ITEM 11680.809939 M- ELECTRICAL POWER AND METER TO HUB CABINETS

DESCRIPTION:

Under this item, the Contractor shall furnish and install, test and place in satisfactory operation condition and equipment required for the following:

1. Underground electric service from Con-Edison/Lighting Panel (subject to Con-Edison requirements)
2. Power supply to power distribution panel, communication and field equipment
3. Con-Edison Meter at Hub Cabinets

MATERIALS:

Panelboard: The Contractor shall furnish and install one Westinghouse Pow-R-Line 1 panelboard or an engineer approved equal.

a) Voltage: 120/240 Volts A.C.
b) Main Lug: 100 amps
c) Main Breaker: 100 amps, 2 pole (1 phase, 3 wire 120/208 volts service), 22KAIC at 240 volts a.c., fully rated, Westinghouse type QBH or engineer-approved equal.
d) Branch Breaker: The Contractor shall and install four (4) 2 pole 40 ampere breakers and twelve (12) single pole 20 ampere bolt-on-breakers.

The breaker shall be rated 240 volts a.c, 22KAIC and shall be Westinghouse type QBH or Engineer approved equal.

e) Enclosure: NEMA 1, steel (Change to NEMA 1 if to be mounted in HUB Cabinet

CONSTRUCTION DETAILS:

Electrical Service: Power supply shall be 120/208 VAC, single phase, 3-wire from the nearest Con-Edison source. The Contractor shall coordinate with Con-Edison in order to get the service layout in accordance with Con-Edison requirements.

The contractor is to balance interconnecting loads based on field testing and update schedules for review by Engineer.
ITEM 11680.809939 M- ELECTRICAL POWER AND METER TO HUB CABINETS

For the above grade instrumentation boxes in areas with underground service, the Contractor shall run the conduit from the instrumentation boxes, over any property lines, and at least 150 mm out from the curb of a public street.

The Contractor shall furnish and install all wiring and equipment including conduit, fittings, wires, endbox, meter socket, service circuit breaker distribution panelboard and handhole if required by Con-Edison.

Electrical Approval: The Contractor shall submit to the Engineer proof of filing for a Certificate of Inspection with Bureau of Electrical Control, Department of General Service prior to start of work.

Codes and Standards: Electrical installation shall be in accordance with Con-Edison requirements for Electrical Service Installation, Electrical Code of the City of New York, ANSI, OSHA and IEEE requirements.

Submittal: The Contractor, before proceeding with the work shall submit to the Engineer three (3) sets of shop drawings of the following:

a) Con-Edison Drawings MES 394, EO-6218-C (latest revisions)
b) Catalog cuts of all electrical material

At the completion of the contract, the Contractor shall sign and submit six(6) "As Built" drawings including copies of the approval catalog cuts of electrical components and materials.

Conduit System: The Conduit system shall include all conduits, fittings, boxes, expansion joints, conduit hangers, structural steel conduit supports, core drilling and any related accessories. All conduit shall be rigid galvanized steel coated with a 1000µm thick layer of PVC as performed by Robroy Industries or approved equal, and complying with the requirements of UL's Inc. standards and N.Y.S Uniform Fire Prevention Building Code.

All exposed conduit shall be supported on walls or ceiling by approved straps and backs or run on suitable approved hangers. The conduit shall be supported every 2.45 m and shall not be fastened to or come on contract with any other pipes. All conduits shall be run parallel with and at right angles to building lines. Conduit location must consider protection against physical damage caused by normal plant activities and conditions.

The Contractor shall determine the best configuration as required for a practical installation.
ITEM 11680.809939 M- ELECTRICAL POWER AND METER TO HUB CABINETS

Wire: The Contractor shall furnish, install, connect, test and place into satisfactory operation all wires cables required for the complete electrical installation of a power, controls, alarm and grounding systems.

All wires shall be copper, stranded, 600 volts, insulated with moisture and heat resistant insulation. The insulation shall be in accordance with the latest edition of ASTM specifications. Standard ANSI/UL 44 applies. Connectors and terminals shall meet the requirements of UL 486A. The wires shall have an UL Inc. label and shall be color-coded as required by the Electrical Code of New York City. The wires shall be THWN or approved equal.

After installation all wires and cable shall be tested for continuity. Each wire shall have a wire number and be labeled at both ends. Wire numbers shall correspond with the equipment terminal size and number shall not be duplicated.

METHOD OF MEASUREMENT:

This item shall be measured as a lump sum for the work completed in accordance with the plans, specifications and directions of the Engineer.

BASIS OF PAYMENT:

The lump sum price for bid for this item shall cover the cost of all labor, materials and equipment necessary to satisfactorily complete the work.