

**SUPPLEMENTAL SPECIFICATIONS**

TABLE OF CONTENTS

SUPPLEMENTAL SPECIFICATIONS ..... 1

SECTION 13164 – TRAFFIC SIGNAL CONDUIT ..... 2

    PART 4 MEASUREMENT AND PAYMENT ..... 2

SECTION TSC&M01 – INTERSECTION LIGHTING ..... 3

**1 General** ..... 3

**2 Execution** ..... 3

**3 Measurement and Payment** ..... 3

SECTION TSC&M02 – ROADSIDE ASSEMBLY INSTALLATION ..... 5

**1 Materials**..... 5

**2 Execution** ..... 5

**3 Measurement and Payment** ..... 5

SECTION TSC&M03 – SIGN INSTALLATION ..... 7

**1 Materials**..... 7

**2 Execution** ..... 7

**3 Measurement and Payment** ..... 7

SECTION TSC&M04 – SPECIALITY MAINTENANCE ITEMS ..... 8

**1 Materials**..... 8

**2 Execution** ..... 8

**3 Measurement and Payment** ..... 9

SECTION TSC&M05 – TROUBLESHOOT EQUIPMENT..... 10

**1 General** ..... 10

**MODIFY and/or ADD the listed sections as follows:**

**SECTION 13164 – TRAFFIC SIGNAL CONDUIT**

**PART 4 MEASUREMENT AND PAYMENT**

**Add**

***Direct Bore (small reamer)*** shall include a bore shot that utilizes a reamer with a diameter less than 8” regardless of the number of conduits installed.

***Direct Bore (large reamer)*** shall include a bore shot that utilizes a reamer with a diameter greater than 8” regardless of the number of conduits installed.

## **SECTION TSC&M01 – INTERSECTION LIGHTING**

### **1 General**

- (a) In general, items in this section shall comply with Arlington County Streetlight Specifications and Standards.
- (b) Intersection lighting includes cobrahead fixtures mounted on mast arm poles, Carlyle streetlight poles with signal equipment attached, and generally, any lighting wired to the signal electric service.

### **2 Execution**

- (a) Install Streetlight Pole (Various Types)
  - (1) This work shall involve pickup and transporting the street light pole from the Trades Center or other designated location to the job site, running the wires to the pole to make ready for fixture installation, setting the pole and back filling, installing a breakaway fuse (10 amp) in the pole base and connecting all wires necessary.
  - (2) The Contractor is also required to trim all tree branches up to a height of 20 feet and maintain a clear width of 5 feet from all light fixtures.
  - (3) This work includes contractor's personnel unloading and storing streetlight poles, light fixtures at the County Trades Center.
  - (4) Removal and disposal of packaging material is contractor's responsibility.
  - (5) All materials except for the light fixture and pole shall be supplied by the Contractor and included in the unit price for streetlight.
- (b) Install Fixture (Various Types)
  - (1) This work shall include the mounting of the fixture on the luminaire arm or pole and making all necessary electrical connection.
- (c) Remove Streetlight (Various Types)
  - (1) Streetlight removal shall include removing the fixture, pole, and hardware. Any unneeded wires shall be removed as well. The fixture and pole shall be disposed of or salvaged by the Contractor as directed.

### **3 Measurement and Payment**

- (a) ***Install Carlyle Pole*** shall be measured and paid for per each. Foundation shall be paid for separately.

- (b) **Remove Carlyle Pole** shall be measured and paid for per each. Foundation demolition shall be paid for separately.
- (c) **Install Single Carlyle Fixture** shall be measured and paid for per each.
- (d) **Install Double Carlyle Fixture** shall be measured and paid for per each.
- (e) **Remove Carlyle Fixture** shall be measured and paid for per each.
- (f) **Install Cobrahead Streetlight Pole and Fixture** shall be measured and paid for per each. Foundation shall be paid for separately.
- (g) **Remove Cobrahead Streetlight Pole and Fixture** shall be measured and paid for per each. Foundation demolition shall be paid for separately.

## **SECTION TSC&M02 – ROADSIDE ASSEMBLY INSTALLATION**

### **1 Materials**

- (a) The materials for all roadside assemblies such as RRFB, Count Stations, and Speed Indicators shall be provided by the County. The Contractor is responsible for furnishing any materials required for installation of the foundation and mounting hardware required to attach the assemblies to the poles.

### **2 Execution**

#### (a) Count Station Installation

##### (1) Installation of Count Station shall include:

- (i) Mounting the Detector
- (ii) Installing the cable to connect the detector to the control cabinet
- (iii) Installing modem with antenna and cable (includes modem, power cord, cable, antenna and mount) or ethernet switch.
- (iv) Installing a pole mounted control cabinet

#### (b) Speed Indicator Installation

##### (1) Installation of Speed Indicator shall include:

- (i) Mounting the Speed Indicator Sign assembly
- (ii) Installing the cable to connect the sign to the pole mounted cabinet
- (iii) Calibrating the speed sign
- (iv) Installing a pole mounted control cabinet

#### (c) RRFB Installation

##### (1) Installation of the RRFB shall include:

- (i) Mounting the RRFB and sign assembly
- (ii) Mounting the pushbutton
- (iii) Programming the pushbuttons and flasher assembly
- (iv) Installing a pole mounted control cabinet

### **3 Measurement and Payment**

- (a) ***Assemble and Install Count Station*** shall be measured and paid for per each.

- (b) ***Assemble and Install RRFB*** shall be measured and paid for per each.
- (c) ***Assemble and Install Speed Indicator*** shall be measured and paid for per each.
- (d) Foundations and pole installation shall be paid for separately.

## **SECTION TSC&M03 – SIGN INSTALLATION**

### **1 Materials**

- (a) Mast arm mounting brackets shall be gusset tube type with paddles. Mounting bracket shall not be offset style.
- (b) Ground mounted signage shall be mounted to wood post or u-pole per plans in accordance with VDOT Standards and Specifications.
- (c) Signs shall be fabricated by the County.

### **2 Execution**

- (a) Mount Sign on Mast Arm or Signal Pole
  - (1) Contractor shall furnish all required bands, saddle brackets, tubes, hardware, etc. required to attach the sign to the mast arm or signal pole.
- (b) For ground-mounted signs, the Contractor shall furnish the post or pole and any required hardware for the mounting

### **3 Measurement and Payment**

- (a) ***Install Ground Mounted Sign on Wood Post*** shall be measured and paid for per each.
- (b) ***Install Ground Mounted Sign on Metal Pole*** shall be measured and paid for per each.
- (c) ***Mount Sign on Mast Arm or Pole*** shall be measure and paid for per each.
- (d) For all items in this section, the hardware required for mounting and the specified support (such as wood post or metal post) shall be incidental to the line item.
- (e) The cost of pickup of the signs from the County facility shall be incidental.

## **SECTION TSC&M04 – SPECIALITY MAINTENANCE ITEMS**

### **1 Materials**

- (a) Ground rods shall be ¾" diameter and shall be per NEC, IMSA, and VDOT requirements.

### **2 Execution**

#### (a) Replace Traffic Signal Mast Arm and Pole

- (1) This activity applies when a mast arm or pole needs to be replaced in place on the existing foundation.
- (2) The Contractor shall ensure existing cables to be disconnected are labeled properly prior to disconnection at the cabinet and at the arm.
- (3) The Contractor shall disconnect all signal heads and equipment mounted to the mast arm or pole and pull cable back through pole foundation to the nearest junction box.
- (4) Contractor shall remove existing mast arm and pole from the foundation and dispose or salvage as directed.
- (5) Contractor shall install replacement mast arm and pole, signals, and equipment.
- (6) Contractor shall pull existing cable back to mounted equipment and signal heads and test operations prior to demobilization.

#### (b) Replace Strain Pole

- (1) The Contractor shall ensure existing cables to be disconnected are labeled properly prior to disconnection at the cabinet and at the pole side.
- (2) The Contractor shall set a temporary wood pole and move attachments to temporary pole.
- (3) Contractor shall remove existing strain pole from the foundation and dispose or salvage as directed.
- (4) Contractor shall install replacement pole, signals, and equipment.
- (5) Contractor shall pull existing cable back to equipment and signal heads and test operations prior to demobilization.

#### (c) Install Primary Grounding Electrode

- (1) Grounding electrode shall include the grounding electrode conductor and grounding electrode clamp.
- (2) Contractor shall install ground rod with hammer drill with an electrode drive bit to minimize damage to the electrode tip.

23-DES-ITBPW-631



- (3) Primary electrode depth shall be minimum 40'
  - (4) Resistance to ground shall not exceed 25 Ohms.
  - (5) Contractor shall install grounding electrode in junction box to allow for testing access.
- (d) Install Junction Box Grounding System
- (1) Grounding electrode shall include the grounding electrode conductor and grounding electrode clamp.
  - (2) Contractor shall install ground rod with hammer drill with an electrode drive bit to minimize damage to the electrode tip.
  - (3) Resistance to ground shall not exceed 25 Ohms.
  - (4) Contractor shall install grounding electrode in junction box and connect clamp to conduit grounding system. If no primary grounding electrode is present for the grounding system, the Contractor shall install a new primary grounding electrode with a depth of approximately 40' (or refusal).

### **3 Measurement and Payment**

- (a) ***Install Primary Intersection Grounding Electrode*** shall be measured and paid for per each.
- (b) ***Install Junction Box Grounding System*** shall be measured and paid for per each.
- (c) ***Replace Traffic Signal Mast Arm and Pole*** shall be measured and paid for per each regardless of the type of mast arm (dual or single) and length of arm.
- (d) ***Replace Traffic Signal Strain Pole*** shall be measured and paid for per each.

## **SECTION TSC&M05 – TROUBLESHOOT EQUIPMENT**

### **1 General**

- (a) For Troubleshooting Equipment, the hourly estimate shall include all trucks, equipment, and labor needed to provide troubleshooting for overhead equipment such as (but not limited to): CCTV, count stations, roadside assemblies, and underground conduits and cabling. This includes all required traffic control.