Installing a 50 Amp Electrical Sup-Panel to the Power Pedestal

At the existing pedestal there is a 1" condulet on the side of the pedestal facing your lot. There is a small length of 1" PVC and a cap on the bottom of the PVC. Remove the 1" PVC and the cap by pulling down on it. It is not glued and just temporary to keep rain and critters out.

Take the back off of the 1" condulet by removing the two screws. You can remove one screw if you like and turn the cover up and lock it out of your way. Put the other screw back in its hole so it will not get lost. Do not lose the back cover or gasket.

The trench needs to be at least 18" deep. You can rent a trencher in South Hill for about $75.00 for a half day and you can probably do a few lots in that time frame. Always hand dig around the pedestal with in 24" on each side. Make sure you know where you water lines, sewer and utility lines are because anything that is on your side of the meter, etc. will not be marked by RR or Miss Utility.

You will need 1" PVC conduit which is not too expensive along with a few 90 degree sweeping elbows and misc. 1" fittings. You should be able to figure out what fittings you need. Try to keep the turns and elbows to a minimum. You can only have (4) 90 degree turns before you have to add a junction box. You should be able to do it with two (2) 90's elbows if you plan it.

Measure off where you are going to set your sub panel and determine the lengths you need of wire. For a 50 amp 120/240 Volt, 1 phase, 3 wire service you will need (3) #6 THWN wire and one #10 ground wire. The wire must be rated for wet locations. Most wire has multiple ratings but make sure there is a "W" in the rating such as THHW, THWN, etc. If you buy the wire off a reel at Home Depot you will need to buy a small roll of white, green, red and black tape to mark both ends of your wire. Or you can buy red, black, white and green wire which is more expensive but identifies the hots, neutral and ground. I would use copper wire not aluminum and it will last longer and perform better.

Once you have your trench dug the easiest way to install the wire in the conduit is to lay the wire in the trench and then starting at one end and sleeve each fitting and length of PVC over the wire gluing it as you go. That way you do not need to pull the wire through the conduit while it is laying in the trench. When you get to the opposite end you may have to do some cutting and fitting but it is really simple. Leave about 3-4 foot extra on each end more than what you figure is needed.

At the pedestal the wire you pulled will come up to the condulet and you will pull the wires out through the back of the condulet, wrap them up in a circle, tape them and wrap them with a bag. That end is done.
On the opposite end you will need to set a small sub-panel. If you intend to mount the sub-panel on the exterior you will need a weatherproof (WP) NEMA 3R load center. If it is going to be inside a structure like an addition you could use a NEMA 1 enclosure. One is rated for outside and one is rated for inside. I would recommend a sub-panel with 6-8 circuit breaker spaces at a minimum.

The sub-panel should be rated for 100 amps, 120/240V, 1 phase, 3 wire. It needs to have an isolated neutral bus bar that is not in contact with the metal enclosure. It also must have a separate ground bus that is bonded to the metal enclosure. When connecting the grounds and neutrals they must be landed and separated on the neutral and ground bus bars. Grounds on the ground bus, Neutrals on the Neutral bus. The red and black hots are and landed on the hot bus bar one on each side. (Red & Black)

Green or bare wire is always ground. White is neutral. Red & black are hot. The attached diagram should explain most of it.

When connecting branch circuits or receptacles to the sub-panel you follow the same rules. Grounds on ground bus bar, Neutrals on Neutral bus, etc.

You need to leave the trench open and get a concealment inspection from Mecklenburg County. Once you have everything complete from the pedestal to your sub-panel including the wire connections to the sub-panel you can call for your final inspection. Once you get the final inspection you give a copy to Rita in the Association office and sign the Electrical Service Agreement and she will write a work order. The day we transfer over if you have any misc. connections to make you can do so while we are preparing to install the meter and make the final connection to your service. Once that is done you are good to go. We will not turn on the breaker once the meter is set. We will let you do that so there are no problems.

The Mecklenburg Owners Affidavit needs to be signed and notarized when applying for an electrical permit if the property owner is doing the work themselves.

If you have any questions or need assistance please do not hesitate to contact me.

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