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### D Sheets: Plan Sheets Steamwater Pump Stations

| D.1  | Guthrie Basin Pump Station 1 | 1783 E. Merion Ave. |
| D.2  | 2nd & Franklin Pump Station 3 | 2nd & Franklin Ave. |
| D.3  | Pearl's Lake Pump Station 4 | 1790 25th Ct. |
| D.4  | Franklin Pump Station 5 | 3142 SW 38th St. |
| D.5  | NW 6th & Bell Pump Station 6 | 1111 North Valley Dr. |
| D.6  | SE 15th & Hamlet Pump Station 7 | 1300 SE Hamlet St. |
| D.7  | NW 20th & Scott Pump Station 8 | 4200 Carter Rd. |
| D.8  | SW 60th & Roosevelt Pump Station 9 | 8200 SW Roosevelt Ave. |
| D.9  | SW 72nd & Blackthorn Pump Station 10 | 1111 SW Blackthorn Ave. |
| D.10 | SE 86th & Blackthorn Pump Station 11 | 2600 SE Blackthorn Ave. |
| D.11 | NW 72nd & Blackthorn Pump Station 12 | 11200 SW 72nd Ave. |
| D.12 | SW 72nd & Blackthorn Pump Station 13 | 11200 SW 72nd Ave. |
| D.13 | SW 60th & Blackthorn Pump Station 14 | 8200 SW 60th Ave. |
| D.14 | NW 60th & Blackthorn Pump Station 15 | 11110 NW 60th St. |
| D.15 | Valley Gardens Pump Station 16 | 2500 Sunset Rd. |
| D.16 | Mattan Pump Station 17 | 1234 Mattan Ave. |
| D.17 | Briarwood Pump Station 18 | 3000 Norbeck Ave. |

### U Sheets: Details

| U.1  | Electrical Details |
| U.2  | Schematic |
| U.3  | Schematic |

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**City of Des Moines**

**Plans of Proposed Improvements on the City-Wide Pump Station Telog Communication System Conversions**

**Activity ID:** 08-2022-001

The Urban Design Specifications for Public Improvements, Plus Current Supplementation Specifications and Special Provisions Shall Apply to Construction Work on this Project.

**Scales:** As Noted

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**Iowa One Call:** 1-800-292-8989

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**City Engineer, Licensed P.E.:**

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**Department of Engineering**

City of Des Moines, Iowa

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**Utility Contacts:**

Iowa One Call: 1-800-292-8989

CenturyLink: Tom Shumaker, 720-576-8090

City of Des Moines Sewer: Adam Smith, 515-285-4079

City of Des Moines Traffic: Mark Holzog, 515-285-4100

Des Moines Water Works: Justin Denison, 515-285-8729

Des Moines Wastewater: Nick Carter, 515-323-8135

Iowa Communications Network: Shannon Minton, 515-725-4402

Mediacom Communications Corp: Paul May, 515-246-2252


Mid American Energy—Gas: Hugh Stephens, 515-242-4395

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Mid American Energy—Gas: Hugh Stephens, 515-242-4395
LOCATION

E SHERIDAN AVENUE
DIXON STREET

INSTALL NEW RTU PANEL TO BACKSIDE OF EXISTING CONTROL CABINET. MODIFY STRUT SUPPORT, AS NECESSARY, TO FACILITATE MOUNTING.

NOTES
1. CONTRACTOR SHALL ROUTE 16#14 CONTROL CONDUCTORS IN 1" C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CONDUCTORS IN 3/4" C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

ROUTE FIELD CONDUITS OUT OF RTU PANEL AND PENETRATE BOTTOM OF EXISTING PUMP STATION PANEL.

DEMO ANTENNA CABLE AND SEAL PANEL PENETRATION WITH APPROVED HOLE PLUG.

GUTHRIE BASIN PUMP STATION - 1

NOTES
1. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
2. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

2ND & FRANKLIN PUMP STATION - 2

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

WALL MOUNT RTU PANEL IN ACCORDANCE WITH INSTALLATION DETAIL.
NOTES
1. CONTRACTOR SHALL ROUTE CONTROL CONDUCTORS FROM RTU PANEL TO EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
2. CONTRACTOR SHALL SOURCE SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU EQUIPMENT.
3. PUMP STATION IS LOCATED AT WRA WASTE TREATMENT FACILITY. CONTRACTOR SHALL ACCESS PUMP STATION THROUGH FACILITY MAIN ENTRANCE.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

MODIFY ENCLOSURE TO INCLUDE SIDE MOUNTING PAN FOR INSTALLATION OF TESTS UNIT, TERMINAL BLOCKS, SPLITTERS AND NECESSARY APPURTENANCES.

NOTES
1. CONTRACTOR SHALL ROUTE 11#14 CONTROL CONDUCTORS IN 1" C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
3. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
NOTES

1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

FRANKLIN PUMP STATION - 5

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

SW 28TH & BELL PUMP STATION - 6

NOTES

1. CONTRACTOR SHALL ROUTE 17#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
LOCATION

1. CONTRACTOR SHALL ROUTE 17#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL INSTALL FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU CONTROL PANEL.
4. CONSTRUCT STRUT SUPPORT FOR MOUNTING OF NEW RTU CONTROL PANEL.
5. CONSTRUCT STRUT SUPPORT FOR MOUNTING OF NEW RTU PANEL.
6. MODIFY EXISTING STRUT SUPPORT FOR MOUNTING OF NEW RTU PANEL. EXTEND SUPPORT TOWARD FENCE.
7. EXISTING ANTENNA POLE, TO BE DEMOLISHED.
8. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
9. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
10. EXISTING ANTENNA POLE, TO BE DEMOLISHED.

NOTES

1. CONTRACTOR SHALL ROUTE 17#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL INSTALL FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU CONTROL PANEL.
4. CONSTRUCT STRUT SUPPORT FOR MOUNTING OF NEW RTU CONTROL PANEL.
5. MODIFY EXISTING STRUT SUPPORT FOR MOUNTING OF NEW RTU PANEL. EXTEND SUPPORT TOWARD FENCE.
6. CONSTRUCT STRUT SUPPORT FOR MOUNTING OF NEW RTU PANEL.
7. EXISTING ANTENNA POLE, TO BE DEMOLISHED.
NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

SURFACE MOUNT NEW RTU CONTROL PANEL AT LOCATION NOTED.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL DEMO RADIO TELEMETRY EQUIPMENT AND RETROFIT BACK PANEL WITH NEW TELOG UNIT AND RELATED EQUIPMENT.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO TELOG EQUIPMENT.
NOTES

1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1” CTS NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CONDUCTORS IN 3/4” CTS NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL, SINGLE-PHASE POWER AND ROUTE 3#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIOTELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL CONSTRUCT NEW STRUT SUPPORT RACK, SUPPORTED FROM CONCRETE SLAB. LOCATE TO AVOID INTERFERENCE WITH DOOR SWING OF EXISTING PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

LOCATION
LOCATION

INDIANA PUMP STATION - 13

NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

SURFACE-MOUNT NEW RTU PANEL TO STRUCTURE WALL, ADJACENT TO EXISTING CONTROL ENCLOSURE.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CLARK PUMP STATION - 14

NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

SURFACE-MOUNT NEW RTU PANEL TO STRUCTURE WALL, ADJACENT TO EXISTING CONTROL ENCLOSURE.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL MODIFY EXISTING PLC RACK AS SPECIFIED.
CONTRACTOR SHALL MODIFY EXISTING ENCLOSURE TO ACCOMMODATE NEW OPERATOR DISPLAY SCREEN.
CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
CONTRACTOR SHALL SURFACE-MOUNT NEW RTU CONTROL PANEL. CONFIRM FINAL LOCATION WITH OWNER.
CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

NOTES

1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1" C. TO NEW RTU CONTROL PANEL FROM EXISTING.

2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4" C. TO NEW RTU CONTROL PANEL FROM EXISTING.

3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.

4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONSTRUCT STRUT MOUNTING SUPPORT TO EXISTING ENCLOSURE TO MOUNT NEW RTU PANEL.

SURFACE MOUNT NEW RTU PANEL SUPPORT FIELD CONDUITS FROM CEILING AND ROUTE TO PANEL LOCATED ON OPPOSITE WALL.

NOTES

1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1" C. TO NEW RTU CONTROL PANEL FROM EXISTING.

2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4" C. TO NEW RTU CONTROL PANEL FROM EXISTING.

3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.

4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.
2ND & BIRDLAND PUMP STATION - 19

- CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
- WALL-MOUNT NEW RTU CONTROL PANEL.
- DIRECT-BURY FIELD CONDUITS ROUTED FROM EXISTING PUMP STATION CONTROL PANEL TO NEW RTU PANEL.
- NOTES
  1. CONTRACTOR SHALL ROUTE 17#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
  2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
  3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
  4. DEMO EXITING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

HULL AVENUE
INTERSTATE 235
HULL BASIN PUMP STATION - 20

- CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
- CONSTRUCT STEEL SUPPORT STRUCTURE SECURED TO CONCRETE PAD FOR MOUNTING OF NEW RTU PANEL.
- NOTES
  1. CONTRACTOR SHALL ROUTE 16#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
  2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
  3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
  4. DEMO EXITING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.
NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

NOTES
1. CONTRACTOR SHALL ROUTE CONTROL/SIGNAL CONDUCTORS TO NEW RTU CONTROL RELAYS/EQUIP. FROM EXISTING. INSTALL NECESSARY CONTROL/SIGNAL WIRING TO MEET REQUIREMENTS OF I/O LIST.
2. CONTRACTOR SHALL SOURCE SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL EQUIPMENT.
3. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU EQUIPMENT.

7TH & WARD PUMP STATION - 21

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL. ROTATE PANEL AND RELOCATE TO NEW STRUT RACK.

SE RIDGE PUMP STATION - 22

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU EQUIPMENT.

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CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU EQUIPMENT.

CONSTRUCT STEEL SUPPORT ADJACENT TO EXISTING POLE. SUPPORT STRUCTURE SHALL BE USED TO INSTALL NEW RTU PANEL AND ACCOMMODATE NEW RTU CONTROL, ENCLOSURES, CONSTRUCTION DETAILS IME LOCATION AND IDENTIFICATION WITH DESIGN.

DEMO EXISTING RADIO EQUIPMENT.

CONFIRM FINAL LOCATION AND ORIENTATION WITH OWNER.
NOTES

1. CONTRACTOR SHALL ROUTE 12#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 2#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

AURORA PUMP STATION - 23

FRISBEE PARK PUMP STATION - 24

NOTES

1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL ROUTE 3#18 TSP SIGNAL CABLES IN 3/4"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
3. CONTRACTOR SHALL TIE INTO EXISTING PANEL SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL PANEL.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
1. Contractor shall route 15#14 control conductors in 1" to new RTU control panel from existing.
2. Contractor shall route 2#18 TSP signal cables in 3/4" to new RTU control panel from existing.
3. Contractor shall tie into existing panel single-phase power and route 2#12 & 1#12 G. power conductors to new RTU control panel.
4. Contractor shall route 15#14 control conductors in 1" to new RTU control panel from existing.
5. Contractor shall route 2#18 TSP signal cables in 3/4" to new RTU control panel from existing.
6. Contractor shall route 15#14 control conductors in 1" to new RTU control panel from existing.
7. Contractor shall route 2#18 TSP signal cables in 3/4" to new RTU control panel from existing.
8. Contractor shall route 15#14 control conductors in 1" to new RTU control panel from existing.
9. Contractor shall route 2#18 TSP signal cables in 3/4" to new RTU control panel from existing.
10. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
11. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
12. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
13. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
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25. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
26. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
27. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
28. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
29. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
30. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
31. Contractor shall install new field wiring from existing control panel to terminals to new RTU panel.
CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

MODIFY EXISTING SUPPORT STRUCTURE TO ACCOMMODATE NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

NOTES
1. CONTRACTOR SHALL ROUTE 12#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
3. CONFIRM FINAL LOCATION WITH OWNER.

NOTES
1. CONTRACTOR SHALL ROUTE 13#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
3. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

GREAT'S LAKE PUMP STATION - 27

THOMPSON PUMP STATION - 28
LOCATION

GUTHRIE PUMP STATION - 29

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.

1. CONTRACTOR SHALL ROUTE 12#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING PANEL TO TERMINALS TO NEW RTU PANEL.
3. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.
LOCATION

MATTEN PUMP STATION - 31

CONSTRUCT STRUT SUPPORT TO BACKSIDE OF EXISTING CONTROL ENCLOSURE. COORDINATE FINAL INSTALL LOCATION WITH OWNER.

NOTES
1. CONTRACTOR SHALL ROUTE 15#14 CONTROL CONDUCTORS IN 1"C. TO NEW RTU CONTROL PANEL FROM EXISTING.
2. CONTRACTOR SHALL INSTALL NEW RTU CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
3. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW RTU PANEL.

LOCATION

BIRDLAND POOL PUMP STATION - 32

NOTES
1. CONTRACTOR SHALL ROUTE CONTROL/SIGNAL CONDUCTORS TO NEW RTU CONTROL PANEL. INSTALL NECESSARY CONTROL/SIGNAL WIRING TO MEET REQUIREMENTS OF I/O LIST.
2. CONTRACTOR SHALL SOURCE SINGLE-PHASE POWER AND ROUTE 2#12 & 1#12 G. POWER CONDUCTORS TO NEW RTU CONTROL EQUIPMENT.
3. PUMP STATION IS LOCATED AT WPA WASTE TREATMENT FACILITY. CONTRACTOR SHALL ACCESS PUMP STATION THROUGH FACILITY MAIN ENTRANCE.
4. DEMO EXISTING RADIO TELEMETRY EQUIPMENT AND APPURTENANCES AFTER COMMISSIONING OF NEW DATA LOGGER SYSTEM.

LOCATION

CONTRACTOR SHALL INSTALL NEW FIELD WIRING FROM EXISTING CONTROL PANEL TO TERMINALS TO NEW RTU PANEL.
NOTES:

1. REFER TO SITE PLANS FOR LOCATION AND ORIENTATION.
2. CONTRACTOR SHALL VERIFY THAT SELECTED COMPONENTS ARE SUITABLE FOR THE WEIGHT OF THE MOUNTED EQUIPMENT.
3. SUPPORT MEMBERS SHALL BE CONSTRUCTED OF STAINLESS STEEL. ALL HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL.

- 3/8" STAINLESS STEEL MOUNTING BOLT AND CONCRETE EXPANSION ANCHOR (TYP. OF 4)
- 1-1/2" X 1-1/2" STAINLESS STEEL C-CHANNEL EXTENDING ENTIRE WIDTH OF PANEL (TYP. OF 2)

TYPICAL STRUT SUPPORT MEMBER, SIZED TO SUPPORT LOAD AND SECURED TO POSTS WITH U-BOLTS. PROVIDE AND SPACE SUPPORT MEMBERS AS NEEDED TO ACCOMMODATE THE EQUIPMENT SCHEDULED FOR INSTALLATION.

- 18-INCH DIAMETER, 60-INCH DEEP CONCRETE BASE WITH VERTICAL #4 REBAR AND #4 BARS 12" HORIZONTALLY. FELT BOND BREAKER REQUIRED.
- 3-INCH, STAINLESS STEEL FENCE POST. PROVIDE TWO POSTS FOR RACKS LESS THAN 5-FT LONG. PROVIDE ADDITIONAL POSTS FOR EACH ADDITIONAL 5-FT RACK LENGTH.

- TYPICAL LARGE ELECTRICAL EQUIPMENT SUPPORTED FROM RACK, REFER TO SCHEDULE.
- TRAFFIC, WATER-RESISTANT, TYPICAL FOR CONDUIT.
- STRUT CLAMP FOR EACH CONDUIT (TYP).
- EXPANSION FITTINGS FOR EACH CONDUIT (TYP).

EQUIPMENT RACK CONTROL PANEL INSTALLATION

WALL-MOUNTED CONTROL PANEL INSTALLATION
NOTES

1. CONTROL PANEL LAYOUT IS FOR REPRESENTATIVE PURPOSES ONLY, AND MAY NOT REFLECT ALL COMPONENTS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. PANEL LAYOUT MAY DIFFER FROM THE VERSION DEPICTED.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR INTEGRATING THE SITE EXISTING PUMP STATION CONTROL PANEL. SINGLE-PHASE POWER CONNECTION AND ALARM/STATUS SIGNALS SHALL BE SOURCED FROM EXISTING CONTROL PANEL.
1. Control panel layout is for representative purposes only, and may not reflect all components necessary for a complete and operable system. Panel layout may differ from the version depicted.

2. Contractor shall be responsible for integrating with the site existing pump station control panel. Single-phase power connection and alarm/status signals shall be sourced from existing control panel.

3. Refer to project special conditions for site specific control panel requirements. Modifications to existing control panels shall be coordinated with city.