CODDLLE CREEK SWITCHGEAR REPLACEMENT

CITY OF CONCORD
CONCORD, NORTH CAROLINA

NEW 12.47kV SWITCHGEAR LOCATION
ELECTRICAL SERVICE TO THE WATER TREATMENT PLANT OPERATION IS OF CRITICAL IMPORTANCE.

2) INSTALL NEW MANHOLE M.
3) INSTALL NEW HANDHOLES HH-W AND HH-E.
4) CONSTRUCT DUCT BANK FROM NEW HANDHOLES HH-W AND HH-E TO EXISTING HANDHOLE HH AND TO EXISTING MANHOLE D.
5) CONSTRUCT DUCT BANK FROM SWITCHGEAR M TO NEW HANDHOLES HH-W AND HH-E.
6) CONSTRUCT DUCT BANK FROM MANHOLE M TO EXISTING VAULT.
7) CONSTRUCT DUCT BANK FROM SWITCHGEAR M TO EXISTING MANHOLE D.
8) INSTALL NEW PLC CONTROLS, GENERATOR CONTROLS, AND GENERATOR RELAYING IN EXISTING GENERATOR SWITCHGEAR. INSTALLATION WILL BE PER CODE REQUIREMENTS AND INSTRUCTIONS INCLUDED ON ELECTRICAL ENGINEERING CONSULTING & TESTING, P.C.
9) PROVIDE TRAINING TO CITY OF CONCORD OPERATING PERSONNEL PER SPECIFICATIONS.
10) INTEGRATE SCADA WITH SWITCHGEAR M.
11) COMMISSION OPERATION OF SWITCHGEAR M IN CONJUNCTION WITH GENERATOR INCLUDING ALL POSSIBLE MODES OF OPERATION.
12) TEST CABLES FOR CIRCUIT 2AL (GENERATOR), CIRCUIT 2BU (FEED TO T2), AND CIRCUIT 2BL (FEED TO T4) PER MEDIUM VOLTAGE CABLE SPECIFICATION 26 05 13.
13) RECORD PHASING OF INCOMING GENERATOR FEED (CELL 2AL) TO EXISTING 15 KV SWITCHGEAR. RECORD PHASING OF EXISTING CIRCUIT 2BU (FEED TO T2) AND CIRCUIT 2BL (FEED TO T4) IN EXISTING 15 KV SWITCHGEAR. REMOVE EXISTING CABLE FROM CELL 2AL AND CONNECT NEW CABLE FROM CELL 2AL TO GENERATOR STEP UP TRANSFORMER (GSU). PULL NEW CONDUCTOR FROM CELL 2AL TO GSU VIA MANHOLE M AND EXISTING VAULT.
14) CONFIRM PHASE ROTATION OF CIRCUITS 2BU AND 2BL ARE CORRECT FROM NEW SWITCHGEAR M BY PHASING AT EXISTING 480V AND 4160V SWITCHGEAR. TEST CABLES FOR CIRCUIT 2AL (GENERATOR), CIRCUIT 2BU (FEED TO T2), AND CIRCUIT 2BL (FEED TO T4) PER MEDIUM VOLTAGE CABLE SPECIFICATION 26 05 13.
15) RECORD PHASING OF UTILITY CIRCUITS AT EXISTING 15 KV SWITCHGEAR. DISCONNECT EXISTING UTILITY CIRCUIT AND PULL CONTROL CABLE FROM T4 TO SWITCHGEAR M CELL 2BL.
16) INSULATE UTILITY CIRCUIT TO DISCONNECT IN SWITCHGEAR M. RECORD PHASING OF UTILITY CIRCUIT AT EXISTING 15 KV SWITCHGEAR. RECORD PHASING OF UTILITY CIRCUIT AT NEW SWITCHGEAR M. CLEAR環由互興町區在新開機方式 /ELECTRICAL ENGINEERING CONSULTING & TESTING, P.C. RS485 COMMUNICATION BUS TO NEW SWITCHGEAR M. INSTALL NEW UTILITY CIRCUIT TO EXISTING 480V SWITCHGEAR.
17) RECORD PHASING OF EXISTING CIRCUITS TO GSU AND TO SWITCHGEAR M. CONFIRM PHASE ROTATION OF CIRCUIT 2BU (FEED TO T2) AND CIRCUIT 2BL (FEED TO T4) IN EXISTING 15 KV SWITCHGEAR. REMOVE PULL CONTROL CABLE FROM T4 TO SWITCHGEAR M CELL 2BL.
18) DE-ENERGIZE SIDE 2 OF EXISTING 15 KV SWITCHGEAR. COMPLETELY DE-ENERGIZE SIDE 2 OF THE EXISTING 15 KV SWITCHGEAR.
19) TEST AND COMMISSION SWITCHGEAR M.
20) TEST CABLES FOR CIRCUITS 1AL (UTILITY), 1BL (FEED TO T3), AND 1BU (FEED TO T1) PER MEDIUM VOLTAGE CABLE SPECIFICATION 26 05 13.
21) CONFIRM PHASE ROTATION OF CIRCUIT 1BU (FEED TO T1) FROM SWITCHGEAR M BY PHASING AT EXISTING 480V AND 4160V SWITCHGEAR.
22) CONFIRM PHASE ROTATION OF CIRCUIT 1BU (FEED TO T1) FROM SWITCHGEAR M. INSTALL NEW SWITCHGEAR M.
23) PLACE SWITCHGEAR IN NORMAL CONFIGURATION.
24) CONFIRM PHASE ROTATION OF CIRCUITS 1BL AND 1BU ARE CORRECT FROM SWITCHGEAR M BY PHASING AT EXISTING 480V AND 4160V SWITCHGEAR. PULL CONTROL CABLE FROM T3 TO SWITCHGEAR M CELL 1BL.
25) CONFIRM PHASE ROTATION OF CIRCUITS 1BL AND 1BU ARE CORRECT FROM SWITCHGEAR M. INSTALL NEW PLC CONTROLS, GENERATOR CONTROLS, AND GENERATOR RELAYING IN EXISTING GENERATOR SWITCHGEAR. INSTALLATION WILL BE PER CODE REQUIREMENTS AND INSTRUCTIONS INCLUDED ON ELECTRICAL ENGINEERING CONSULTING & TESTING, P.C.
26) PROVIDE TRAINING TO CITY OF CONCORD OPERATING PERSONNEL PER SPECIFICATIONS.
27) INTEGRATE SCADA WITH SWITCHGEAR M.
28) COMMISSION OPERATION OF SWITCHGEAR M IN CONJUNCTION WITH GENERATOR INCLUDING ALL POSSIBLE MODES OF OPERATION.
29) INTERCONNECT 480V AND 4160V SWITCHGEAR.
30) PREPARE TRAINING AT EOF OF CONCORD OPERATING PERSONNEL PER SPECIFICATIONS.
31) DECOMMISSION AND REMOVE EXISTING 480V SWITCHGEAR.
SWITCHGEAR M - FOUNDATION PLAN

NOTES:

1. See Plan

2. See Plan

3. Details

(1) #5 X 3'-0" Long Diagonal Bar at each corner

(2) #4 Addl Bars @ 3" OC Top and Bottom of each side of opening; Min length = 8'-0"

FFE - VIF

MIN 6"

MIN 1'-6"

1'-0"

2, #5 Cont CLR 1 1/2"

CLR 3"

CONSTRUCTION JOINT AT POUR BREAK

SLAB REINF, SEE PLAN

PROVIDE 90° HOOKS EA END

COMPACTED #57 STONE

SLAB REINF, SEE GENERAL NOTES; TERMINATE AT KEYED JOINT

10mil POLYETHYLENE VAPOR BARRIER

COMPACTED #57 STONE

SECTION

SECTION

CLEAN 1 1/2" FORMED KEYED JOINT

CONSTRUCTION JOINT AT POUR BREAK

DRAIN 1 1/2" x 2 1/2" FORMED KEYED JOINT

SEAM PLAN

SEAM PLAN

COMBINED #57 STONE @ 9" OC TOP AND BOTTOM OF SIDE OF COVER; MIN LENGTH = 8'-0"