Section 658 Traffic Signals

658.1 Description
(1) This section describes providing traffic signal faces, pedestrian signal faces, programmable traffic signal faces, push buttons, and signal mounting hardware.

658.2 Materials
(1) Submit a complete list of traffic signal components and hardware provided under the contract.
(2) Furnish materials from the department's QPL as follows:
   - Traffic signal faces including signal housing, backplates and LED modules.
   - Pedestrian signal faces including signal housing and LED modules.
   - Pedestrian push buttons.
   - Signal mounting hardware.
(3) For traffic signal faces: furnish signal housings, visors, LED modules, backplates, and cut away or tunnel type visors as the plans show.
(4) For pedestrian signal faces: furnish signal housings, LED modules, and visors. For 16-inch heads, furnish a z-crate visor.
(5) For Pedestrian push buttons: furnish a standard R 10-3b or R 10-3e series sign. Include directional arrows on the sign as the plans show.
(6) For programmable traffic signal faces: furnish electronically programmable traffic signal faces, visor, and backplate with LED illumination sources conforming to the following:
   - Fully programmable with a portable electronic device.
   - Programmable for both horizontal and vertical viewing angles.
   - Programmable light intensity.
(7) For signal mounting hardware: furnish weather tight mounting hardware. Protect mounting hardware from the elements before installation. Use corrosion resistant poly bracket shims.

658.3 Construction
(1) Cover traffic signal faces and pedestrian signal faces with a hood or turn away from view by the traveling public until the signal is accepted for use and activated.
(2) For pedestrian signal faces: allow for side-fire connection without conflict between the mounting bracket and the door hinge.
(3) For Pedestrian push buttons: provide a 3/4-inch diameter push button mounting hole for wiring purposes in standards or poles. De-burr the holes after sawing and before installing the wire. Use IMSA 50-2 loop lead-in cable to wire the push button to the conductors in the base. Band R 10-3b or R 10-3e series sign directly above each push button.
(4) For signal mounting hardware: seal voids using silicon or rubberized caulking or similar material as the engineer approves. Mount traffic and pedestrian signal faces so that they are immovable.

658.4 Measurement
(1) The department will measure the EACH bid items under this section as each individual unit acceptably completed.
(2) The department will measure the Signal Mounting Hardware bid items as a single lump sum unit for each intersection acceptably completed.

658.5 Payment
(1) The department will pay for measured quantities at the contract unit price under the following bid items:

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>658.0100 - 0199</td>
<td>Traffic Signal Face (sections) (size)</td>
<td>EACH</td>
</tr>
<tr>
<td>658.0400 - 0499</td>
<td>Pedestrian Signal Face (inch)</td>
<td>EACH</td>
</tr>
<tr>
<td>658.0500</td>
<td>Pedestrian Push Buttons</td>
<td>EACH</td>
</tr>
<tr>
<td>658.1100 - 1199</td>
<td>Programmable Traffic Signal Face (sections) (size)</td>
<td>EACH</td>
</tr>
<tr>
<td>658.5069</td>
<td>Signal Mounting Hardware (location)</td>
<td>LS</td>
</tr>
</tbody>
</table>

(2) Payment for the Signal Face bid items and Pedestrian Push Buttons is full compensation for providing a complete and functioning assembly.
(3) Payment for the Signal Mounting Hardware bid items is full compensation for providing mounting hardware, including spacers.
(4) The department will pay for wiring from the signal face terminal strip to the underground feeder cables at the top of the concrete base separately under the appropriate Cable Traffic Signal bid item as specified in 655.5.