### TABULATION OF QUANTITIES

<table>
<thead>
<tr>
<th>PAY ITEM NO.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>SHEET NUMBERS</th>
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</thead>
<tbody>
<tr>
<td>630-2-17</td>
<td>CONDUIT, F&amp;I, OPEN TRENCH</td>
<td>LF</td>
<td>60</td>
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<tr>
<td>630-2-17</td>
<td>CONDUIT, F&amp;I, DIRECTIONAL BORE</td>
<td>LF</td>
<td>230</td>
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<tr>
<td>632-7-1</td>
<td>SIGNAL CABLE- SHMR OR RECONSTRUCTED INTERSECTION, FURNISH &amp; INSTALL</td>
<td>PI</td>
<td>1</td>
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<tr>
<td>632-7-6</td>
<td>SIGNAL CABLE, REMOVE- INTERSECTION</td>
<td>PI</td>
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<tr>
<td>635-2-12</td>
<td>PULL &amp; SPICE BOX F&amp;I, 12&quot; X 90&quot; COVER SIZE</td>
<td>EA</td>
<td>10</td>
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<tr>
<td>646-1-11</td>
<td>ALUMINUM SIGNALS PULL, PEDESTAL</td>
<td>EA</td>
<td>3</td>
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<tr>
<td>633-1-11</td>
<td>P. SIGNAL, F&amp;I, LED-COUNTDOWN, 1 WAY</td>
<td>AS</td>
<td>2</td>
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<tr>
<td>633-1-12</td>
<td>P. SIGNAL, F&amp;I, LED-COUNTDOWN 2 WAY</td>
<td>AS</td>
<td>1</td>
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<tr>
<td>633-1-60</td>
<td>P. SIGNAL, REMOVE P. SIGNAL - POLE/PEDESTAL TO REMAIN</td>
<td>AS</td>
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<tr>
<td>654-2-22</td>
<td>RECTANGULAR RAPID FLASHING BEACON F&amp;I, SOLAR POWERED, COMPLETE SIGN ASSEMBLY, BACK TO BACK</td>
<td>AS</td>
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<tr>
<td>660-1-103</td>
<td>LOOP DETECTOR, INDUCTIVE F&amp;I, TYPE 3</td>
<td>EA</td>
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<tr>
<td>660-2-101</td>
<td>LOOP ASSEMBLY, F&amp;I, TYPE A</td>
<td>AS</td>
<td>4</td>
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<tr>
<td>660-2-106</td>
<td>LOOP ASSEMBLY, F&amp;I, TYPE F</td>
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<tr>
<td>665-1-12</td>
<td>PEDESTRIAN DETECTOR, F&amp;I, ACCESSIBLE</td>
<td>EA</td>
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<tr>
<td>665-1-60</td>
<td>PEDESTRIAN DETECTOR, REMOVE - POLE/PEDESTAL TO REMAIN</td>
<td>EA</td>
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<tr>
<td>670-5-110</td>
<td>TRAFFIC CONTROLLER ASSEMBLY, F&amp;I, NEMA</td>
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<td>670-5-600</td>
<td>TRAFFIC CONTROLLER ASSEMBLY, REMOVE CONTROLLER WITH CABINET</td>
<td>AS</td>
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<tr>
<td>700-5-22</td>
<td>INTERNALLY ILLUMINATED SIGN, F&amp;I, OVERHEAD MOUNT, 12-18 SF</td>
<td>EA</td>
<td>6</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>CITY OF TAMPA</th>
<th>TRANSPORTATION DEPARTMENT</th>
</tr>
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<tr>
<td>FSC NO.</td>
<td>COUNTY</td>
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<td>300220</td>
<td>HILLSBOROUGH</td>
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**Notes:**
- The official record of this sheet is the electronic file digitally signed and sealed under Rule 61G15-23.004, F.A.C.
- BES INC.
- 11007 N. 56TH ST., #208
- TEMPLE TERRACE, FL 33617
- (813) 985-7800

**Certification Number:**
- 9835

**License Number:**
- 42255

**Date:**
- 9/23/2019

**File Path:**
- N:\Projects\0269 46th St_Busch to Fowler\43724615801_BES\signals\TABQSG01.DGN

**Time:**
- 10:02:38 AM
SIGNALIZATION NOTES:

1. ONE WEEK PRIOR TO THE START OF THE TRAFFIC SIGNAL INSTALLATION, CONTACT:

   CITY TRAFFIC MANAGEMENT CENTER (THC) - MR. BRIAN PASZKO
   CITY OF TAMPA
   1104 E. TWIGGS ST
   TAMPA, FLORIDA 33602
   PHONE: (813) 202-8468
   EMAIL: Brian.Paszko@Tampagov.net

2. UNLESS OTHERWISE NOTED, ALL REMOVED EQUIPMENT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY WCR

3. FLASH TIMES FOR EACH RRFB IS CALCULATED BY THE DISTANCE FROM THE DETECTOR TO THE FAR CURB DIVIDED BY 30 FT/SEC WALKING SPEED ROUNDED UP TO THE NEAREST SECOND, PLUS 7 SECONDS.

4. W11-02 AND W16-7P SIGNS SHALL BE FLUORESCENT YELLOW GREEN COLOR.

PAY ITEM NOTES:

1. 630-2-11
   TWO SEPARATE UNDERGROUND CONDUIT RUNS LOCATED 180 DEGREES APART ARE REQUIRED FOR HAST ARMS. INSTALL A MINIMUM OF TWO RINGS OF TWO INCH CONDUIT BETWEEN THE LAST LOW VOLTAGE (LOOPS) PULL BOX LOCATED NEAR THE CONTROLLER CABINET AND THE CONTROLLER CABINET.

2. 632-7-1
   WIRE EACH PHASE/MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT. THIS INCLUDES THE LEFT TURN MOVEMENT WHICH HAVE CONDUCTORS AVAILABLE FOR EITHER PROTECTED OR PERMISSIVE MOVEMENTS.
   INSTALL EACH PHASE/MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER CABINET. INSTALL THE SIGNAL CABLE AND INTERCONNECT CABLE IN ACCORDANCE WITH THE CITY OF TAMPA TRAFFIC SIGNAL SUPERVISOR BEFORE ORDERING, AND WIRE THE SIGNAL IN ACCORDANCE WITH THAT COLOR CODE AND F.D.O.T. SPECIFICATIONS. INSTALL ONE NEUTRAL PER APPROACH.

3. 635-2-12
   PULL BOXES SHALL BE 17" X 30". ANY PULL BOXES THAT REMAIN AFTER THE CONSTRUCTION OF THE PROJECT BUT NO LONGER NEEDED FOR THE TRAFFIC OPERATION ARE TO BE REMOVED.

4. 665-1-11
   COORDINATE WITH THE CITY OF TAMPA SIGNAL SHOP FOR ACCEPTABLE CHOICES OF PEDESTRIAN DETECTORS AND OPERATIONS.

5. 670-3-110
   NOTIFY THE CITY OF TAMPA SIGNAL SHOP AND FDOT DISTRICT SEVEN TRAFFIC OPERATIONS AT LEAST 48 HOURS IN ADVANCE OF TURNING ON A NEW OR MODIFIED CONTROLLER CABINET ASSEMBLY.
NOTES:
1. The Contractor shall verify the pole and dimensions required for installation of the Sign Bracket Arm
   and mounting angle before manufacturing Sign Bracket Arm.
2. Work this sheet with Sign Bracket Arm—Sign Panel Details sheet for additional installation details.
3. DESIGN WIND SPEED = 130 MPH
   Design Loads from the center of the vertical pipe are as follows:
   - Horizontal Moment = 7581 FT LBS
   - Vertical Moment = 1247 FT LBS
   - Horizontal Shear = 1338 LBS
   - Vertical Shear = 226 LBS
4. The Contractor may propose an alternative Sign Bracket Arm design at no additional cost to the
   Department. The Contractor's alternative shall be designed in accordance with the latest edition of
   the FDOT Plans Preparation Manual and AASHTO Standard Specifications for Structural Supports for
   Highway Signs, Luminaries and Traffic Signals.
5. If an alternate design is proposed the Contractor shall submit design calculations and shop drawings
   signed and sealed by a Professional Engineer Registered in the State of Florida.
6. All Structural Steel except for Structural Tubing shall conform to ASTM A572 Grade 50. Structural
   Tubing shall conform to ASTM A529 Grade B. All bracket plates shall be hot bent.
7. All Bolts shall be High Strength A325 Bolts and shall receive Electrodeposited Coating in accordance
   with ASTM B633.
8. The Complete Sign Bracket Arm Assembly shall be hot-dipped Galvanized in accordance with ASTM A123.
9. WELDING: All Welding shall be in accordance with American Welding Society Structural Welding Code
   (Steel), ANSI/AWS D1.1 (current edition). Required weld material is E70XX. Nondestructive testing is
   not required.
10. Field Welding shall not be permitted.
11. All materials and labor required to furnish and install the Complete Sign Bracket Arm Assembly shall
    be included in Pay Item No. 437246-1-58-01.

Design Loads from the center of the vertical pipe are as follows:

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NOTES:
1. Sign panels shall be level after installation.
2. Internally illuminated panels shall be two sided.
3. Aluminum signs shall be two panels mounted back to back with hangers sandwiched between.

INTERNALLY ILLUMINATED SIGN PANEL DETAIL

Power Service Attachment Shall be Located on the Edge of the Sign Panel Adjacent to the Pole.

Hanging Hardware (By Others) Shall Allow for Free Swinging Sign

Edge of Sign Panel Shall be Aligned with Pole Cap

50% of Sign Panel Width
25% of Sign Panel Width

(Max.)