TOGIAK / TWIN HILLS , ALASKA

TWIN HILLS
RPSU
ISSUED FOR CONSTRUCTION
AUGUST 2018
<table>
<thead>
<tr>
<th>SHEET INDEX</th>
<th>SHEET INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRICAL</td>
<td>MECHANICAL</td>
</tr>
<tr>
<td>HS</td>
<td>Standby Module Electrical Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Site Plan</td>
</tr>
<tr>
<td>S-1</td>
<td>Standby Module Underground System</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Switchgear Layout &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Engine Panel Layout &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Twin Mills To Togar Communication Schematic Diagram</td>
</tr>
<tr>
<td>LS</td>
<td>Togar Dress Plant Site Plan</td>
</tr>
<tr>
<td>CIVIL</td>
<td>CIVIL</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Civil Site Plan</td>
</tr>
<tr>
<td>LS</td>
<td>Fence &amp; Guard Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Foundation Plan &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Connector Plan &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Truss Roof Plan &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module , Elevator Plan &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Door Details &amp; Schedule</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Roof Plan &amp; Details</td>
</tr>
<tr>
<td>ARCHITECTURAL</td>
<td>ARCHITECTURAL</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Connector Floor Plans, Sections, and Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Elevator Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Door Details &amp; Schedule</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Roof Plan &amp; Details</td>
</tr>
<tr>
<td>MECHANICAL</td>
<td>MECHANICAL</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Mechanical, Schedules, &amp; Sequence of Operation</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Mechanical Site Plan &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Fire Extinguisher, Warning Sign &amp; Informational Placard Plan</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Equipment Layout Plan, Sections, &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Piping Plan, Sections, &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Sectors, Elevations &amp; Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Mechanical Details</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Piping Layout</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Fuel Oil Day Tank Fabrication</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Exhaust &amp; Crank Vent Piping</td>
</tr>
<tr>
<td>LS</td>
<td>Standby Module Ventilation &amp; Sheet Metal Fabrications</td>
</tr>
</tbody>
</table>
1. Remove all existing distribution conductors, crossarms, hardware, etc. from service as a result of this project except where specifically indicated to remain. Coordinate work to minimize outages.

2. Existing poles to remain except where specifically indicated to be removed.

3. Existing telephone to remain in service on existing poles.

4. Remove the existing meter, meter base, and wooden box. Protect the existing conductors from the meter base circuit to the tank farm for reconnection.

5. All work on this sheet shall be additive alternate A.
NOTES:
1. DEMOLISH ALL EXISTING DISTRIBUTION CONDUCTORS, CROSSBARS, HARDWARE, ETC. TAKEN OUT OF SERVICE AS A RESULT OF THIS PROJECT EXCEPT WHERE SPECIFICALLY INSTRUCTED TO REMAIN. COORDINATE DEMO WORK TO MINIMIZE OUTAGES.
2. EXISTING POLES TO REMAIN EXCEPT WHERE SPECIFICALLY INSTRUCTED TO BE REMOVED.
3. EXISTING TELEPHONE TO REMAIN IN SERVICE ON EXISTING POLES.
4. ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE A.
1. Demolish all existing distribution conductors, crossarms, hardware, etc. taken out of service as a result of this project except where specifically indicated to remain. Coordinate demo work to minimize outages.
2. Existing poles to remain except where specifically indicated to be removed.
3. Existing telephone to remain in service on existing poles.
4. All work on this sheet shall be additive alternate A.
NOTE:
1. AHRH TANK FARM FEEDER TO NEW METER CIRCUIT BREAKER. POSITION NEW POLE SUCH THAT THE EXISTING TANK FARM FEEDER IS OF ADEQUATE LENGTH TO REACH THE NEW METER CIRCUIT BREAKER WITH SLACK IN THE CABLE. EXTEND CONDUIT ABOVE GRADE TO METER BASE.
2. ALL WORK ON THIS SHEET IS PART OF ASSISTANCE ALTERNATE 2 UNLESS NOTED.

SEE SHEET E-2 FOR STANDOFF DISTANCE FOR SHEET E-3-1, SHEET E-3-2, SHEET E-3-3.

SEE SHEET E-3 FOR MATCH LINE.
NOTES
1. INSTALL SLACK SPAN BACK TO LOCATION B.
2. INSTALL FUSED CUTFOUTS AT LOCATION B-1.
3. ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE A.
1. INSTALL NEW METER IN EXISTING METER BASE.
2. POSITION POLE AND GUY TO COORDINATE WITH THE EXISTING LIFT STATION AND SEWER LINE.
3. EXISTING RIVER IS SENT AT THE ROOF LINE, REPLACE WITH 2" INS AND 3/4 INS TO THE METER BASE. THE EXISTING BUILDING IS TWO-STORY, EXPOSE RIVER ABOVE ROOF AS REQUIRED TO COORDINATE WITH NEW SERVICE, REPLACE ROOT BOAT AT THE RIVER PENETRATION.
4. REMOVE THE EXISTING INSTRUMENT RATED METER BASE AND REPLACE WITH THE ONE INDICATED, CONNECT TO THE EXISTING CT'S AND VOLTAGE CONDUCTORS.
5. INSTALL SIDEWALK GUY, GUY AND ANCHOR SHALL BE INSTALLED IN ROAD EASEMENT.
6. INSTALL ANCHOR SUCH THAT IT STAYS ON PROPERTY POLE IS INSTALLED ON.
7. POWER LINE AT LOCATION 11 FROM SCHOOL TRANSFORMER.
8. PROVIDE SINGLE-PHASE SERVICE DROP INTO POWER PLANT FOR TEMPORARY VILLAGE POWER UNTIL TIE LINE IS CONSTRUCTED.
9. INSTALL SIDEWALK GUY, DO NOT INSTALL IN ROAD OR DRIVE.
10. ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE A.
NOTES:
1. INSTALL SIDEWALK GUY GUY AND ANCHOR SHALL BE INSTALLED IN ROAD EASEMENT.
2. ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATIVE A.
NEW WORK PLAN

SCALE 1:400

HORIZONTAL NOTES:
1. ALL WORK SHALL BE COORDINATED WITH AVEC. ALL OUTAGES SHALL BE KEPT TO A MINIMUM. AVEC SHALL HAVE FINAL AUTHORITY ON WHEN AN OUTAGE CAN OCCUR.
2. CONTRACTOR SHALL NOTIFY AVEC ONE WEEK IN ADVANCE OF ANY REQUIRED OUTAGE ON THE TOOGAN DISTRIBUTION LINE. NO WORK IS TO BE PERFORMED ON THE TOOGAN DISTRIBUTION SYSTEM WITHOUT AUTHORIZATION FROM AVEC.
3. ALL WORK ON THIS SHEET SHALL BE BID ITEM 1.
GENERAL NOTES:

1. DESIGN CONDITIONS FOR RIVER CROSSING ARE AS FOLLOWS:
   a. MINIMUM CLEARANCE IS 25.5 FEET PER NECG TABLE 351-1 FOR A NAVIGABLE RIVER.
   b. RIVER LEVEL AT HIGH TIDE
   c. THE CONTROLLING CONDITION IS NECG 2008 WITH EXTREME WINDS 175 MPH AND 1/2" RADIAL ICE

2. ALL WORK ON THIS SHEET SHALL BE BY ITEM 1.
GENERAL NOTES
1. DESIGN CONDITIONS FOR RIVER CROSSING ARE AS FOLLOWS:
   a. MINIMUM CLEARANCE IS 25.0 FEET PER NECO TABLE 233-1 FOR A NAVIGABLE RIVER.
   b. RIVER LEVEL AT HIGH TIDE.
   c. THE CONTROLLING CONDITION IS NECO 230B WITH EXTREME WINDS 110 MPH AND 1/2" RADIUS ICE.
2. ALL WORK ON THIS SHEET SHALL BE BID ITEM 1.
### ELECTRICAL EQUIPMENT/DEVICE SCHEDULE

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>SERVICE</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER/MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
</tr>
<tr>
<td>2A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
</tr>
<tr>
<td>3A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
</tr>
</tbody>
</table>

### ELECTRICAL CONDUCTOR SCHEDULE

<table>
<thead>
<tr>
<th>CONDUCTOR</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER/MODEL</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
<td></td>
</tr>
<tr>
<td>3A</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
<td>VAC MAM METER</td>
<td></td>
</tr>
</tbody>
</table>

### INSTRUMENTATION EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER/MODEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
</tr>
<tr>
<td>2A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
</tr>
<tr>
<td>3A</td>
<td>SHEET MAM METER</td>
<td>120VAC 20 Amp Panel Meter, Model No. 20, Part No. 20-120</td>
</tr>
</tbody>
</table>

**NOTES**

- All work on this sheet shall be additive.
- Alternate B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL
BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.
NOTE: ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.

JUNCTION BOX BILL OF MATERIALS

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Junction Box</td>
</tr>
<tr>
<td>C1</td>
<td>Circuit Breaker</td>
</tr>
<tr>
<td>D1</td>
<td>Door Accessory</td>
</tr>
</tbody>
</table>

SWITCHBOARD COORDINATION NOTES:

1) Provide means for connecting of all lines as required.
2) Label terminals in accordance with notes on panel board.

JUNCTION BOX SHOP FABRICATION NOTES:

1) Provide means for all device and wiring locations.
2) Ensure all terminals are marked with device or terminal designation.
3) Provide means for connecting of all required devices.
4) Ensure all panels are properly supported and secured to terminal block.

JUNCTION BOX FIELD INSTALLATION NOTES:

1) Ensure all work is in accordance with specifications on Sheet E7.0.
2) Ensure all connections are properly made to terminal blocks in accordance with notes.
NOTE:
ALL WORK ON THIS SHEET SHALL
BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL
BE ADDITIVE ALTERNATE B.
Pile/Pole Connection Detail

Pole/Pile at Steel Pile Cap Plate - Plan View

1. 10" SCM, 40 MEDICAL ANCHORS, TYPICAL OF 3
2. 1 5/8" A572, OR 50 STEEL PLATE
3. 3/4" GALV. STEEL PIPE
4. POLE, PER ELECTRICAL DRAWING
5. 1/2" A572, OR 50 STEEL GUSSET PLATE, TYPICAL OF 3
   c. NOT USED
   d. 3/4" GALV. REBAR, TYPICAL OF 6
   e. TYPICAL M12 CAGE
   f. FINISHED GRADE
   g. PE3 GRAVEL

A. DESIGN CRITERIA: 2012 EDITION OF THE INTERNATIONAL BUILDING CODE
B. LOADS TRANSFERRED TO PILE CAP FROM POLE: MAX 250 KIP-FT, MAX 25 KIP, MIN 4 KIP
C. FOUNDATION DESIGN IS BASED ON SOILS REPORT BY COUDER AND ASSOCIATES, REPORT NUMBER 1402344
   ALL CONSTRUCTION SHALL CONFORM TO THE RECOMMENDATIONS OF THE SOILS REPORT
D. STRUCTURAL STEEL MATERIALS SHALL BE AS FOLLOWS:
   PLATES: ASTM A572, GRADE 50, 5/8" THICK
   PLATES: ASTM A572, GRADE 50, 3/4" THICK, UNLESS NOTED OTHERWISE
E. ALL WELDING SHALL BE DONE WITH E70 SERIES LOW HYDROGEN. PERIODIC SPECIAL INSPECTION OF ALL
   WELDING IS REQUIRED PER THE 2012 IBC, SECTION 1704
F. SHIP PAINT ALL STEEL CONTACTED WITH 3 COATS OF RUST-PREVENTING PAINT, EXCEPT AT SURFACES MORE
   THAN 6 FEET BELOW GRADE
G. THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT
   INDICATE THE METHOD OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR
   PROVIDE ALL MATERIALS NECESSARY TO ENSURE THAT THE STRUCTURE DURING CONSTRUCTION. SUCH
   MATERIALS INCLUDE, BUT ARE NOT LIMITED TO, STEEL, EQUIPMENT, CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE
   CONTRACTOR'S HANDLING, INSTALLATION, PERFORMANCE, OR INSTALLATION OF THE
   STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING, INSTALLATION, PERFORMANCE, AND
   CONTRACTOR"S HANDLING, INSTALLATION, PERFORMANCE, AND
NOTE:
ALL WORK ON THIS SHEET SHALL
BE ADDITIVE ALTERNATIVE B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.

GENERAL NOTES:
1. PRECASTED SUPPORT PROPS ALONG WALL CHANNEL AT AUGUM.
2.castle ALL SUPPORT PROPS MUST BE PREDICTED UP TO THE HAND CONCRETE
   BEFORE MOLD IS REMOVED.
3. INSTALL ALL SUPPORT PROPS AND CASTING
   TO PROVIDE FLEXIBLE SUPPORT TO THE STRUCTURAL AND
   PARTS EQUIVALENT TO MOLD EXCEPT NO PAINTING OR FINISHING.

SECTION A-A

1. RADIATOR SUPPORT PLAN
2. RADIATOR SUPPORT FABRICATION
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL
BE ADDITIVE ALTERNATE B.
NOTE:
ALL WORK ON THIS SHEET SHALL BE ADDITIVE ALTERNATE B.

1. EXHAUST & CRANK VENT PLAN
2. GENERATOR #1 SILENCER, EXHAUST & CRANK VENT PIPE INSTALLATION
3. EXHAUST & CRANK VENT PIPE INSULATED WALL PENETRATION & TERMINATION DETAIL