

# Special Specification 6116

## Intelligent Transportation System (ITS) Equipment



### 1. DESCRIPTION

Relocate existing ITS Equipment at sites shown on the plans.

### 2. MATERIALS

Relocate the following equipment at each field site shown on the plans (includes but is not limited to):

- ITS equipment cabinet including all internal components.
- ITS equipment including CCTV camera and mounting hardware.
- Solar power photovoltaic array, regulator, batteries and distribution system.
- Cabling from power source to cabinet and cabinet to CCTV camera.
- Cellular data modem and blue-tooth reader.
- Furnish and install all new cables, mounting hardware, etc.

### 3. CONSTRUCTION.

Perform the relocation in strict conformance with the requirements herein stated and the lines, grades, details and dimensions shown on the plans. The completed work must exhibit neat workmanship and a finished appearance (i.e. free of foreign debris and components that are loose, missing, misplaced or mislabeled). Maintain safe construction practices during relocation. Any portion of the ITS equipment, including components, damaged or lost will be replaced by the Contractor at his expense.

#### 3.1. TESTING.

3.1.1. **Pre-Test.** Conduct performance testing prior to removal of the equipment. Test all functional operations of the equipment in the presence of representatives of the Contractor and the Department. Ensure that both representatives sign the test report indicating that the equipment has passed or failed each function. Once removed, the equipment becomes the responsibility of the Contractor until accepted by the Department. Compare test data prior to removal with test data after installation. The performance test results after relocation must be equal to or better than the test results prior to removal. Repair or replace those components within the system that failed after relocation but passed prior to removal.

3.1.2. **Post Test.** Testing of the Traffic Management System (TMS) for the purpose of relieving the Contractor of maintenance of the system. The Contractor will be relieved of the responsibility for maintenance of the system in accordance with Item 7, "Legal Relations and Responsibilities," after a successful test period.

After all TMS equipment has been installed, conduct approved continuity, stand alone, and TMS equipment system tests. Furnish test data forms containing the sequence of tests including all of the data taken as well as quantitative results for all tests. Submit the test data forms for the Engineer at least 30 days prior to the day the tests are to begin. Obtain Engineer's approval of test procedures prior to submission of equipment for tests. Send at least one (1) copy of the data forms to the Engineer.

Conduct an approved stand-alone test of the equipment installation at the field site(s). At a minimum, exercise all stand-alone (non-network) functional operations of the field equipment with all of the equipment installed per the plans as directed by the Engineer. Complete the approved data forms with test results and turn over to the Engineer for review and either acceptance or rejection of equipment. Give at least 30 working days' notice prior to all tests to permit the Engineer or his representative to observe each test.

The Department will conduct approved TMS equipment system tests on the field equipment with the central equipment. The tests will, at a minimum, exercise all remote control functions and display the return status codes from the controller.

If any unit fails to pass a test, prepare a report and deliver it to the Engineer. Describe in the report the nature of the failure and the corrective action needed. If the failure is the result of improper installation or damage during reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the contract period.

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**4. MEASUREMENT**

Relocate Existing ITS equipment will be measured at each location where a single CCTV camera, equipment cabinet, and solar power system functions as a single monitoring site, with all associated components relocated, tested, and made fully operational in accordance with this specification and as shown on the plans.

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**5. PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement," will be paid for at the unit price bid for "Relocate Existing ITS Equipment." This price is full compensation for relocating ITS equipment as shown on the plans; for testing, delivery and storage of components designated for retention or reuse; and for all manipulations, materials, labor, tools, equipment, and incidentals.