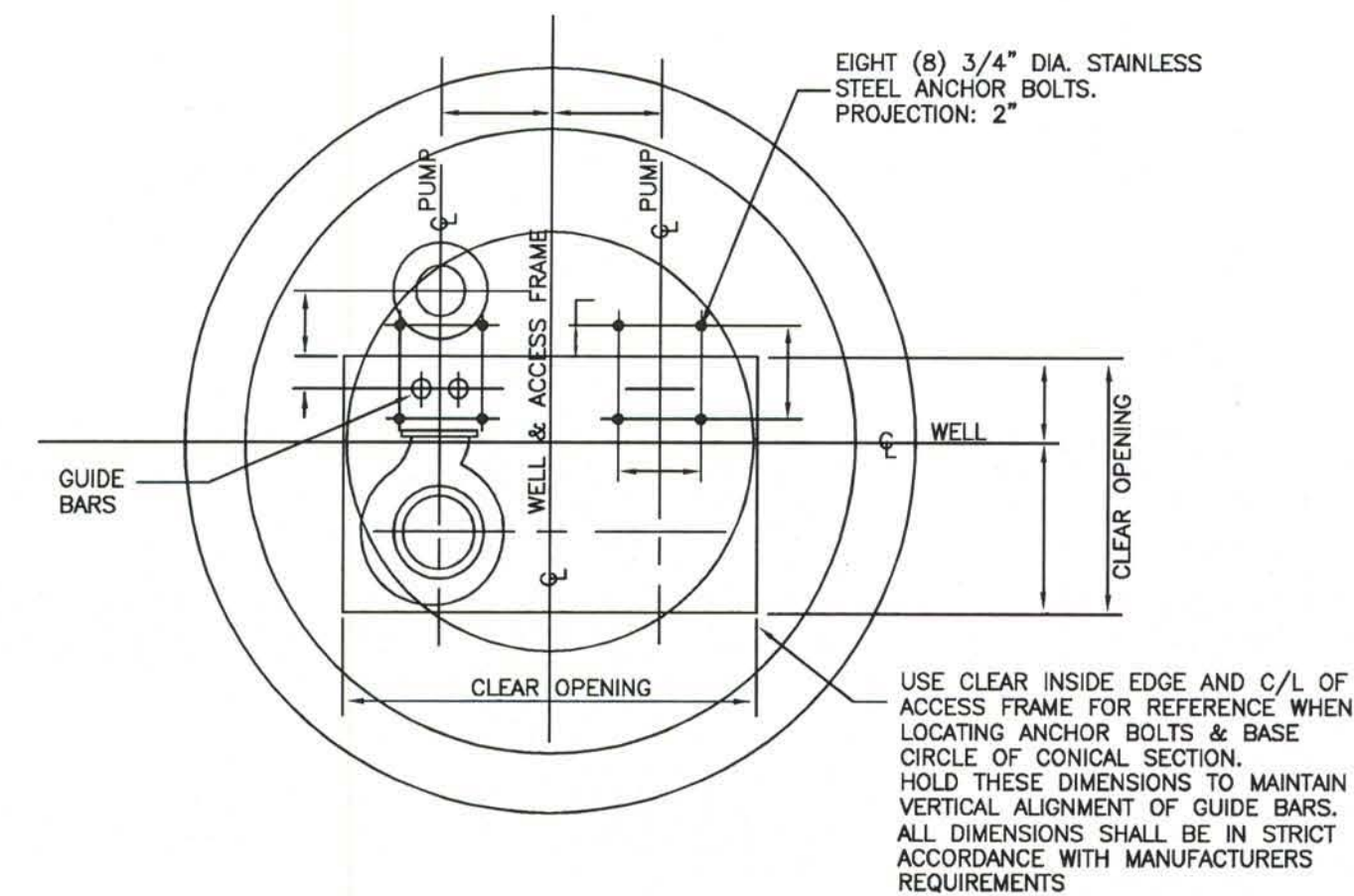
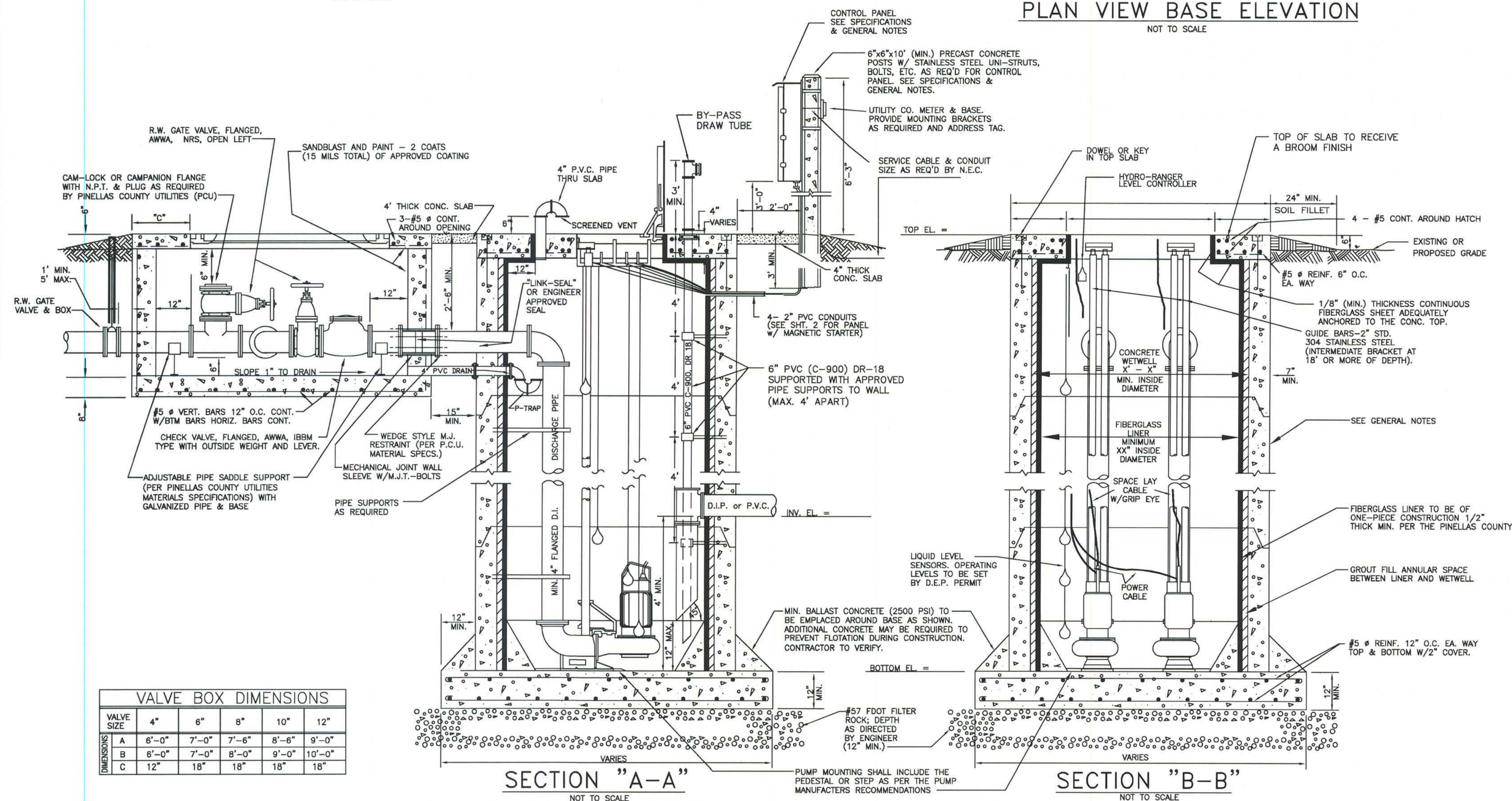
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## NOTES OF ULTRASONIC LEVEL CONTROLLER (DUPLEX)

BY USING ULC CONTACTS IN PARALLEL WITH FLOATS, THE RELAY LOGIC IN THE PANEL WILL PROVIDE LATCHING CIRCUITS FOR PUMPING LEVEL RANGE.

THE PUMPS WILL ALTERNATE BY MEANS OF THE RELAY LOGIC AND PANEL ALTERNATOR.

1. THE LEAD PUMP IS CALLED TO RUN BY OUTPUT ULC-2, WHICH IS IN PARALLEL WITH THE LEAD FLOAT.
2. THE LAG PUMP IS CALLED TO RUN BY OUTPUT ULC-3, WHICH IS IN PARALLEL WITH THE LEAD FLOAT.
3. BOTH PUMPS WILL SHUT OFF WHEN OUTPUT ULC-1 IS DE-ENERGIZED. ULC-1 IS IN PARALLEL WITH THE OFF FLOAT.
4. THE LEVEL ALARM IS ACTIVATED BY OUTPUT ULC-4, WHICH IS IN PARALLEL WITH THE ALARM FLOAT.



| VALVE BOX DIMENSIONS |   |       |       |       |       |        |
|----------------------|---|-------|-------|-------|-------|--------|
| VALVE SIZE           |   | 4"    | 6"    | 8"    | 10"   | 12"    |
| DIMENSIONS           | A | 6'-0" | 7'-0" | 7'-6" | 8'-6" | 9'-0"  |
|                      | B | 6'-0" | 7'-0" | 8'-0" | 9'-0" | 10'-0" |
|                      | C | 12"   | 18"   | 18"   | 18"   | 18"    |
|                      |   |       |       |       |       |        |

## NOTES OF ULTRASONIC LEVEL CONTROLLER (TRIPLEX)

1. FOR NORMAL OPERATION, ONLY TWO OF THE THREE PUMPS WILL EVER OPERATE AT ONE TIME.
2. THE LEAD PUMP IS CALLED TO RUN BY INPUT ULC-2, WHICH IS A DIRECT INPUT TO THE THREE PUMP ALTERNATOR.
3. ALTHOUGH ONLY TWO PUMPS CAN RUN AT ANY GIVEN TIME, THE CONTROL PANEL WILL BE DEVELOPED TO ALTERNATE THROUGH ALL THREE PUMPS.
4. THE LAG TIME IS CALLED BY OUTPUT ULC-3, WHICH IS FED BY THE DIRECT REPLY TO THE LEAD PUMP.
5. TDR-1 GIVES THE LAG PUMP THE TIME DELAY BETWEEN STARTING OF THE LEAD AND LAG PUMPS, AND TDR-1 HAS A SETTING TO BE SET AT START-UP TIME.

## GENERAL NOTES

1. CONTROL PANEL SHALL BE LOCATED ADJACENT TO WET WELL RAISED HAND DOOR.
2. WATER SERVICE SHALL BE PROVIDED AND LOCATED AT THE CONTROL PANEL WITH A HOSE BIB AND BACKFLOW PREVENTOR.
3. A REMOVABLE GAS SEAL SHALL BE INSTALLED IN WIRING CONDUIT AT PANEL AND TRENCH STRIP JUNCTION BOX. CONDUIT FROM JUNCTION BOX TO CONTROL PANEL SHALL BE COMPLETELY SEALED.
4. ALL NUTS AND BOLTS ON PIPING WITHIN VALVE BOX AND WETWELL SHALL BE 304 STAINLESS STEEL.
5. ALL WETWELL PIPING SHALL BE 1 PIECE FLANGED DUCTILE IRON PIPE.
6. FOR EXCAVATIONS GREATER THAN 20 FEET DEPTH, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH AN "EXCAVATION DESIGN" PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH FLORIDA'S "TRENCH SAFETY ACT".
7. TOP AND BOTTOM SLAB AND REINFORCEMENT TO BE PER THE ENGINEER.
8. REINFORCED CONCRETE PIPE ASTM TABLE II, WALL B, TO HAVE TONGUE AND GROOVE JOINTS. ALL JOINTS TO BE SEALED WITH JOINT SEALING COMPOUND SUCH AS RAM-NECK INCLUDING A DRIED COAT OF PRIMER, DO NOT APPLY MORTAR RAM-NECK PRIMER.
9. A STANDING WELL SHALL BE UTILIZED, AS DETERMINED BY THE ENGINEER & PINELLAS COUNTY UTILITIES ENGINEERING, WHEN THE INFLUENT FLOW DISRUPTS PROPER PUMP OPERATION.

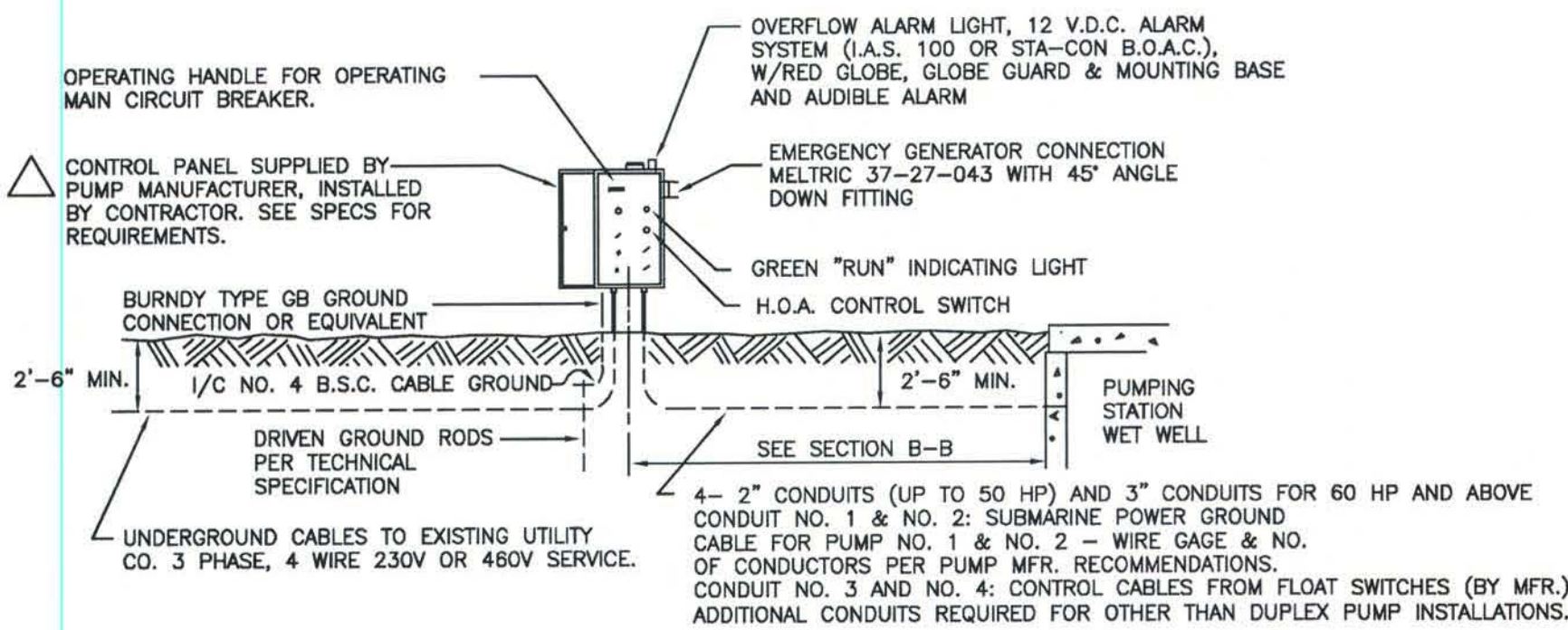


PINELLAS COUNTY ENCLOSURE SIZES

| VOLTAGE  | HORSEPOWER | ENCLOSURE SIZE  | DUPLEX | VFD'S |
|----------|------------|-----------------|--------|-------|
| 230V/3PH | 3HP        | 48" X 36" X 10" | X      |       |
| 230V/3PH | 5HP        | 48" X 36" X 10" | X      |       |
| 230V/3PH | 7.5HP      | 48" X 36" X 10" | X      |       |
| 230V/3PH | 10HP       | 48" X 36" X 10" | X      |       |
| 230V/3PH | 15HP       | 60" X 60" X 12" | X      |       |
| 230V/3PH | 20HP       | 60" X 48" X 14" | X      | X     |
| 230V/3PH | 25HP       | 60" X 60" X 16" | X      | X     |
| 230V/3PH | 30HP       | 72" X 60" X 16" | X      | X     |
| 230V/3PH | 40HP       | 72" X 60" X 18" | X      | X     |
| 230V/3PH | 47HP       | 72" X 60" X 18" | X      | X     |
| 480V/3PH | 3HP        | 60" X 36" X 12" | X      |       |
| 480V/3PH | 5HP        | 60" X 36" X 12" | X      |       |
| 480V/3PH | 7.5HP      | 60" X 36" X 12" | X      |       |
| 480V/3PH | 10HP       | 60" X 36" X 12" | X      |       |
| 480V/3PH | 15HP       | 60" X 36" X 12" | X      |       |
| 480V/3PH | 20HP       | 60" X 48" X 12" | X      | X     |
| 480V/3PH | 30HP       | 60" X 60" X 16" | X      | X     |
| 480V/3PH | 47HP       | 72" X 60" X 16" | X      | X     |
| 480V/3PH | 60HP       | 72" X 60" X 16" | X      | X     |
| 480V/3PH | 77HP       | 72" X 84" X 18" | X      | X     |
| 480V/3PH | 88HP       | 72" X 84" X 18" | X      | X     |
| 230V/1PH | 2.4HP      | 60" X 36" X 12" | X      |       |
| 230V/1PH | 4.0HP      | 60" X 36" X 12" | X      |       |

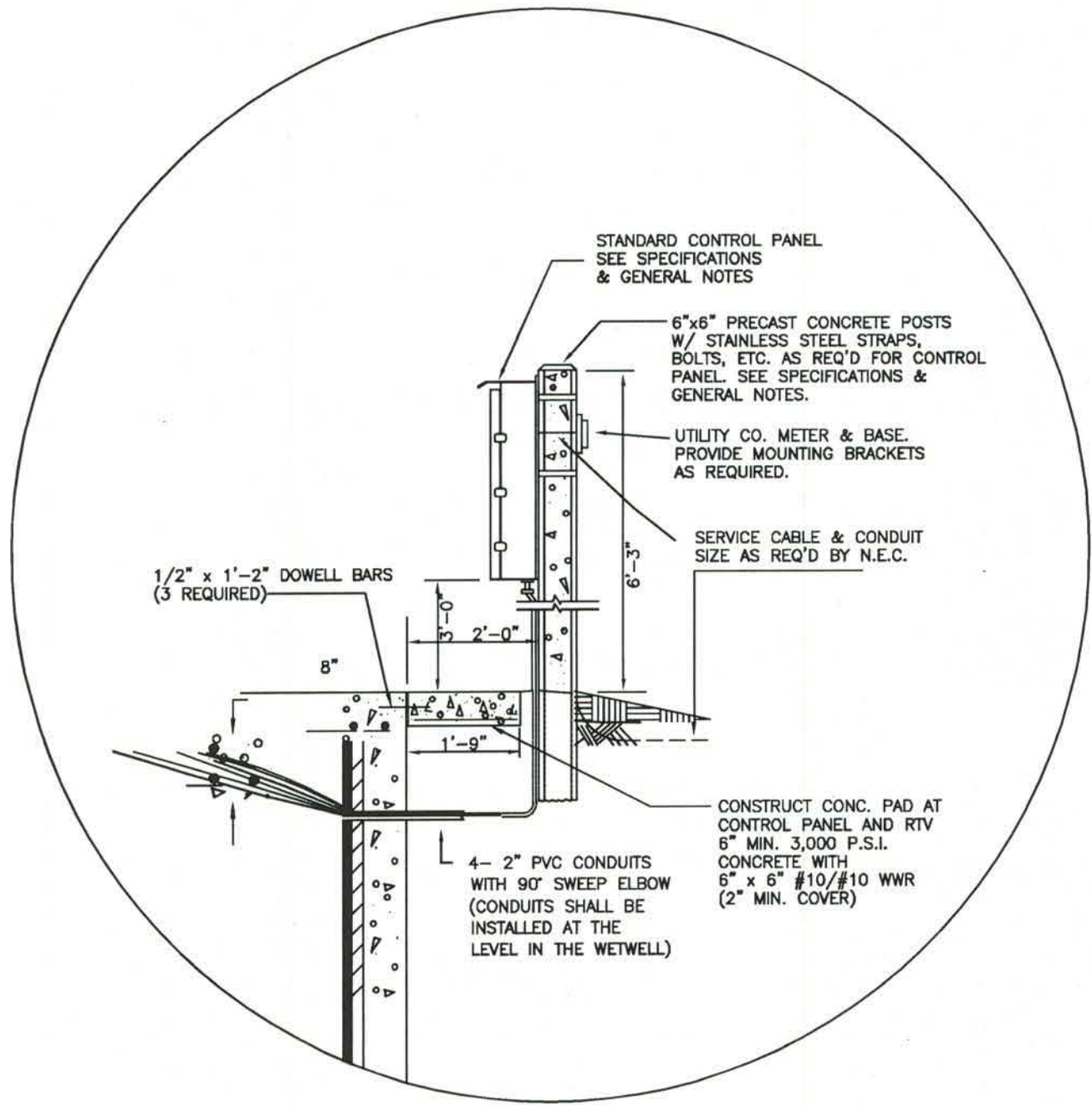
PANEL ENCLOSURE SIZES

(CONTRACTOR TO VERIFY THE PANEL SIZE WITH THE PUMP SUPPLIER)



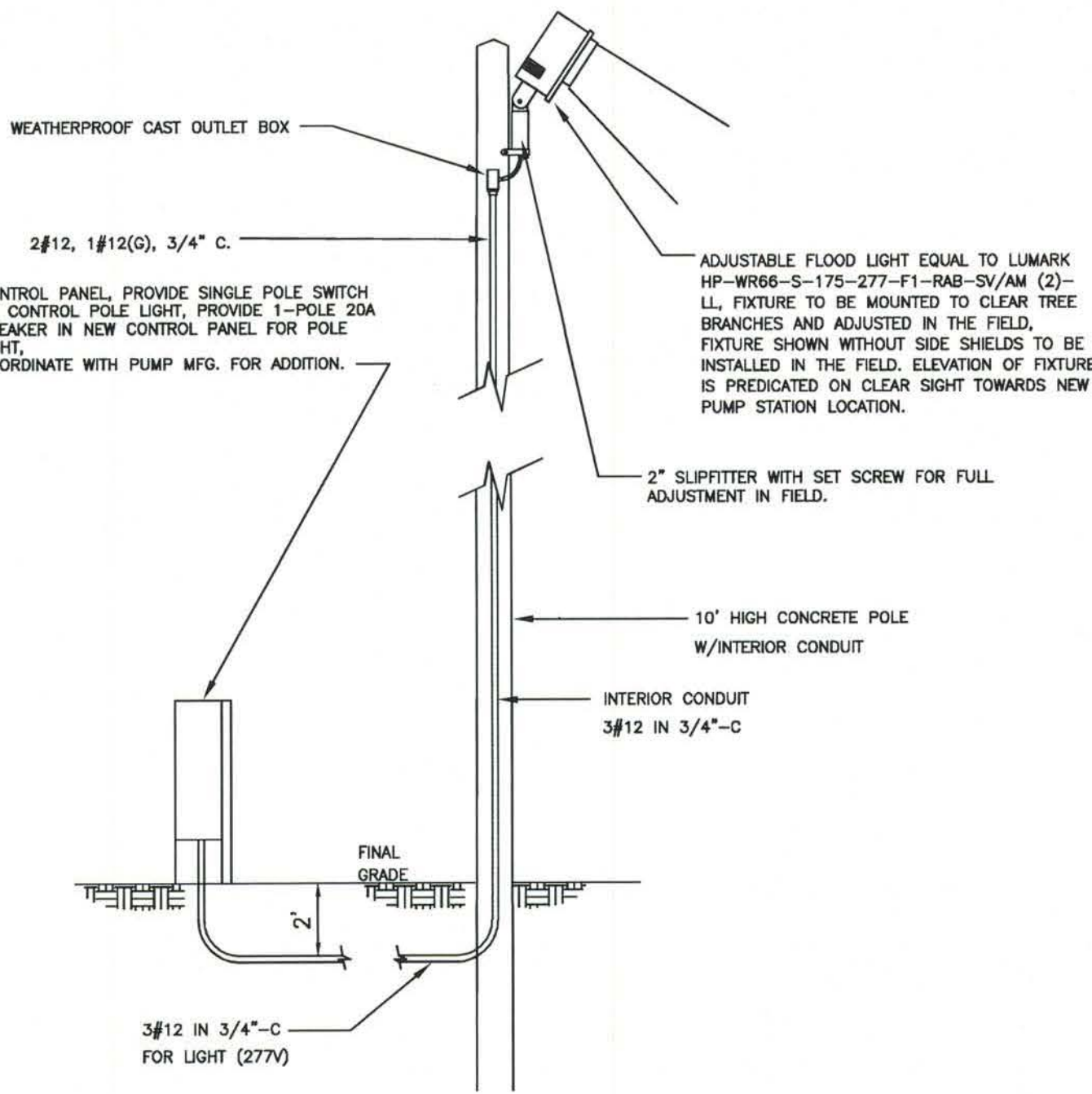
ELECTRICAL SERVICE DETAILS

NOT TO SCALE



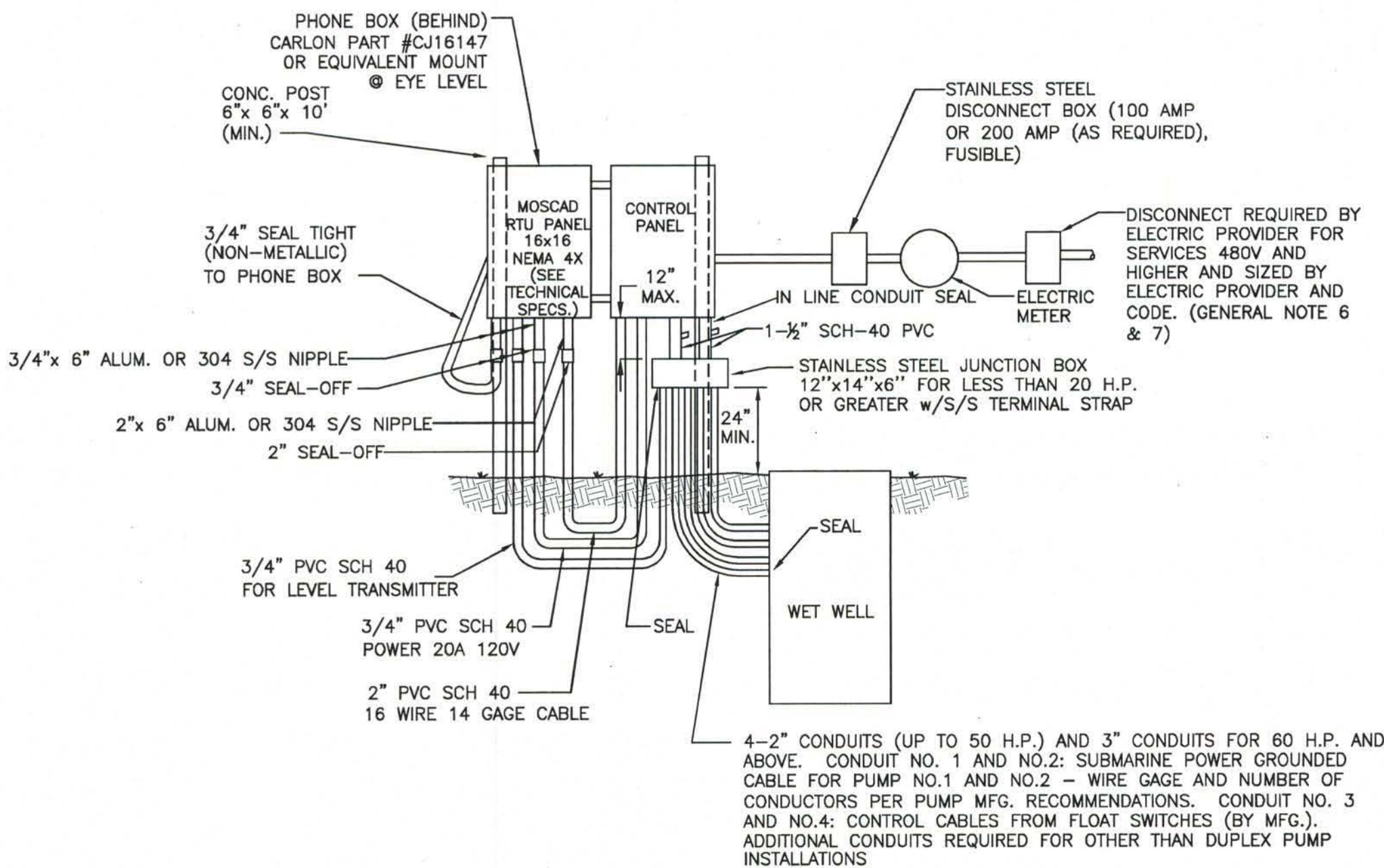
CONTROL PANEL DEVICE WITH MAGNETIC STARTER

NOT TO SCALE



SERVICE LIGHT-DETAIL

NOT TO SCALE



POLE MOUNTED ELECTRIC SCHEMATIC

CONDUIT SIMILAR FOR PEDESTAL MOUNT PANELS

NOT TO SCALE

ELECTRICAL GENERAL NOTES

- CONTROL PANEL SHALL BE LOCATED DIRECTLY ADJACENT TO WET WELL, RAISED HATCH DOOR.
- SEE SPECIFICATIONS FOR CONTROL PANEL, SCADA AND DC ALARM SYSTEM REQUIREMENTS.
- ELEC. WIRING SHALL BE STRANDED COPPER THHN.
- A REMOVABLE GAS SEAL SHALL BE INSTALLED IN WIRING CONDUIT AT WET WELL AND TERMINAL STRIP JUNCTION BOX. CONDUIT FROM JUNCTION BOX TO CONTROL PANEL SHALL BE COMPLETELY SEALED.
- ALL WIRING SIZES AND EQUIPMENT DIMENSIONS SHALL BE IN ACCORDANCE WITH N.E.C. AND MANUFACTURERS RECOMMENDATIONS.
- ON 480 VOLT APPLICATION, CONTRACTOR SHALL FURNISH PRE-METER DISCONNECT. (AS REQUIRED BY ELECTRIC PROVIDER) IN STAINLESS STEEL CABINET.
- ELECTRIC PROVIDER REQUIRES SERVICE WIRES TO BE RUN FROM METER CAN TO POLE OR TRANSFORMER.
- RELOCATION OF SCADA SYSTEM SHALL BE DONE BY CONTRACTOR.
- MEYER HUB OR OTHER ENGINEER APPROVED REUSABLE, WATERPROOF FITTING SHALL BE INSTALLED WHERE ANY CONDUIT ENTERS THE BOX.
- CONTROL PANELS SHALL BE POLE MOUNTED (6"x6"x10' CONC. POST), IN CONJUNCTION WITH RTU PANEL, ALL MOUNTING BRACKETS AND HARDWARE SHALL BE 304 STAINLESS STEEL OR PEDESTAL MOUNTED ON A REINFORCED CONC. SLAB. THE SIZE AND MOUNTING SHALL BE DEPENDENT UPON THE MANUFACTURER'S PANEL DESIGN AND SHOP DRAWING.

|          |        |  |   |          |  |             |                |
|----------|--------|--|---|----------|--|-------------|----------------|
| DESIGNED | N/A    |  | PINELLAS COUNTY UTILITIES ENGINEERING<br>PINELLAS COUNTY, FLORIDA | PROJECT: | DESCRIPTION<br><br>STANDARD PUMP STATION<br>ELECTRICAL DETAILS | DATE:       | SEPT. 21, 2006 |
| DRAWN    | A.M.P. |  |   |          |  | JOB NO.:    |                |
| CHECKED  | W.G.K. |  |   |          |  | SHEET:      | 2 OF 2         |
| REV. NO. | DATE   |  |   |          |  | DESCRIPTION | REV. BY        |