

### **CONTRACT DATA SHEET**

Monroe County Division of Purchasing 200 County Office Building, Rochester NY 14614

TITLE: INSTALLATION OF UNDERGROUND CONDUIT,

PULLBOXES, PEDESTALS AND APPURTENANCES

**CONTRACT #:** 0808-17 (4700007417)

**CONTRACT DATES:** 09/15/17 – 07/31/22

**BUYER:** SEAN WILCOX **PHONE:** 585/753-1136 **FAX:** 585/753-1104

**EMAIL:** swilcox@monroecounty.gov

**VENDOR(S):** M. L. CACCAMISE ELECTRIC CORPORATION

721 PORTLAND AVENUE ROCHESTER, NY 14621

PH: (585) 266-0330 FAX: (585) 266-0392

#### **TERMS AND CONDITIONS**

**BID ITEM:** 

INSTALLATION OF UNDERGROUND CONDUIT, PULLBOXES,

PEDESTALS & APPURTENANCES

FOR:

Department of Transportation

PURCHASING CONTACT:

The Buyer, identified below, is the sole point of contact regarding this Bid from the date of issuance until the bids are opened and the results made public.

Sharon Berndt

Monroe County Division of Purchasing 200 County Office Building

39 West Main Street Rochester, NY 14614

Email: sberndt@monroecounty.gov

All requests for bid clarification must be submitted in writing to the Buyer referenced above and received no later than noon (Eastern Standard Time) on <u>Tuesday</u>, <u>August 22</u>, 2017.

All questions will be answered and documented in writing as an Addendum to the Bid. These will be sent out to all Bidders who received the original Bid no later than <u>Friday</u>, <u>August 25</u>, <u>2017</u>.

**DUPLICATE COPIES:** 

PLEASE SUBMIT YOUR BID IN DUPLICATE; THE ORIGINAL AND ONE (1) COPY.

**BID INFORMATION:** 

At the time of bid, the bidder shall supply detailed specifications covering the item(s) contained herein and shall clearly indicate any areas in which item or items offered do not fully comply with the specifications contained herein.

SUBMITTAL OF FORMAL PROPOSAL:

Bid proposal must be legible and submitted in the original form, bearing an original signature. **EMAILS AND FACSIMILES ARE NOT ACCEPTABLE**.

All bidders must submit proof that they have obtained the required **Workers' Compensation** and **disability benefits** coverage or proof that they are exempt.

SPECIFICATION ALTERATIONS:

Specifications will be construed to be complete and be considered the entire description of the goods or services upon which Monroe County is now seeking bids. Only formal written addenda can materially alter this set of specifications. No verbal statement made by a Monroe County employee or anyone else is binding nor shall such statement be considered an official part of this public bid proposal.

#### QUANTITIES:

The quantities listed are the estimated <u>annual</u> requirements and should not be construed to represent either maximum or minimum quantities to be ordered during the contract term.

#### **QUALIFIED BIDDER:**

Each bidder must be prepared to present satisfactory proof of his capacity and ability to perform this contract. Such proof may include, but is not limited to, an inspection of the bidder's facilities and equipment, financial statements, references and performance of similar contracts. The Purchasing Manager reserves the right to reject any bid where the bidder cannot satisfy the County as to their ability to perform. Monroe County reserves the right to reject any and all bids if the Monroe County Purchasing Manager deems said action to be in the best interests of Monroe County.

#### METHOD OF AWARD:

Monroe County intends to award the bid to the lowest responsive and responsible bidder, based on the TOTAL. <u>Bidder must bid on all items in order to be considered.</u> The County reserves the right to reject any and all bids if the Purchasing Manager deems said action to be in the best interest of the County.

#### **CONTRACT TERM:**

Contract will start with the date of the contract award and run through **July 31, 2018**, with the option to renew the contract up to four (4) additional twelve (12) month periods with the mutual consent of both parties.

#### **NYS WAGE RATES:**

Pursuant to the provision of Section 220-A of the New York State Labor Law, as amended, the Contractor (and related Subcontractors) will be obligated to pay all workers in the covered classes only the applicable prevailing wage rates and supplements. The minimum hourly wage rate to be paid the various classes of labor performing work under this contract shall be in accordance with schedules which have been established or may hereafter be established or increased, by the New York State Department of Labor during the contract term. Refer to NYS Wage Schedule PRC# 2017008560 developed for this project.

#### **DELIVERY:**

All deliveries to be F.O.B. Monroe County to agency as specified by a Purchase Order. Delivery costs must be built into the unit prices bid. Deliveries must be made within **two (2) weeks** after receipt of purchase order number. The County reserves the right to terminate the contract in the event the specified delivery time is not met.

#### MINIMUM ORDER:

No minimum order is specified for this contract. Agencies must be able to order as needed. <u>Political subdivisions and others authorized by law may participate in this contract.</u>

#### PRICE CHANGES:

Price changes may be proposed by either party no later than forty-five (45) days prior to contract extension, based upon manufacturer price changes which must be supported with documentation. Should price changes not be acceptable to both parties, the contract will not be extended. Prices may change only at the time of extension.

## PURCHASE ORDER ISSUANCE:

Delivery of services may be directed by the receipt of a Purchase Order only. Items that are not part of this bid will not be paid for by Monroe County. As to all purchase orders issued by Monroe County, exceptions may only be authorized, in writing, by the Purchasing Manager or her authorized agent prior to delivery.

#### BILLING PROCEDURE:

All invoices for items sold any authorized agency as a result of this contract must be billed in the following manner: Purchase Order #, Quantity, Description of Item Purchased, BP#, Item #, Extension and Total. ALL INVOICES MUST BE MARKED WITH THE <u>PURCHASE ORDER NUMBER</u>. INVOICES WITHOUT THIS INFORMATION WILL NOT BE PROCESSED FOR PAYMENT.

#### WARRANTY/ GUARANTEE:

All warranties by manufacturer shall apply. Bidder shall, as part of its proposal, furnish its warranty/guarantee for all goods/services to be furnished hereunder. As a minimum, Bidder shall warrant all goods for a period of one (1) year from date of acceptance. Bidder shall be obligated to repair or replace all defects in material or workmanship, which are discovered or exist during said period. All labor, parts and transportation shall be at Bidder's expense.

## PERFORMANCE BOND:

The successful bidder shall procure, execute and deliver to the Owner and maintain at his own cost and expense a Performance Bond in the amount of the contract, of surety company approved by the Owner and authorized to do business in the State of New York as a surety. The security can be in the form of a Certified Check, Bank Draft, Standard Form of Irrevocable Letter of Credit or Performance Bond.

## SECURITIES AND INSURANCE:

Any Certificate of Insurance, Bonds, or other forms of security required by this bid are to be submitted to the Purchasing Manager no later than ten (10) normal business days following the date of notification of award. Documents must be received by the close of business 5:00 PM, on that day.

## UNCONTEMPLATED PURCHASES:

Monroe County reserves the right to request separate bids for such quantities of items on this contract that may be best procured via separate public bid offering and to otherwise act in furthering its own best interests.

## COMPLIANCE WITH THE LAW:

The Contractor agrees to procure all necessary licenses and permits. The Contractor shall comply with all laws, rules and regulations pertaining to the payment of wages and all other matters applicable to the work performed under this contract.

#### SUBCONTRACT:

The Contractor shall not subcontract any work without first obtaining the written consent of the Monroe County Purchasing Manager.

#### **RELATED ITEMS:**

The County reserves the right to add miscellaneous related items to this contract during the contract term upon agreement by both parties as to the price. Approval must be given in writing by the Purchasing Manager or her Designee.

## REPORT OF PURCHASE:

The Contractor must, upon request, provide the County Purchasing Manager with detailed information showing how much of each item was delivered to any and all agencies under this contract. This includes deliveries to not only the County but any other municipality or agency which orders from this contract.

#### **OTHER AGENCIES:**

The Contractor(s) **must** honor the prices, terms and conditions of this contract with political subdivisions or districts located in whole or in part within Monroe County. In addition, the contractor **may**, but is not required to, extend the prices, terms and conditions of this contract to any other political subdivision or district. Usage of this contract by any of these other political subdivisions or districts will have to be coordinated between that subdivision or district and the contractor. Orders placed against this contract between any subdivision or district will be contracts solely between the Contractor(s) and those entities. Monroe County will not be responsible for, nor will it have any liability or other obligation for, such contract between the Contractor(s) and any third party.

#### **INDEMNIFICATION:**

The Contractor agrees to defend, indemnify and save harmless the County, its officers, agents, servants and employees from and against any and all liability, damages, costs or expenses, causes of action, suits, judgments, losses and claims of every name not described, including attorneys' fees and disbursements, brought against the County which may arise, be sustained or occasioned directly or indirectly by any person, firm or corporation arising out of or resulting from the performance of the services by the Contractor, arising from any act, omission or negligence of the Contractor, its agents and employees or arising from any breach or default by the Contractor under this Agreement. Nothing herein is intended to relieve the County from its own negligence or misfeasance or to assume any such liability for the County by the Contractor.

Terms & Conditions-Term Contract-Commodity-Single Award doc (8/03)

#### **SECTION 203 - EXCAVATION AND EMBANKMENT**

- **203-1 DESCRIPTION.** This work shall consist of excavation, disposal, placement and compaction of all materials that are not provided for under another section of these Specifications, and shall be executed in conformance with payment lines, grades, thicknesses and typical sections specified in the contract documents.
- **203-1.01 Unclassified Excavation.** Unclassified excavation shall consist of the excavation and disposal of all materials, of any description, encountered in the course of construction, unless otherwise specified in the contract. Estimated limits and descriptions of subsurface deposits and formations which may be shown on the plans, are supplied in accordance with §102-05, Subsurface Information.
- **203-1.02 Embankment.** The embankment is the portion of a fill section situated between the embankment foundation and the subgrade surface, excluding any material placed under another section of these specifications.
- **203-1.03 Embankment Foundation.** The embankment foundation is the surface upon which an embankment is constructed after all work required under §203-3.09 has been completed.
- **203-1.04** Subgrade Surface. The subgrade surface is the surface of the road section upon which the select materials and/or subbase are placed.
- **203-1.05 Subgrade Area.** The subgrade area is that portion of an embankment situated above either of the following, but excluding any material placed under another section of these specifications.
- A. A line located 0.6 m below the subgrade surface and extended to the intersection with the embankment side slopes, or
- B. The embankment foundation, whichever is higher.

The material and compaction requirements for the subgrade area in embankments are found in §203-2.02 and §203-3.12, respectively.

In cut sections, the subgrade area is not defined except where undercut and backfill with a select material item is specified or ordered: in such cases, the payment lines for undercut work shall define the subgrade area.

- **203-1.06 Embankment Side Slope Area.** The embankment side slope areas are those cross-sectional areas of an embankment situated outside of lines projected downward and outward on a one on one slope from the edges of the subgrade surface to their intersection with the embankment foundation, but excluding any portion lying within a subgrade area.
- 203-1.07 Topsoil. See Section 613, Topsoil.
- 203-1.08 Suitable Material. A material whose composition is satisfactory for use in embankment construction is a suitable material. The moisture content of the material has no bearing upon such designation. In general, any mineral (inorganic) soil, blasted or broken rock and similar materials of natural or man-made (i.e.

recycled) origin, including mixtures thereof, are considered suitable materials. Determinations of whether a specific natural material is a suitable material shall be made by the Engineer on the above basis.

#### SECTION 206 - TRENCH, CULVERT AND STRUCTURE EXCAVATION

#### 206-1 DESCRIPTION

**206-1.01 General.** This work shall consist of the excavation of all materials and backfill or disposal of excavated material required for trenches, culverts, structures, conduit and direct burial cable not otherwise provided for in other sections of these specifications. All such excavation shall be unclassified excavation as defined in §203-1.01. The work shall also consist of all required protection necessary to ensure the safety of the workers and the public.

206-1.02 Trench and Culvert Excavation and Trench and Culvert Excavation - Original Grade (O.G.) The work specified under these items shall include the excavation for and backfill of all culverts, pipe lines, and other minor structures including but not limited to leaching basins, catch basins, field inlets, manholes and drop inlets.

**206-1.03 Structure Excavation.** The work specified under this item shall include the excavation for all bridge foundations, walls and other major structures and backfill of suitable excavated material if another item is not specified.

**206-1.04 Conduit Excavation and Backfill including Surface Restoration.** The work specified under this item shall include the excavation, necessary backfill and surface restoration required for conduits and direct burial cables.

**206-1.05 Test Pits.** The work specified under this item shall include the excavation and backfill of test pits at locations shown in the contract documents, or as directed by the Engineer. Excavation and backfill methods, limits and equipment used shall be approved by the Engineer. This work will not relieve the contractor of the responsibility to locate underground facilities as required under 16 NYCRR 753.

206-2 MATERIALS. (Not Specified).

#### 206-3 CONSTRUCTION DETAILS

**206-3.01 General.** The appropriate construction details specified for "Excavation and Embankment" in §203-3.01 through and including §203-3.12, §203-3.15, and the requirements of "Legal Relations and Responsibility to Public" in Section 107 shall apply to the work specified in this section.

The excavation shall be dewatered and kept free from water, snow and ice when necessary.

Special care shall be taken not to disturb the bottom of the excavation, and not to remove the material at final grade until just before the structure is placed.

The Contractor shall be responsible at all times for carrying out of all excavation operations in a safe and prudent manner so that the workers, the public, and adjacent public and private property will be protected

from unreasonable hazard. Details and requirements of this protection shall conform to Title 29 Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction (OSHA) and §107-05 Safety and Health Requirements Paragraph F and §107-08 Preservation of Property. All applicable local, State and/or Federal requirements shall be observed and necessary permits acquired by the Contractor.

If no support or protective system is shown in the plans or proposal, the Contractor may open the excavation with the sides sloped to a stable slope not steeper than that allowed by the Title 29 Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction (OSHA). Taking this option, however, does not relieve the Contractor of responsibilities as stated in this subsection. When the Contractor chooses this option, the materials used and method of construction outside the payment lines shall be in accordance with the requirements of this Section.

When excavation is required for the installation of conduit or direct burial cable, the Contractor shall notify the Engineer upon completion of the excavation. No conduit or cable shall be placed in the excavation until the Engineer has approved the depth and cross-section.

206-3.02 Replacement of Pavement Structure Courses. When the Contractor, in placing conduits, direct burial cable or utilities, excavates into the pavement, subgrade, subbase, or shoulder courses, such courses must be replaced in kind, character and condition, to maintain a uniform road section.

**206-3.03 Disposal of Excavated Material.** The provisions of §203-3.06 and/or §203-3.07 shall apply to all material excavated under this section which is not used as backfill.

**206-3.04 Test Pits.** The Contractor shall excavate and backfill test pits in order to determine existing underground utility type, size and/or condition where new utility connections to existing facilities are proposed. The Contractor shall excavate and backfill test pits in a manner approved by the Engineer that prevents damage to wrappings, coatings or other protective coverings, such as by hand digging, vacuum excavation or similar non-destructive locating equipment. The limits of the excavation shall be those sufficient to determine existing utility type, size and/or condition.

#### 206-4 METHOD OF MEASUREMENT

**206-4.01 General.** The quantity of excavation shall be the number of cubic meters of material computed from payment lines shown on the plans or the appropriate standard sheets, except where revised payment lines are established by the Engineer prior to performing the work. Work performed beyond any designated payment line will not be included in the computation of quantities for the item involved.

**206-4.02 Trench and Culvert Excavation.** Unless otherwise shown or indicated on the contract plans, payment lines for excavation of pipe and culvert lines, and minor structures will be determined as follows:

A. Bottom Payment Line. The elevation of the bottom payment line shall be the invert elevation of the pipe, conduit, or culvert. For pipes, conduits, or culverts of nominal horizontal dimensions of 300 to 3700 mm, the width of the excavations at the bottom payment line shall be the nominal inside horizontal dimension of the pipe, conduit, or culvert plus 1.2 m, or three (3) times the nominal inside horizontal dimension, whichever is less; for pipes with a nominal horizontal dimension greater than 3700 mm the width will be as shown on the appropriate standard sheets or in the contract documents. For concrete pipe, twice the minimum wall thickness shall be added to the preceding.

- **B.** Top Payment Line. Except when otherwise provided in the contract, the payment line in a cut section shall be the surface at the centerline of the pipe, culvert or conduit after completion of the general excavation and prior to excavation to place material paid for under another item of the contract; except that, when an undercut is made for unstable conditions, the payment line will be at the top of the undercut backfill. The payment line in a fill section shall be the ground surface prior to commencing work on the contract.
- **C. Side Payment Lines.** The side payment lines of the excavation shall be vertical to the bottom of payment line, regardless of whether sheeting is or is not required or used.

For utility lines, exclusive of conduit and cable lines, of less than 300 mm diameter, the excavation width shall be the actual bottom width necessary, as determined by the Engineer, to properly perform the installation work required, or 1 m, whichever is less.

- **D.** Payment Lines for Minor Structures. Payment lines for minor structures shall be vertical from the bottom of the footing and shall extend out 0.6 m from the perimeter of the structure footing. The top payment line shall be the same as for (B) above.
- 206-4.03 Conduit Excavation and Backfill including Surface Restoration. The quantity of conduit and/or cable excavation and backfill including surface restoration for payment shall be the number of linear meters measured along the center of the conduit and/or cable placed, in accordance with the methods stated below.

Wherever a pair or group of conduits and/or cables are physically connected together, they shall be considered as a single conduit and/or cable.

- **A.** Wherever conduit and/or cable in the same trench are physically separated laterally by 150 mm or more between centerlines, as shown on the plans or as directed by the Engineer, the linear meter measurement shall be made along the center of each conduit and/or cable.
- **B.** Wherever a pair or group of conduits and/or cable in the same trench are physically separated laterally by less than 150 mm between centerlines of adjacent conduit and/or cable, as shown on the plans or as directed by the Engineer, the linear meter measurement for those conduits and/or cable shall be made along the center of that pair or group of conduit and/or cables.
- **206-4.04** Trench and Culvert Excavation O.G. The provisions of §206-4.02 Trench and Culvert Excavation shall apply, except the top payment line shall be the existing ground surface at the centerline of the pipe, culvert or conduit prior to commencing work on the contract.
- **206-4.05** Test Pits. The quantity to be measured for payment will be the number of test holes excavated and backfilled in accordance with the contract documents.

#### 206-5 BASIS OF PAYMENT

206-5.01 Trench, Culvert and Structure Excavation. The unit price bid for this work shall include the cost of labor, materials and equipment required to satisfactorily complete the work, including the costs of excavation, backfill (except select backfill paid for separately), disposal of excavated material, presplitting rock

excavations where required, and keeping the site dewatered and free from earth, water, ice and snow when necessary.

The cost for necessary guarding and protection required to protect the public from open trenches and, that required for the protection to ensure the safety of the workers shall be included in the bid price for Trench, Culvert and Structure Excavation. Progress payments will be made after the excavation has been completed, and prior to the completion of other work included under this item, including but not limited to pumping, fencing and backfilling. Payment will be made, at the unit price bid, for 75% of the quantity excavated within the prescribed payment lines. The balance of the quantity excavated will be paid for upon proper completion of backfill placement.

If the Contractor chooses the slope layback option to satisfy OSHA, no extra payment will be made for the cost of any labor, equipment or material necessary to restore the area outside the payment lines shown on the plans.

**206-5.02 Sheeting, Cofferdams or Temporary Water Diversion Structures.** Payment for Sheeting, Cofferdams or Temporary Water Diversion Structures required by the plans, specifications, or ordered by the Engineer in writing will be made in accordance with the appropriate item.

Where cofferdams are specified for structure excavation, the work required to keep the site free from earth, water, ice and snow shall be included in the item for cofferdams when necessary.

**206-5.03 Replacement of Pavement Structure Courses.** With exception of the Conduit Excavation and Backfill including Surface Restoration item, the work of replacing pavement, subcourses and shoulder courses shall be paid for and performed under the provisions of their respective items and subsections.

206-5.04 Conduit Excavation and Backfill including Surface Restoration. The unit price bid per linear meter for this work shall include the cost of furnishing all labor, materials and equipment necessary to excavate and backfill the trench and to replace any pavement, shoulder, and sidewalk courses, subcourses, curbs, drives, lawns and other top surfaces as required to complete the work.

206-5.05 Test Pits. The unit price bid for this work shall include the cost of furnishing all labor, materials and equipment necessary to excavate and backfill the test pit and replace any pavement, shoulder and sidewalk courses, subcourses, curbs, drives, lawns and other top surfaces required to complete the work.

Item No.	Item	Pay Unit
206.01	Structure Excavation	Linear Feet
206.02	Trench and Culvert Excavation	Linear Feet
206.03	Conduit Excavation and Backfill including Surface Restoration	Feet
206.04	Trench and Culvert Excavation - O.G.	Linear Feet
206.05	Test Pit Excavation	Each

#### ITEM 206.10XXM TRAFFIC SIGNAL CONDUIT EXCAVATION AND RESTORATION

#### **DESCRIPTION**

This work shall consist of the excavation and necessary backfill and restoration required for traffic signal conduits.

#### **MATERIALS**

Materials for the restoration of top surfaces shall be as indicated on the plans and as approved by the ENGINEER.

#### **CONSTRUCTION DETAILS**

The requirements of subsection 206-3 of the NYSDOT Standard Specifications, latest revision, shall apply with the following additions:

When the CONTRACTOR is required to excavate through pavement or sidewalk, he shall saw cut along neat lines as shown on the plans or as ordered by the ENGINEER. An approved power saw, as approved by the ENGINEER prior to actual use, shall be used to saw cut to the depth specified on the plans or as directed by the ENGINEER.

The conduit excavation and backfill and the restoration of top surface courses shall also conform to the applicable notes and details shown on the plans.

#### METHOD OF MEASUREMENT

Subsection 206-4.03 of the NYSDOT Standard Specifications, latest revision, shall apply. Measurement shall be made in meters.

#### **BASIS OF PAYMENT**

The unit price bid per linear meter shall include the cost of furnishing all labor, materials and equipment necessary to complete the work including excavation, backfill, saw cutting and restoring as shown on the plans.

Any damage to existing pavement, sidewalk, curb or other facilities caused by the CONTRACTOR's operations shall be repaired by the CONTRACTOR to the satisfaction of the ENGINEER at no additional cost to the COUNTY.

<u>Item No.</u>	<u>Item</u>	Pay Unit
206.1015	Traffic Signal Conduit Excavation and Restoration in Asphalt Concrete	Linear Feet
206.1016	Traffic Signal Conduit Excavation and Restoration in Portland Cement Concrete	Linear Feet
206.1017	Traffic Signal Conduit Excavation and Restoration in Composite Pavement	Linear Feet
206.1018	Traffic Signal Conduit Excavation and Restoration in Concrete Sidewalk and Driveways	Linear Feet
206.1019	Traffic Signal Conduit Excavation and Restoration in Asphalt Sidewalk and Driveways	Linear Feet
206.1020	Traffic Signal Conduit Excavation and Restoration in Grass and Unpaved Areas	Linear Feet

# Section 500 PORTLAND CEMENT CONCRETE

#### SECTION 501 - PORTLAND CEMENT CONCRETE - GENERAL

**501-1 DESCRIPTION.** These general requirements apply to concrete furnished for pavement, structures and incidental construction. Additional requirements may be specified in the contract item. All testing will be done in accordance with Department procedures.

#### **501-2 MATERIALS**

**501-2.01 Composition of Mixtures.** The Contractor shall inform the Regional Director, in writing, of the materials sources prior to mixing concrete. Proportion and mix portland cement, fine aggregate, coarse aggregate, water, admixtures, pozzolan and /or microsilica to create a homogeneous portland cement concrete mixture.

Produce the class of concrete indicated in the contract documents. However, substitutions may be made according to Table 501-1, Concrete Class Options.

TABLE 501-1 CONCRETE CLASS OPTIONS			
Concrete Class Specified Allowable Class Options			
A	C, E, F <sup>1</sup> , H or HP		
C	F <sup>1</sup>		
D	DP		
DP	None		
E	F <sup>1</sup> or H or HP		
Н	HP		
F, G, GG, or HP	None		
1	J		
J	None		

#### NOTES:

1. Regional Director approval required for pavement applications, including approach slabs. D.C.E.S. approval required for structural or deck applications, excluding approach slabs. Class F may not be used in mass placements, or as a substitute for Class A in Sign Structure, Signal Pole, and Luminary foundations.

#### 501-2.02 Material Requirements

Portland Cement	701-01	Fly Ash	711-10
Blended Portland Cement	701-03	Microsilica	711-11
Coarse Aggregates	703-02	GGBFS *	711-12
Concrete Sand	703-07	Water	712-01
Admixtures	711-08		

<sup>\*</sup> Ground Granulated Blast Furnace Slag

**A.** Cementitious Materials. Use only cementitious materials meeting §701-01 whose brand name and type appears on the Department's Approved List. Cementitious materials stored over the winter at concrete producing facilities will be retested for specification compliance. All contaminated, or hardened cementitious material will be rejected and not used in Department work.

The Department will consider requests to evaluate alternate cements, pozzolan or microsilica. The use of alternatives is subject to approval by the Director, Materials Bureau.

1. Portland Cement. Use Type I, Type II or Type I/II cement, except as indicated below or in the contract documents.

Type I cement is restricted to fresh water and low sulfate soil areas. Use Type II or Type I/II cement in high sulfate, and salt water areas. Salt water areas are defined as; The Hudson River south of the Newburg-Beacon Bridge, and all other tidal / sea water spray areas of New York State. Type I/II cement is defined as a cement that meets the requirements of both Type I and Type II cements. High alkali cement is defined as any portland cement having an alkali content in excess of 0.70% as denoted on the Approved List. High alkali cement use is restricted, unless otherwise approved by the Regional Director, to mixtures that do not contain reactive aggregates (as denoted in the Department's List of Approved Sources of Aggregates).

- 2. Blended Portland Cement. Blended cements meeting the requirements of 701-03, may be used as follows:
- a. Type IP or SM. Blended Portland Cement (Type IP or Type SM), may be used in all classes of concrete listed in Table 501-03, Concrete Mixtures, except Class F. Type IP or SM blended cement replaces the portland cement/pozzolan portion of the designed mix in Class DP, G, GG, or HP concrete. When using Type IP or SM blended cement in Class DP and HP concrete, an addition of Microsilica §711-11 is required.
- b. Type SF. Blended Portland Cement (Type SF), may be used in Class DP or HP concrete. Type SF blended cement replaces the portland cement/microsilica portion of the designed mix in Class DP or HP concrete. When using Type SF blended cement in Class DP or HP concrete, an addition of Fly Ash, §711-10, or Ground Granulated Blast Furnace Slag (GGBFS), §711-12, is required.
- c. Ternary Blend. Blended Portland Cement (Ternary Blend), may be used in Class DP or HP concrete. Ternary blend cement in Class DP or HP concrete replaces the entire portland cement/pozzolan/microsilica portion of the designed mix. No subsequent addition of cementitious material is required or allowed.
- 3. Pozzolan. Pozzolan is defined as Fly Ash, §711-10, or Ground Granulated Blast-Furnace Slag (GGBFS), §711-12. All classes of concrete, except Class F, allow or require a pozzolan as a partial replacement for portland cement. Classes DP, G, GG, and HP concrete require the use of a pozzolan.
- Microsilica. Class DP and HP concrete require Microsilica, §711-11.

#### SECTION 608 - SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS

**608-1 DESCRIPTION.** This work shall consist of the construction of either a Portland Cement concrete sidewalk, an asphalt concrete sidewalk, an asphalt concrete driveway, bicycle paths, or furnishing and placing precast concrete paving, brick paving or grouted stone block paving. All work shall be in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or established by the Engineer.

**608-2 MATERIALS.** Materials shall meet the requirements specified in the following subsections of section 700--Materials:

Portland Cement	701-01
Bituminous Materials (As specified)	702-00
Asphalt Cement for Paving	702-02 or 702-03
Fine Aggregates	703-01
Coarse Aggregates	703-02
Mortar Sand	703-03
Cushion Sand	703-06
Concrete Sand	703-07
Mineral Filler	703-08
Brick Pavers	704-08
Stone Blocks	704-09
Precast Concrete Pavers	704-13
Premoulded Resilient Joint Filler	705-07
Masonry Mortar	705-21
Wire Fabric For Concrete Reinforcement	709-02
Water	712-01

**608-2.01 Portland Cement Concrete Sidewalk and Driveways.** The material requirements and composition shall comply with the specifications for Class A concrete in §501-2 under "Portland Cement Concrete--General". Concrete shall be proportioned in accordance with the aggregate weights specified for Class A concrete in Table 501-3, Concrete Proportions.

**608-2.02 Asphalt Concrete Sidewalks, Driveways, and Bicycle Paths.** The mixture requirements for these items shall either be 9.5 mm or 19.0 mm mixtures. These mixtures shall be designed for <0.3 million ESALs and produced in accordance to Section 401 using coarse aggregate Type F9. The number of courses and course thicknesses shall be as given in Table 608 - 1, Hot Mix Asphalt Composition.

TABLE 608-1
HOT MIX ASPHALT COMPOSITION

Total Paved Thickness	9.5 mm Mix	19.0 mm Mix	Number of Courses
40 mm	40 mm		1
50 mm	50 mm		1
80+ mm	40 mm	40+ mm	2+

#### Notes:

- 1. For the 19.0 mm mixture, the maximum thickness that can be placed in one pass is 75 mm.
- 2. A course shall consist of one or more separate lifts of hot mix asphalt, as directed by the Engineer, to attain the indicated thickness.

#### ITEM 686.61M ADJUST FRAMES AND COVERS (PULL BOXES)

#### DESCRIPTION

Under this item the CONTRACTOR shall adjust existing pullbox frames to match new grades as ordered by the ENGINEER.

#### **MATERIAL AND METHODS**

The CONTRACTOR shall adjust existing pullbox to new grades. The CONTRACTOR shall repair and perform whatever work related to the pullbox as necessary in order to establish an acceptable repair and adjustment.

#### **MEASUREMENT AND PAYMENT**

Payment will be per unit bid price and shall include the cost of excavation, the adjustment, any repairs and all the material, equipment and labor necessary to complete the work.

Item No.	<u>Item</u>	Pay Unit
686.61M	Adjust Frames and Covers (Pull Boxes)	EA

#### ITEM 686.62M

#### **REMOVE TRAFFIC SIGNAL PULLBOXES**

#### **DESCRIPTION**

Under this item the CONTRACTOR shall remove pullboxes as ordered by the ENGINEER.

#### **MATERIALS**

None specified.

#### **CONSTRUCTION DETAILS**

The CONTRACTOR shall remove pull boxes in accordance with the specifications, plans and as ordered by the ENGINEER. The pullboxes shall become the property of the CONTRACTOR and be removed from the site.

The CONTRACTOR shall remove the pullboxes located in the roadway area by sawcutting the pavement 600mm from the edge of the existing frame. The entire pullbox shall be removed.

The CONTRACTOR shall backfill the excavation in accordance with NYSDOT Standard Specifications Section 680-3.09, latest revision, to the top of the subgrade. Final restoration shall be in accordance with the plans and performed under other items in the contract.

The CONTRACTOR shall remove pullboxes located in the sidewalk by sawcutting the sidewalk 600mm away from the pullbox frame or by breaking the sidewalk at score lines and removing entire sidewalk flags. The CONTRACTOR shall backfill the excavation in accordance with NYSDOT Standard Specifications, Section 680-3.09, latest revision. Final restoration shall be in accordance with the plans.

#### METHOD OF MEASUREMENT

The quantity shall be measured as the number of pullboxes removed in accordance with the plans, specifications and orders of the ENGINEER.

#### **BASIS OF PAYMENT**

The unit price bid for each pullbox removed shall cover the cost of disposal, all labor, backfill and excavation material and equipment necessary. Payment for sawcutting, backfilling with subbase material and restoration shall be included under other items.

Payment will be made under:

 Item No.
 Item
 Pay Unit

 686.62M
 Remove Traffic Signal Pullboxes
 EA

ITEM 686.5099M CONCRETE BASE REMOVAL (POLE AND CONTROLLER)

**DESCRIPTION** 

Under this item the CONTRACTOR shall remove existing anchor bolt type pole bases and controller bases that are no longer required, and restore the area disturbed by the base removal.

**MATERIALS** 

All materials used for restoration shall conform to the appropriate section of the NYSDOT Standard Construction and Material Specifications, latest revision, and as ordered by the ENGINEER.

**CONSTRUCTION DETAILS** 

The CONTRACTOR shall remove the entire concrete base, or remove the top 550 mm to 600 mm of the concrete and anchor bolts. The CONTRACTOR shall backfill and restore the entire area disturbed by the base removal to an elevation level with existing ground. The restored surface area shall be replaced with material that matches existing adjacent surfaces. Sub-base course backfill material shall be consistent with the type of material used to restore the surface area.

METHOD OF MEASUREMENT

This item will be measured for payment as the number of each concrete base removed in accordance with the contract documents and as directed by the ENGINEER.

**BASIS OF PAYMENT** 

The unit price bid for this item shall include the furnishing of all labor, materials, tools, equipment, and incidentals as necessary to complete the work, including excavation, removal and disposal of bases, and all materials for backfill, and to match adjacent surface area.

Payment will be made under:

<u>Item No.</u> <u>Item</u> <u>Pay Unit</u>

686.5099M Concrete Base Removal (Pole and Controller) EA

#### ITEM C686.520xxx CONDUIT PVC SCHEDULE 80

#### **DESCRIPTION**

Work under this item shall include furnishing and installing new PVC Schedule 80 conduit as shown on the plans, or as directed by the ENGINEER.

#### **MATERIAL AND METHODS**

Conduit and fittings are to be Schedule 80, rigid, extra-heavy wall polyvinyl chloride (PVC) conduit as specified by Underwriter Laboratories Standard UL-651. The conduit is to meet the specifications included in the NEMA Standard Specification TC-2 for electrical plastic conduit EPC-80.

In the case of conflicting test requirements, the more stringent of the test requirements is to be met.

The conduit shall be placed within the trench and shall have a minimum cover of at least 18 inches, except under roadways where the minimum cover shall be 24 inches, unless specified otherwise on the plans. Conduit installed under roadways shall extend at least 1 foot behind the face of the curb, or as approved by the ENGINEER. The conduit shall be laid on a uniform grade to allow any condensation to drain to pull boxes.

The conduit fittings shall be assembled in the trench in accordance with the manufacturer's latest instructions and as approved by the ENGINEER. The joints shall be cemented in accordance with Federal Specification W-C-1094A and Underwriter Laboratories Standard UL-514. The joint cement solvent shall meet the requirements of ASTM D2564, or alternately be of the type recommended by the conduit manufacturer. Warning tape shall be placed in the open cut trenches approximately 6 inches above the conduit.

All bends in the conduit shall be made without kinking, flattening, or appreciably reducing the internal diameter of the conduit.

All conduit connected to pullboxes and handholes shall be installed flush with the inside wall and a minimum of 3 inches above the bottom of the floor.

All conduit shall be tested for clear bore and correct installation, using a mandrel, brush and snake, before the installation will be accepted. The mandrel shall be turned approximately 85 percent of the internal diameter of the conduit to be tested. Two short wire brushes shall be included in the mandrel assembly. Snaking of conduits shall be done in the presence of the ENGINEER. All conduit which rejects the mandrel shall be cleared. After providing a 500 pound nylon pull cord in the conduit, all empty conduit and duct openings shall be plugged with a tapered hard rubber plug. At least 3 feet of extra rope shall be left at each end.

#### **BASIS OF ACCEPTANCE**

The conduit shall be accepted upon the basis of the manufacturer's certification that it meets the requirements of this specification, as well as being Underwriters Laboratory Listed. Fittings, couplings, and solvent cement shall be accepted upon the manufacturer's certification that they meet the requirements of this specification.

686-5206XX.doc 1 of 2 Last Revised 1-05

#### METHOD OF MEASUREMENT

The quantity to be measured for payment shall be the number of lineal feet of conduit installed in accordance with the contract documents and as directed by the ENGINEER.

#### **BASIS OF PAYMENT**

The unit bid price for this item shall include the cost of furnishing and installing new conduit, fittings, warning tape, pull cord, couplings and insulating bushings; cementing of the joints and fittings; testing for clear bore and correct installation; connecting conduit to handholes, pullboxes, existing conduit, traffic signal pole foundations, and other electrical equipment. Payment for trenching, boring, and surface restoration shall be included under other items.

Item No.	<u>ltem</u>	Pay Unit
C686.520603	Conduit PVC Schedule 80 - 1" Dia	L.F.
C686.520606	Conduit PVC Schedule 80 - 2" Dia	L.F.
C686.520608	Conduit PVC Schedule 80 - 3" Dia	L.F.
C686.520610	Conduit PVC Schedule 80 - 4" Dia	L.F.

#### ITEMC686.9956

#### **ROD AND CLEAN CONDUIT**

#### **DESCRIPTION**

Under this item, the CONTRACTOR shall rod and clean existing conduit that has been designated to house the communication cable, to make certain that the conduit is clean and satisfactory for the installation of cable. The locations of the designated conduit is to be furnished by the ENGINEER.

#### **MATERIALS**

None Specified

#### **CONSTRUCTION DETAILS**

A steel mandrel no less than 2 inches long and having a diameter no less than 70 percent of the inside diameter of the conduit shall be passed through the entire run of conduit from one end to the other between manholes and/or pullboxes, without binding.

The CONTRACTOR will be required under this item to attempt to clear any obstruction that will not allow this passage of the rod or mandrel. Only those methods, approved by the owning agency or utility company, shall be employed to clear such obstruction. If it is not possible to clear an obstruction by the methods approved above, the conduit will be repaired under other pay items.

After the conduit has been rodded and cleaned, the CONTRACTOR shall furnish and install a No. 10AWG galvanized steel or nylon fish in the conduit from one end to the other, leaving no less than one foot of extra wire in each manhole or pullbox. The galvanized wire shall be grounded to a suitable grounding device at each end of the conduit.

The CONTRACTOR will be required to conform to the provisions of the General Conditions and Special Conditions - Location of Existing Utilities of the contract proposal, while performing work on this item.

#### METHOD OF MEASUREMENT

This item will be measured for payment as the number of linear feet of conduit actually rodded and cleaned in accordance with the Contract Documents and to the satisfaction of the ENGINEER.

#### **BASIS OF PAYMENT**

Payment for the amount of conduit rodded and cleaned will be made upon approval of the ENGINEER, for the measured quantity at the contract price per linear foot; which price shall be full compensation for furnishing, transporting, installing and adjusting all materials; pumping water from manholes and pullboxes; and for all labor, tools, materials, equipment and incidentals necessary to complete the work in accordance with the plans and specifications.

Payment shall also include maintaining the cleaned and rodded conduit in such condition until after the installation of cable.

Item No.	<u>Item</u>	Pay Unit
C686.9956	Rod and Clean Conduit	L.F.

## ITEM 680.94350010 - EMBEDDED WOOD UTILITY POLE - 35 FEET ITEM 680.94400010 - EMBEDDED WOOD UTILITY POLE - 40 FEET

#### **DESCRIPTION:**

Under this item, the Contractor shall furnish and install a wood utility pole suitable for attachment of power source risers, temporary traffic signal span wires, and ancillary equipment.

#### **MATERIALS:**

The pole shall be Southern Pine and meet the requirements of ANSI O5.01 for Class 4 utility type poles. The pole shall be given a preservative treatment using a water-borne preservative in accordance with subsection 708-31 of the New York State Standard Specifications.

#### **CONSTRUCTION DETAILS:**

The pole shall be erected plumb in an augured hole of sufficient depth to allow for a minimum of 6 ½ ft. embedment. The area around the pole shall be backfilled with suitable material and thoroughly compacted to the satisfaction of the ENGINEER. The Contractor shall restore, in kind, all areas which were disturbed by the pole installation operation. Poles supporting span wires shall be raked to appear plumb after loaded by span and guy wires if specified.

#### **METHOD OF MEASUREMENT:**

The work will be measured as the number of embedded wood utility poles furnished and installed in accordance with the Contract Documents and AOBE.

#### **BASIS OF PAYMENT**

The unit prices bid shall include costs for all labor, materials and equipment necessary to satisfactorily complete the work including: excavation, pole installation, backfill and restoration. Guy assemblies, when required, in conjunction with the utility pole installation will be furnished and installed under separate contract items. Removal of temporary wood span poles, when required, will be paid separately under the item "Remove Traffic Signal Equipment."

12/26/08E Page 1 of 1 5/23/97 M

#### ITEM C686.79XX

#### SIGNAL EQUIPMENT REMOVAL

#### **DESCRIPTION**

This work shall consist of removing traffic signal equipment as shown on the plans and as ordered by the ENGINEER,

#### **CONSTRUCTION DETAILS**

The Contractor shall carefully remove existing vehicle signal heads, mast arms, signal poles, pedestrian signal heads, pedestrian buttons and signs, sonic detectors, controllers, controller cabinets, span wires and signal cable as shown on the plans.

The removed equipment shall be carefully sored until it can be returned to Monroe County. Contact Ernie Fattore (753-7772) to arrange for material drop off.

Care shall be exercised in removing and salvaging electrical equipment so that it will remain in its original form and existing condition whenever possible. The Contractor will be required to replace at his own expense any traffic signal equipment which is determined by the ENGINEER to have been damaged or destroyed by the Contractor's operations.

#### **METHOD OF MEASUREMENT**

Payment for this work shall be made by the number of mast arms and poles removed in accordance with the plans and specifications.

<u>Item No.</u>	<u>Item</u>	Pay Unit
C686.7902	Removal of Traffic Signal Mast Arm	EA
C686.7903	Removal of Traffic Signal Pole Embedded	EA
C686.7904	Removal of Traffic Signal Pole Anchor Base	EA
C686.7905	Removal of Wood Poles	EA

#### ITEM C689.85 MAST ARM (TRAFFIC SIGNAL), VARIABLE LENGTH (FURNISHED)

#### **DESCRIPTION**

Under this item the CONTRACTOR shall install steel mast arms for traffic signals as shown on the plans and/or as directed by the ENGINEER.

#### **MATERIAL**

The mast arms will be furnished by the COUNTY to the CONTRACTOR for installation.

#### **CONSTRUCTION DETAILS**

The requirements of NYSDOT Standard Specifications, Section 680-3.11, latest revision, shall apply.

#### METHOD OF MEASUREMENT

Payment for this work shall be made by the number of mast arms installed in accordance with the plans and specifications.

#### **BASIS OF PAYMENT**

The unit price bid for each shall include all labor, materials and equipment necessary to complete the work.

Item No.	<u>ltem</u>	Pay Unit
C689.85	Mast Arm (Traffic Signal), Variable Length (Furnished)	EA

#### ITEM C689.8200XX

#### MAST ARM TRAFFIC SIGNAL POLE (FURNISHED)

#### **DESCRIPTION**

Under this item the CONTRACTOR shall install galvanized steel mast arm traffic signal ples as shown on the plans and/or as directed by the ENGINEER.

#### **MATERIALS**

The poles will be furnished by the COUNTY to the CONTRACTOR for installation.

#### **CONSTRUCTION DETAILS**

The requirements of Section 680-3.10 through 680-3.12 of the NYSDOT Standard Specifications, latest revision, shall apply.

#### METHOD OF MEASUREMENT

Payment for this work shall be measured by the number of poles installed in accordance with the plans and specifications.

#### **BASIS OF PAYMENT**

The unit price bid per each shall include all labor, materials and equipment necessary to complete the work. Payment for excavation, backfill and concrete will be paid for under their respective items.

<u>Item No.</u>	<u>Item</u>	Pay Unit
C689.820030	Mast Arm Traffic Signal Pole - Anchor Base (22') (Furnished)	Each
C689.820031	Mast Arm Traffic Signal Pole – Combination – Anchor Base (30') (Furnished)	Each

#### ITEM C689.9942

### STEEL SPAN POLE - ANCHOR BOLT BASE (FURNISHED)

#### **DESCRIPTION**

Under this item, the CONTRACTOR shall install furnished steel span poles as shown on the plans and/or as ordered by the ENGINEER.

#### MATERIALS AND METHOD

The poles and all component parts shall be of steel construction and shall be approved standard poles in accordance with NYSDOT Standard specifications, latest revision.

Cover casting or leaf covers shall be attached to the poles to conceal the anchor rods and nuts.

Poles shall have a Simplex Fitting (two bolt type) positioned as shown on the plans or as directed by the ENGINEER.

#### **BASIS OF PAYMENT**

The quantity to be paid for under this item will be the number of poles placed in accordance with the plans and specifications and as director by the ENGINEER.

The price bid for these items shall include all work necessary to complete the installation.

Item No.	<u>Item</u>	Pay Unit
C689.9942	Steel Span Pole - Anchor Bolt Base (Furnished)	EA

#### **COMPLIANCE WITH FEDERAL SINGLE AUDIT ACT**

In the event the Contractor is a recipient through this contract, directly or indirectly of any funds of or from the United States Government, Contractor agrees to comply fully with the terms and requirements of Federal Single Audit Act [Title 31 United States Code, Chapter 75], as amended from time to time. The Contractor shall comply with all requirements stated in Federal Office of Management and Budget Circulars A-102, A-110 and A-133 and such other circulars, interpretations, opinions, rules or regulations that may be issued in connection with the Federal Single Audit Act.

If on a cumulative basis the Contractor expends Five Hundred Thousand and no/100 Dollars (\$750,000.00) or more in federal funds in any fiscal year, it shall cause to have a single audit conducted, the Data Collection Form (defined in Federal Office of Management and Budget Circular A-133) shall be submitted to the County; however, if there are findings or questioned costs related to the program that is federally funded by the County, the Contractor shall submit the complete reporting package (defined in Federal Office of Management and Budget Circular A-133) to the County.

If on a cumulative basis the Contractor expends less than Five Hundred Thousand and no/100 Dollars (\$750,000.00) in federal funds in any fiscal year, it shall retain all documents relating to the federal programs for three (3) years after the close of the Contractor's fiscal year in which any payment was received from such federal programs.

All required documents must be submitted within nine (9) months of the close of the Contractor's fiscal year end to:

Monroe County Internal Audit Unit 304 County Office Building 39 West Main Street Rochester, New York 14614

The Contractor shall, upon request of the County, provide the County such documentation, records, information and data and response to such inquiries as the County may deem necessary or appropriate and shall fully cooperate with internal and/or independent auditors designated by the County and permit such auditors to have access to, examine and copy all records, documents, reports and financial statements as the County deems necessary to assure or monitor payments to the Contractor under this contract.

The County's right of inspection and audit pursuant to this contract shall survive the payment of monies due to Contractor and shall remain in full force and effect for a period of three (3) years after the close of the Contractor's fiscal year in which any funds or payment was received from the County under this contract.

## BP #0808-17 INSTALLATION OF UNDERGROUND CONDUIT, PULLBOXES, PEDESTALS AND APPURTENANCES

#### **UNIT PRICE SHEET** (as of 8/1/2021)

ITEM #	DESCRIPTION	UNIT PRICE
203.01	Unclassified Excavation & Disposal	\$ 99.22
206.1015	Conduit Excavation & Restoration In Asphalt Concrete	\$ 57.83
206.1016	Conduit Excavation & Restoration In Portland Cement Concrete	\$ 44.38
206.1017	Conduit Excavation & Restoration In Composite Pavement	\$ 101.04
206.1018	Conduit Excavation & Restoration In Concrete Sidewalk and Driveways	\$ 68.35
206.1019	Conduit Excavation & Restoration In Asphalt Sidewalk and Driveways	\$ 56.89
206.1020	Conduit Excavation & Restoration In Grass and Unpaved Areas	\$ 16.94
501.01	Portland Cement Concrete, Class A	\$ 154.42
680.01	Concrete Sidewalks & Driveways	\$ 833.18
680.5001	Signal Pole Excavation & Concrete Foundation	\$ 878.70
680.5002	Concrete Base For Signal Cabinet	\$ 1543.38
680.510301	24" Circular Pullbox (600mm)	\$ 1460.22
680.510401	30" Circular Pullbox (750mm)	\$ 1577.03
680.520103	Conduit Rigid Steel 1"	\$ 6.79
680.520106	Conduit Rigid Steel 2"	\$ 17.61
680.520108	Conduit Rigid Steel 3"	\$ 32.59
680.52011	Conduit Rigid Steel 4"	\$ 46.85
680.53	Conduit Jacking Or Boring	\$ 62.85
680.700603	Steel Riser Assembly 1"	\$ 251.71
680.700606	Steel Riser Assembly 2"	\$ 408.90
680.700608	Steel Riser Assembly 3"	\$ 572.51

## BP #0808-17 INSTALLATION OF UNDERGROUND CONDUIT, PULLBOXES, PEDESTALS AND APPURTENANCES

#### **UNIT PRICE SHEET** (as of 8/1/2021)

ITEM #	DESCRIPTION	UNIT PRICE
680.700610	Steel Riser Assembly 4"	\$ 709.17
680.94350010	Installation of 35' Wood Pole	\$ 1080.55
680.94400010	Installation of 40' Wood Pole	\$ 1226.57
686.5099	Concrete Base Removal	\$ 525.68
686.520603	Conduit PVC Schedule 80 - 1"	\$ 4.14
686.520606	Conduit PVC Schedule 80 - 2"	\$ 7.35
686.520608	Conduit PVC Schedule 80 - 3"	\$ 10.97
686.520610	Conduit PVC Schedule 80 - 4"	\$ 16.33
686.61	Adjust Pullbox Frame & Cover	\$ 537.36
686.62	Remove Traffic Signal Pullboxes	\$ 407.69
686.7902	Remove Traffic Signal Mast Arm	\$ 851.59
686.7903	Remove Traffic Signal Pole Embedded	\$ 948.55
686.7904	Remove Traffic Signal Pole Anchor Base	\$ 893.65
686.7905	Removal of Wood Pole	\$ 814.21
686.9956	Rod & Clean Duct	\$ 2.92
689.82003	Mast Arm Traffic Signal Pole - Anchor Base (22') (Furnished)	\$ 1070.04
689.820031	Mast Arm Traffic Signal Pole - Combination-Anchor Base (30') (Furnished)	\$ 1226.57
689.85	Mast Arm (Traffic Signal), Variable Length (Furnished)	\$ 1226.57
689.9942	Steel Span Pole - Anchor Bolt Base (Furnished)	\$ 1070.04