

(C) Workshop

Provide enclosed workshop to set up and test new controllers and cabinets before installation. Locate workshop within Division responsible for project administration. Ensure workshop provides protection from weather and sufficient space to house 2 test observers, all necessary test equipment and material, controllers and cabinets.

Configure and test each controller and cabinet to match the proposed signal design. Ensure all equipment furnished and installed or modified by the Contractor at each location operates in full compliance with the plans and project special provisions. Test each controller and cabinet for proper color sequence, flashing operation, phase timings, preemption, coordination and conflict monitor programming or malfunction management unit programming. Ensure that simultaneous conflicting phase outputs will cause the cabinet to revert to flashing operation. For intersections with any type of preemption, submit a completed Preemption Test Procedure Checklist. The checklist is located on the Department's website.

Test the cabinet and controller for eight hours minimum. Following this test and before installation, the Engineer will inspect the equipment in operation. The Engineer may require other tests to ensure proper operation. These tests shall be at no additional cost to the Department.

1751-4 MEASUREMENT AND PAYMENT

Controllers with Cabinet (____) will be measured and paid as the actual number of each type of controllers with cabinets furnished, installed and accepted.

Detector Card (____) will be measured and paid as the actual number furnished, installed and accepted.

No measurement will be made of conflict monitors, malfunction management units, external electrical service disconnect, grounding systems, modems, meter bases and workshop as these will be incidental to furnishing and installing controllers with cabinets.

Payment will be made under:

Pay Item	Pay Unit
Controllers with Cabinet (____)	Each
Detector Card (____)	Each

SECTION 1752**MODIFY CABINET FOUNDATIONS****1752-1 DESCRIPTION**

Where approved by the Engineer, install conduit entrances into existing foundations in accordance with the plans and specifications. Modify existing foundations in accordance with the plans and specifications.

1752-2 MATERIAL

Refer to Article 1750-2.

1752-3 CONSTRUCTION METHODS**(A) Install Conduit Entrance into Existing Foundation**

Install Conduit Entrances into existing cabinet foundations by core drilling foundations to install additional conduit.

Maintain a minimum of 3 inches of cover between new conduit and edge of foundation. Maintain minimum clearances of 1 inch from the flange of the base adapter and 2 inches from existing conduits. Avoid damaging existing conduit, conductors and anchor bolts. Repair all such damages. Where approved by the Engineer, the foundation may be

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1 chipped instead of drilled for conduit entrance. When possible, maintain traffic signal
2 operations while drilling is performed.

3 Bond new metallic conduit to the equipment ground bus.

4 After installation of conduit, place grout to seal around conduit and return the foundation
5 to normal appearance.

6 **(B) Modify Foundation**

7 Enlarge existing cabinet foundations to accommodate the new cabinet and/or to provide
8 a maintenance technician pad.

9 Excavate the ground around the existing foundation to a depth sufficient to expose
10 a minimum of 4 inches of the foundation below existing grade.

11 Rough the sides of the existing foundation from the top to a point 4 inches below grade
12 by means of a chisel or other method approved by the Engineer.

13 Wash the sides of the foundation with water pressurized at 50 psi and thoroughly dry
14 with compressed air.

15 Drill holes approximately 12 inches deep on 12 inches centers into the existing
16 foundation. Install #4 dowels and epoxy into place. Provide dowels of the lengths in
17 Table 1752-1.

TABLE 1752-1 LENGTH OF DOWEL	
Foundation Extension	Length of Dowel
> 16"	24"
> 6" and < 16"	17"
= 6"	14"

18 Use concrete to install the maintenance technician pad.

19 Form the sides of the modified foundation to a minimum depth of 4 inches below grade.

20 Position forms so that all existing exposed foundation surfaces at or above grade level
21 will be matched.

22 Apply a coating of approved epoxy bonding agent to all exposed roughened concrete
23 surfaces as recommended by the manufacturer.

24 Enlarge the foundation to the distance specified for new cabinet foundations. Provide
25 a one inch chamfer on all new outside edges.

26 Maintenance technician pads should be added to the foundation to provide a minimum
27 work area of 24 inches [length] x 30 inches [width] from both the front and rear doors of
28 the cabinet.

29 **1752-4 MEASUREMENT AND PAYMENT**

30 *Conduit Entrance into Existing Foundation* will be measured and paid as the actual number of
31 conduit entrances drilled into existing cabinet foundations furnished, installed and accepted.

32 *Modify Foundation for Controller Cabinet* will be measured and paid as the actual number of
33 existing cabinet foundations modified and accepted.

34 Payment will be made under:

Pay Item	Pay Unit
Conduit Entrance into Existing Foundation	Each
Modify Foundation for Controller Cabinet	Each