# Final
# Field Test Procedure
# Hybrid Changeable Message Site

*DD4680831* *Rev 1—12 May 2020*

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## Introduction

This test procedure describes the final field tests for a HCMS site for this project. The purpose of this test is:

1. To check that the sign and related power and communication equipment have been configured and installed to properly communicate over the communications equipment supplied and installed by others.
2. To check that all sign and related power and communications equipment is fully integrated and functioning from NJ Statewide Traffic Management Center in Woodbridge, NJ.
3. To put the sign into the state needed so that it is ready for normal operation without the need for an additional visit before beginning normal operation.

Note that this is not a test of all software functions or hardware design limits; this would be very time consuming, and would be redundant, as those tests need to be done only once.

This test should be performed for every site at the completion of installation and activation of the communications equipment at a particular site.

The test messages to be used should be the test messages approved by the NJTA that will not misdirect or distract traffic.

This test requires the cooperation of an operator at the central controller with personnel at the sign site.

Test equipment required:

- Boom truck, or whatever is required to get up to the sign
- Digital multimeter
- Laptop computer, with central controller software, miscellaneous software, and null modem cable.
- Common hand tools
- Walkie-Talkies or cell phones for communication between personnel up at the sign and those down at the controller cabinet, if necessary
- Cellular telephone or other means of communication with the Traffic Management Center operator

## Site Information

FINAL FIELD TEST PROCEDURE ASSUMES SUCCESSFUL COMPLETION OF PRELIMINARY FIELD TEST. SEE PRELIMINARY FIELD TEST DOCUMENT FOR SIGN IDENTIFICATION AND CONFIGURATION INFORMATION.

Daktronics Representative:_____
Contract number and name:_____
Mile Post (XXX:XX)_____
Roadway:_____

## Communication Test Procedure

_____ 1.1 Have the Operations Shift Supervisor display a text test message on all VMS displays that will not misdirect traffic. Verify that the text message displays properly on all signs and that it is not too bright or too dim for the ambient light condition. Then, verify with the Shift Supervisor that all messages are displayed properly in the TMC central software without any error indications.

_____ 1.2 Have the Shift Supervisor display a graphic test message on all VMS Display that will not misdirect traffic. Verify that the graphic message displays properly on all signs and that it is not too bright or too dim for the ambient light condition. Then, verify with the Shift Supervisor that all messages are displayed properly in the TMC central software without any error indications.

_____ 1.3 Have the Shift Supervisor display all scenario for each HCMS displays on site. Verify that the proper Messages are display for each scenario. Then, verify with the Shift Supervisor that all messages are displayed properly in the TMC central software without any error indications.

_____ 1.5 Have the Operations Shift Supervisor change all HCMS display to the proper condition. Verify that the messages are displayed properly on the display. Then, verify with the Shift Supervisor that all messages displays properly in the TMC central software without any error indications.

_____ 1.6 Notify the Operations Shift Supervisor that the sign is now functional and ready for a 10-day operational test.

_____ 1.7 Have an NJTA ITS support engineer remotely connect to the UPS to verify proper communications and operation of the UPS on-board software.

## Final Details

_____ 2.1 Confirm that all sign and traffic cabinet equipment covers (if any) are installed.

_____ 2.2 Verify the sign is properly displaying the 10-day operational test message. Verify proper operation during:

_____Bright Daylight Conditions

_____Nighttime Conditions

_____ _____
Turnpike/Parkway Milepost

Test Status:

_____Pass – No exceptions noted
_____Fail – Requires re-testing
_____Conditional Pass – Complete the following punch list

| Punch List Item* | Technician (initials) | Customer (initials) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

* Include only items that failed testing or require re-testing. The Construction Punch List will be developed separately. Notify Authority and Resident Engineer upon completion of punch list to arrange for re-testing if required.

**Daktronics Technician**

_____ _____ _____
Printed Name Signature Date

**NJ Turnpike Authority**

_____ _____ _____
Printed Name Signature Date

**Resident Engineer**

_____ _____ _____
Printed Name Signature Date

**DAKTRONICS PERSONNEL MUST RETURN THIS COMPLETED DOCUMENT TO THE DAKTRONICS CONTRACT SERVICE COORDINATOR.**