

**I-595 RFP Volume II - Technical Requirements**

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**Division II, Section 3, Attachment 3**  
**Concessionaire Construction Engineering & Inspection**  
**Requirements**



*Florida Department of Transportation*  
*District 4*

**To Design, Build, Finance, Operate and Maintain**  
**The I-595 Corridor Roadway Improvements Project**  
**Final Version for Execution**

**Financial Project Number: 420809-3-52-01**  
**Federal Aid Project Number(s): 595-1 (553), 595-1 (556), 595-1 (557)**  
**Contract Number: E4J69**

# Table of Contents

<b>SECTION 1</b>	<b>ITEMS FURNISHED BY CONCESSIONAIRE</b> .....	<b>4</b>
<b>A.</b>	<b>Department Documents:</b> .....	<b>4</b>
<b>B.</b>	<b>Office Automation:</b> .....	<b>4</b>
<b>C.</b>	<b>Field Office:</b> .....	<b>4</b>
<b>D.</b>	<b>Vehicles:</b> .....	<b>5</b>
<b>E.</b>	<b>Field Equipment:</b> .....	<b>5</b>
<b>F.</b>	<b>Licensing for Equipment Operations:</b> .....	<b>5</b>
<b>SECTION 2</b>	<b>LIAISON</b> .....	<b>6</b>
<b>SECTION 3</b>	<b>PERFORMANCE OF THE CONCESSIONAIRE</b> .....	<b>6</b>
<b>SECTION 4</b>	<b>REQUIREMENTS</b> .....	<b>7</b>
<b>A.</b>	<b>General:</b> .....	<b>7</b>
<b>B.</b>	<b>On Site Inspection:</b> .....	<b>7</b>
<b>C.</b>	<b>Sampling and Testing:</b> .....	<b>7</b>
<b>D.</b>	<b>Engineering Services:</b> .....	<b>8</b>
<b>E.</b>	<b>Geotechnical Engineering:</b> .....	<b>9</b>
<b>F.</b>	<b>Utilities:</b> .....	<b>10</b>
<b>SECTION 5</b>	<b>PERSONNEL</b> .....	<b>10</b>

**A. General Requirements: .....10**

**B. Personnel Qualifications: .....10**

**C. Entity Qualifications:.....12**

**SECTION 6 FINAL ESTIMATES.....12**

## **SECTION 1        ITEMS FURNISHED BY CONCESSIONAIRE**

### **A.        Department Documents:**

All applicable Department documents referenced herein shall be a condition of this Agreement. All Department documents, directives, procedures, and standard forms are available through the Department's Internet website. Most items can be purchased through the following address. All others can be acquired through the District Office or on-line at Department's website.

Florida Department of Transportation  
Maps and Publication Sales  
605 Suwannee Street, MS 12  
Tallahassee, Florida 32399-0450  
Telephone No. (850) 488-9220

### **B.        Office Automation:**

The Concessionaire shall provide and have available for their use a computer, modem, printer, and software capable of emulating a terminal on the Department's mainframe computer. The computer will be used by the Concessionaire for all transactions with the Department's mainframe computer.

The Concessionaire shall provide a flatbed color scanner and scanner software capable of interfacing with the Department's Electronic Document Management system (EDMS). Scanners, which interface with the EDMS system, are Fujitsu models: Scan Partner 620c, M3093DG, M3096GX, M3097DG, M3099GX, M4097D, Fi-4750C, M4099D, and Fi-4110CU. The supported platform is Windows NT and the required interface is SCSI using TWAIN or ISIS drivers.

Concessionaire personnel using equipment furnished by them shall input all computer coding.

A high speed connection shall be required for connecting to the Department's mainframe. Communications software, e.g. Advantis, ProComm Plus, or equivalent shall be required. The Concessionaire will also be required to obtain and maintain continuous internet access, including access to FDOT District Four information (VPN). The Concessionaire shall use Microsoft Word 2007 and Microsoft Excel 2007 or latest version available software in order to be compatible with the Department's word processing and spreadsheet software.

Ownership and possession of computer equipment and related software, which is provided by the Concessionaire, shall remain at all times with the Concessionaire. The Concessionaire shall retain responsibility for risk of loss or damage to said equipment during performance of this Agreement. Field office equipment should be maintained and operational at all times.

### **C.        Field Office:**

The Concessionaire shall provide a field office in the vicinity of the Project with sufficient room and furnishings to accommodate the Oversight CEI Consultant and assigned FDOT personnel. The office space must be separate from the Concessionaire's offices and will be subject to approval by the FDOT Project Manager. The field office shall be fully functional at the time of FDOT's issuance of NTP 1.

Overall space requirements are anticipated to be approximately 5000 square feet to include: 14 hard wall offices having minimum dimensions of 10ft x 10ft with doors, 20 partitioned work spaces with dimensions of 10ft x 10ft, 1 conference room with minimum dimensions of 20ft x 30ft, 1 lockable storage room of 100sf minimum, climate control, potable water, restrooms and sufficient lighting to perform general office duties.

Each office or work space will contain at least two electrical outlets, wiring for both telephone and data communications with receptacles for each, a desk with lockable drawers and an office chair.

Routine consumable expenses for operation of the office, such as stamps, postage costs, office supplies, telephone service, etc., will be the responsibility of the Oversight CEI Consultant. Office lease, maintenance fees, custodial fees, utilities, etc., will be the responsibility of the Concessionaire.

**D. Vehicles:**

Concessionaire vehicles will be equipped with appropriate safety equipment and must be able to effectively carry out requirements of this Agreement. Vehicles shall have the name and phone number of the firm visibly displayed on both sides of the vehicle.

**E. Field Equipment:**

The Concessionaire shall supply survey, inspection and testing equipment, essential in order to carry out the work under this Agreement. Such equipment includes those non-consumable and non-expendable items, which are normally needed for a CEI project and are essential in order to carry out the work under this Agreement.

Hard hats shall have the name of the consulting firm visibly displayed.

Equipment described herein and expendable materials under this Agreement will remain the property of the Concessionaire and shall be removed at completion of the work.

The Concessionaire's handling of nuclear density gauges shall be in compliance with their license.

The Concessionaire shall retain responsibility for risk of loss or damage to said equipment during performance of this Agreement. Field office equipment shall be maintained and in operational condition at all times.

**F. Licensing for Equipment Operations:**

The Concessionaire will be responsible for obtaining proper licenses for equipment and personnel operating equipment when licenses are required. The Concessionaire shall make the license and supporting documents available to the Department for verification, upon request.

A Radioactive Materials License for use of Surface Moisture Density Gauges shall be obtained through the State of Florida Department of Health.

## **SECTION 2 LIAISON**

The Concessionaire shall keep the Oversight CEI Consultant informed of all significant activities, decisions, correspondence, reports, and other communications related to its responsibilities under this agreement. All Project records shall be made available to the Oversight CEI Consultant for audit. Significant activities include but are not limited to:

- Accidents with Fatalities or with spills of contaminated or hazardous materials
- Intent to Claim
- Traffic Control Shifts
- Lane Closures
- Detours
- All Drill Shaft Activities
- All Test Pile Activities
- All Structural Repairs
- All Utility Relocations
- Mass Concrete Pours
- All Post Tensioning and Grouting Activities, and bridge maintenance painting and blasting, or painting preparation activities
- All Witness Points and Hold Points.
- Discovery of buried tanks and containers containing unknown materials
- Unanticipated contaminated or hazardous materials
- Discovery of unanticipated human remains
- Removal, handling, labeling, transportation and disposal of contaminated or hazardous materials
- Permit modifications
- Design changes and additional Right of Way needs that may require a re-evaluation by NEPA

## **SECTION 3 PERFORMANCE OF THE CONCESSIONAIRE**

During the Term , the Department will audit/review various phases of Concessionaire operations, such as construction inspection, materials sampling and testing, and administrative activities, to determine compliance with this Agreement. The Concessionaire shall cooperate and assist Department representatives in conducting the audit/reviews. If deficiencies are indicated, the Concessionaire shall implement remedial action immediately.

Department recommendations and Concessionaire responses/actions are to be properly documented by the Concessionaire. No additional compensation shall be allowed for remedial action taken by the Concessionaire to correct deficiencies. Remedial actions and required response times may include but are not necessarily limited to the following:

- Further subdivide assigned inspection responsibilities, reassign inspection personnel, or assign additional inspection personnel, within one week of notification.
- Replace personnel whose performance has been determined by the Department to be inadequate. Personnel whose performance has been determined to be unsatisfactory shall be removed immediately.
- Immediately increase the frequency of monitoring and inspection activities in phases of work that are the Concessionaire's responsibility.
- Increase the scope and frequency of training of the Concessionaire personnel.

## **SECTION 4 REQUIREMENTS**

### **A. General:**

It shall be the responsibility of the Concessionaire to administer and monitor the Construction Work such that the Project is constructed in reasonable conformity with the plans, Specifications, and Special Provisions set forth in the Contract Documents.

The Concessionaire shall observe the Contractor's work to determine the progress and quality of work, identify discrepancies, report significant discrepancies to the Department, and direct the Contractor to correct such observed discrepancies.

The Concessionaire shall advise the Oversight CEI Consultant of any significant omissions, substitutions, defects, and deficiencies noted in the work of the Contractor and the corrective action that has been directed to be performed by the Contractor.

### **B. On Site Inspection:**

The Concessionaire shall monitor the Contractor's on-site construction activities and inspect materials entering into the work in accordance with the plans, Specifications, and Special Provisions set forth in the Contract Documents to determine that the Project is constructed in reasonable conformity with such documents. The Concessionaire shall keep detailed accurate records of the Contractor's daily operations and of significant events that affect the work.

The Concessionaire shall be responsible for monitoring and inspection of the Work Zone Traffic Control Plan and review of modifications to the Work Zone Traffic Control Plan, including Alternate Work Zone Traffic Control Plan, in accordance with the Department's procedures. The Concessionaire shall be qualified in accordance with the Department's procedures.

### **C. Sampling and Testing:**

The Concessionaire shall perform verification sampling and testing of component materials and completed work in accordance with the Contract documents with a different and independent firm than the Contractor's Quality Control testing firm. The minimum sampling

frequencies set out in the Department's Materials Sampling, Testing and Reporting Guide and standard specifications shall be met. In complying with the aforementioned guide, the Concessionaire shall provide daily surveillance of the Contractor's quality control activities at the Project site and perform the sampling and testing of materials and completed work items as required by current Specifications for verification and acceptance.

The Concessionaire shall be specifically responsible for job control samples determining the acceptability of all materials and completed work items on the basis of either test results or verification of a certification, certified mill analysis, FDOT label, FDOT stamp, etc.

The Department will monitor the effectiveness of the Concessionaire's testing procedures through surveillance and obtaining and testing independent verification and independent assurance samples.

Sampling, testing and laboratory methods shall be as required by the Department's Standard Specifications, Supplemental Specifications or as modified by the Special Provisions of the Contract.

Documentation reports on sampling and testing performed by the Concessionaire shall be submitted to responsible parties during the same week that the construction work is performed.

The Concessionaire shall be responsible for transporting samples in accordance with Department requirements to be tested in a Department certified laboratory.

The Concessionaire shall input verification testing information and data into the Department's database, Laboratory Information Management Systems (LIMS), in accordance with Vol II Div II Sect 2.N.2. Designated Concessionaire personnel will be provided instructions from the Department for performing this task.

#### **D. Engineering Services:**

Services include maintaining the required level of surveillance of Contractor activities, interpreting plans, specifications, and special provisions for the Contract, maintaining complete, accurate records of all activities and events relating to the Project, and properly documenting all significant Project changes. The Concessionaire shall perform the following services:

1. Schedule and attend, within ten (10) days after NTP 1, a pre-service conference for the Project in accordance with Department's procedure. The Concessionaire shall provide appropriate staff to attend and participate in the pre-service meeting.

The Concessionaire shall record a complete and concise record of the proceedings of the pre-service meeting and distribute copies of this summary to the participants and other interested parties within seven (7) days.

2. Schedule within ten (10) days after NTP 1, a date to attend a meeting with the District Compliance Manager prior to the Pre-construction Conference. The Resident Compliance Officer shall attend this meeting.

In most cases, the above will take two separate meetings based on experience and knowledge of the particular firm.



3. Prepare and submit to the Construction Project Manager for approval, within thirty (30) days after the pre-service meeting, the FDOT Computer Security Access Request for use of FDOT Data Center Facilities and access to the Department's computer systems.
4. Schedule within ten (10) days after NTP 1, a date to attend Site Manager/EDMS informational meeting with the District Construction Office. The Concessionaire shall provide appropriate staff to attend and participate in this meeting.
5. The Concessionaire shall schedule and conduct a meeting with the District Construction Environmental Liaison within ten (10) days after NTP 1 and another meeting at least forty-five (45) days prior to Final Acceptance. The purpose of the meetings is to discuss the required documentation, including as-builts, necessary for permit(s) compliance.
6. Verify that the Contractor is conducting inspections, preparing reports and monitoring all storm water pollution prevention measures associated with the Project. For each construction activity that requires the use of the NPDES General Permit, provide at least one inspector who has successfully completed the "Florida Stormwater, Erosion, and Sedimentation Control Training and Certification Program for Inspectors and Contractors". The Concessionaire's inspector will be familiar with the requirements set forth in the FEDERAL REGISTER, Vol. 57, No. 187, Friday, September 5, 1992, pages 4412 to 4435 "Final NPDES General Permits for Storm water Discharges from Construction Sites" and guidelines developed by Department.
7. Monitor, inspect and document utility construction for conformance with Utility Agency Owner's Water and Sewer Standards and the Utility Agency Owner's Approved Materials List. Facilitate coordination and communication between Utility Agency Owner's representatives, Department's staff and contractors in execution of the work. Identify potential utility conflicts and assist in the resolution of utility issues.
8. Monitor each Contractor and subcontractor's compliance with specifications and special provisions of the Contract in regard to payment of predetermined wage rates in accordance with Department procedures.
9. Provide a Resident Compliance Specialist for surveillance of the Contractor's compliance with Contract requirements. The Resident Compliance Specialist is responsible for reviewing, monitoring, evaluating and acting upon documentation required for Contract compliance, and maintaining the appropriate files thereof. Typical areas of compliance responsibility include Equal Employment Opportunity (EEO) affirmative actions for the Contractors, DBE affirmative action, Contractor formal training, payroll, and subcontracts. The Resident Compliance Specialist must keep all related documents and correspondence accurate and up to date; attend all compliance reviews and furnish the complete Project files for review; and assist the District Contract Compliance Manager as requested.

## **E. Geotechnical Engineering:**

### **Drilled Shafts**

The Concessionaire shall provide geotechnical inspection services and engineering services in accordance with Vol II Div II Section 3.G.4 - Drilled Shaft Foundations, and the FDOT

Specifications, Section 455.

**Piles**

The Concessionaire shall provide geotechnical inspection services and engineering services in accordance with Vol II Div II Section 3.G.3 - Pile Foundations, and the FDOT Specifications, Section 455.

**F. Utilities:**

The Concessionaire shall be responsible for utilities as per Vol II Div II Sect 3.H.

**SECTION 5 PERSONNEL**

**A. General Requirements:**

The Concessionaire shall staff the Project with the qualified personnel necessary to efficiently and effectively carry out its responsibilities under this Agreement.

Once authorized, the Concessionaire shall establish and maintain an appropriate staff through the duration of the Construction Period.

Construction engineering and inspection forces will be required of the Concessionaire at all times prior to Final Acceptance of all construction activities.

**B. Personnel Qualifications:**

All CEI personnel must be fully qualified in accordance with the Construction Training and Qualification Manual (700-000-001) for the duties they will be performing. FDOT is stipulating qualification requirements for the following two CEI personnel classifications:

**CEI SENIOR PROJECT ENGINEER** - A civil engineer registered in the State of Florida as a professional engineer (or if registered in another state, the ability to obtain registration in the State of Florida within six months) that has six (6) years of post-registration engineering experience (two (2) years of which are in major road or bridge construction or five (5) of which are in major bridge construction) for Complex Bridge Projects. A Master's Degree in Engineering may be substituted for one (1) year engineering experience.

Required qualifications include the ability to communicate effectively in English (verbally inspection programs; plan and organize the work of subordinates and staff members; develop and/or review policies, methods, practices, and procedures; and review programs for conformance with FDOT standards. This individual must also have the following experience:

**Qualification:**

- FDOT Advanced MOT;
- Pass the Construction Training Qualification Program (CTQP) examination covering the training video “Grouting of Bridge Post-tensioning Tendons” (If applicable); and
- Attend the CTQP Quality Control Manager course and pass the examination.

**Certifications: None**

**CEI PROJECT ADMINISTRATOR** - A civil engineer with Civil Engineering degree plus two (2) years of engineering experience in construction of major road or bridge structures, or for a non-degreed individual eight (8) years of responsible and related engineering experience, two (2) years of which involved construction of major road or bridge structures with the exception of Complex Category 2 (CC2) bridge structures.

For CC2 bridge structures, this individual must have a Civil Engineering degree and be a registered professional engineer in the State of Florida (or if registered in another state, have the ability to obtain registration in Florida within six (6) months). This individual must have five (5) years of experience (or if this individual is not registered in the State of Florida, have eight (8) years of experience) with general bridge construction experience of which two (2) years for registered project administrators, or four (4) years for non-registered project administrators, must have been with the type of CC2 bridge construction project for which CEI services are being provided by this scope. A Master's Degree in Engineering may be substituted for one (1) year of engineering experience.

Additionally, this individual must have a minimum of twelve (12) months of experience as the project administrator in primary control of the type of CC2 construction project for which CEI services are being provided by this scope. To be in primary control, a project administrator must have supervised two or more inspectors as well as two or more support staff (office manager, compliance officer, and secretary) and must have been directly responsible for all CEI services assigned.

Concrete Post-Tensioned Segmental Box Girder Bridges (CPTS): experience must include a minimum of twelve (12) months in (1) casting yard operations and related surveying and (2) segment erection and related surveying, post-tensioning (PT) of tendons and grouting of prestressing steel.

Concrete Post-Tensioned Continuous Beam (CPTCB) experience must include a minimum of two (2) years in monitoring of the following: girder erection; safe use of girder erection cranes; stabilization of girders after erection; false work for temporary girder support; and PT and grouting operations.

This individual must also be able to receive general instructions regarding assignments and exercise initiative and independent judgment in the solution of work problems. This individual must also be able to direct and assign specific tasks to inspectors and assist in all phases of the construction project. This individual must also have the following experience:

Qualifications:

- FDOT Intermediate MOT
- Pass the CTQP examination covering the training video “Grouting of Bridge Post-tensioning Tendons” (If applicable)
- CTQP Final Estimates Level II

Certifications:

- SSPC course: C-3 Supervisor/Competent Person Training for Deleading of Industrial Structures (If applicable)

Other:

- Attend CTQP Quality Control Manager Course and pass the examination.

### **C. Entity Qualifications:**

TOW 10.1	Roadway CEI
TOW 10.3	Construction Materials Inspection
TOW 10.4	Minor Bridge and Miscellaneous Structures CEI
TOW 10.5.1	Major Bridge CEI - Concrete
TOW 10.5.2	Major Bridge CEI – Steel
TOW 10.5.3	Major Bridge CEI – Segmental

## **SECTION 6 FINAL ESTIMATES**

The Concessionaire shall submit a Final Estimates package for the Construction Work within ninety (90) days after Final Acceptance. The effort involved in preparing final estimate documents will be reduced in comparison to a conventional design-bid-build project. The Concessionaire shall adhere to the guidelines set forth in the Department's Preparation and Documentation, Review and Administration Manuals to develop the Final Estimates package. Materials certification will be required with the submittal of the Final Estimates package. The following documents shall be included in the Final Estimate package:

- a. As- Built Record Plans
- b. Engineering reports (such as Load Rating, Foundation Construction Information, pile records, drill shafts records, etc.)
- c. Shop drawings
- d. All field and lab test results
- e. Daily reports, unless they are entered in Site Manager
- f. Warranties for equipment installed on the Project
- g. Certificate of Occupancy
- h. DRB invoices, DRB meeting minutes, where applicable
- i. Estimates Office Record of Final Plans and Documents
- j. Design mixes
- k. Straight-edge reports
- l. Certification of pre-stressed items
- m. Final commercial inspection report
- n. Sign inspection report
- o. Complete disposition of defective materials
- p. Field Book containing all survey data, alignment, and bench mark checks
- q. Folder containing the following: Notice to Proceed Letter, Copies of letters granting extension of contract time, Begin and Final Notice, and documented adjustments to Contract time, Interim Milestone Bonuses or Final Acceptance Payments.