use excessive amounts of water to achieve compaction.

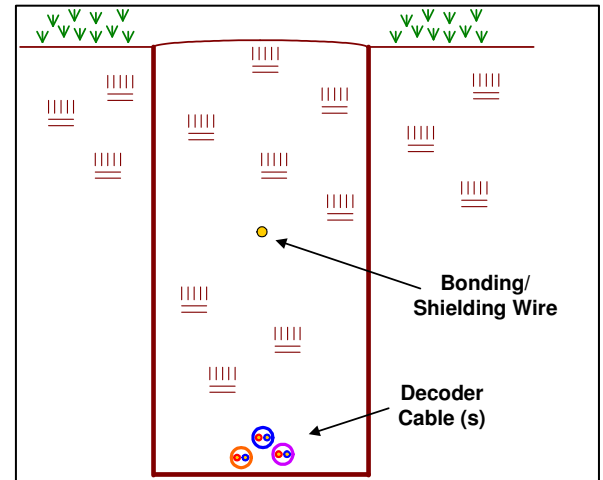
**SEE THE BACK OF THIS PAGE FOR INSTALLATION DETAILS**

## TYPICAL INSTALLATIONS:

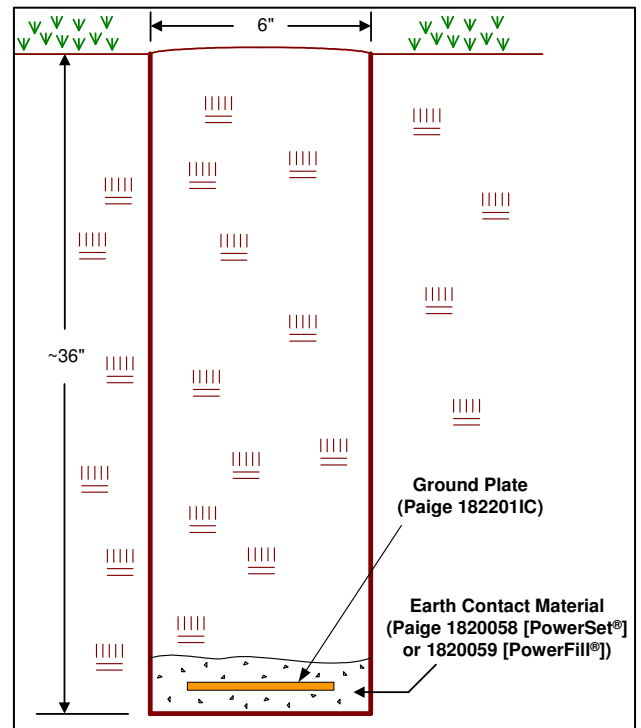
### Decoders without ground wires, top view



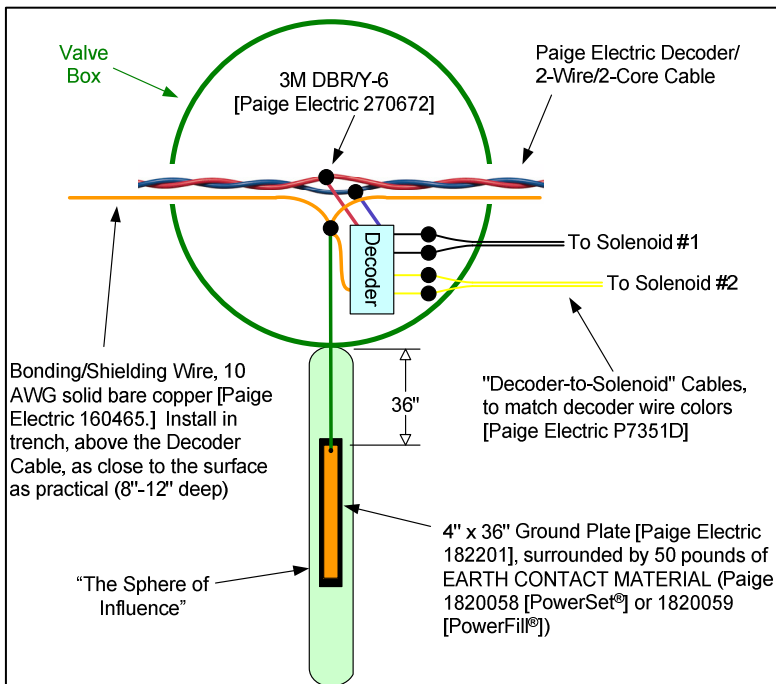
### Trench cross section for wires and cables:



### Trench cross section for the ground plate:



### Decoders with ground wires, top view



**For assistance please call Paige Electric at (559) 431-2346**

**Disclaimer:** Paige Electric has made every effort to ensure that the information and recommendations contained within are correct. However, neither Paige Electric nor any of its employees warrants nor accepts any liability for the use of this information. National and local electrical codes should always be followed. Wiring, grounding, shielding, and bonding irrigation system components often require competent engineering judgment on a case-by-case basis. Competent engineering assistance should be sought from firms specializing in this field. The manufacturer(s) of the irrigation equipment being protected should also be consulted.