CITY OF ANN ARBOR, MICHIGAN
MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS
AND TANK COATING PROJECT

PROJECT LOCATION: CITY OF ANN ARBOR
2011 MANCHESTER RD
ANN ARBOR, MI 48104

CONTRACT NO. 1 - ITB #: 4399, FILE #: 16001
CONTRACT NO. 2 - ITB #: 4400, FILE #: 16002

THIS PROJECT IS DIVIDED INTO TWO (2) CONTRACTS:
CONTRACT NO. 1 - MECHANICAL, ELECTRICAL AND MISCELLANEOUS WORK
CONTRACT NO. 2 - TANK COATING, ART PAINTING, METAL REPAIRS AND MISCELLANEOUS WORK

ISSUED:
AUGUST 6, 2015 - ISSUED FOR BIDS
NOTES:
1. ALL LOCATIONS AND DIMENSIONS OF EXISTING FEATURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY SITE CONDITIONS AND EXISTING FEATURES PRIOR TO COMMENCING WORK.

2. MAINTAIN PROTECTION OF TREES AND TELECOMMUNICATION MONOPOLES AS ESTABLISHED IN CONTRACT NO. 1 IN ACCORDANCE WITH ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.

3. ADDITIONAL CABLES WILL BE RUN TO DTE PROPERTY DURING CONSTRUCTION AND ARE NOT CURRENTLY SHOWN.

CONTRACT NO. 1

WORK TO BE PERFORMED UNDER THIS CONTRACT IS Subject TO MICHIGAN DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND CONTRACT NO. 1.

CONTRACT NO. 2

CONTRACT NO. 2

NOTES:
1. ALL LOCATIONS AND DIMENSIONS OF EXISTING FEATURES SHOWN ON THE DRAWINGS ARE APPROXIMATE. FIELD VERIFY SITE CONDITIONS AND EXISTING FEATURES PRIOR TO COMMENCING WORK.

2. MAINTAIN PROTECTION OF TREES AND TELECOMMUNICATION MONOPOLES AS ESTABLISHED IN CONTRACT NO. 1 IN ACCORDANCE WITH ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.

3. ADDITIONAL CABLES WILL BE RUN TO DTE PROPERTY DURING CONSTRUCTION AND ARE NOT CURRENTLY SHOWN.

ALL REFERENCE INFORMATION AND WORK SHOWN ON THIS SHEET SHALL BE CONSIDERED APPLICABLE TO BOTH CONTRACTS UNDER THE MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS AND TANK COATING PROJECT UNLESS NOTED OTHERWISE.
1. THE DRY INTERIOR IS TO BE REPAINTED INCLUDING THE FILL PIPE, AS PART OF CONTRACT NO. 2.
2. ALL PIT PIPING AND VALVES ARE TO BE PAINTED AS PART OF CONTRACT NO. 2.
3. THE TANK EXTERIOR IS TO BE REPAINTED AS PART OF CONTRACT NO. 2.
4. THIS DRAWING IS FOR REFERENCE ONLY. ORIENTATION OF ITEMS MAY VARY.
5. SEE SPECIFICATION SECTION 05 00 00 FOR DETAILS ON IMPROVEMENTS ASSOCIATED WITH BOTH CONTRACTS OF THE MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS AND TANK COATING PROJECT.
FIELD VERIFY 6"

FIELD VERIFY (E) CONCRETE SLAB (VERIFY SLAB IS 8" THICK MINIMUM PRIOR TO ANCHOR INSTALLATION)

(E) CONCRETE SLAB APPLY BONDING AGENT

#4 @ 12" O.C.

E.W. CENTR'D IN (N) CONCRETE

3" CLR

#4x0'-6" ADHESIVE ANCHORS,

3" EMBED INTO EXIST CONC SLAB @ 12" O.C. E.W.

1. CONSTRUCTION SIGN SHALL BE BAKED ENAMEL ALUMINUM SHEET LAMINATED ONTO 2 SIDES OF A TRUSS TYPE CORRUGATED SHEET OF POLYMER CORE.
2. CONSTRUCTION SIGN COLORS SHALL MATCH SIMILAR SIGNS USED AT OTHER CITY OF ANN ARBOR SITES.
3. LETTERING SHALL BE DIE CUT VINYL LAMINATED ONTO THE PANEL. VINYL SHALL BE SUITABLE FOR EXTERIOR APPLICATIONS.
4. COLORS SHALL BE AS SHOWN.
5. 1 EACH OF SIGN, LOCATION TO BE DETERMINED IN FIELD.
1. REMOVE EXISTING WOODEN PLATFORM PLANKS AND WOODEN WALKWAY FROM DOOR TO PIT.
2. PLACE SAND FILL TO APPROXIMATELY 2 INCHES BELOW TOP OF TANK RINGWALL. SAND FILL MATERIAL SHALL BE MDOT CLASS II GRANULAR MATERIAL, MODIFIED TO ALLOW 100% PASSING 2-INCH SIEVE. MATERIAL SHALL BE UNIFORMLY SPREAD AND COMPACTED BY OTHER ENGINEER-APPROVED METHOD TO MINIMUM 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D 1557.
3. REMOVE EXISTING MASONRY BLOCK AND CONCRETE OVERFLOW CHANNEL TO FULL EXTENT. PROTECT EXISTING CATCH BASIN AND MAKE REPAIRS AS REQUIRED DURING CHANNEL CONSTRUCTION.
4. PROTECT SUPPORT POLES, EQUIPMENT AND STRUCTURES SURROUNDING OVERFLOW CHANNEL. ANY DAMAGE TO EXISTING POLES, EQUIPMENT OR STRUCTURES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. TEMPORARILY RELOCATE EXISTING WALKWAY AND REINSTALL AFTER WORK TO CONCRETE CHANNEL IS COMPLETE.
6. SEED AND MULCH IN ACCORDANCE WITH THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS, DIVISION VIII - LANDSCAPING AND RESTORATION. PROVIDE STRAW MULCH BLANKETS WITH NETTING THAT WILL DEGRADE. LOOSELY APPLIED STRAW SHALL NOT BE USED.
7. OVERFLOW CHANNEL TO BE REPLACED AT SAME DEPTH AND LAYOUT AS EXISTING. CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND SUBMIT DESIGN FOR APPROVAL PRIOR TO INSTALLATION.
WATER TOWER DEMOLITION PIPING PLAN

SCALE: 3/8"=1'

REMOVE EXISTING PIPE AND VALVES TO EXTENT SHOWN

REUSE EXISTING CONCRETE PIPE SUPPORT, GROUT NEW FITTING AS NECESSARY

REMOVE RISER PIPE UP TO EXISTING EXPANSION JOINT.

WORK TO BE COMPLETED UNDER CONTRACT NO. 2

SCALE: 3/8"=1'

SECTION A

MANCHESTER TANK MISC IMPROVEMENTS AND TANK COATING PROJECT

710 Avis Drive, Suite 100
Ann Arbor, MI 48106
Tel 734-665-6000, Fax 734-213-3003

8/06/15 ISSUED FOR BIDS
NOTES:

1. SUMP PUMP DISCHARGE PIPING CONFIGURATION SHALL BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER. PROVIDE POSITIVE SLOPE FROM HIGH POINT ABOVE PIT TO DISCHARGE ABOVE OVERFLOW CHANNEL. ENSURE PIPING DISCHARGES ABOVE SPLASH PAD/OVERFLOW CHANNEL. COORDINATE CONFIGURATION OF PIPE SUPPORT AS SHOWN ON S-101 WITH PROPOSED PIPE CONFIGURATION.

2. SUMP PUMP DISCHARGE PIPING SHALL BE SCHEDULE 80 PVC PROVIDE TRUE UNION AT SUMP PUMP DISCHARGE.

3. INSTALL 2-INCH DRAIN AND CORPORATION STOP/VALVE OFF 16" MAIN. ROUTE TO SUMP. ABANDON AND CAP EXISTING DRAIN.

4. ALL PIPING TO BE PAINTED IN ACCORDANCE WITH DIVISION 9 SPECIFICATIONS.

5. REPLACE ALL FLANGE BOLTS ON EXISTING PIPE AND FITTINGS REMAINING.

6. SUPPORT EXISTING RISER PIPE DURING DEMOLITION AND INSTALLATION OF NEW PIPING.

7. OWNER TO OPERATE ALL VALVES.

WATER TOWER PROPOSED PIPING PLAN
SCALE: 3/8"=1'
DETERMINE PIPE SIZE AND DISTANCE BETWEEN THE EXISTING FLANGES
STAINLESS STEEL BELLOWS WITH FLANGED ENDS
INSTALL 1/8" RUBBER GASKET MATERIAL BETWEEN STAINLESS STEEL FLANGE AND STEEL FLANGE, TYPICAL OF 2 1/16" FLAPGATE SCREEN 3/8" PVC SPACER (6) STAINLESS STEEL F.H. BOLTS W/NUTS & WASHERS OVERFLOW FLANGE 1/4" F.H. STAINLESS STEEL BOLTS VIEW B 1/4" STEEL PLATE OVERFLOW PIPE ISO VIEW SECTION AA

NOTES:
1. COUPLING IS TO BE 2 1/2" LONG SCH. 40 MALE THREADED LENGTH AS REQUIRED SLOPED TO OVERFLOW.
2. DRAIN PIPING IS TO BE 2.5"Ø SCH. 40 MALE THREADED LENGTH AS REQUIRED SLOPED TO OVERFLOW.
3. MUD VALVE IS TO BE LOCATED IN FIELD BY ENGINEER.
4. THREADED CONNECTIONS ARE TO BE SEALED WITH TEFLOP TAPE ON ASSEMBLY.
5. MUD VALVE IS TO BE WATER COOLED DRAIN VALVE, W/ 3"Ø DRAW AND 2.5"Ø DISCHARGE.
6. THREADED CONNECTIONS ARE TO BE SEALED WITH TEFLOP TAPE ON ASSEMBLY.
7. MUD VALVE IS TO BE LOCATED IN FIELD BY ENGINEER.
8. VALVE AND PIPING IS NOT TO INTERFERE WITH LADDER ACCESSIBILITY.
9. DRAIN PIPING TO BE HOSE ATTACHED TO THE STEEL COUPLING.
10. SUPPLY A 1 5/16" S.S. WRENCH FOR MUD VALVE OPERATION, ATTACH TO MUD VALVE WITH S.S. CHAIN AND CLASP FOR EASY REMOVAL. NO "HOME-MADE" WRENCHES WILL BE ACCEPTED.
11. PAINT ALL NEW WORK PER SPECIFICATIONS. REPAIR WET INTERIOR COATING AS REQUIRED PER SPECIFICATION SECTION 05 00 00.

CONTRACTOR TO VERIFY OVERFLOW PIPE SIZE IS 8"Ø PRIOR TO CONSTRUCTION.

SCALE: NONE
8" OVERFLOW FLAPGATE
SCALE: NONE
MUD VALVE
SCALE: NONE

EXPANSION JOINT REPLACEMENT
SCALE: NONE

8" OVERFLOW FLAPGATE
SCALE: NONE

2.5"Ø HOSE, FIELD DETERMINE PIPE SIZE AND DISTANCE REQUIRED
2.5"Ø S.S. BARBED FITTING TYP. OF (2) EXISTING OVERFLOW PIPE. CUT HOSE TO ACCEPT MUD VALVE BARB.
30" ACCESS TUBE HATCH

MODIFICATIONS TOP PLATFORM

DETAILS TOP PLATFORM

SECTION A-A

SECTION B-B

TYPICAL RAILING SECTION

NOTES:
1. MANWAY ORIENTATION TO BE DETERMINED BY THE ENGINEER.
2. INSTALL A COVER STOP SO THE HATCH CAN OPEN NO MORE THAN 135°.
3. INSTALL A HATCH HANDLE FOR DEEP ALUMINUM BOTTOM SIDE OF HATCH
4. FILL PIPE EXISTING ANGLE 5/8"Ø x 3" x 6"
5. HANDRAIL SUPPORT
6. STEEL HAND HOLD, LOCATE 5/8"Ø x 3" x 6" x 3"
7. INSTALL A COVER PLATE AND 1/4" x 2" x 4" COVER PLATE AND ROUND-OFF 1/4" x 2" x 4" THE EXISTING CORNERS
8. STEEL NECK 4" Ø x 1/4" STEEL PLATE 3/16" HINGE PLATE 3/16"
9. CUT OFF THE KICKPLATE 3" FULL FILLET.
10. ALL OTHER TUBE 1/4" RADIUS
11. ADJUST MEASURES TO FIT
12. FILL PIPE EXISTING TUBE 3" Ø RUNGER 8" 3" SPACING BETWEEN RUNGERS. PROVIDE ADEQUATE CLEARANCE FOR OPENING CONSTRUCTION 14." VERTICAL (TYP. OF 3) USES SUPPORT FOR THE EXISTING PLATFORM. NEW 2" X 2" X (TYP. OF 2) PLATFORM LADDER OPENING NOT SHOWN. DETAIL SHOWN IS SHOWN TO CREATE A FLUSH SURFACE FOR THE PLATFORM FLOOR.
13. MODIFICATIONS TOP PLATFORM
14. EXISTING PLATFORM LADDER OPENING NOT SHOWN. DETAIL SHOWN IS SHOWN TO CREATE A FLUSH SURFACE FOR THE PLATFORM FLOOR.
COORDINATE WITH THE UTILITY COMPANY TO TEMPORARILY DISCONNECT POWER TO THE WATER TOWER. TEMPORARILY REMOVE ELECTRICAL METER INSIDE THE TOWER. TEMPORARILY REMOVE OVERHEAD CONDUCTORS AND SUPPORTING EQUIPMENT AT THE WATER TOWER. REINSTALL REMOVED EQUIPMENT ONCE THE PAINTING IS COMPLETE.

CONTRACTOR TO PROVIDE PERIODIC Dewatering OF SUMP AREA, WHILE POWER IS OFF TO SITE. CONTRACTOR TO ALSO SECURE SITE WHILE POWER AND SECURITY SYSTEM IS DOWN.

CO-OWNER: TETRA TECH
MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS AND TANK COATING PROJECT - CONTRACT NO. 1.
NOTES:
1. INSTALL SPARE 3#12 WIRE IN EACH LIGHTING AND POWER CONDUIT (FOR FUTURE USE)

ELEVATED STORAGE TANK LEVEL SENSOR ENCLOSURE
3/4" 316 SST TUBING

NEW SWITCHES

GROUNDING BAR (INSTALL GROUNDING BAR)

GFCI WITH WEATHER PROOF COVER (TYPICAL)
NEMA 12
NEMA 4

EXISTING LIGHT FIXTURE

HEAT TRACE

CONTROLLER

3/4"C (3#12)
MOUNT NEAR LADDER

LP-1 (8)
3/4"C (3#12)

LP-1 (9)
3/4"C (3#12)

LP-1 (8)
3/4"C (3#12)

LP-1 (10)
3/4"C (3#12)

LP-1 (11)
3/4"C (3#12)

MOUNT NEAR LADDER

LP-1 (11)
3/4"C (3#12) MOUNT NEAR LADDER

LP-1 (11)
3/4"C (3#12) MOUNT NEAR LADDER

LP-1 (11)
3/4"C (3#12) MOUNT NEAR LADDER

NOTES:
1. INSTALL SPARE 3#12 WIRE IN EACH LIGHTING AND POWER CONDUIT (FOR FUTURE USE)
NOTES:
1. PROGRAMMING OF CP-1 IS PART OF THE CONTRACTORS SCOPE OF WORK. (WORK WITH THE OWNER TO IDENTIFY ADDRESS REQUIREMENTS AND ANY PROGRAMMING REQUIREMENTS)
2. CONNECTING CP-1 TO SSMP-MT IS PART OF THE CONTRACTORS SCOPE OF WORK.
3. CONFIGURING SSMP-MT, CONFIGURING PLANT NETWORK, AND CONFIGURING PLANT'S SCADA SYSTEM IS BY OWNER.

CONNECT NEW SENSING LINE TO EXISTING PROCESS CONNECTION ON RISER PIPE.

CONNECT POINT ON RISER PIPE
**POWER CONNECTION**
- Heater Cable TB
- 3/4" TO ADDITIONAL HEATING CABLE TB AS REQUIRED

**FIBERGLASS TAPE**
- Insulation
- TEE SPLICE UNDER INSULATION
- IN-LINE SPLICE UNDER INSULATION

**INSULATION**
- AMBIENT TEMP. (°C):
- PIPE TEMP. (°C):
- RECORD 1: PRIOR TO INSTALLATION
- RECORD 2: AFTER CABLE INSTALLATION
- RECORD 3: AFTER THERMAL INSULATION IS INSTALLED
- RECORD 4: FINAL COMMISSIONING

**HEATER CABLE LOOP**
- MEGGER TESTING

**MEGGER TESTING**
- (FOR HEATER CABLE WITH BRAID)
- TEST FROM HEATING CABLE BUS WIRES TO BRAID
- TEST SHOULD USE AT LEAST A 500 VDC MEGGER. DO NOT USE A MEGGER WITH AN EXCESS OF 2500 VDC MINIMUM
- ACCEPTABLE READINGS SHOULD BE 20 MEGOHMS PER CIRCUIT, REGARDLESS OF LENGTH.
- A RECORD SHOULD BE KEPT OF THE READINGS TAKEN FROM THE TIME THE CABLE IS FIRST INSTALLED ON THE PIPE.

**HEATER CABLE**
- LOOP
- END SEALS
- POWER ON/OFF CONTROLLER

**IN-LINE SPLICE UNDER INSULATION**
- AMBIENT SENSE BULB

**CONTROL CIRCUIT**
- THERMOSTAT

**SELF-REGULATING**
- Contactor
- Power Supply
- Control Circuit

**HEAT GENERATING MATRIX**
- BUSS WIRE

**POWER CONNECTION**
- 3/4" TO POWER SOURCE
- 3/4" TO ADDITIONAL HEATING CABLE TB AS REQUIRED

**WARNING**
- ELECTRIC HEAT TRACING
- NO WORK SHOWN ON THIS SHEET SHALL BE COMPLETED UNDER THE MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS AND TANK COATING PROJECT - CONTRACT NO. 1.

**TYPICAL HEATER CIRCUIT**
- Wiring Diagram Scale: 1'-0"=1"-0"

**TYPICAL INSTALLATION OVERVIEW**
- Testing Diagram Scale: 1'-0"=1"-0"

**TELEMETRY & DATA LOGGING**
- High-Low Monitoring
- 400°F-250°F TO ANNUNCIATOR

**CAPILLARY & BULBS - 2 REQ'D.**
- SECURELY BANDED TO PIPE

**TYPICAL NEMA 4 ENCL. ADJUSTABLE HIGH-LOW MONITORING THERMOSTATS FOR TRACE HEATED PIPES, U-BOLT MOUNTED FOR LARGE PIPES, SEPARATELY MOUNT TO SUPPORTING FRAME FOR SMALLER PIPES.

**HEAT TRACED PIPE**
- Heat Label

**HEAT TRACING**
- WARNING: SYSTEM MUST BE INSTALLED AND MAINTAINED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
- FOLLOW ELECTRICAL LOCKOUT PROCEDURES BEFORE WORKING ON THIS LINE OR REMOVING THERMAL INSULATION.

**HEAT TRACE PANEL**
- Logical Diagram for Heat Trace Panel

**RECORDS**
- 1. PLACE LABEL EVERY TEN (10) FEET.
**HEATER CABLE INSTALLATION**

**SCALE:** ?"=1'-0"

- **INFORMATION:**
  - **TERMINAL BLOCK**
  - **POWER TERMINATION**
  - **GROUND LOCKNUT**
  - **3/4" FLEX CONDUIT**
  - **3/4" CONDUIT & DRAIN**
  - **SILICONE BOX COVER GASKET**
  - **BOX COVER**
  - **LABEL**
  - **JUNCTION BOX (WATER TIGHT)**
  - **HEATER CABLE**
  - **CONDUIT LOCKNUT**
  - **GASKET**
  - **BOX ADAPTER**
  - **SEALING GROMMET**
  - **STAND-OFF**
  - **END SEAL**
  - **HEATER CABLE; BRAID OPTIONAL** (SEE WARNINGS)
  - **PIPE CLAMPS**
  - **INSULATED GROUND WIRE** (FOR BRAIDED HEATER CABLES ONLY: CONNECT GROUND BRAID USING THE UN-INSULATED SPLICE CONNECTOR.)

**NOTES:**
1. **ARTICLE 427 OF THE NATIONAL ELECTRIC CODE REQUIRES THAT ALL HEATERS SHALL HAVE METAL COVERINGS AND BE PROVIDED WITH BRANCH CIRCUIT GROUND-FAULT PROTECTION.**
2. **IF NUISANCE TRIPPING OF GROUND FAULT BREAKERS OCCURS DUE TO CONDENSATION IN THE JUNCTION BOX, ELECTRICAL CONNECTIONS SHOULD BE MOISTURE PROOFED BY USE OF A COATING OR SEALANT.**

**STRAIGHT TRACING NOTES:**
1. WHEN STRAIGHT TRACING IS USED, INSTALL THE HEATER CABLE ON THE LOWER QUADRANT OF THE PIPE. THIS HELPS PREVENT PHYSICAL DAMAGE TO THE HEATER CABLE FROM FALLING OBJECTS AND BEING WALKED ON.
2. **ALTERNATIVE LOCATION IS THE 2 AND 10 O'CLOCK POSITION**
3. **SECURE PIPE AT 12" INTERVALS WITH FIBERGLASS TAPE.**

**HEATER CABLE WRAP**

**PIPE CLAMPS**

**FIBERGLASS TAPE**

**STAND-OFF**

**SEALING GROMMET**

**BOX ADAPTER**

**POWER TERMINATION**

**END SEAL**

**HEATER CABLE**

**BRAIDED CABLE**

**VALVE (MAY VARY FOR DIFFERENT VALVE SHAPES)**

**PIERCE POINT**

**FLANGE**

**HEATER CABLE**

**BAR HANGER**

**PIPE SHOE SUPPORT**

**HANGER SUPPORT**

**TYPICAL HEATER CABLE INSTALLATION**

**STAND-OFF INSTALLATION**

**PIPE**

**INSULATION**

**SENSORS**

**HEATING CABLE (4 OR 8 O'CLOCK POSITION)**

**MULTIPLE STRAIGHT RUNS (TYPE 1)**

**POWER CONNECTION BOX**

**BRAIDED CABLE**

**FLANGE**

**HEATER CABLE**

**FIBERGLASS TAPE**

**BAR HANGER**

**HEATER CABLE**

**HEATER CABLE** SHOULD BE POSITIONED ON THE OUTSIDE RADIUS OF ALL ELBOWS ON 50MM (2") DIAMETER PIPES & LARGER.

**NOTES:**
1. **DO NOT PLACE PIPE CLAMPS OVER THE HEATER CABLE.**
2. **RECOMMEND INSTALLING AT THE 4 OR 8 O'CLOCK POSITIONS.**

**STAND-OFF INSTALLATION**

**PIPE**

**FIBERGLASS TAPE**

**STAND-OFF**

**SEALING GROMMET**

**BOX ADAPTER**

**POWER TERMINATION**

**8 O'CLOCK**

**4 O'CLOCK**
HEAT TRACE

- OVERHEAD STORAGE TANK
- LEVEL SENSOR
- FIRE RADIO
- HEAT TRACE RECEPT.

**ELEVATED STORAGE TANK LEVEL SENSOR**

**FIRE RADIO**

**HEAT TRACE**

**RECEPT.**

**NOTE:**
1. PROVIDE THREE (3) DOUBLE POLE 20 AMP BREAKERS IN EXISTING LP.

**NOTES:**
3. EXISTING PANELBOARD IS A SQUARE D, 20 AMP BREAKERS IN EXISTING LP.

**BUS RATING:**
- 60 AMP
- 20 AMP
- 20 AMP
- 20 AMP
- 20 AMP
- 20 AMP

**LOCATION:**
- N G

**PANELBOARD:**
- LP-1

**LP-1 PANELBOARD**

**FIRE RADIO**

**HEAT TRACE**

**RECEPT.**

**NOTE:**
1.1. COMPLY WITH IEEE 515.
1.2. PIPE-MOUNTED THERMOSTATS FOR FREEZE PROTECTION:
3.1. CABLE INSTALLATION ACCESSORIES: FIBERGLASS TAPE, HEAT-CONDUCTIVE PUTTY, CABLE TIES, SILICONE END CONNECTORS AT ONE END, AND SEAL THE OPPOSITE END WATERTIGHT. CABLE SHALL BE CAPABLE OF WITHSTANDING TEMPERATURES UP TO 150 DEG F. BETWEEN THE WALL OR CEILING CONSTRUCTION, OR CONCRETE.
1.2.1. REMOTE BULB UNIT WITH ADJUSTABLE TEMPERATURE RANGE FROM 30 TO 50 DEG F. UNIT SHALL INCLUDE ALARM CONTACTS FOR REMOTE MONITORING.
NOTES:
1. TEST AND DOCUMENT THE CONDITION OF THE FOLLOWING PANELS:
   1.1. PANELBOARD
   1.2. UTILITY METER (WORK WITH UTILITY COMPANY)
   1.3. FIRE RADIO ENCLOSURE (WORK WITH FIRE DEPARTMENT)
   1.4. FIRE RADIO ANTENNA, CABLE AND ASSOCIATED HARDWARE
   1.5. CITY FIBER CONNECTION
2. TEMPORARY REMOVE AND STORE THE FOLLOWING EQUIPMENT PRIOR TO TANK COATING WORK TO BE DONE UNDER CONTRACT NO. 2:
   2.1. PANELBOARD
   2.2. UTILITY METER (WORK WITH UTILITY COMPANY)
   2.3. FIRE RADIO ENCLOSURE (WORK WITH FIRE DEPARTMENT)
   2.4. FIRE RADIO ANTENNA, CABLE AND ASSOCIATED HARDWARE
   2.5. DOOR SWITCH
   2.6. HATCH SWITCH
   2.7. CAMERA AND CAMERA LIGHT
   2.8. LIGHT ABOVE DOOR
   2.9. MOTION SWITCH
   2.10. SECURITY BADGE SCANNER
   2.11. TOWER BEACON
   2.12. AND ALL OTHER RELATED ITEMS
3. PRIOR TO COATING WORK UNDER CONTRACT NO. 2, REMOVE CITY FIBER CABLE FROM PANEL (SSMP-MT) AND WATER TOWER. PROTECT CABLE AND FIBER ENDS FROM DAMAGE DURING CONSTRUCTION. REINSTALL CITY FIBER CABLE IN NEW TOWER PENETRATION TO TOWER AND SECURITY PANEL (SSMP-MT) AFTER COATING.
4. STORAGE SHALL BE PROTECTED FROM WEATHER, DUST, AND DEBRIS.
5. ONCE COATING WORK IS COMPLETE AND THE FLOOR ELEVATION HAS BEEN RAISED, REINSTALL EQUIPMENT TO ORIGINAL CONDITION. MODIFY EXISTING CONCRETE PADS SEE C-500 “EQUIPMENT PAD MODIFICATION” DETAIL FOR CONCRETE PAD INFORMATION.
6. INSTALL HDPE SPLIT SLEEVE AROUND BOTTOM 12" OF CABLE.
NOTES:

1. REMOVE AND REPLACE RECEPTACLES WITH GFCI STYLE RECEPTACLES WITH WEATHERPROOF COVERS.
2. REMOVE AND REPLACE LIGHT SWITCHES WITH WEATHERPROOF STYLE LIGHT SWITCHES.
3. REMOVE CATHODIC PROTECTION PANEL.
4. REMOVE TELEPHONE CIRCUITS.
5. REMOVE AND REPLACE HEAT TRACING (SALVAGE FOR OWNER).
6. REMOVE AND REPLACE LIGHT FIXTURES.
7. REMOVE CONDUIT AND HARDWARE PRIOR TO COATING TO BE DONE UNDER CONTRACT NO. 2.
8. REPLACE CONDUIT AND HARDWARE AFTER COATING WORK IS COMPLETE.
9. REMOVE AND REPLACE LEVEL INSTRUMENT. REMOVE LEVEL INDICATOR.
10. REMOVE MOSCAD RADIO PANEL. REPLACE WITH NEW CONTROL SCADA PANEL.
11. REMOVE RADIO DOOR SWITCH, CONDUIT AND WIRE. (LEAVE SECURITY DOOR SWITCH IN PLACE)
12. REMOVE WOODEN SUPPORTS AND BACKBOARD ASSOCIATED WITH INSTRUMENT PANEL.
13. ALL CONDUIT (EXISTING AND NEW) TO BE PAINTED BY CONTRACT NO. 2 CONTRACTOR PRIOR TO BEING RE-INSTALLED BY CONTRACT NO. 1 CONTRACTOR.

WORK TO BE COMPLETED UNDER THE MANCHESTER TANK MISCELLANEOUS IMPROVEMENTS AND TANK COATING PROJECT - CONTRACT NO. 2.