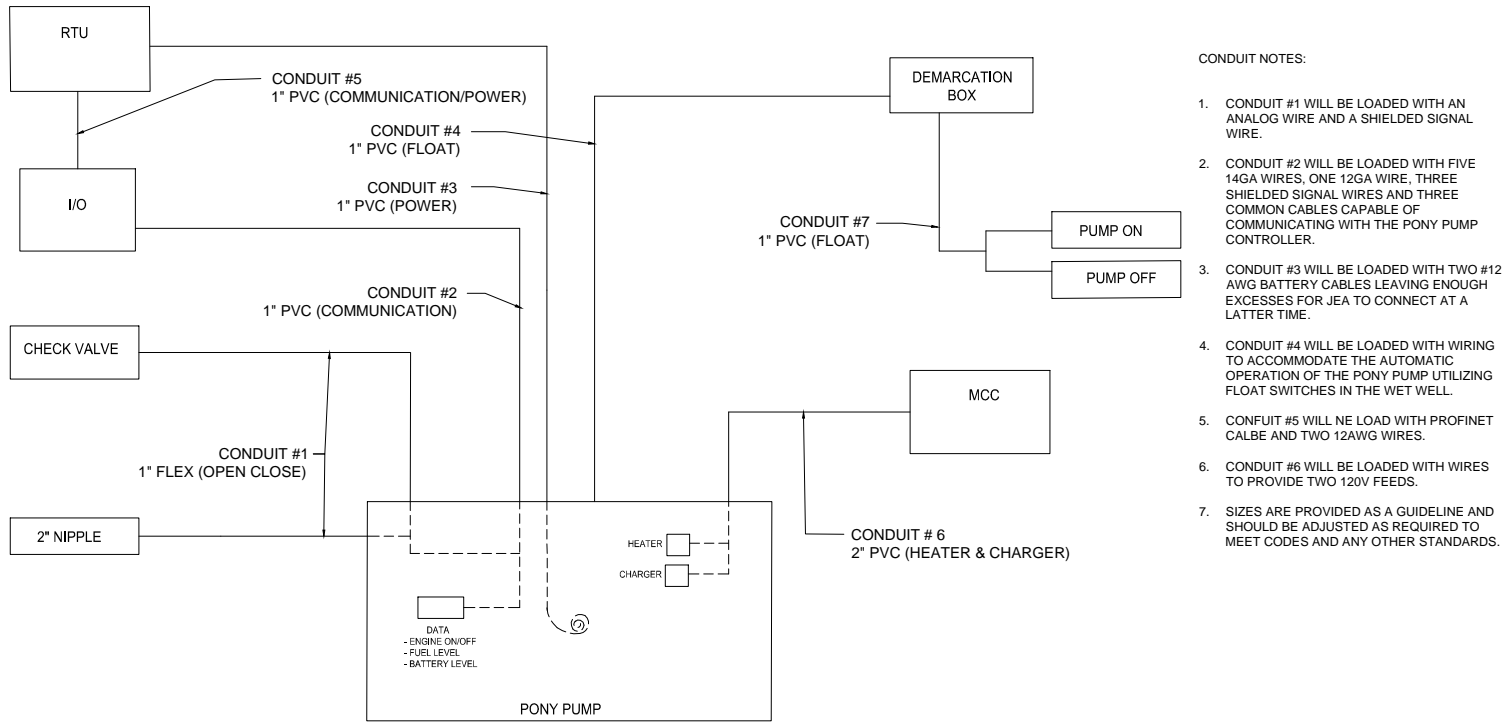
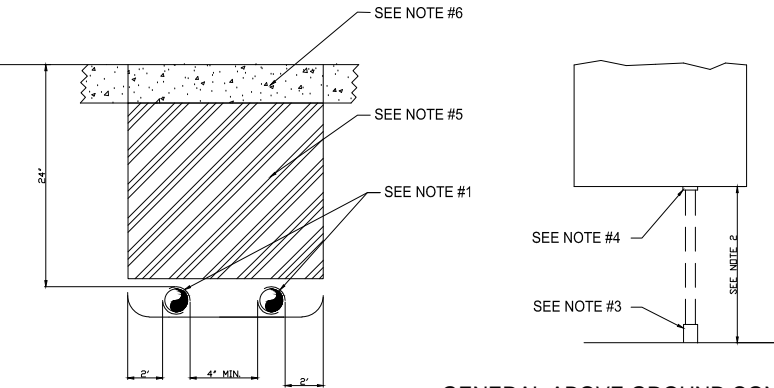


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ELECTRICAL SCHEMATIC

- CONDUIT NOTES:
1. CONDUIT #1 WILL BE LOADED WITH AN ANALOG WIRE AND A SHIELDED SIGNAL WIRE.
  2. CONDUIT #2 WILL BE LOADED WITH FIVE 14GA WIRES, ONE 12GA WIRE, THREE SHIELDED SIGNAL WIRES AND THREE COMMON CABLES CAPABLE OF COMMUNICATING WITH THE PONY PUMP CONTROLLER.
  3. CONDUIT #3 WILL BE LOADED WITH TWO #12 AWG BATTERY CABLES LEAVING ENOUGH EXCESSES FOR JEA TO CONNECT AT A LATTER TIME.
  4. CONDUIT #4 WILL BE LOADED WITH WIRING TO ACCOMMODATE THE AUTOMATIC OPERATION OF THE PONY PUMP UTILIZING FLOAT SWITCHES IN THE WET WELL.
  5. CONDUIT #5 WILL NE LOAD WITH PROFINET CALBE AND TWO 12AWG WIRES.
  6. CONDUIT #6 WILL BE LOADED WITH WIRES TO PROVIDE TWO 120V FEEDS.
  7. SIZES ARE PROVIDED AS A GUIDELINE AND SHOULD BE ADJUSTED AS REQUIRED TO MEET CODES AND ANY OTHER STANDARDS.



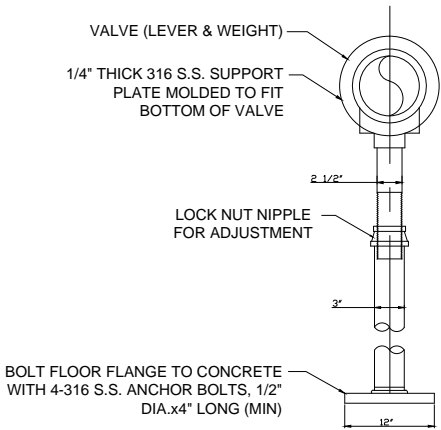
MULTIPLE CONDUIT RUN

GENERAL ABOVE GROUND CONDUIT RUN  
SHOWING COUPLING AND CONNECTOR

- CONDUIT NOTES:
1. UNDERGROUND CONDUIT SCHEDULE 80 PVC 1.5" MIN.
  2. CONDUIT ABOVE GROUND TO CABINETS SCHEDULE 80 PVC NEMA TC-2 SUNLIGHT RESISTANT 1.5" MIN.
  3. UNDERGROUND PVC COUPLED TO ABOVE GROUND PVC WITH A PVC COUPLING. MANUFACTURER: CARLON
  4. ABOVE GROUND PVC CONNECTED TO RTU AND MCC USING A PVC CONNECTOR.
  5. BACK FILL SOIL TO EXISTING GRADE (IF TRENCHING UNDER CONCRETE SLAB MUST BACK FILL WITH COMPACTED SUBGRADE UNDER CONCRETE SLAB, 95% MAX. DENSITY).
  6. REPAIR CONCRETE SLAB TO MATCH EXISTING SLAB THICKNESS.

ABOVE AND UNDERGROUND ELECTRICAL RACEWAY DETAILS

NOT TO SCALE



VALVE/PIPE SUPPORT DETAIL

NOT TO SCALE

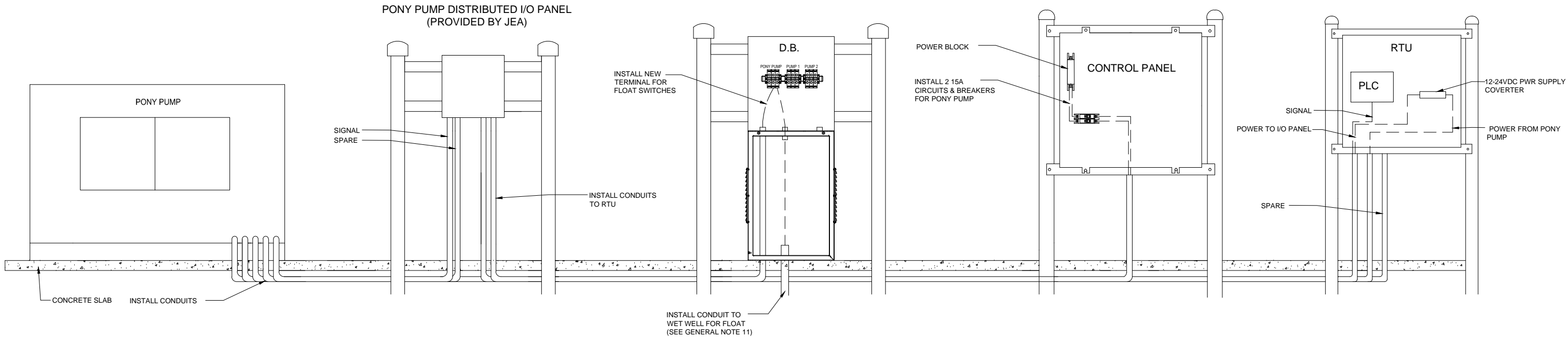
- NOTES:
1. ALL SUPPORT MATERIALS SHALL BE 316 S.S. AFTER FINAL HEIGHT ADJUSTMENT.
  2. FOR FORCE MAINS LARGER THAN 10" SIZE, THE COMPONENTS OF THE VALVE SUPPORT SHALL BE ENLARGED AS APPROVED BY JEA.
  3. THERE SHALL BE TWO PIPE STANDS FOR THE SUCTION PIPE AND TWO PIPE STANDS FOR THE DISCHARGE PIPE FOR A TOTAL OF FOUR PIPE STANDS. COORDINATE WITH THE GRID COORDINATOR ON THE EXACT LOCATION OF EACH PIPE STAND.
  4. PROVIDE A 1'X1'X1' CONCRETE PAD TO SECURE THE PIPE SUPPORT TO UNLESS THERE IS AN EXISTING CONCRETE PAD THAT CAN BE UTILIZED.

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH SPECIFICATIONS, SECTION 433, "SUBMERSIBLE SEWAGE PUMPING STATIONS" IN JEA WATER AND SEWER STANDARDS MANUAL..
2. ALL VALVES AND FITTINGS TO BE DUCTILE IRON AND LINED IN ACCORDANCE WITH JEA'S CURRENT STANDARD SPECIFICATION FOR FORCE MAIN FITTINGS AND VALVES.
3. PENETRATIONS INTO WET WELL SHALL BE SEALED w/ EUCOLASTIC BY EUCLID CITEM CO. OR APPROVED EQUAL SEAL.
4. ALL PIPING SHALL BE FLANGED 316 STAINLESS STEEL, (SCHEDULE 10, ONE PIECE CONSTRUCTION). BUTT WELDING OF PIPING IS NOT ALLOWED. ALL NUTS, BOLTS AND ACCESSORIES WITHIN THE WET WELL SHALL BE 316 STAINLESS STEEL.
5. FLOAT, SCADA AND CHARGING CONDUITS TO ENTER PONY PUMP ENCLOSURE AS SPECIFIED BY PUMP MANUFACTURER. COORDINATE WITH JEA GRID COORDINATOR FOR CONNECTION OF CONDUITS TO EXISTING CONTROL PANEL.
6. FLOAT CONDUIT TO CONTAIN FLOAT WIRES CONNECTING FLOATS IN WET WELL TO PONY PUMP.
7. SCADA CONDUIT TO CONTAIN DATA WIRE FROM PONY TO CONTROL PANEL INDICATING RUN/STOP DATA.
8. CHARGING CONDUIT TO CONTAIN CABLES CAPABLE OF CHARGING SCADA BATTERY IN CONTROL PANEL.
9. PONY PUMP TO BE EQUIPPED WITH ALTERNATOR CAPABLE OF CHARGING BOTH PONY PUMP AND SCADA BATTERY.
10. PONY PUMP SHALL BE EQUIPPED WITH A MAGNETIC CHECK VALE WITH LIMIT SWITCH TO INDICATE THAT THE CHECK VALVE IS CLOSED. THE LIMIT SWITCH SHALL BE MANUFACTURED BY GO SWITCH LIMIT SWITCH AND BE MODEL #1.
11. IF THE EXISTING CONCRETE SLAB IS OF SUFFICIENT THICKNESS TO MEETS THE PONY PUMP MANUFACTURE'S REQUIREMENTS, THEN THE PONY PUMP SHALL BE INSTALLED ON THE EXISTING SLAB. IF NOT, THEN THE EXISTING SLAB SHALL BE CUT TO THE REQUIRED DIMENSION OF THE NEW PAD AND A NEW CONCRETE PAD POURED IN PLACE. UNLESS SPECIFIED OTHERWISE, OR APPROVED BY JEA, THE FINISHED GRADE OF THE NEW PAD SHALL MATCH THE GRADE OF THE EXISTING SURROUNDING CONCRETE.
12. PONY PUMP SYSTEM SHALL BE SECURED TO THE RESPECTIVE CONCRETE FOUNDATIONS PER PUMP MANUFACTURERS REQUIREMENTS.
13. ALL DRAIN PORTS FROM THE PONY PUMP SHALL BE PIPED THROUGH A SINGLE PIPE INTO THE WET WELL.THE PIP SHALL BE SIZED BY THE PUMP MANUFACTURER AND SHALL BE NO LESS THAN 1" SCHEDULE 40 PVC.WHERE INSTALLED IN NO-CONCRETE AREAS, THE PIPE SHALL BE BURIED AND CORED INTO THE SIDE OF THE WET WELL. WHERE AN EXISTING CONCRETE SLAB PREVENTS BURYING THE DRAIN PIPE, THE PIPE SHALL BE LAID ON, AND SECURED TO, THE CONCRETE SLAB.THE ROUTE THE PIPE SHALL BE UNDER AND FOLLOWING THE SUCTION PIPING TO AVOID CREATING A TRIP HAZARD AND SHALL ENTER THE TOP SLAB OF THE WET WELL.WHEN A CORE IS REQUIRED FOR THE SUCTION PIPE, CORE A LARGE ENOUGH HOLE TO ACCOMMODATE THE DRAIN AS WELL.WHERE A SUCTION PIPE ALREADY EXISTS, CORE A NEW HOLE INTO THE TOP SLAB AS CLOSE AS POSSIBLE TO THE EXISTING SUCTION PIPE AND REPAIR THE HOLE AS IN INDICATED ON THE DESIGN DRAWINGS.
14. ALL CONDUITS COMING FROM THE WET WELL TO BE SEAL WITH DUCT SEAL.
15. WET WELL CORES OF EXISTING LININGS TO BE REPAIRED BY OTHER.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ANY BYPASS PUMPING AND DISPOSAL WHICH MAY BE REQUIRED DURING THE PROJECT.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING THE FUEL TANK ON THE PONY PUMP.
18. ALL PANELS THAT WILL BE INSTALLED OVER CONCRETE SHALL CORE BORE HOLES INTO THE CONCRETE UNLESS NEAR THE EDGE OF THE SLAB THEN CUTTING A SQUARE OUT AND REPLACING WITH NEW CONCRETE IS ACCEPTABLE.

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## PONY PUMP WIRING

NOT TO SCALE

- CONDUIT NOTES:
- COORDINATE WITH THE GRID COORDINATOR ON WIRING POWER, NEUTRAL, GROUND AND CHARGE. (PHILIP MALTESE 9046654337)
  - PONY PUMP DISTRIBUTED I/O PANEL WILL BE PROVIDED BY JEA WITH AN ELECTRICAL SCHEMATIC
  - CONVERTER WILL BE INSTALLED BY OTHERS. CONTRACTOR WILL INSTALL WIRES FOR IT AND HAVE THEM TERMINATED IN THE PANEL.

# ELECTRICAL SHEET

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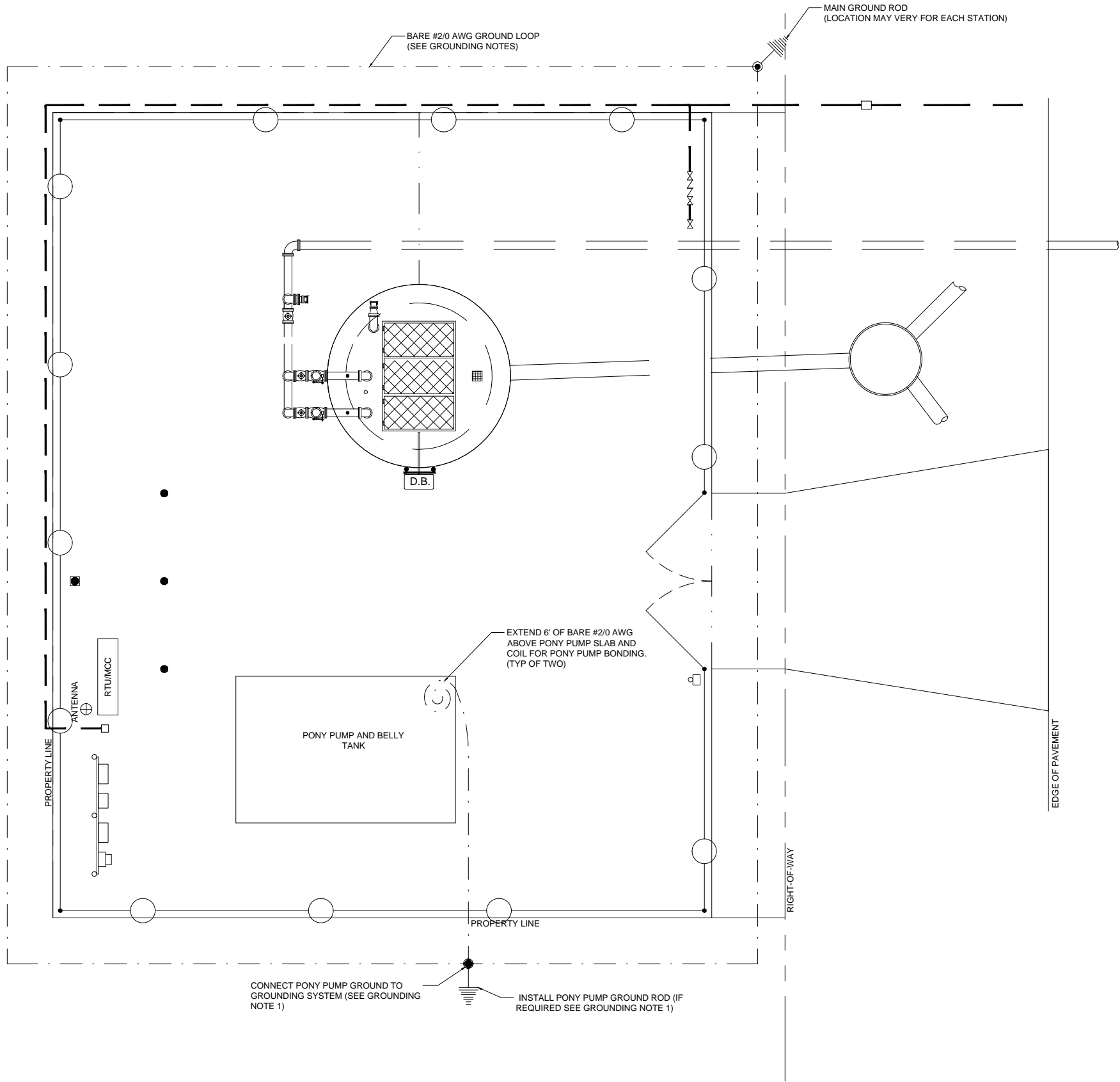
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DESIGNER:	LLOYD HENRY	DESIGN ENGINEER
DRAWN BY:	LLOYD HENRY	
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GROUNDING NOTES

1. PROVIDE A COMPLETE ELECTRICAL GROUNDING SYSTEM WITH A MEASURED GROUND RESISTANCE OF 10 OHMS OR LESS. IF THE STATION IS EQUIPPED WITH A GROUNDING SYSTEM OF 10 OHMS OR LESS THEN CONNECT PONY PUMP GROUNDING INTO THE EXISTING SYSTEM.
2. GROUNDING COMPONENTS AND MATERIALS SHALL BE NEW AND UNDAMAGED.
3. INSULATED GROUND CONDUCTOR SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONFORMING TO THE REQUIREMENTS OF UL 83. INSULATED GROUND CONDUCTOR SHALL BE TYPE TW OR THW, AND GREEN COLORED INSULATION. MINIMUM SIZE FOR INSULATED GROUND CONDUCTORS, REGARDLESS OF APPLICATION SHALL BE #12 AWG.
4. BURIED GROUND LOOP CONDUCTORS
  - 4.1. GROUND LOOP CONDUCTOR SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED STRANDED COPPER CONDUCTOR UNLESS OTHERWISE NOTED.
  - 4.2. BARE GROUND CONDUCTORS BELOW GRADE, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES COVER FROM FINISHED GRADE. BARE GROUND CONDUCTORS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 6 INCHES OF EARTH COVER BETWEEN THE TOP OF CONDUCTOR CONDUCTOR AND THE FOUNDATION OR SLAB.
  - 4.3. BARE GROUND CONDUCTORS THAT PENETRATE THROUGH EXPOSED SLABS OR WET WELL WALL, SHALL DO SO THROUGH A 3/4" x 12" (MIN), SCHED 40 PVC SLEEVE, WITH GROUND WIRE CENTERED IN SLEEVE, FILL TOP OF SLEEVE ALL WIRES PROTRUDING TO THE SURFACE SHALL BE TIN PLATED.
  - 4.4. BARE GROUND CONDUCTOR SHALL BE DIRECTLY BURIED IN EARTH; TO WITHIN 24 TO 36 INCHES FROM BASE OF STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.
5. GROUND RODS
  - 5.1. SHALL BE COPPER CLAD MIN 13MIL, COLD DRAWN CARBON STEEL MANUFACTURED IN ACCORDANCE WITH UL 467, WITH THE COPPER CLADDING BONDED TO THE STEEL ROD BY ELECTROLYTIC, OR MOLTEN WELDING PROCESS. GROUND RODS SHALL HAVE A CONICAL TAPER ON PENETRATING END. EACH GROUND ROD SHALL BE 10-FOOT BY 3/4 INCH DIAMETER SECTIONS.
  - 5.2. THERE SHALL BE A MINIMUM OF 2 GROUND RODS THAT SHALL BE DRIVEN TO A MINIMUM OF 60FT EACH. IF GROUND RODS ARE UNABLE TO BE DRIVEN 60FT OR 10 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MUST BE DRIVEN TILL THE 10 OHMS IS REACHED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN IN A CORNER THAT DOESN'T HAVE A ROD.
  - 5.3. GROUND RODS SHALL BE CONNECTED BY COMPRESSION COUPLINGS, SCREW COUPLINGS WILL NOT BE ACCEPTED.
6. GROUNDING SYSTEM HARDWARE
  - 6.1. GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED COPPER.
  - 6.2. SPLICES, JOINTS, AND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC OR IRREVERSIBLE COMPRESSION TYPE. THREADED OR BOLTED COUPLINGS ARE NOT ACCEPTABLE EXCEPT WHERE NOTED IN GROUNDING DETAILS.
  - 6.3. PREPARE CONDUCTORS AND CONNECTORS PER MANUFACTURERS REQUIREMENTS. REMAKE CONNECTIONS THAT FAIL MANUFACTURER'S RECOMMENDED TESTS.
  - 6.4. GROUNDING CONNECTIONS SHALL ENCOMPASS 100 PERCENT OF THE GROUND CONDUCTOR AND CONDUCTOR ENDS.
  - 6.5. GROUND LUGS SHALL BE SINGLE OR TWO-HOLE, HEAVY-DUTY, TIN PLATED COPPER BARS CONFORMING TO THE REQUIREMENTS OF IEEE 837 AND UL 467. TWO-HOLE GROUND LUGS SHALL HAVE NEMA CENTERLINE HOLE SPACING. GROUND LUGS USING AN EXOTHERMIC PROCESS SHALL BE SIMILAR TO TYPE LA AS MANUFACTURED BY ERICO.
  - 6.6. MAKE CABLE CONNECTIONS TO BUS BARS USING HIGH-COMPRESSION LUGS. GROUND LUGS USED WITH THE COMPRESSION PROCESS SHALL BE TYPE YGHA AS MANUFACTURED BY BURNDY ELECTRICAL
7. GROUNDING BY USE OF ANCHOR BOLTS, AGAINST GASKETS, ON PAINTED OR VARNISHED SURFACES, OR ON BOLTS HOLDING REMOVABLE ACCESS COVERS WILL NOT BE ACCEPTABLE.
8. GROUND RESISTANCE SHALL BE CERTIFIED BY AN INDEPENDENT GROUNDING SYSTEM TESTING ORGANIZATION. TESTING SHALL BE DONE AT EACH TEST WELL USING THE 3-POINT FALL OF POTENTIAL METHOD. THIS DOCUMENT MUST BE SUBMITTED AT THE TIME OF STARTUP FOR FINAL ACCEPTANCE.
9. NO CHEMICALS SHALL BE USED TO REDUCE THE RESISTANCE UNLESS APPROVED BY JEA.
10. A MINIMUM OF 10 OHMS OF SHALL BE GUARANTEED BY THE CONTRACTOR FOR 3 YEARS FROM THE SITES ACCEPTANCE. IF THE RESISTANCE FAILS IN THIS TIME THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDING ADDITIONAL GROUND RODS AT THE CONTRACTORS EXPENSE.

PONY PUMP GROUNDING SITE PLAN

NOT TO SCALE

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ADDENDUM



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