Addendum #3

SR 400 (I-4) Interchange at SR 46

Seminole County

Financial Projects Number(s): 407573-1-52-01

Federal Aid Project Number(s): 0042-248-I

Contract Number: E5N96

February 11, 2011

The Request for Proposal for the above referenced project is amended as follows:

1. Page 58 of 70, Section 4. Dynamic Message Sign (DMS) is being totally replaced.

The following section:

4. Dynamic Message Sign (DMS)

The purpose of the DMS sub-system is to relay real-time traffic data to the public. The Design/Build Firm shall be responsible for the replacement of all existing DMS structures and signs within the project limits. Deviation from these locations must be approved by the Department.

The final DMS shall be in locations function equivalent to the existing DMS. A CAT5e drop cable shall be run from the DMS to the pole mounted cabinet to allow access to the DMS. DMS shall be 18" DMS per the 781 Special Provision. A LED pixel 30 degree cone of vision shall be provided.

The table below provides an approximate location of the existing DMS that are to be replaced. It will be the responsibility of the Design/Build team to verify their location in the field.

DMS	Approximate MM
DMS 25	99.2
DMS 26	99.6
DMS 27	103.3
DMS 28	103.3

Is replaced with:

4. Dynamic Message Sign (DMS).

A. Removal of Existing DMS

The Design/Build Firm shall be responsible for the removal and disposal of all existing DMS, components, structures and foundations. The Design/Build Firm shall partially remove all existing drill shaft foundations per FDOT 110 Specification. The Design/Build Firm shall provide the Department with an excel spreadsheet listing Global Positioning System (GPS) coordinates (sub-foot accuracy) for each existing DMS foundation. Existing

DMS locations are provided in Table 1 below. All work shall be in accordance with all applicable FDOT Specifications at all DMS locations.

The Design/Build Firm shall dissemble, retain and supply the internal communication components from the existing DMS enclosures to the Department's Intelligent Transportation Systems (ITS) Project Manager. Said components shall include the DMS light boards, Central Processing Unit (CPU) communication cards, display driver panel and pixel panels. The Design/Build Firm shall deliver all retained equipment to an FDOT inventory facility specified by the FDOT ITS Project Manager and shall properly dispose of all non-salvageable equipment, to including but not limited to DMS enclosures with components and sign structure, at the expense of the Design/Build Firm.

The table below provides an approximate location of the existing DMS that are to be replaced. It will be the responsibility of the Design/Build team to verify their location in the field.

Table 1

DMS	Approximate MM
DMS 1: I4 E of Lake Mary WB	99.2
DMS 2: I4 E of Lake Mary EB	99.6
DMS 3: I4 E of SR 46 WB	104.2
DMS 4: I4 E of SR 46 EB	104.4

B. New Dynamic Message Signs (DMS)

The work in this section specifies the type of DMS's that the Design/Build Firm shall be responsible for furnishing and installing. These items of work shall consist of furnishing and installing DMS's using Light Emitting Diode (LED) technology in accordance with these requirements and their respective structures and mounting hardware. The DMS shall be equipped with two (2) controllers; one located inside the enclosure and one to be located inside the ground mount cabinet (local hub). A manufacturer's warranty shall apply to all equipment furnished. User's Manuals and Maintenance Manuals for all equipment shall be supplied in printed form and on CD-ROM.

All DMS's shall be mounted on Full Span structures with DMS 1 and 2 on one structure and DMS 3 and 4 on one structure for a total of two (2) full span structures. The proposed DMS structure for DMS 1 and DMS 2 shall also include mounting the two (2) advance guide signs located between the existing DMS 1 and 2 structures shown in Table 2 below. It is the Departments wishes that the proposed DMS full span structures be placed at a location between the existing DMS structures. The proposed DMS structures shall have a line of sight distance of at least 1000 ft. The DMS shall provide a minimum vertical clearance of 19'-6" as per the FDOT Plans and Preparation Manual. The DMS structure shall not be located within clear zone. The DMS full span structures are require to be equipped with catwalks. The catwalk system shall be designed such that lane closures are not required for access to the DMS enclosures for routine maintenance.

Table 2

Guide Signs Description	Purpose
Sign 1: Lake Mary/Heathrow Exit 98	Advanced Guide Sign
Sign 2: Sanford/Heathrow 1 Mile Exit 101A	Advanced Guide Sign

The sign enclosure, equipment cabinet and their components shall withstand all typical environmental conditions of the location in which they are to be installed. Operation of the sign system equipment shall not be degraded by rain, snow, sleet, and fog or normally encountered ambient humidity conditions. Salt or chemicals in the air shall not adversely affect the sign, equipment cabinet, and their components. Corrosion protection shall be provided between dissimilar metals. Equipment located inside the sign enclosure or equipment cabinet shall meet the environmental requirements of the National Electrical Manufacturers Association (NEMA) specification TS-2 (1998): -34°C (-29°F) to +74°C (+165°F) internal air temperature, 5% to 95% relative humidity, and non-condensing.

The equipment cabinet, sign enclosure and structure shall withstand wind driven rain without significant leakage of water inside the enclosure. The sign enclosure shall withstand a basic wind speed of 130 miles/hr without damage in accordance with the AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals and the FDOT Structures Manual.

The DMS controller shall fully support full color National Transportation Communication for ITS Protocol (NTCIP) version 2 and shall be backwards compatible with NTCIP version 1.

C. DMS Enclosure:

The sign shall be a full LED matrix of 54 X 210 pixels, 34mm pixel pitch, full color, walk-in type display enclosure with a minimum of 18-inch letter height and a minimum 3 rows of 21 characters per row. The display technology shall be composed of multiple red, green, and blue high resolution LEDs and shall not rely on any mechanical components or other pixel technologies, such as fiber optic, flip disk, combination flip disk-fiber optic, combination flip disk-LED, liquid crystal, LED Lenses or incandescent lamp. The display panel shall be 100% solid state with no moving parts except for the environmental control fans and thermostats. All panels shall be identical and mutually interchangeable with all other panels and shall include a mechanism of easily setting the position address of the panel. The DMS shall be able to display messages composed of any combination of alphanumeric text, punctuation symbols, and graphic images across multiple frames.

The DMS housing bottom side shall contain small weep holes for draining any water that may accumulate due to condensation. Weep holes and ventilation/exhaust hoods shall be screened to prevent the entrance of insects and small animals. No field hardware modifications or programming modifications shall be required to exchange or replace individual display panels. LEDs shall have a nominal viewing cone of 30 degrees with a half-power angle of 15 degrees measured from the longitudinal axis of the LED. The DMS shall contain LED display modules that include an LED pixel array and LED driver circuitry. These modules shall be mounted adjacently in a two-dimensional array to form a continuous LED pixel matrix. All LED display modules, as well as the LED pixel boards and driver circuit boards, shall be identical and interchangeable throughout the DMS. Each LED shall be rated for a minimum of 100,000 hours of service life. The failure of one LED shall not affect the operation of the other LED's in that string. The display units are intended to provide motorist information and shall be designed to provide at least 10 (ten) years useable life. The display enclosure shall contain the LED Display Modules, DMS Driver, electronics, electrical and mechanical devices required.

Functionality of the existing equipment and fiber optic connections will be maintained during this replacement process. Exception will be made as follows; a maximum of six (6) hours of downtime per each DMS along with devices attached to the DMS structure shall be allowed in order to cutover the existing DMS to the new DMS. At maximum, no more than two (2) DMS shall be non-functional at any given six (6) hour interval of a downtime. Additionally, no two (2) consecutive DMS on the same side of the roadway shall be non-

functional or visually hindered at one time. If the new sign is placed behind the existing sign such that visibility to the new sign is hindered, the portion of the existing sign structure hindering visibility shall be removed within 30 hours of cutover to the new sign. Likewise, if the new sign structure is placed in front of an existing sign and hinders visibility, the new sign must be activated and fully operational within 30 hours of hindering visibility. Whether or not a sign is visually hindered shall be determined by viewing the display face of the sign from the travel lanes approaching the sign for a range of 100 to 800 feet from the sign.

Other ITS field devices (i.e. detector, wireless radio, etc.) that are attached to the existing DMS structure shall be removed and relocated to new structures once constructed (where applicable) and it shall be the responsibility of the Design/Build Firm to restore said devices to their previous working conditions or better.

2. Page 40 of 70, Section C. Utility Coordination:

Paragraph:

After award of the project, the Design-Build Firm shall execute all necessary utility agreements, the Design-Build Firm shall provide to the Department Project Manager and the District Utility Office all utility agreements, with status and schedules for completion of utility work for each utility facility within the limits of the Project along with a signed letter (on the Design-Build Firm's letterhead), stating:

> *"This letter serves as certification that all utility negotiations have been completed and all necessary utility agreements have been executed in accordance with Section 337.11(7)(a) Florida Statutes; Rule Chapter 14-46 Florida Administrative Code; and the Utility Accommodation Manual."*

Is replaced with:

After award of the project, the Design-Build Firm shall execute all necessary utility agreements, the Design-Build Firm shall provide to the District Resident Office all utility agreements, with status and schedules for completion of utility work for each utility facility within the limits of the Project along with a signed letter (on the Design-Build Firm's letterhead), stating:

> *"This letter serves as certification that all utility negotiations have been completed and all necessary utility agreements have been executed in accordance with Section 337.11(7)(a) Florida Statutes; Rule Chapter 14-46 Florida Administrative Code; and the Utility Accommodation Manual."*

3. Addition to Section Design and Construction Criteria, Structural Plans, Criteria - VI, H, 2

o. For all overhead DMS structures, the horizontal member shall consist of a truss with a minimum of two chords with a minimum center-to-center distance between the chords of 3'- 0". In addition, DMS structures shall also meet the following maximum span-to-depth ratios:

DMS Structure Type	Max Span-to-Depth Ratio
Overhead Span Structure	25
Overhead Cantilever Structure	9

4. Addition to Section Design and Construction Criteria, Signing and Marking Plans, Signing Criteria, General- VI, Q, 2

- All overhead sign structures will be required to have external lighting for signs.

3. Project Clarification.

The design of the WBCD system including the WB I-4 bridge over SR 46 shall accommodate the I-4 Ultimate typical section that was included in the Typical Section Package which was provided as an Attachment to the RFP.

Posted 2/11/2011 3:00 p.m.