

# CENTRAL FLORIDA EXPRESSWAY AUTHORITY

## MEMORANDUM

TO: Authority Board Members

FROM: Claude Miller   
Director of Procurement

DATE: May 28, 2015

RE: Award of Contract to URS Corporation Southern  
Design Consultant Services for Single Line Dynamic Message Sign (DMS) Upgrade  
Contract No. 001086; Project No. 599-525

At its meeting on April 9, 2015, the Board approved the final ranking of the firms for the referenced project and authorized staff to negotiate fees and expenses with URS Corporation Southern (URS). Those negotiations have been completed and Board award of the contract to URS in the not-to-exceed amount of \$346,331.72 is requested.

# **AGREEMENT**

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY  
AND  
URS CORPORATION SOUTHERN**

**SINGLE LINE DYNAMIC MESSAGE SIGN UPGRADE**

**CONTRACT NO. 001086; PROJECT NO. 599-525**

**CONTRACT DATE: JUNE 11, 2015  
CONTRACT AMOUNT: \$346,331.72**

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**

**AGREEMENT, SCOPE OF SERVICES, METHOD  
OF COMPENSATION, DETAILS OF COSTS AND  
FEES, PROJECT ORGANIZATIONAL CHART**

**AGREEMENT, SCOPE OF SERVICES, METHOD OF COMPENSATION, DETAILS  
OF COSTS AND FEES, PROJECT ORGANIZATIONAL CHART**

**FOR**

**SINGLE LINE DYNAMIC MESSAGE SIGN UPGRADE**

**CONTRACT NO. 001086; PROJECT NO. 599-525**

**JUNE 2015**

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**

**Members of the Board**

**Welton Cadwell, Chairman**

**Scott Boyd, Vice-Chairman**

**Brenda Carey, Secretary/Treasurer**

**Buddy Dyer, Member**

**Fred Hawkins, Jr., Member**

**Teresa Jacobs, Member**

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**Jay Madara, Member**

**S. Michael Scheeringa, Member**

**Diane Guitierrez- Scaccetti, Non-Voting Advisor**

**Executive Director**

**Laura Kelley**

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**CENTRAL FLORIDA EXPRESSWAY AUTHORITY  
AGREEMENT FOR PROFESSIONAL SERVICES**

THIS AGREEMENT, made and entered into this 11<sup>th</sup> day of June, 2015, by and between the CENTRAL FLORIDA EXPRESSWAY AUTHORITY, a corporate body and agency of the State of Florida, created by Chapter 63-573 Laws of Florida, 1963, (Chapter 348, Part V, Florida Statutes) hereinafter called the "AUTHORITY" and URS CORPORATION SOUTHERN, hereinafter called "CONSULTANT", carrying on professional practice in engineering with offices located at 315 East Robinson Street, Suite 245, Orlando, Florida 32801.

That the AUTHORITY did determine that the CONSULTANT is fully qualified to render the services contracted.

**WITNESSETH:**

1.0           The AUTHORITY does hereby retain the CONSULTANT to furnish certain services in connection with the design of design of a systemwide upgrade for the Authority's single-line DMS identified as Contract No. 001086.

2.0           The CONSULTANT and the AUTHORITY mutually agree to furnish, each to the other, the respective services, information and items as described in Exhibit "A", Scope of Services, attached hereto and made a part hereof.

Before any additions or deletions to the work described in Exhibit "A", and before undertaking any changes or revisions to such work, the parties shall negotiate any necessary cost changes and shall enter into a Supplemental Amendment covering such modifications and the compensation to be paid therefore.

Reference herein to this Agreement shall be considered to include any Supplemental Agreement thereto.

Reference herein to Director shall mean the AUTHORITY's Executive Director.

Reference herein to the Project Manager shall mean the AUTHORITY's Director of Expressway Operations or his authorized designee. The Project Manager shall provide the management and technical direction for this Agreement on behalf of the AUTHORITY. All technical and administrative provisions of this Agreement shall be managed by the Project Manager and the CONSULTANT shall comply with all of the directives of the Project Manager that are within the purview of this Agreement. Decisions concerning Agreement amendments and adjustments, such as time extensions and supplemental agreements shall be made by the Project Manager.

This Agreement is considered a non-exclusive Agreement between the parties.

### 3.0 TERM OF AGREEMENT AND RENEWALS

Unless otherwise provided herein or by Supplemental Agreement, the provisions of this Agreement will remain in full force and effect for a five-year term from the date of the Notice to Proceed for the required project services as detailed in Exhibit "A". An extension of the five-year term may be approved by the AUTHORITY at its sole discretion.

The CONSULTANT agrees to commence the scheduled project services to be rendered within ten (10) calendar days from the date specified in the written Notice to Proceed from the Project Manager, which Notice to Proceed will become part of this Agreement. The CONSULTANT shall complete scheduled project services within the timeframe(s) specified in Exhibit "A", or as may be modified by subsequent Supplemental Agreement.

#### 4.0 PROJECT SCHEDULE

The CONSULTANT agrees to provide Project Schedule progress reports in a format acceptable to the AUTHORITY and at intervals established by the AUTHORITY. The AUTHORITY will be entitled at all times to be advised, at its request, as to the status of work being done by the CONSULTANT and of the details thereof. Coordination shall be maintained by the CONSULTANT with representatives of the AUTHORITY, or of other agencies interested in the project on behalf of the AUTHORITY. Either party to the Agreement may request and be granted a conference.

In the event there are delays on the part of the AUTHORITY as to the approval of any of the materials submitted by the CONSULTANT or if there are delays occasioned by circumstances beyond the control of the CONSULTANT, which delay the scheduled project completion date, the AUTHORITY may grant to the CONSULTANT by "Letter of Time Extension" an extension of the scheduled project completion date equal to the aforementioned delays. The letter will be for time only and will not include any additional compensation.

It shall be the responsibility of the CONSULTANT to ensure at all times that sufficient time remains within the project schedule within which to complete the services on the project. In the event there have been delays which would affect the scheduled project completion date, the CONSULTANT shall submit a written request to the AUTHORITY which identifies the reason(s) for the delay, the amount of time related to each reason and specific indication as to whether or not the delays were concurrent with one another. The AUTHORITY will review the request and make a determination as to granting all or part of the requested extension.

In the event the scheduled project completion date is reached and the CONSULTANT has not requested, or if the AUTHORITY has denied, an extension of the completion date, partial

progress payments will be stopped when the scheduled project completion date is met. No further payment for the project will be made until a time extension is granted or all work has been completed and accepted by the AUTHORITY.

#### 5.0 PROFESSIONAL STAFF

The CONSULTANT shall maintain an adequate and competent professional staff to enable the CONSULTANT to timely perform under this Agreement. The CONSULTANT shall continue to be authorized to do business within the State of Florida. In the performance of these professional services, the CONSULTANT shall use that degree of care and skill ordinarily exercised by other similar professionals in the field under similar conditions in similar localities. The CONSULTANT shall use due care in performing in a design capacity and shall have due regard for acceptable standards of design principles. The CONSULTANT may associate with it such specialists, for the purpose of its services hereunder, without additional cost to the AUTHORITY, other than those costs negotiated within the limits and terms of this Agreement. Should the CONSULTANT desire to utilize specialists, the CONSULTANT shall be fully responsible for satisfactory completion of all subcontracted work. The CONSULTANT, however, shall not sublet, assign or transfer any work under this Agreement to other than the associate consultants listed below without the written consent of the AUTHORITY. It is understood and agreed that the AUTHORITY will not, except for such services so designated herein, permit or authorize the CONSULTANT to perform less than the total contract work with other than its own organization.

Protean Design Group  
AWK Consulting Engineer, Inc.

CONSULTANT shall not further sublet, sell, transfer, assign, delegate, subcontract, or otherwise dispose of this Contract or any portion thereof, or of the CONSULTANT's right, title, or interest therein without



the written consent of the AUTHORITY, which may be withheld in the AUTHORITY'S sole and absolute discretion. Any attempt by CONSULTANT to dispose of this Contract as described above, in part or in whole, without AUTHORITY'S written consent shall be null and void and shall, at AUTHORITY's option, constitute a default under the Contract.

If, during the term of the Contract, CONSULTANT desires to subcontract any portion(s) of the work to a subconsultant that was not disclosed by the CONSULTANT to the AUTHORITY at the time that the Contract was originally awarded, and such subcontract would, standing alone or aggregated with prior subcontracts awarded to the proposed subconsultant, equal or exceed twenty five thousand dollars (\$25,000.00), the CONSULTANT shall first submit a request to the AUTHORITY's Director of Procurement for authorization to enter into such subcontract. Except in the case of an emergency, as determined by the Executive Director or his/her designee, no such subcontract shall be executed by the CONSULTANT until it has been approved by the AUTHORITY Board. In the event of a designated emergency, the CONSULTANT may enter into such a subcontract with the prior written approval of the Executive Director or his/her designee, but such subcontract shall contain a provision that provides that it shall be automatically terminated if not approved by the AUTHORITY Board at its next regularly scheduled meeting.

## 6.0 SERVICES TO BE PROVIDED

The work covered by this Agreement includes the preparation of construction plans for one construction project. If the work is divided into more than one construction project by the AUTHORITY's Project Manager, then the CONSULTANT shall supply construction plans for each project. A Supplemental Agreement will be required for the additional work.

All construction plans, documents, reports, studies and other data prepared by the CONSULTANT shall bear the endorsement of a person in the full employ of the CONSULTANT and duly registered by the State of Florida in the appropriate professional category.

After the AUTHORITY's acceptance of construction plans and documents for the project, the original set of CONSULTANT's drawings, tracings, plans, maps and CADD files shall be provided to the AUTHORITY, along with one record set of the final plans. The CONSULTANT shall signify, by affixing an endorsement (seal/signature, as appropriate) on every sheet of the record set, that the work shown on the endorsed sheets was produced by the CONSULTANT. With the tracings and the record set of prints, the CONSULTANT shall submit a final set of design computations. The computations shall be bound in an 8-1/2 x 11" format and shall be endorsed (seal/signature, as appropriate) by the CONSULTANT. Refer to Exhibit "A" for the computation data required for this Agreement.

The CONSULTANT shall submit a final set of reports and studies which shall be endorsed (seal/signature) by the CONSULTANT.

The CONSULTANT shall not be liable for use by the AUTHORITY of said plans, documents, reports, studies or other data for any purpose other than intended by the terms of this Agreement.

## 7.0 COMPENSATION

The AUTHORITY agrees to pay the CONSULTANT compensation as detailed in Exhibit "B", Method of Compensation, attached hereto and made a part hereof, in the amount of \$346,331.72. Bills for fees or other compensation for services or expenses shall be submitted to the AUTHORITY in detail sufficient for a proper pre-audit and post audit thereof.

The CONSULTANT may be liable for AUTHORITY costs resulting from errors or deficiencies in designs furnished under this Agreement. The AUTHORITY may enforce such liability and collect the amount due if the recoverable cost will exceed the administrative cost involved or is otherwise in the AUTHORITY's best interest.

Records of costs incurred by the CONSULTANT under terms of this Agreement shall be maintained and made available upon request to the AUTHORITY at all times during the period of this Agreement and for three years after final payment is made. Copies of these documents and records shall be furnished to the AUTHORITY upon request. The CONSULTANT agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed.

Records of costs incurred includes the CONSULTANT's general accounting records and the project records, together with supporting documents and records, of the CONSULTANT and all subconsultants performing work on the project, and all other records of the CONSULTANT and subconsultants considered necessary by the AUTHORITY for a proper audit of project costs.

The general cost principles and procedures for the negotiation and administration, and the determination or allowance of costs under this Agreement shall be as set forth in the Code of Federal Regulations, Titles 23, 48, 49, and other pertinent Federal and State Regulations, as applicable, with the understanding that there is no conflict between State and Federal regulations in that the more restrictive of the applicable regulations will govern. Whenever travel costs are included in Exhibit "B", the provisions of Section 112.061, Florida Statutes, shall govern as to reimbursable costs.

## 8.0 DOCUMENT OWNERSHIP AND RECORDS

All plans, documents, reports, studies, and/or other data prepared or obtained under this Agreement shall be considered instruments made for services and shall become the property of the AUTHORITY without restriction or limitation on their use on this project; and shall be made available, upon request, to the AUTHORITY at any time. The AUTHORITY will have the right to visit the site for inspection of the work and the drawings of the CONSULTANT at any time. Unless changed by written agreement of the parties, said site shall be 315 East Robinson Street, Suite 245, Orlando, Florida 32817.

The CONSULTANT shall allow public access to all documents, papers, letters, or other material as approved and authorized by the AUTHORITY and subject to the provisions of Chapter 119, Florida Statutes, and made or received by the CONSULTANT in conjunction with this Agreement. Failure by the CONSULTANT to grant such public access shall be grounds for immediate unilateral cancellation of this Agreement by the AUTHORITY.

## 9.0 COMPLIANCE WITH LAWS

The CONSULTANT shall comply with all federal, state and local laws and ordinances applicable to the work or payment for work thereof, and shall not discriminate on the grounds of race, color, religion, sex, or national origin in the performance of work under this contract.

The CONSULTANT shall keep fully informed regarding and shall fully and timely comply with all current laws and future laws that may affect those engaged or employed in the performance of this Agreement.

## 10.0 WAGE RATES AND TRUTH-IN-NEGOTIATIONS CERTIFICATE

The CONSULTANT hereby certifies, covenants and warrants that wage rates and other factual unit costs as shown in attached Exhibit "C", Details of Costs and Fees, supporting the

compensation are accurate, complete and current as of the date of this Agreement. It is further agreed that said price shall be adjusted to exclude any significant sums where the AUTHORITY shall determine the price was increased due to inaccurate, incomplete or non-current wage rates and other factual unit costs. All such adjustments shall be made within one year following the date of final billing or acceptance of the work by the AUTHORITY, whichever is later.

#### 11.0 TERMINATION

The AUTHORITY may terminate this Agreement in whole or in part at any time the interest of the AUTHORITY requires such termination.

If the AUTHORITY determines that the performance of the CONSULTANT is not satisfactory, the AUTHORITY shall have the option of (a) immediately terminating the Agreement or (b) notifying the CONSULTANT of the deficiency with a requirement that the deficiency be corrected within a specified time, otherwise the Agreement will be terminated at the end of such time.

If the AUTHORITY requires termination of the Agreement for reasons other than unsatisfactory performance of the CONSULTANT, the AUTHORITY shall notify the CONSULTANT in writing of such termination, not less than seven (7) calendar days as to the effective date of termination or specify the stage of work at which the Agreement is to be terminated.

If the AUTHORITY abandons the work or subtracts from the work, suspends, or terminates the Agreement as presently outlined, the CONSULTANT shall be compensated on the basis of the percentage completion ratio of the fixed fee shown in attached Exhibit "B", plus actual costs as determined in Exhibit "B". In determining the percentage of work completed, the AUTHORITY shall consider the work performed by the CONSULTANT prior to abandonment or termination to the total amount of work contemplated by this Agreement. The ownership of all

engineering documents completed or partially completed at the time of such termination or abandonment, shall be retained by the AUTHORITY.

The AUTHORITY reserves the right to cancel and terminate this Agreement in the event the CONSULTANT or any employee, servant, or agent of the CONSULTANT is indicted or has a direct information issued against him for any crime arising out of or in conjunction with any work being performed by the CONSULTANT for or on behalf of the AUTHORITY, without penalty.

It is understood and agreed that in the event of such termination, all tracings, plans, specifications, maps, and data prepared or obtained under this Agreement shall immediately be turned over to the AUTHORITY. The CONSULTANT shall be compensated for its services rendered up to the time of any such termination in accordance with Paragraph 11.0 hereof. The AUTHORITY also reserves the right to terminate or cancel this Agreement in the event the CONSULTANT shall be placed in either voluntary or involuntary bankruptcy or an assignment be made for the benefit of creditors. The AUTHORITY further reserves the right to suspend the qualifications of the CONSULTANT to do business with the AUTHORITY upon any such indictment or direct information. In the event that any such person against whom any such indictment or direct information is brought shall have such indictment or direct information dismissed or be found not guilty, such suspension on account thereof may be lifted by the AUTHORITY's Project Manager.

## 12.0 ADJUSTMENTS

All services shall be performed by the CONSULTANT to the reasonable satisfaction of the Project Manager who shall decide all questions, difficulties and dispute of any nature whatsoever that may arise under or by reason of this Agreement, the prosecution and fulfillment of the services hereunder and the character, quality, amount and value thereof. Adjustments of compensation and term of the Agreement, because of any major changes in the work that may become

necessary or desirable as the work progresses, shall be left to the absolute discretion of the Director and Supplemental Agreement(s) of such a nature as required may be entered into by the parties in accordance herewith. Disputes between the Project Manager and the CONSULTANT that cannot be resolved shall be referred to the Director whose decision shall be final.

In the event that the CONSULTANT and the AUTHORITY are not able to reach an agreement as to the amount of compensation to be paid to the CONSULTANT for supplemental work desired by the AUTHORITY, the CONSULTANT shall be obligated to proceed with the supplemental work in a timely manner for the amount determined by the AUTHORITY to be reasonable. In such event, the CONSULTANT will have the right to file a claim with the AUTHORITY for such additional amounts as the CONSULTANT deems reasonable; however, in no event will the filing of the claim or the resolution or litigation thereof, through administrative procedures or the courts, relieve the CONSULTANT from the obligation to timely perform the supplemental work.

### 13.0 CONTRACT LANGUAGE AND INTERPRETATION

All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend to and include the singular. All words used in any gender shall extend to and include all genders.

References to statutes or regulations shall include all statutory or regulatory provisions consolidating, amending, or replacing the statute or regulation referred to. Words not otherwise defined that have well known technical or industry meanings, are used in accordance with such recognized meanings. References to persons include their respective functions and capacities.

If the CONSULTANT discovers any material discrepancy, deficiency, ambiguity, error, or omission in this Agreement, or is otherwise in doubt as to the meaning of any provision of

the Agreement, the CONSULTANT shall immediately notify the AUTHORITY and request clarification of the AUTHORITY's interpretation of this Agreement.

The Agreement shall not be more strictly construed against either party hereto by reason of the fact that one party may have drafted or prepared any or all of the terms and provisions hereof.

#### 14.0 HOLD HARMLESS AND INDEMNIFICATION

The CONSULTANT shall indemnify and hold harmless the AUTHORITY and all of its officers and employees from any liabilities, losses, damages, costs, including, but not limited to reasonable attorneys' fee, arising out of any negligent act, error, omission by the CONSULTANT, its agents, employees, or subcontractors during the performance of the Agreement, except that neither the CONSULTANT, its agents, employees nor any of its subconsultants will be liable under this paragraph for any claim, loss, damage, cost, charge or expense arising solely out of any act, error, omission or negligent act by the AUTHORITY or any of its officers, agents or employees during the performance of the Agreement.

When the AUTHORITY receives a notice of claim for damages that may have been caused by the CONSULTANT in the performance of services required by the CONSULTANT under this Agreement, the AUTHORITY will immediately forward the notice of claim to the CONSULTANT. The CONSULTANT and the AUTHORITY will evaluate the notice of claim and report their findings to each other within fourteen working days.

In the event a lawsuit is filed against the AUTHORITY alleging negligence or wrongdoing by the CONSULTANT, the AUTHORITY and the CONSULTANT will jointly discuss options in defending the lawsuit. After reviewing the lawsuit, the AUTHORITY will determine whether to request the participation of the CONSULTANT in the defense of the lawsuit or to request



that the CONSULTANT defend the AUTHORITY in such lawsuit as described in this section. The AUTHORITY's failure to notify the CONSULTANT of a notice of claim will not release the CONSULTANT from any of the requirements of this section upon subsequent notification by the AUTHORITY to the CONSULTANT of the notice of claim or filing of a lawsuit. The AUTHORITY and the CONSULTANT will pay their own cost for the evaluation, settlement negotiations and trial, if any. However, if only one party participates in the defense of the claim at trial, that party is responsible for all of its costs, but if the verdict determines that there is joint responsibility, the costs of defense and liability for damages will be shared in the same percentage as that judicially established. Nothing herein shall be construed to waive the sovereign immunity damages limitations afforded the AUTHORITY pursuant to F.S. 768.28.

The parties agree that 1% of the total compensation to the CONSULTANT for performance of this Agreement is the specific consideration from the AUTHORITY to the CONSULTANT for the CONSULTANT's indemnity agreement.

The CONSULTANT shall pay all royalties and assume all costs arising from the use of any invention, design, process materials, equipment, product or device which is the subject of patent rights or copyrights. The CONSULTANT shall, at its expense, hold harmless and defend the AUTHORITY against any claim, suit or proceeding brought against the AUTHORITY which is based upon a claim, whether rightful or otherwise, that the goods or services, or any part thereof, furnished under this Agreement, constitute an infringement of any patent or copyright of the United States. The CONSULTANT shall pay all damages and costs awarded against the AUTHORITY.

#### 15.0 THIRD PARTY BENEFICIARY

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT to solicit or secure

this Agreement, and that the CONSULTANT has not paid or agreed to pay any person, company, corporation, individual or firm any fee, commission, percentage, gift or any other consideration, contingent upon or resulting from the award or making of this Agreement. It is understood and agreed that the term "fee" shall also include brokerage fee, however denoted. For the breach or violation of this paragraph, the AUTHORITY shall have the right to terminate this Agreement without liability, and, at its discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission percentage, gift or consideration.

#### 16.0 INSURANCE

The CONSULTANT, at its own expense, shall keep in force and at all times maintain during the term of this Agreement all insurance of the types and to the limits specified herein.

The CONSULTANT shall require and ensure that each of its subconsultants providing services hereunder procures and maintains, until the completion of the services, insurance of the requirements, types and to the limits specified herein. Upon request from the AUTHORITY, the CONSULTANT shall furnish copies of certificates of insurance evidencing coverage of each subconsultant.

The CONSULTANT shall require all insurance policies in any way related to the work and secured and maintained by the CONSULTANT to include clauses stating each underwriter shall waive all rights of recovery, under subrogation or otherwise, against the AUTHORITY. The CONSULTANT shall require of subconsultants, by appropriate written agreements, similar waivers each in favor of all parties enumerated in this section. When required by the insurer, or should a policy condition not permit an endorsement, the CONSULTANT agrees to notify the insurer and request that the policy(ies) be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or an equivalent endorsement. This Waiver of Subrogation requirement shall not apply to any

policy, which includes a condition that specifically prohibits such an endorsement or voids coverage should the CONSULTANT enter into such an agreement on a pre-loss basis. At the CONSULTANT's expense, all limits must be maintained.

16.1 Commercial General Liability coverage shall be on an occurrence form policy for all operations including, but not limited to, Contractual, Products and Completed Operations, and Personal Injury. The limits shall be not less than One Million Dollars (\$1,000,000) per occurrence, Combined Single Limits (CSL) or its equivalent. The general aggregate limit shall apply separately to this Agreement (with the ISO CG 25 01 or insurer's equivalent endorsement provided to the AUTHORITY) or the general aggregate limit shall be twice the required occurrence limit. The AUTHORITY shall be listed as an additional insured. The CONSULTANT further agrees coverage shall not contain any endorsement(s) excluding or limiting Product/Completed Operations, Independent Consultants, Broad Form Property Damage, X-C-U Coverage, Contractual Liability, or Severability of Interests. The Additional Insured Endorsement included on all such insurance policies shall state that coverage is afforded the additional insured with respect to claims arising out of operations performed by or on behalf of the insured. If the additional insureds have other insurance which is applicable to the loss, such other insurance shall be excess to any policy of insurance required herein. The amount of the insurer's liability shall not be reduced by the existence of such other insurance.

16.2 Business Automobile Liability coverage shall be on an occurrence form policy for all owned, non-owned and hired vehicles issued on ISO form CA 00 01 or its equivalent. The limits shall be not less than One Million Dollars (\$1,000,000) per occurrence, Combined Single Limits (CSL) or its equivalent. In the event the CONSULTANT does not own automobiles the CONSULTANT shall maintain coverage for hired and non-owned auto liability, which may be

satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Each of the above insurance policies shall include the following provisions: (1) The standard severability of interest clause in the policy and when applicable the cross liability insurance coverage provision which specifies that the inclusion of more than one insured shall not operate to impair the rights of one insured against another insured, and the coverages afforded shall apply as though separate policies had been issued to each insured; (2) The stated limits of liability coverage for Commercial/Comprehensive General Liability, and Business Automobile Liability, assumes that the standard "supplementary payments" clause will pay in addition to the applicable limits of liability and that these supplementary payments are not included as part of the insurance policies limits of liability.

16.3 Workers' Compensation and Employer's Liability Insurance shall be provided as required by law or regulation (statutory requirements). Employer's Liability insurance shall be provided in amounts not less than \$100,000 per accident for bodily injury by accident, \$100,000 per employee for bodily injury by disease, and \$500,000 policy limit by disease. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the AUTHORITY for all work performed by the CONSULTANT, its employees, agents and subconsultants.

16.4 Professional Liability Coverage shall have limits of not less than One Million Dollars (\$1,000,000) Combined Single Limit (CSL) or its equivalent, protecting the selected firm or individual against claims of the AUTHORITY for negligence, errors, mistakes or omissions in the performance of services to be performed and furnished by the CONSULTANT.

The CONSULTANT shall provide the AUTHORITY with Certificate(s) of Insurance with required endorsements on all the policies of insurance and renewals thereof in a form(s)

acceptable to the AUTHORITY. The AUTHORITY shall be notified in writing of any reduction, cancellation or substantial change of policy or policies at least thirty (30) days prior to the effective date of said action.

All insurance policies shall be issued by responsible companies who are acceptable to the AUTHORITY and licensed to do business under the laws of the State of Florida. Each Insurance company shall minimally have an A.M. Best rating of A-:VII. If requested by the AUTHORITY, the AUTHORITY shall have the right to examine copies and relevant provisions of the insurance policies required by this Agreement, subject to the appropriate confidentiality provisions to safeguard the proprietary nature of CONSULTANT manuscript policies.

Any deductible or self-insured retention must be declared to and approved by the AUTHORITY. At the option of AUTHORITY, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as requests the AUTHORITY, or the CONSULTANT shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

All such insurance required by the CONSULTANT shall be primary to, and not contribute with, any insurance or self-insurance maintained by the AUTHORITY.

Compliance with these insurance requirements shall not relieve or limit the CONSULTANT's liabilities and obligations under this Agreement. Failure of the AUTHORITY to demand such certificate or evidence of full compliance with these insurance requirements or failure of the AUTHORITY to identify a deficiency from evidence provided will not be construed as a waiver of the CONSULTANT's obligation to maintain such insurance.

The acceptance of delivery by the AUTHORITY of any certificate of insurance evidencing the required coverage and limits does not constitute approval or agreement by the

AUTHORITY that the insurance requirements have been met or the insurance policies shown in the certificates of insurance are in compliance with the requirements.

#### 17.0 COMMUNICATIONS, PUBLIC RELATIONS, AND USE OF LOGOS

The CONSULTANT agrees that it shall make no statements, press releases or publicity releases concerning this Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or other information obtained or furnished in compliance with this Agreement, or any particulars thereof, during the period of the Agreement, without first notifying the AUTHORITY and securing its consent in writing. The CONSULTANT also agrees that it shall not publish, copyright or patent any of the data furnished in compliance with this Agreement, it being understood that, under Paragraph 8.00 hereof, such data or information is the property of the AUTHORITY.

Regarding the use of logos, printed documents and presentations produced for the AUTHORITY shall not contain the name of logo of the CONSULTANT unless approved by the AUTHORITY's Director of Public Affairs and Communication or his/her designee. If a copy of the AUTHORITY logo is to be used in a document or presentation, the logo shall not be altered in any way. The width and height of the logo shall be of equal proportions. The proper presentation of the AUTHORITY logo is of utmost importance to the AUTHORITY. Any questions regarding the use of the AUTHORITY logo shall be directed to the Director of Public Affairs and Communication or his/her designee.

#### 18.0 STANDARD OF CONDUCT

The CONSULTANT covenants and agrees that it and its employees shall be bound by the standards of conduct provided in Florida Statutes 112.313 as it relates to work performed under this Agreement, which standards will by reference be made a part of this Agreement as though set

forth in full. The CONSULTANT agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed.

The CONSULTANT acknowledges that it has read the AUTHORITY's Code of Ethics and to the extent applicable to the CONSULTANT agrees to abide with such policy.

#### 19.0 DOCUMENTED ALIENS

The CONSULTANT warrants that all persons performing work for the AUTHORITY under this Agreement, regardless of the nature or duration of such work, shall be United States citizens or properly authorized and documented aliens. The CONSULTANT shall comply with all federal, state and local laws and regulations pertaining to the employment of unauthorized or undocumented aliens at all times during the performance of this Agreement and shall indemnify and hold the AUTHORITY harmless for any violations of the same. Furthermore, if the AUTHORITY determines that CONSULTANT has knowingly employed any unauthorized alien in the performance of this Agreement, the AUTHORITY may immediately and unilaterally terminate this Agreement for cause.

#### 20.0 CONFLICT OF INTEREST

The CONSULTANT shall not knowingly enter into any other contract with the AUTHORITY during the term of this Agreement which would create or involve a conflict of interest with the services provided herein. Likewise, subconsultants shall not knowingly enter into any other contract with the AUTHORITY during the term of this Agreement which would create or involve a conflict of interest with the service provided herein and as described below. Questions regarding potential conflicts of interest shall be addressed to the Director for resolution. During the term of this Agreement, the CONSULTANT is not eligible to pursue any advertised construction engineering and inspection projects of the AUTHORITY as either a prime or subconsultant where the CONSULTANT participated in the oversight of the projects or for any project which the

CONSULTANT prepared plans and/or specifications. Subconsultants are also ineligible to pursue construction engineering and inspection projects where they participated in the oversight of the projects or for any project which the subconsultant was involved in the preparation of plans and/or specifications.

#### 21.0 SEVERABILITY

The invalidity or non-enforceability of any portion or provision of this Agreement shall not affect the validity or enforceability of any other portion or provision. Any invalid or unenforceable portion or provision shall be deemed severed from this Agreement and the balance hereof shall be construed and enforced as if this Agreement did not contain such invalid or unenforceable portion or provision.

#### 22.0 GOVERNING LAW AND VENUE

This Agreement shall be governed by and constructed in accordance with the laws of the State of Florida. Venue of any judicial proceedings arising out of the Agreement shall be in Orange County, Florida.

#### 23.00 ATTACHMENTS

Exhibit "A", Scope of Services

Exhibit "B", Method of Compensation

Exhibit "C", Details of Cost and Fees

Exhibit "D", Project Organization Chart



IN WITNESS WHEREOF, the CONSULTANT and the AUTHORITY have caused this instrument to be signed by their respective duly authorized officials, as of the day and year first above written. This Contract was awarded by the Authority's Board of Directors at its meeting on June 11, 2015.

**URS CORPORATION SOUTHERN**

**CENTRAL FLORIDA  
EXPRESSWAY AUTHORITY**

BY: \_\_\_\_\_  
Authorized Signature

BY: \_\_\_\_\_  
Director of Procurement

Print Name: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

ATTEST: \_\_\_\_\_ (Seal)  
Secretary or Notary

Approved as to form and execution, only.

General Counsel for the AUTHORITY

\_\_\_\_\_

**EXHIBIT A**

**SCOPE OF SERVICES**

# **Professional Engineering Design Services**

## **Project 599-525: Single-line Dynamic Message Sign Replacement Project**

### **Scope of Services**

Prepared by



Central Florida Expressway Authority

May 27, 2015

## 1.0 GENERAL

### 1.1 PROJECT BACKGROUND

The Authority's Single-line Dynamic Message Signs (DMS) are a critical component of CFX mainline toll plaza operations. Each mainline plaza with E-PASS Express Lanes is equipped with four single-line DMS that display the status of the Express Lanes (two signs on each approach to the plaza). The DMS is located below the static sign panel that denotes the express lanes. Messages can also be conveyed to inform motorists of emergency conditions and toll suspensions. In order to improve functionality, system reliability, and increase ease of maintenance, the Authority has elected to replace the fifty-two (52) existing single-line DMS with two-Line DMS.

This Scope of Services describes the design work necessary to meet the following project objectives:

- Replacement of approximately fifty-two (52) single-line DMS, four (4) each at thirteen (13) mainline toll plaza locations.
- Structurally evaluate each existing single-line DMS structure to determine if each existing structure can be utilized for the upgraded DMS. Design new structures on a case-by-case basis if existing structure cannot be re-used.
- Evaluate static sign panels on each existing single-line DMS structure. Design new static sign panels on a case-by-case basis in the event existing panels need to be replaced for maintenance reasons or if they need to be resized to properly accommodate the width and height of the new single-line DMS.
- Design a static border around the two-line DMS, if directed by the Authority, to properly fill any visible gaps between the single-line DMS and the static sign panel.
- Propose new 336S ITS cabinets for the new DMS.
- Upgrade the existing LMS head units at approximately three (3) mainline plazas.
- Add 39 new cameras at locations where existing cameras do not provide view of the DMSs. Place new cameras on existing structures at 23 locations, and 16 on new poles.

The Authority shall herein be defined as the Central Florida Expressway Authority (CFX) and/or their representative/designate.

### 1.2 PROJECT DESCRIPTION

The Authority requires professional design services to support the systemwide upgrade of the Authority's existing single-line DMS system at each mainline toll plaza (with the exception of the Airport Mainline Toll Plaza). These requirements are described in detail below.

The scope of this project includes all site design necessary to upgrade fifty-two (52) single-line DMS at the following locations:

- SR 408 – Hiawasse Mainline Toll Plaza; 4 signs
- SR 408 – Pine Hills Mainline Toll Plaza; 4 signs
- SR 408 – Conway Eastbound Mainline Toll Plaza; 2 signs
- SR 408 – Conway Westbound Mainline Toll Plaza; 2 signs
- SR 408 – Dean Mainline Toll Plaza; 4 signs
- SR 414 – Coral Hills Mainline Toll Plaza; 4 signs

- SR 417 – University Mainline Toll Plaza; 4 signs
- SR 417 – Curry Ford Mainline Toll Plaza; 4 signs
- SR 417 – Boggy Creek Mainline Toll Plaza; 4 signs
- SR 417 – John Young Mainline Toll Plaza; 4 signs
- SR 429 – Independence Mainline Toll Plaza; 4 signs
- SR 429 – Forest Lake Mainline Toll Plaza; 4 signs
- SR 528 – Beachline Mainline Toll Plaza; 4 signs
- SR 528 – Dallas Mainline Toll Plaza; 4 signs

The upgraded signs shall be installed on the existing sign structures utilized by the existing single-line DMS whenever possible. As part of this project, the Designer shall perform a structural evaluation on each existing single-line DMS structure and determine whether it is structurally appropriate to accommodate the proposed DMS. The Designer shall also consider the static sign panels on the existing sign structure when performing their evaluation. The Authority also reserves the option to request the design of replacement sign panels should maintenance warrant their replacement.

One of the primary goals of this project is to deploy a two-line DMS system that minimizes the cost of system maintenance. As such, it is critical that the design minimize the amount of serviceable components installed over the roadway, which require lane closures to access. The Designer shall design all power services, sign controllers, network equipment, UPS, and other auxiliaries for installation in a base- or pole-mounted cabinet accessible from ground level without a lane or shoulder closure. All data communication between ground-mounted cabinet and the sign face shall be accomplished using a fiber optic interconnect. Design of appropriate surge protection device placement shall be included.

The Authority has elected to specify two-line DMS manufactured by Daktronics for use on this project. The model(s) of DMS shall be specified by the Authority. The specific model(s) will be supplied to the Designer early in the design process. The DMS design shall include but not limited to, device layout, structural evaluation, network architecture, power interconnect, new structural grounding array, civil support infrastructure, inside plant design, point to point fiber communication between the new DMS cabinet and the new cameras, and value engineering. Wherever possible, the Designer shall maximize the use of existing power service and fiber optic infrastructure. The Designer's fee estimate shall include provisions to design up to 52 two-line DMS sites.

The Designer shall also include the upgrade of up to three (3) line management system (LMS) head units at mainline toll plazas specified by the Authority. These existing units are currently housed in the Authority's ITS racks at specific mainline plazas. The plans shall include appropriate rack face drawings showing the removal of the existing unit and replacement with the upgraded unit. Depending upon the relative size of the new unit, relocation of adjacent equipment in the rack may be necessary. The Designer shall coordinate with the Authority regarding the make and model of the LMS unit to be specified as part of the project.

## **2.0 SERVICES PROVIDED**

This Scope of Services will require the Designer to perform the following tasks. Each item is detailed in the following sections followed by a summary of required submittals.

- Site Construction Plans
- Inside-Plant Construction Plans

- Construction Cost Estimate

## 2.1 SITE CONSTRUCTION PLANS

Site construction plans are required for Project 599-525. The Designer shall prepare site construction plans utilizing aerial rasters and/or topographic electronic files provided by the Authority as the basemap. The Designer shall superimpose the location of the existing fiber optic network conduit, derived from the CFX Graphical Information System (GIS) and As-Built from previous projects, on the aerial basemap. Locations of other utilities, contained in the most recent Fiber Optic Network Outside Plant Electronic Plans shall also be displayed on the plans. In areas of concurrent construction, the Designer shall use the fiber optic component of the approved for construction plans of the applicable project as the basemap. The Designer shall update these plans with changes resulting from all ITS, roadway, and toll plaza conversion projects which have occurred since the deployment of Project 276 infrastructure; any changes noted since the completion of the FON plans; and any other inaccuracies noted in the existing documentation of the FON. The Designer shall be aware that final as-built documentation for recent construction projects may not be available and shall therefore field-verify all critical infrastructure during the design process. The Designer shall use and adapt standard plans, notes, and details to prepare the site construction plans.

Site construction plans shall show the exact location and construction method for all proposed devices and details for mounting the devices on structures. The site construction plans using 1" equals 100 feet as outlined above shall be developed on aerial rasters, unless the roadway geometry contained on the aerials is obsolete. In that case, plans shall be based upon the latest facility improvement plans plotted at a scale of 1" equals 100 feet, provided by the CFX. Site construction plans shall also include superimposed insets at a scale of approximately 1" equals 10 feet to detail proposed construction, but shall label these details "Not to Scale." Where plan sheets cannot fit all necessary details due to device co-location, the Designer shall provide a separate sheet to detail the device layout. The Designer shall identify existing physical features and utilities that will affect the construction and installation of the equipment. The Designer shall be responsible for identifying and resolving all utility conflicts during the design by avoiding the conflict or by direct coordination with the utility owner. The Designer shall display in the plans, all locations where fiber optic cable is being installed in existing or proposed conduit. The Designer shall detail with plan sheets all power service runs where the detail needs to be expanded beyond the device plan sheet to the utility company demarcation.

Site construction plans shall also include the following:

- Roadway geometry
- Rights-of-Way
- Existing utilities within the right-of-way including the Authority's FON, with any potential conflicts identified (conflict matrix)
- Manhole/Pull box locations and stub-out details
- Device layout
- Device installation details
- Conduit installation details
- Fiber optic cable route marker details
- Power route marker details
- Fiber count per conduit
- Communications interconnect
- Data collection sensor mounting details

- Single-line DMS structural mounting details
- Connection List sheets detailing all interconnections for each device
- Connectivity with the FON backbone conduits
- Fiber cable routing summaries, fiber cable allocation chart, splice details and splice tables as needed.
- Connection List sheets detailing all interconnections for each device
- Power interconnect
- 5-Ohm grounding system for ITS devices.
- Maintenance of traffic (minimize disruptions to customers)
- System Overview showing new and existing ITS device locations on a map
- Table of quantities
- Special notes
- System block diagrams
- Surge Protection Device (SPD) installation details - formally TVSS.
- Cabinet Details including new pole mount and base mount cabinets, existing pole mount and base mount cabinets, and NEMA enclosures for each DMS site.
- Updates to applicable CFX standard details to ensure conformance with project requirements.
- Power and fiber optic cable, conduit, splicing, or other infrastructure necessary to provide fully operational DMS to match existing CFX DMS subsystem.

The Designer shall take the following information into consideration when developing the site construction plans:

- Minimizing utility conflicts and adjustments.
- Traffic impact.
- Accessibility and ease of equipment maintenance.
- Safety of equipment maintenance personnel and the traveling public.
- Environmental conditions.
- Aesthetic considerations regarding spacing between DMS and static sign panels, along with their relative widths
- CFX guide signing plans
- Concurrent/future Authority projects.
- Compatibility of DMS with SunGuide.
- Colocation of devices where advantageous. However, any construction dependencies between other Authority projects shall be kept to an absolute minimum.
- Legibility of the plan set: do not use fonts smaller than 8 point equivalents unless approved by the Authority.

Designer shall submit 75%, 100%, and Bid Set plans for the review and approval of the Authority. The 75% plans shall contain at a minimum the location of all proposed devices, power service for each device (finalized with utility owners), fiber optic interconnect (including conduit, pull boxes, fiber

optic cable), definition of pay items, details, and general notes. The Designer's 100% plans shall address all 75% comments as well as provide all final quantities and design elements. The Authority reserves the right to influence the design based upon planned ITS, facility, and roadway improvement projects or other requirements as identified by the Authority.

After 75% plans are submitted to the Authority, the Designer and Authority representatives shall jointly survey the proposed device locations and utility power service demarcations (e.g. load centers, poles, meters, etc.) to avoid unforeseen problem areas, as well as jointly reviewing the problem areas and special requirements solutions. At each milestone review, representatives from each organization having ownership, control, or jurisdiction of highways, bridges, land, utilities, waterways, rights-of-way and other facilities shall provide input during a site survey and any major project issues shall be investigated and resolved by the Designer.

The Designer shall be responsible for coordinating all utility conflict resolutions with the appropriate agencies. Site construction plans shall be prepared in accordance with the latest standards listed herein and all applicable national, state, county, and local codes, laws and regulations. The Designer shall sign and seal Bid Set site construction plans by a licensed professional Civil or Electrical Engineer registered in the state of Florida, as appropriate. All site construction plans shall be subject to Authority review and approval.

The Designer shall be responsible for providing structural calculations and plan details for all structures and foundations required as well as for mounting devices to existing or proposed structures. These calculations and plan details must be signed and sealed by a licensed professional Structural Civil Engineer registered in the State of Florida. The Designer shall be responsible for providing calculations for inside and outside plant power design (including voltage drop calculations) signed and sealed by a licensed professional Electrical Engineer registered in the State of Florida. All design calculations are subject to Authority review and approval. Authority approved design calculations are required for the approval of all site construction plans. All calculations shall be submitted with the 75%, 100%, and bid plans.

Construction plans shall show the locations of all existing and proposed ITS devices and their associated power and fiber infrastructure where the project limits of this project overlap with an existing, future, or concurrent project.

## 2.2 INSIDE-PLANT CONSTRUCTION PLANS (AS NEEDED)

Inside-plant construction plans shall be prepared as 75%, 100%, and Bid submittals. The Designer shall prepare inside-plant construction plans detailing the installation of all existing equipment that affects the work proposed for the Contractor. The inside-plant construction plans shall indicate the location of items to be installed in or removed from the Authority facilities, location of other equipment with connections to project equipment, equipment demarcations, power supply, backboards, conduit, etc. Site-specific installation plans shall be prepared for the each CFX mainline toll plaza where proposed equipment is to be installed. Inside-plant construction plans shall be required for all equipment and operations rooms where equipment shall be installed and operated (or removed). Designer shall be responsible for any data collection necessary to complete their design.

The Designer and Authority representatives shall jointly pre-survey the equipment rooms to identify potential installation problems. Problems shall be identified and special requirements determined during the survey of this project. Any problems identified during the survey shall be resolved in the 75% inside-plant construction plan submittal. As part of the 75% review of the inside-plant construction plans, a field check of the equipment rooms shall be conducted with Authority representatives to identify conflicts, issues and make-ready work required. The Designer shall be responsible for the design of all make-ready



The inside-plant construction plans shall include top view drawings of the equipment room and shall indicate the exact location where equipment is to be installed. The Designer shall coordinate with the Authority to receive input regarding the preferred location of the equipment at each facility. The inside-plant construction plans will also include front and rear drawings of all related equipment clearly detailing all installation requirements and complete interconnection detail with all other associated equipment. All equipment shown on the inside-plant construction plans shall be clearly delineated as existing or for construction. The Designer shall be responsible for identifying and detailing on the inside-plant construction plans with notes and drawings any make-ready work required. The Designer shall also provide a table of quantities for all materials and equipment specified in the inside-plant construction plans. The Designer shall sign and seal bid set inside-plant construction plans by a licensed professional Electrical Engineer registered in the State of Florida. The inside-plant construction plans shall be subject to the review and approval of the Authority.

The site construction plans and inside plant plans shall be submitted as a cohesive plan set submittal using a common table of quantities and title sheet at each submittal level.

## 2.3 TECHNICAL SPECIFICATIONS

CFX will be providing the signed and sealed specifications for this project.

Designer shall research each part number listed in the CFX standard ITS specifications to verify that the validity of each part number. In the event a part has been superseded or is no longer available, the Designer shall recommend the appropriate part number to the authority for its approval. If the Designer recommends revisions to part numbers originally recommended in the technical proposal or intent of this scope, they shall follow up with the manufacturer to design a device that will fulfil the intent of this scope and integrate seamlessly with the existing ITS system.

## 2.4 CONSTRUCTION COST ESTIMATE

The Designer shall develop construction cost estimates at the 75%, 100% and Bid Set Plan Submission Phases, subject to the review and approval of the Authority. These estimates shall be based on the table of quantities developed during the preparation of the site construction plans and the inside-plant construction plans, as well as all make-ready or other work associated with the project. All pay items shall use consistent descriptions in the plan sets, specifications, and cost estimate.

## 2.5 QUALITY CONTROL

The Designer shall be responsible for providing continuous quality control and quality assurance (QA/QC) during the project. The Designer shall produce construction documents, studies and reports that have been thoroughly checked. The documents produced shall be prepared with the degree of care that will meet "standard practice" or "due care" as established by recognized industry wide professional organizations such as the National Society of Professional Engineers (NSPE). The Designer's QA/QC responsibilities shall not be limited to responding to Authority comments but also provide for a complete review of project deliverables prior to their submittal. The Authority reserves the right to reject a submittal in its entirety if QA/QC is not evident relative to addressing Authority comments.

The Designer shall prepare and submit to the Authority a Project Quality Control (QC) Plan. The QC Plan shall describe how the required production, project staff and review time will be planned and scheduled to accomplish the required quality control. The plan will include a plans production manual detailing guidelines for the production of ITS plans. This QA/QC time and effort is an essential part of the design effort if quality workmanship is to be achieved. The Designer's management shall be responsible for providing the proper organization and staff to perform all QA/QC tasks associated with the production of a project according to the QC Plan in a complete and thorough manner. The QC plan shall, at a minimum, describe a process of applying quality control to each deliverable at every stage of production of the deliverable, including a final QC review by a resource that was not used to produce the deliverable. The QC Plan will be reviewed to determine if it meets the Authority's needs and requirements. The QC Plan shall be completed and submitted to the Authority within five (5) calendar days after receipt of Notice to Proceed. An approved QC Plan is required as a prerequisite for the approval of all submittals. The designer shall certify with each submittal that a thorough QC review has been performed. The Authority shall retain the option to request documentation of QC activities at any time.

## 2.6 PROJECT MANAGEMENT AND COORDINATION

### 2.6.1 Schedule (General Items)

The schedules shall provide 20 working days for Authority review of all submittals and 15 working days for Authority review of re-submittals. The Designer may continue design efforts while design submittals are being reviewed. Doing so, however, in no way relieves the Designer of the responsibility to answer and incorporate review comments into the design, nor does it entitle the Designer to any additional compensation as a result of making changes due to review comments.

When there is an actual or potential delay in the schedule or if the Designer proposes to change the sequence or duration of any activities, an updated schedule and accompanying narrative must be submitted to the Authority for approval.

### 2.6.2 Project Schedule

The following list represents the schedule of major project milestones for a project duration of 150 calendar days:

- Notice to Proceed (Assume a start date of June 1, 2015)
- Project Kickoff Meeting - Within 5 working days after receipt of the Notice to Proceed.
- Detailed Schedule – Submitted at the Project Kickoff Meeting. The schedule shall contain activities in sufficient detail to demonstrate the Designer has a reasonable work plan to complete the project. Long-term activities shall be broken down into manageable segments where each activity does not exceed twenty (20) working days.
- Quality Control Plan – within 5 calendar days after receipt of Notice to Proceed, submitted at the Project Kickoff Meeting.
- Complete Design Phase – 150 calendar days after receipt of Notice to Proceed.

### 2.6.3 Meetings and Progress Reporting

The Designer shall attend a Kick-off Meeting where the Designer will submit a schedule and project plan identifying key staff and their responsibilities. The Designer shall meet with the Authority on an as-needed basis to obtain design information and at least once a month to provide written progress reports including an updated schedule that describes the work performed on each task. The Authority will make judgment on whether work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished. The Designer shall submit draft minutes of these meetings to the Authority within 5 working days after the meeting. The designer shall provide final minutes, conformed to Authority comments, within 2 days of receipt of Authority comments.

The Designer shall establish and maintain an Action Item Data Base. This database will be used to support the closure of action items in a timely manner. An updated list of action items with status and required resolution dates shall be included as part of the monthly progress report. The Action Item Data Base format shall be submitted at the Kick-off Meeting for review and approval by the Authority.

### 2.6.4 Project Coordination and Key Personnel

The Authority and the Designer will each designate a Project Manager who shall be the representative of their respective organizations for the project. The final direction on all matters of this project shall remain with the Authority's Project Manager. The Designer's Project Manager shall be the point of contact for all project coordination and shall be familiar with all aspects of the project, including production of deliverables, contract administration, coordination with subconsultants, and invoices. The Designer may assign a technical representative for major subconsultants for attendance at project meetings and for technical coordination, subject to Authority approval. The Designer shall identify key project staff to the Authority. The Designer shall make no changes in key personnel without written notification and approval from the Authority.

The Designer shall be responsible for coordinating all site construction plans with CFX expansion projects in the 5-Year Work Plan currently under design or construction. The Designer shall coordinate with the CFX expansion project designers to resolve all conflicts and design issues.

## 2.7 SUBMITTALS

The Designer shall be responsible for making submittals to the Authority for review. The Authority's review time shall start when all required deliverables for each submittal have been received and end with the return shipping of the review comments. All construction and installation plans shall be accurate, legible, complete in design and drawn to the appropriate scale. All construction plans submitted for review shall be 11" x 17" plan sheets. The number of copies of materials to be furnished for each submittal is as follows:

SUBMITTAL/ITEM	NO . OF COPIES
▪ Project Schedule	3
▪ Quality Control Plan	5
▪ Site Construction Plans	10
▪ Site Design Calculations	5
▪ Inside-Plant Installation Plans	10
▪ Inside-Plant Design Calculations	5
▪ Construction Cost Estimate	10

The exact quantity of plans to be submitted may vary and shall be discussed with the Authority prior to printing.

## 2.8 COMPUTER AUTOMATION

The Designer shall be required to develop the plans utilizing computer automation systems. The Designer shall be required to submit final completed CADD design files in Microstation™ format and PDF on optical disk media (CD-ROM or DVD-ROM as appropriate). The Working Units for the design file shall be 100 Master units (MU) and 10 Sub-units (SU) for a total working area of 4,294,967 (MU sq.). The global origin for a 2D design file shall be the lower left hand corner of the design plane. The Designer shall be responsible for any translation of a non-Microstation design file to Microstation™ format . Upon Authority approval, the Designer may use Microsoft Visio™ for plans provided all electronic files are provided to the Authority. The Designer shall develop CADD standards for this project to be approved by the Authority. These standards shall contain design file information including, but not limited to, levels, line weight, line style, color and a file naming convention. All translated files shall conform to the CADD standards developed for the project.

The Designer shall be required to submit electronic files of all final deliverable reports and cost estimates in Microsoft Word™/Microsoft Excel™, and Adobe Acrobat™ (.pdf) format on optical disk media. Designer shall submit all project schedules in Microsoft Project™ format on CD-ROM or via email. The Designer shall to submit electronic files of all presentations in Microsoft PowerPoint™ format on optical disk media. When requested by the Authority, the Designer shall provide electronic files of interim submittals.

## 2.9 APPLICABLE CODES AND STANDARDS

All installation work, equipment, cable, conduit/duct and associated electrical work for this contract shall be designed in conformity with the current requirements and practices of the latest version of each of the following:

- FDOT Utility Accommodations Manual

- FDOT Roadway and Traffic Design Standards
- Florida DOT Standard Specifications for Road and Bridge Construction
- National Electric Code (NEC)
- Applicable Electronic Industries Association (EIA), Telecommunications Industry Association (TIA) and Bellcore Standards
- Manual of Uniform Traffic Control Devices (MUTCD)
- ANSI/IEEE Standards Publication
- Occupational Safety and Health Act (OSHA)
- All applicable Federal, State and Local Laws, Ordinances, Rules and Regulations
- CFX Systemwide ITS Deployment Phase 1 Functional Requirements (Latest Version)

All design plans shall be signed and sealed by a licensed professional Engineer registered in the State of Florida of the appropriate discipline (i.e., Electrical, Civil, Structural) as dictated by the nature of the design.

## 2.10 RESOURCES AVAILABLE

The Authority has existing documentation available to assist the selected Designer in the services required. The Authority does not warrant or guarantee the accuracy of the documentation, and the use of such documentation is at the sole risk of the Designer.

The following resources are available to the Designer in electronic format:

- CFX Projects Fiber Optic Network Outside-Plant Electronic Plans on aerial rasters
- CFX Systemwide Aerial Rasters
- Fiber Optic Network Electronic Splice Details and Cable Terminations
- Fiber Optic Network Inside-Plant Electronic Plans
- Fiber Optic Conduit System and Manhole Standard Specifications
- Dynamic Message Sign Standard Specifications
- CFX Standard Construction Specifications
- CFX GIS roadway centerline, FON conduit routing, and manhole numbering in MicroStation format
- Construction Plans for systemwide ITS project, toll plaza conversion projects, and roadway projects.
- Construction Plans for CFX Expansion projects currently approved for construction.

The following resources are available to the Designer in hardcopy or PDF format:

- Interim (30%, 60%, 90%, 100%) design plans for CFX expansion projects. Submission levels will vary with the design progress of each project.
- CFX ITS Master Plan
- Sign Structure Inspection Reports

A limited filed review shall be permed for verification of provided resources at data collection.

## 2.11 SURVEY

No survey is required.

## 2.12 GEOTECHNICAL SERVICES

Existing soil boring data and geotechnical reports would be made available for review for use in making recommendations in foundation design for some of the pole locations. Equipment to be used and assumed required number of borings are itemized on the estimate expenses.

## 2.13 ADDITIONAL SERVICES

Additional services may be assigned to the Consultant in accordance with the Contract and this Scope of Services. No work will be accomplished under additional services without prior written authorization to the Consultant to perform the work.

**EXHIBIT B**

**METHOD OF COMPENSATION**

**EXHIBIT "B"**  
**METHOD OF COMPENSATION**

**1.00 PURPOSE:**

This Exhibit describes and defines the limits of compensation to be made to the CONSULTANT for the services set forth in Exhibit "A" of this Agreement and the method by which payments shall be made.

**2.00 AMOUNT OF COMPENSATION:**

2.10 The AUTHORITY agrees to pay the CONSULTANT for the performance of services described in Exhibit "A" an amount not to exceed a Total Maximum Limiting Amount of \$346,331.72.

2.11 The Total Maximum Limiting Amount for the project assigned under this Agreement shall include:

A Limiting Amount for Salary Related Costs consisting of the sum of actual salary and wages and the applicable administrative overhead and payroll burden (fringe benefits) costs;

A Fixed Fee as the Operating Margin or profit paid for the professional services described in this Agreement;

A Lump Sum Amount for Expenses;

A Limiting Amount for Subconsultants (as identified in paragraph 5.0 of the Agreement for Professional Services).

2.12 The Total Maximum Limiting Amount for the project assigned under this Agreement shall consist of the following:

**URS CORPORATION SOUTHERN**

Total Activity Salary Costs	\$97,427.71
(a) Overhead Additives	
(1) Combined (120.06%)	116,971.71
Subtotal (Salary + Overhead)	214,399.42
(b) Lump Sum for Operating Margin (12.00%)	25,727.93
Subtotal (Salary Related)	240,127.35
(c) Direct Expenses - Lump Sum (Prime)	1,798.69
BASIC FEE	241,926.04
(d) Subcontract - PDG (Limiting Amount)	61,582.37
(e) Subcontract - AWK (Limiting Amount)	42,823.31
<b>TOTAL MAXIMUM LIMITING AMOUNT</b>	<b>\$346,331.72</b>



2.13 It shall be the responsibility of the CONSULTANT to ensure at all times that sufficient funding remains within the Total Maximum Limiting Amount stated above in Section 2.12 to complete the services for the project. Changes in the Total Maximum Limiting Amount for the project shall require execution of a Supplemental Agreement. The CONSULTANT is obligated to complete project services within the Total Maximum Limiting Amount established herein.

### 3.00 ALLOWABLE COSTS:

The AUTHORITY shall reimburse the CONSULTANT for all reasonable allocable and allowable costs. The reasonableness, allocability and allowability of reimbursements sought under this Agreement are expressly made subject to the terms of (1) this Agreement (2) Federal Acquisition Regulations sub-part 31-2 (3) Office of Management and Budget (OMB) Circular A-87 (46FR9548, January 28, 1981) and A-102 (45FR55086, August 18, 1980) and (4) other pertinent federal and state regulations. By reference hereto, said sub-part of Federal Acquisition Regulations and OMB circulars are hereby incorporated in and made a part of this Agreement. Allowable Costs and Fees are defined as follows:

3.10 Direct Salaries and Wages: All direct salaries and wages of the CONSULTANT and Subconsultants (as identified in paragraph 5.0 of the Agreement for Professional Services) for time expended by personnel in the performance of the work (exclusive of unit price based work performed by CONSULTANT and Class 2 Subconsultants); however, this shall specifically exclude salaries and payroll burden of Corporate Officers and Principals when expended in the performance of indirect functions.

Direct Salaries and Wages (salary costs) include both straight time payments and all overtime payments made for an employee's services on a project. Straight time costs shall be the hourly rate paid for an employee based on a forty (40) hour work week. Overtime costs shall be the salary costs paid for an employee for work exceeding a forty (40) hour work week. Overtime costs shall be paid as either Straight Overtime costs or Premium Overtime costs.

Straight Overtime: Straight overtime shall be the portion of overtime compensation paid for employees at the straight time hourly rate and shall be burdened with overhead and fringe benefits.

Premium Overtime: Premium overtime costs shall be the portion of overtime compensation paid in excess of the straight time hourly rate and shall not be burdened with overhead and fringe benefits.

Payment of Overtime: Straight Overtime or Premium Overtime shall be paid in accordance with the CONSULTANT'S overtime policies and practices, provided that such compensation plan or practice is so consistently followed, in effect, to imply an equitable treatment of overtime to all the CONSULTANT'S clients.

Premium Overtime is not authorized unless approved in writing by the AUTHORITY'S DIRECTOR.

3.11 Indirect Charges: Administrative overhead and payroll burden costs not to exceed a combined maximum rate of 120.06% when applied to the CONSULTANT'S chargeable salaries and wages. Administrative overhead and payroll burden costs for Subconsultants shall be as established in Exhibit "C".

3.12 Expenses: A Lump Sum Amount shall be paid to the CONSULTANT and all subconsultants for miscellaneous and out-of-pocket expenses as established in Exhibit "C".

3.13 Class 2 Subconsultants: Compensation shall be based on a unit price basis not to exceed the limiting amount established herein. The unit prices acceptable for this agreement shall be at the unit prices established in Exhibit "C".

3.14 Field Survey by CONSULTANT: Compensation shall be based on a unit price basis not to exceed the limiting amount established herein. The unit prices acceptable for this agreement shall be at the unit prices established in Exhibit "C".

3.15 Fixed Fee: Fixed Fee is the operating margin paid to the CONSULTANT and the Subconsultants for the professional services described in this Agreement (exclusive of unit price based work performed by CONSULTANT and Class 2 Subconsultants). The fixed fee shall remain fixed regardless of the relation of the actual salary related costs to the estimated salary related costs and regardless of any extension of contract time granted pursuant to paragraph 4.0 of the Agreement for Professional Services. Salary related costs are defined as the sum of direct salaries and wages and the applicable administrative overhead and payroll burden costs.

#### 4.00 METHOD OF PAYMENT:

No more than the Total Maximum Limiting Amount provided for in Section 2.00 shall be paid by the AUTHORITY to the CONSULTANT as follows, subject to the provisions of Section 3.00:

4.10 The CONSULTANT shall be reimbursed monthly for authorized services performed. Payment to the CONSULTANT shall be in an amount to cover costs incurred during the preceding month for actual direct salary and wages, a provisional allowance for the administrative overhead and payroll burden, a portion of Lump Sum expenses and Subconsultant Costs, plus an allowance for Fixed Fee (Operating Margin), less retainage.

4.11 The combined provisional allowance for administrative overhead and payroll burden, expressed as a percentage of salary related costs, for the CONSULTANT is 120.06 percent.

The provisional allowance for administrative overhead and fringe benefits established herein will be adjusted, as necessary, upon completion of an interim audit during the term of the project, or a post audit following project completion, subject to the following limitations:

The combined allowance for administrative overhead and fringe benefits shall not exceed 120.06%; and

Adjustments to the combined allowance for administrative overhead and fringe benefits shall not increase the compensation to the CONSULTANT beyond the Total Maximum Limiting Amount.

4.12 The Fixed Fee (Operating Margin) approved by the AUTHORITY to be paid to the CONSULTANT for the services set forth in this Agreement is established as shown in Section 2.12 of this Exhibit "B".

The CONSULTANT shall earn monthly a portion of its approved fixed fee at 12.0 percent of actual approved salary related costs. Accumulated fixed fee earnings are subject to the aforementioned fixed fee amount. When project services have been satisfactorily completed, the difference between the approved and previously earned fixed fee shall be due and payable to the CONSULTANT and Subconsultants (exclusive of unit price based work performed by CONSULTANT and Class 2 Subconsultants).

4.13 The CONSULTANT shall earn a portion of its established Lump Sum expense cost in the amount equal to such Lump Sum equally distributed over the project's anticipated duration. Any balance due the CONSULTANT upon completion of a project shall be paid in the final invoice.

4.14 The CONSULTANT shall be compensated for Subconsultant Services in accordance with Section 3.00 of this Exhibit "B" for actual work performed.

4.15 Payments to the CONSULTANT shall be subject to retainage. Retainage shall be calculated as a percent of the sum of salary costs, administrative overhead and payroll burden, and operating margin. No retainage shall be withheld on expenses or Subconsultant Services.

The AUTHORITY shall withhold from monthly payments a retainage of ten percent (10%) until fifty percent (50%) of the work is completed, and five percent (5%) thereafter until all work is completed. Retainage withheld at project completion shall be released to the CONSULTANT upon satisfactory completion of all services and acceptance of all deliverables by the AUTHORITY.

4.16 The CONSULTANT shall be responsible for the consolidation and submittal of one (1) original monthly invoice, in the form and detail established or approved by the AUTHORITY. All payments on such invoices are conditional and subject to adjustment as a result of a final audit as to the allowability of costs in accordance with this Agreement. Invoices shall include an itemization and substantiation of costs incurred. The itemization must include the amount budgeted, current amount billed, total billed to date and amount to complete.

4.17 The CONSULTANT shall promptly pay all subconsultants their proportionate share of payments received from the AUTHORITY.

4.18 The AUTHORITY reserves the right to withhold payment or payments in whole or in part, and to continue to withhold any such payments for work not completed, completed unsatisfactorily, work that is behind schedule or work that is otherwise performed in an inadequate or untimely fashion as determined by the AUTHORITY. Any and all such

payment previously withheld shall be released and paid to CONSULTANT promptly when the work is subsequently satisfactorily performed notwithstanding paragraph 4.0 of the Agreement for Professional Services.

5.00 PROJECT CLOSEOUT:

5.10 Final Audit: The CONSULTANT shall permit the AUTHORITY to perform or have performed an audit of the records of the CONSULTANT and any or all subconsultants to support the compensation paid the CONSULTANT. The audit will be performed as soon as practical after completion and acceptance of the contracted services. In the event funds paid to the CONSULTANT under this Agreement are subsequently properly disallowed by the AUTHORITY because of accounting errors or charges not in conformity with this Agreement, the CONSULTANT agrees that such disallowed amounts are due to the AUTHORITY upon demand. Further, the AUTHORITY shall have the right to deduct from any payment due the CONSULTANT under any other contract between the AUTHORITY and the CONSULTANT an amount sufficient to satisfy any amount due and owing the AUTHORITY by the CONSULTANT under this Agreement. Final payment to the CONSULTANT shall be adjusted for audit results.

5.11 Certificate of Completion: Subsequent to the completion of the final audit, a Certificate of Completion will be prepared for execution by both parties stating the total compensation due the CONSULTANT, the amount previously paid, and the difference.

Upon execution of the Certificate of Completion, the CONSULTANT shall either submit a termination invoice for an amount due or refund to the AUTHORITY for the overpayment, provided the net difference is not zero.

**EXHIBIT C**

**DETAILS OF COSTS AND FEES**

**URS STAFF HOUR ESTIMATION  
FOR  
CENTRAL FLORIDA EXPRESSWAY AUTHORITY  
Single Line DMS Upgrade Project No. 599-525**

**5/26/15**

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**

CFX Project Number: 599-525

DESCRIPTION: Single-Line DMS Upgrade

URS Corporation

OOCEA Contract No.: 001086

**SUMMARY FEE SHEET**

ACTIVITY MANHOURS	Project Manager	Chief Engineer	Senior Engineer	Project Engineer	Engineer	Engineer Intern	Designer	Senior Eng Tech	Clerical	Total Manhours	Total Cost	Average Rate
3. Project General and Project Common Tasks												
4. Roadway Analysis												
5. Roadway Plans												
6. Drainage Analysis												
7. Utilities												
8. Environmental Permits, Compliance & Clearances												
9. Structures - Misc. Tasks, Dwgs, Non-Tech.	15.10	45.30		60.40		12.08		15.10	3.02	151.00	\$7,439	\$49.26
10. Structures - Bridge Development Report												
11. Structures - Temporary Bridge												
12. Structures - Short Span Concrete Bridge												
13. Structures - Medium Span Concrete Bridge												
14. Structures - Structural Steel Bridge												
15. Structures - Segmental Concrete Bridge												
16. Structures - Movable Span												
17. Structures - Retaining Walls												
18. Structures - Miscellaneous	29.50	88.50		118.00		23.60		29.50	5.90	295.00	\$14,533	\$49.26
19. Signing & Pavement Marking Analysis												
20. Signing & Pavement Marking Plans												
21. Signalization Analysis												
22. Signalization Plans												
23. Lighting Analysis												
24. Lighting Plans												
25. Landscape Architecture Analysis												
26. Landscape Architecture Plans												
27. Survey (Field & Office Support)												
28. Photogrammetry												
29. Mapping												
30. Geotechnical												
31. Architecture Development												
32. Noise Barriers Impact Design Assessment												
33. Intelligent Transportation Systems Analysis	72.49	144.98	181.23		181.23		57.99	72.49	14.50	724.91	\$36,264.51	\$50.03
34. Intelligent Transportation Systems Plans	79.31	158.62	174.48		222.07		63.45	79.31	15.86	793.10	39191.63	\$49.42
<b>TOTAL MANHOURS</b>	<b>196.40</b>	<b>437.40</b>	<b>355.71</b>	<b>178.40</b>	<b>403.30</b>	<b>35.68</b>	<b>121.44</b>	<b>196.40</b>	<b>39.28</b>	<b>1964.01</b>	<b>\$97,427.71</b>	<b>\$49.61</b>
<b>WAGE RATES</b>	<b>69.32</b>	<b>70.38</b>	<b>54.73</b>	<b>37.04</b>	<b>34.38</b>	<b>25.92</b>	<b>30.16</b>	<b>\$36.88</b>	<b>\$32.00</b>			
<b>TOTAL DIRECT COSTS</b>	<b>\$13,614.45</b>	<b>\$30,784.21</b>	<b>\$19,468.01</b>	<b>\$6,607.94</b>	<b>\$13,865.45</b>	<b>\$924.83</b>	<b>\$3,662.63</b>	<b>\$7,243.23</b>	<b>\$1,256.96</b>		<b>\$97,427.71</b>	

**Salary Related Costs**

Total Activity Salary Costs		\$97,427.71
Overhead Activities	120.06%	\$116,971.71
<b>Subtotal Salary Related Costs (Limiting Amount)</b>		<b>\$214,399.42</b>

<b>Operating Margin (Fixed Fee)</b>	12.00%	<b>\$25,727.93</b>
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**Expenses**

Direct Reimbursables (Out-of-Pocket)		\$1,798.69
<b>Subtotal Expenses (Lump Sum)</b>		<b>\$1,798.69</b>

**Subconsultants**

Subconsultant:	PDG	\$61,582.37
Subconsultant:	WAK	\$42,823.31
<b>GRAND TOTAL (Maximum Limiting Amount)</b>		<b>\$346,331.72</b>

**Notes:**

1. This sheet to be used by Prime Consultant to calculate the Grand Total fee.
2. Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.

## Project Activity 9: Structures - Summary and Miscellaneous Tasks and Drawings

Estimator: Chris Cromwell

599-525  
Single-Line DMS Upgrade

Task No.	Task	Units	Design and Production Staffhours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
	General Drawings										
9.1	Index of Drawings	Sheet	0	0	0	0					
9.2	Project Layout	Sheet	0	0	0	0					
9.3	General Notes and Bid Item Notes	Sheet	1	8	1	8					
9.4	Miscellaneous Common Details	Sheet	0	0	0	0					
9.5	Incorporate Report of Core Borings	Sheet	8	3	8	24					
9.6	Existing Bridge Plans	LS	1	0		0					
9.7	Assemble Computation Book and Quantities	LS	1	0		0					
9.8	Cost Estimate	LS	1	3		3	Coordination only				
9.9	Technical Special Provisions	LS	1	0		0					
Structures - Summary and Miscellaneous Tasks and Drawings Subtotal					9	35					
Task No.	Task	Total	Task 10	Task 11	Task 12	Task 13	Task 14	Task 15	Task 16	Task 17	Task 18
10-16	Bridge 1	0	0	0	0	0	0	0	0		
10-16	Bridge 2	0									
10-16	Bridge 3	0									
17	Retaining Walls	0								0	
18	Miscellaneous Structures	295									295



## Project Activity 9: Structures - Summary and Miscellaneous Tasks and Drawings

<b>Structures Technical Subtotals</b>		295	0	0	0	0	0	0	0	0	295
<b>Task No.</b>	<b>Task</b>	<b>Units</b>	<b>No. of Units</b>	<b>Hours per Unit</b>	<b>Total</b>	<b>Comments</b>					
9.10	Field Reviews	LS	1	56	56	7 days for 52 DMS					
9.11	Technical Meetings	LS	1	14	14	Meetings are listed below					
9.12	Quality Assurance/Quality Control	LS	%	5%	16.5						
9.13	Independent Peer Review	LS	%	0%	0						
9.14	Supervision	LS	%	5%	16.5						
<b>Structures Nontechnical Subtotal</b>					103						
9.15	Coordination	LS	%	3%	12.99						
<b>9. Structures - Summary and Miscellaneous Tasks and Drawings Nontechnical and Coordination Total</b>					150.99						

### Technical Meetings

BDR Coordination/Review	EA	0	0	0
90/100% Comment Review	EA	0	0	0
Aesthetics Coordination	EA	0	0	0
Regulatory Agency	EA	0	0	0
Local Governments (cities, counties)	EA	0	0	0
Utility Companies	EA	0	0	0
Other Meetings	EA	0	0	0
<b>Subtotal Technical Meetings</b>				<b>0</b>

Progress Meetings	EA	8	1	8	8 meeting x 1 people x 1 hour
Phase Review Meetings	EA	3	2	6	3 meeting x 1 people x 2 hour

<b>Total Meetings</b>				<b>14</b>
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Carries to 9.11

## **Project Activity 9: Structures - Summary and Miscellaneous Tasks and Drawings**

**Note: Project Manager attendance at progress, phase and field review meetings are manually entered on General Task 3.**

**Project Activity 18: Structures - Miscellaneous**

Estimator: Chris Cromwell

599-525  
Single-Line DMS Upgrade

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
	Concrete Box Culvert						
18.1	Concrete Box Culverts	EA	0	0	0	0	
18.2	Concrete Box Culverts Extensions	EA Extension	0	0	0	0	
	Strain Poles						
18.3	Steel Strain Poles	Initial Config	0	0	0	0	
		EA Add'l Config	0	0	0	0	
18.4	Concrete Strain Poles	Initial Config	0	0	0	0	
		EA Add'l Config	0	0	0	0	
	Mast Arms						
18.5	Mast Arms	EA Pole	0	0		0	
	Overhead/Cantilever Sign Structures						
18.6	Cantilever Sign Structures	EA Design	0	0	0	0	
18.7	Overhead Span Sign Structures	EA Design	0	0	0	0	
18.8	Special (Long Span) Overhead Sign Structures	EA Design	0	0	0	0	
18.9	Monotube Overhead Sign Structure	EA Design	0	0	0	0	
18.10	Bridge Mounted Signs (Attached to Superstr.)	EA Design	0	0	0	0	
	High Mast Lighting						
18.11	High Mast Lighting Structures	EA Design	0	0	0	0	

**Project Activity 18: Structures - Miscellaneous**

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
<b>Sound Barrier Walls (Ground Mount)</b>							
18.12	Horizontal Wall Geometry	EA Wall	0	0		0	
18.13	Vertical Wall Geometry	EA Wall	52.00	3.38		176	Review information provided by CFX and summarize field review (52 hours), Analyze 8 Span Structures (8 x 8 hours = 64 hours), Evaluate existing vs proposed loading condition (12 hours), Design 1-Line DMS supports (Vertical hangers, spacers, hardware: 52 locations, assume 4 design groups x 12 hours = 48 hours). 52+64+12+48 = 176 hours
18.14	Summary of Quantities - Aesthetic Requirements	Sheet	0	0		0	
18.15	Control Drawings	Sheet	0	0		0	
18.16	Design for Wall Height Covered by Standards	EA Design	0	0		0	
18.17	Design for Wall Height Not Covered by Standards	EA Design	0	0	0	0	
18.18	Aesthetic Details	LS	3	12	3	36	3 sheets of 1-Line DMS support details.
<b>Special Structures</b>							
18.19	Fender System	LS	1	0		0	
18.20	Fender System Access	LS	1	0		0	
18.21	Special Structures	LS	1	0		0	
18.22	Other Structures	LS	39	2.13	5	83	39 new camera sites (16 new CCTV poles, 23 structure-mounted cameras): 1 review CFX designs of a steel CCTV pole (1 x 16 hours = 16 hours) and detail sheets (3 sheets x 4 hours = 12 hours); foundation design for 16 pole locations (assume 4 design groups by soil surface condition and geotechnical parameters x 4 hours per design group = 16 hours) and details sheets (1 sheets x 12 hours = 12); assist with miscellaneous design and details of structure-mounted camera scenarios ( 1 new design x 6 hours = 6 hours) and detail sheets (2 sheets x 10 hours + 1 sheet (existing) x1 hour = 21 hours). 16 + 12 + 16 + 12 + 6 + 21 = 83 hours
<b>18. Structures - Miscellaneous Total</b>					<b>8</b>	<b>295</b>	

### Project Activity 33: Intelligent Transportation Systems Analysis

Firm: URS Estimator: Alex Mousadi

599-525  
Single-Line DMS Upgrade

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	1	8	8	Review existing documentation. 8 hours for URS and 8 hours for Protean
33.2	Communications Plan Analysis	LS	1	8	8	Communication plan & detail sheets. New communications will include only point to point using media converters between the camera sites and the closes cabinet using
33.3	Lightning Protection Analysis	Per Site	1	8	8	8 hours for DMS sites, and 8 hours for CCTV sites x 4 hour pre site
33.4	Power Subsystem	LS	1	36	36	Assume 9 sites will need service modified due to ageing x 4hours each.
33.5	Voltage Drop Calculations	LS	1	12	12	Two voltage drop calculations. One for 800'>, and a second for >800' locations
33.6	Design Documentation	LS	1	12	12	12 hours each firm.
33.7	Existing ITS System	LS	1	16	16	Three existing configuration (DCS, and CCTV) x 8 hours
33.8	Queue Analysis	PI	0	0	0	NA
33.9	Reference and Master ITS Design File	PI	64	1.5	96	Modified 50 URS DCS plan sheets to show as existing (12hrs) + Add 14 missing coverage sheet (6x14=84hrs) for a total of 96hrs
33.10	Reference and Master Communications Design File	PI	17	3.76	64	Include utility information for 17 location were propose conduit will be utilized x 3.76 hrs
33.11	Pole Elevation Analysis	LS	0	0	0	
33.12	Sign Panel Design Analysis	LS	0	0	0	One guide sign sheet.
33.13	Quantities	Sheet	64	4	256	
33.14	Cost Estimate	LS	1	12	12	3 submittals x 4 hrs per submittal
33.15	Technical Special Provisions	LS	1	0	0	CFX will provide sign and sealed specifications.
33.16	Other ITS Analyses	LS	0	0	0	Modify existing static sign lighting luminaire shield.
<b>Intelligent Transportation Systems Analysis Technical Subtotal</b>					<b>528.0</b>	

### Project Activity 33: Intelligent Transportation Systems Analysis

Firm: URS Estimator: Alex Mousadi

599-525  
Single-Line DMS Upgrade

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.17	Field Reviews	LS	1	80	80	52 DMS sites a 80 hrs (URS)
33.18	Technical Meetings	LS	1	0	43	Meetings are listed below
33.19	Quality Assurance/Quality Control	LS	%	5%	26.4	
33.20	Supervision	LS	%	5%	26.4	
<b>Intelligent Transportation Systems Analysis Nontechnical Subtotal</b>					<b>175.8</b>	
33.21	Coordination	LS	%	3%	21.11	
<b>33. Intelligent Transportation Systems Analysis Total</b>					<b>724.91</b>	

#### Technical Meetings

Kickoff Meeting with OOCEA Local Governments (cities, counties, MPO)	EA	1	7	7	3 people x 2 hours + 1 hour for prep and minutes
Utility Owners	EA	0	0	0	
Field Meetings	EA	0	0	0	
Other Meetings	EA	0	0	0	
<b>Subtotal Technical Meetings</b>				<b>7</b>	
Progress Meetings (if required by FDOT)	EA	8	3	24	8 meeting x 2 people x 1 hour + 1 hrs prep & minutes x 8 meetings
Phase Review Meetings	EA	3	4	12	3 meetings x 2 people x 2 hrs
<b>Total Meetings</b>				<b>43</b>	

Task No.	Task	Scale	Units	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
34.1	Key Sheet		Sheet	1	6	1	6	
34.2	Summary of Pay Items-including Designer Interface (Trns•port) Input		Sheet	1	10	1	10	
34.3	Tabulation of Quantities		Sheet	7	6	7	42	
34.4	General Notes/Pay Item Notes		Sheet	5	6	5	30	3 CFX standard notes x 4 hrs + 2 developed notes x 9 hrs = 30 hrs
34.5	Project Layout		Sheet	2	6	2	12	
34.6	Typical and Special Details		Sheet	16	4.4375	16	71	Summary of Device Tables (2) + Pole Data Sheet (1) + Ethernet Switch Details (1) + Route Marker Detail (1) + Concrete slope Detail (1) + Conduit and Pull Box Details (5) + Directional Bore Details (3) + Toll Plaza Entrance Detail (1) + LMS (1)
34.7	Plan Sheet		Sheet	64	6.875	64	440	
34.8	ITS Communications Plans		Sheet	8	4.5	8	36	7 new sheets x 8 hrs + 16 CFX sheets x 1 hrs
34.9	Fiber Optic Splice Diagrams		Sheet	0	0	0	0	Point to point fiber connection no diagrams needed
34.10	Lightning Protection Plans		Sheet	0	0	0	0	Lightning Protection to be included on the detail hours.
34.11	Cross Sections		Sheet	2	10	2	20	Two DMS location the sign will be moved horizontally
34.12	Guide Sign Worksheet(s)		Sheet	0	0	0	0	
34.13	Special Service Point Details		Sheet	9	6	9	54	Assuming 9 sites will need the service modified due to aging.
34.14	Strain Pole Schedule		Sheet	0	0	0	0	Structure Details include 40' CCTV Pole
34.15	Overhead/Cantilever Sign Structure		Sheet	0	0	0	0	See structural sheets
34.16	Other Overhead Sign Structures (Long Span, Monotube, etc.)		Sheet	0	0	0	0	See structural sheets
34.17	Traffic Control Plans		Sheet	0	0	0	0	Assume 10 MOT configuration x 8 hour each.
34.18	Interim Standards		Sheet	0	0	0	0	
34.19	GIS Data and Asset Management Requirements		LS	0	0	0	0	
<b>Intelligent Transportation System Plans Technical Subtotal</b>						<b>115</b>	<b>721</b>	
34.20	Quality Assurance/Quality Control		LS	%	5%		36.05	
34.21	Supervision		LS	%	5%		36.05	
<b>34. Intelligent Transportation System Plans Total</b>						<b>115</b>	<b>793</b>	

**CFX - Contract 00921 / Project 599-520**  
**Design Consultant Services for Single-Line DMS Upgrade**  
**MISCELLANEOUS & OUT-OF-POCKET EXPENSES**

**REPRODUCTION COST:**

Submittal Item	Copies	Submittals	Sheets per Submittal	Total 11x17	Total 8.5x11
Project Schedule	3	2	2	12	
Quality Control Plan	5	1	20		100
Design Methodology Report					
Site Construction Plans	10	3	160	4800	
Site Design Calculations	5	2	250		2500
Technical Specifications					
Construction Cost Estimate	10	3	2		60
			Totals	4812	2660

**TOTAL SHEETS**                      4,812                      2,660

11 x 17	4,812 sheets @	\$0.15	=	\$721.80
8.5 x 11	2,660 sheets @	\$0.05	=	\$133.00
8.5 x 11 color	0 each @	\$0.55	=	\$0.00
11 x 17 color	0 each @	\$0.99	=	\$0.00
Screw Posts	90 each @	\$1.50	=	\$135.00
Hole Punch	4,812 each @	\$0.02	=	\$96.24

**TOTAL REPRODUCTION COSTS**

**\$1,086.04**

**TRAVEL**                      From: Orlando

To Project:

Field Trips	13	Locations	1	Locations/trip	50	mi/trip	\$0.445	/mi	\$289.25
Bucket Trailer	0	Locations	1	Locations/trip	80	mi/trip	\$0.445	/mi	\$0.00

**TOTAL TRAVEL COSTS**

**\$289.25**

**SHIPPING & TELEPHONE**

Telephone	4 months @	\$70.00	/month	
Courier Services	3 each @	\$47.80	/each	
Overnight Delivery	0 each @	\$21.37	/each	

**\$280.00**

**\$143.40**

**\$0.00**

**Rental**

Ground Tester (2 units x 1 month/unit)	0 months @	\$1,500.00	/month	
Bucket Trailer (1 unit x 3 weeks)	0 weeks @	\$1,200.00	/week	

**\$0.00**

**\$0.00**

**TOTAL EXPENSES (Lump Sum)**

**\$1,798.69**



**PDG STAFF HOUR ESTIMATION  
FOR  
CENTRAL FLORIDA EXPRESSWAY AUTHORITY  
Single Line DMS Upgrade Project No. 599-525  
Subconsultant to URS**

**5/26/15**

## CENTRAL FLORIDA EXPRESSWAY AUTHORITY

CFX Project Number: 599-525

DESCRIPTION: Single-Line DMS Upgrade

URS Corporation

OOCEA Contract No.: 001086

## SUMMARY FEE SHEET

Staff Classification	Project Manager	Chief Engineer	Senior Engineer	Project Engineer	Engineering Intern	Engineering Technician	Secretary / Clerical	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	Total Manhours	Total Cost	Average Rate
3. Project General and Project Common Tasks															
4. Roadway Analysis															
5. Roadway Plans															
6a. Drainage Analysis															
6b. Drainage Plans															
7. Utilities			40.70	29.60			3.70						74.00	\$3,714	\$50
8. Environmental Permits, Compliance & Clearances															
9. Structures - Misc. Tasks, Dwgs, Non-Tech.															
10. Structures - Bridge Development Report															
11. Structures - Temporary Bridge															
12. Structures - Short Span Concrete Bridge															
13. Structures - Medium Span Concrete Bridge															
14. Structures - Structural Steel Bridge															
15. Structures - Segmental Concrete Bridge															
16. Structures - Movable Span															
17. Structures - Retaining Walls															
18. Structures - Miscellaneous															
19. Signing & Pavement Marking Analysis															
20. Signing & Pavement Marking Plans															
21. Signalization Analysis															
22. Signalization Plans															
23. Lighting Analysis															
24. Lighting Plans															
25. Landscape Architecture Analysis															
26. Landscape Architecture Plans															
27. Survey (Field & Office Support)															
28. Photogrammetry															
29. Mapping															
30. Terrestrial Mobile LiDAR															
31. Architecture Development															
32. Noise Barriers Impact Design Assessment															
33. Intelligent Transportation Systems Analysis	47.46	8.90		88.99	100.86	50.43							296.64	\$10,290	\$35
34. Intelligent Transportation Systems Plans	21.82	4.09		31.37	45.01	34.10							136.39	\$4,450	\$33
35. Geotechnical															
<b>TOTAL MANHOURS</b>	<b>69</b>	<b>13</b>	<b>41</b>	<b>150</b>	<b>146</b>	<b>85</b>	<b>4</b>						<b>507</b>	<b>\$18,454.27</b>	<b>\$36.40</b>
<b>WAGE RATES</b>	<b>\$50.48</b>	<b>\$71.35</b>	<b>\$59.26</b>	<b>\$42.09</b>	<b>\$27.59</b>	<b>\$14.50</b>	<b>\$15.20</b>								
<b>TOTAL DIRECT COSTS</b>	<b>\$3,497.25</b>	<b>\$926.84</b>	<b>\$2,411.88</b>	<b>\$6,311.82</b>	<b>\$4,024.55</b>	<b>\$1,225.69</b>	<b>\$56.24</b>							<b>\$18,454.27</b>	

Survey Field Days by Subconsultant

4 - Person Crew:

## Salary Related Costs

Total Activity Salary Costs		\$18,454.27
Overhead Activities	194.18%	\$35,834.50
<b>Subtotal Salary Related Costs (Limiting Amount)</b>		<b>\$54,288.77</b>

<b>Operating Margin (Fixed Fee)</b>	12%	<b>\$6,514.65</b>
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## Expenses

Direct Reimbursables (Out-of-Pocket)		\$778.95
<b>Subtotal Expenses (Lump Sum)</b>		<b>\$778.95</b>

<b>GRAND TOTAL (Maximum Limiting Amount)</b>		<b>\$61,582.37</b>
--	--	--------------------

## Notes:

1. This sheet to be used by Prime Consultant to calculate the Grand Total fee.

2. Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.

**Project Activity 7: Utilities**

Estimator: Carlos Adair

CFX 1-Line DMS Project  
CFX 599-525

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
7.1	Utility Kickoff Meeting	LS	1	2	2	Meeting is listed below
7.2	Identify Existing Utility Agency Owners (UAO(s))	LS	8	1	8	8 UAO's Identified in Districtwide Exhibit
7.3	Make Utility Contacts	LS	8	2	16	8 UAO's Identified in Districtwide Exhibit, 2 hours per UAO
7.4	Exception Processing	LS	0	0	0	N/A
7.5	Preliminary Utility Meeting	LS	1	0	0	Meeting is listed below
7.6	Individual/Field Meetings	LS	1	4	4	Meetings are listed below
7.7	Collect and Review Plans and Data from UAO(s)	LS	8	1	8	8 UAO's Identified in Districtwide Exhibit
7.8	Subordination of Easements Coordination	LS	0	0	0	N/A
7.9	Utility Design Meeting	LS	1	2	2	Meeting is listed below
7.10	Review Utility Markups & Work Schedules, and Processing of Schedules & Agreements	LS	8	1	8	8 UAO's Identified in Districtwide Exhibit
7.11	Utility Coordination/Followup	LS	8	2	16	8 UAO's Identified in Districtwide Exhibit, 2 hours per UAO
7.12	Utility Constructability Review	LS	8	1	8	8 UAO's Identified in Districtwide Exhibit
7.13	Additional Utility Services	LS	0	0	0	N/A
7.14	Processing Utility Work by Highway Contractor (UWHC)	LS	0	0	0	N/A
7.15	Contract Plans to UAO(s)	LS	0	0	0	N/A
7.16	Certification/Close-Out	LS	1	2	2	Certification Letter
7.17	Other Utilities	LS	0	0	0	N/A
<b>7. Utilities Total</b>					<b>74</b>	

**Project Activity 7: Utilities**

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff (see 7.1)	EA	1	2	2		0
Preliminary Meeting (see 7.5)	EA	0	0	0		0
Individual UAO Meetings (see 7.6)	EA	1	4	4		0
Field Meetings (see 7.6)	EA	0	0	0		0
Design Meeting (see 7.9)	EA	1	2	2		0
Other Meetings (this is automatically added into Utilities Total (cell F27))	EA	0	0	0		0
<b>Total Meetings</b>				<b>8</b>	<b>Total Project Manager Meetings (carries to Tab 3)</b>	<b>0</b>

Carries to Tab 3

**Project Activity 19: Signing and Pavement Marking Analysis**

Estimator: Carlos Adair

CFX 1-Line DMS Project

CFX 599-525

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
19.1	Traffic Data Analysis	LS	1	0	0	
19.2	No Passing Zone Study	LS	1	0	0	
19.3	Reference and Master Design File	LS	1	0	0	
19.4	Multi-Post Sign Support Calculations	EA	1	0	0	
19.5	Sign Panel Design Analysis	EA	1	0	0	
19.6	Sign Lighting/Electrical Calculations	EA	1	0	0	
19.7	Quantities	LS	1	0	0	
19.8	Cost Estimate	LS	1	0	0	
19.9	Technical Special Provisions	LS	1	0	0	
19.10	Other Signing and Pavement Marking	LS	1	0	0	
<b>Signing and Pavement Marking Analysis Technical Subtotal</b>					<b>0</b>	
19.11	Field Reviews	LS	1	0	0	
19.12	Technical Meetings	LS	1	0	0	Meetings are listed below
19.13	Quality Assurance/Quality Control	LS	%	0%	0	
19.14	Independent Peer Review	LS	%	0%	0	
19.15	Supervision	LS	%	0%	0	
<b>Signing and Pavement Marking Analysis Nontechnical Subtotal</b>					<b>0</b>	
19.16	Coordination	LS	%	0%	0	
<b>19. Signing and Pavement Marking Analysis Total</b>					<b>0</b>	

**Project Activity 19: Signing and Pavement Marking Analysis**

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
<b>Technical Meetings</b>		<b>Units</b>	<b>No of Units</b>	<b>Hours/ Unit</b>	<b>Total Hours</b>	<b>PM Attendance at Meeting Required?</b>
	Sign Panel Design	EA	0	0	0	
	Queue Length Analysis	EA	0	0	0	
	Local Governments (cities, counties)	EA	0	0	0	
	Other Meetings	EA	0	0	0	
<b>Subtotal Technical Meetings</b>					<b>0</b>	<b>Subtotal Project Manager Meetings</b>
	Progress Meetings (if required by FDOT)	EA	0	0	0	<i>PM attendance at Progress Meetings is manually entered on General Task 3</i>
	Phase Review Meetings	EA	0	0	0	<i>PM attendance at Phase Review Meetings is manually entered on General Task 3</i>
<b>Total Meetings</b>					<b>0</b>	<b>Total Project Manager Meetings (carries to Tab 3)</b>

Carries to 19.12

Carries to Tab 3

### 33. ITS Analysis

Estimator: Carlos Adair

CFX 1-Line DMS Project

CFX 599-525

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	1	8	8	Review existing documentation. 8 hours for URS and 8 hours for Protean
33.2	Communications Plan Analysis	LS	1	16	16	Communication plan & detail sheets. New communications will include only point to point using media converters between the camera sites and the closes cabinet using separate fiber runs. PDG 16 for detail development. URS 8 hours for conduit
33.3	Lightning Protection Analysis	Per Site	1	8	8	8 hours for DMS sites, and 8 hours for CCTV sites x 4 hour pre site
33.4	Power Subsystem	LS	0	0	0	Assume 9 sites will need service modified due to ageing x 4hours each.
33.5	Voltage Drop Calculations	LS	0	0	0	Two voltage drop calculations. One for 800'>, and a second for >800' locations
33.6	Design Documentation	LS	1	12	12	12 hours each firm.
33.7	Existing ITS System	LS	1	8	8	Three existing configuration (TMS) x 8 hours
33.8	Queue Analysis	PI	0	0	0	NA
33.9	Reference and Master ITS Design File	PI	0	0	0	Modified 50 URS DCS plan sheets to show as existing (12hrs) + Add 14 missing coverage sheet (6x14=84hrs) for a total of 96hrs
33.10	Reference and Master Communications Design File	PI	0	0.00	0	Include utility information for 17 location were propose conduit will be utilized x 3.76 hrs
33.11	Pole Elevation Analysis	LS	1	42	42	16 new camera and pole locations x 2 hrs each + 10 hrs for 23 new camera locations on existing structure = 42
33.12	Sign Panel Design Analysis	LS	1	4	4	One guide sign sheet.
33.13	Quantities	Sheet	0	0	0	
33.14	Cost Estimate	LS	0	0	0	3 submittals x 4 hrs per submittal
33.15	Technical Special Provisions	LS	1	0	0	CFX will provide sign and sealed specifications.
33.16	Other ITS Analyses	LS	1	32	32	Modify existing static sign lighting luminaire shield.
<b>Intelligent Transportation Systems Analysis Technical Subtotal</b>					<b>130</b>	

### 33. ITS Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.17	Field Reviews	LS	1	129	129	39 new CCTV sites
33.18	Technical Meetings	LS	1	16	16	Meetings are listed below
33.19	Quality Assurance/Quality Control	LS	%	5%	6.5	
33.20	Supervision	LS	%	5%	6.5	
<b>Intelligent Transportation Systems Analysis Nontechnical Subtotal</b>					<b>158</b>	
33.21	Coordination	LS	%	3%	8.64	
<b>33. Intelligent Transportation Systems Analysis Total</b>					<b>296.64</b>	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with FDOT	EA	1	2	2	1 people x 2 hours	1
Local Governments (cities, counties, MPO)	EA	0	0	0		0
Utility Owners	EA	0	0	0		0
Field Meetings	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
<b>Subtotal Technical Meetings</b>				<b>2</b>	<b>Subtotal Project Manager Meetings</b>	<b>1</b>
Progress Meetings (if required by FDOT)	EA	8	5	8	8 meeting x 1 people x 1 hour	--
Phase Review Meetings	EA	3	8	6	3 meetings x 1 people x 2 hrs	--
<b>Total Meetings</b>				<b>16</b>	<b>Total Project Manager Meetings (carries to Tab 3)</b>	<b>1</b>

Carries to 33.18

Carries to Tab 3



### 34. ITS Plans

Estimator: Carlos Adair

CFX 1-Line DMS Project  
CFX 599-525

Task No.	Task	Scale	Units	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
34.1	Key Sheet		Sheet	0	0	0	0	
34.2	Summary of Pay Items-including Designer Interface (Transport) Input		Sheet	0	0	0	0	
34.3	Tabulation of Quantities		Sheet	0	0	0	0	
34.4	General Notes/Pay Item Notes		Sheet	0	0	0	0	3 CFX standard notes x 4 hrs + 2 developed notes x 9 hrs = 30 hrs
34.5	Project Layout		Sheet	0	0	0	0	
34.6	Typical and Special Details		Sheet	0	0	0	0	Summary of Device Tables (2) + Pole Data Sheet (1) + Ethernet Switch Details (1) + Route Marker Detail (1) + Concrete slope Detail (1) + Conduit and Pull Box Details (5) + Directional Bore Details (3) + Toll Plaza Entrance Detail (1) + LMS (1)
34.7	Plan Sheet		Sheet	0	0	0	0	
34.8	ITS Communications Plans		Sheet	15	2.4	15	36	7 new sheets x 8 hrs + 16 CFX sheets x 1 hrs
34.9	Fiber Optic Splice Diagrams		Sheet	0	0	0	0	Point to point fiber connection no diagrams needed
34.10	Lightning Protection Plans		Sheet	0	0	0	0	Lightning Protection to be included on the detail hours.
34.11	Cross Sections		Sheet	0	0	0	0	Two DMS location the sign will be moved horizontally
34.12	Guide Sign Worksheet(s)		Sheet	1	8	1	8	New guide sign for University Signs.
34.13	Special Service Point Details		Sheet	0	0	0	0	Assuming 9 sites will need the service modified due to aging.
34.14	Strain Pole Schedule		Sheet	0	0	0	0	Structure Details include 40' CCTV Pole
34.15	Overhead/Cantilever Sign Structure		Sheet	0	0	0	0	See structural sheets
34.16	Other Overhead Sign Structures (Long Span, Monotube, etc.)		Sheet	0	0	0	0	See structural sheets
34.17	Traffic Control Plans		Sheet	10	8	10	80	Assume 10 MOT configuration x 8 hour each.
34.18	Interim Standards		Sheet	0	0	0	0	
34.19	GIS Data and Asset Management Requirements		LS	0	0	0	0	
Intelligent Transportation System Plans Technical Subtotal						26	124	

**34. ITS Plans**

Task No.	Task	Scale	Units	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
34.20	Quality Assurance/Quality Control		LS	%	5%		6.2	
34.21	Supervision		LS	%	5%		6.2	
34. Intelligent Transportation System Plans Total						26	136.4	

OOCEA - Contract 00921 / Project 599-520

#REF!

**MISCELLANEOUS & OUT-OF-POCKET EXPENSES**

**REPRODUCTION COST:**

Submittal Item	Copies	Submitt:	Sheets per Submittal	Total 11x17	Total 8.5x11
Project Schedule	0	0	0	0	
Quality Control Plan	5	3	26	390	
Design Methodology Report	0	0	0	0	
Site Construction Plans	0	0	26	0	
Site Design Calculations	0	0	0		0
Technical Specifications					
Construction Cost Estimate	0	0	0		0
			Totals	390	0

TOTAL SHEETS 390 0

11 x 17	390 sheets @	\$0.15	=	\$58.50
8.5 x 11	0 sheets @	\$0.05	=	\$0.00
8.5 x 11 color	0 each @	\$0.55	=	\$0.00
11 x 17 color	0 each @	\$0.99	=	\$0.00
Screw Posts	0 each @	\$1.50	=	\$0.00
Hole Punch	390 each @	\$0.02	=	\$7.80

**TOTAL REPRODUCTION COSTS**

\$66.30

**TRAVEL** From: Orlando

To Project:

Field Trip	13 Locations	1 locations/tr	50 mi/trip	\$0.445	/mi	\$289.25
Bucket T1	0 Locations	1 locations/tr	80 mi/trip	\$0.445	/mi	\$0.00

**TOTAL TRAVEL COSTS**

\$289.25

**SHIPPING & TELEPHONE**

Telephone	4 months @	\$70.00 /month
Courier Services	3 each @	\$47.80 /each
Overnight Delivery	0 each @	\$21.37 /each

\$280.00

\$143.40

\$0.00

**Rental**

Ground Tester (2 units x 1 month/unit)	0 months @	\$1,500.00 /month
Bucket T1 (1 unit x 3 weeks)	0 weeks @	\$1,200.00 /week

\$0.00

\$0.00

**TOTAL EXPENSES (Lump Sum)**

\$778.95

**AWK STAFF HOUR ESTIMATION  
FOR  
CENTRAL FLORIDA EXPRESSWAY AUTHORITY  
Single Line DMS Upgrade Project No. 599-525  
Subconsultant to URS**

**5/26/15**

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Project Number: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_

URS Corporation

OOCEA Contract No.: 001086

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - FIRM TOTAL

WORK ACTIVITY	Hours from "Summary" sheet		EMPLOYEE CLASSIFICATION												TOTAL STAFF HOURS		ON CADD
	Firm	Total	Chief Engineer	Senior Engineer	Geotechnical Engineer	Senior Engineering Tech	Engineering Tech	CADD Operator	Admin Assistant	Staff Classi- fication 8	Staff Classi- fication 9	Staff Classi- fication 10	Staff Classi- fication 11	Staff Classi- fication 12	RANGE		
			Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours			PERCENT
3. Project General and Project Common Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4. Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5. Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6a. Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6b. Drainage Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7. Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8. Environmental Permits, Compliance & Clearances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9. Structures - Misc. Tasks, Dwgs, Non-Tech.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10. Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11. Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12. Structures - Short Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13. Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
14. Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15. Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16. Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17. Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18. Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
19. Signing & Pavement Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20. Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
21. Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22. Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
23. Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24. Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25. Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26. Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
27. Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28. Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
29. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30. Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
31. Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32. Noise Barriers Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
33. Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
34. Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
35. Geotechnical	213.62	214	2.14	19.23	115.35	21.36	6.41	42.72	6.41	0.00	0.00	0.00	0.00	0	213.62	235	
TOTALS	214	214	2	19	115	21	6	43	6	0	0	0	0	0	213.62	235	

Field Survey Estimate:

0 4-man crew days

FIRM TOTAL

213.62

235

Notes:

1. This worksheet provides the distribution of a firm's total staff hours for a project.
2. Percentages for staff hour distribution by classification are entered below in rows 63 to 96 of this sheet.
3. Total Staff Hours (column O) may not match staff hours from Summary worksheet (column B) due to rounding. Staff hours calculated for employee classifications are to be adjusted so totals in columns B and O match.
4. Formulas under "Total Staff Hours Range" (columns O & P) may be adjusted to provide desired range.

# ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - FIRM TOTAL

Financial Project Number:

Project Number:

Project Name: OCEA Contract No : 001086

FAP Number:

#REF!

Date:

5/28/2015

Name of Consultant:

#REF!

Staff Hour Distribution Percentages - Firm Total															
	Hours from "Summary" sheet Firm Total	Chief Engineer	Senior Engineer	Geotechnica l Engineer	Senior Engineering Tech	Engineering Tech	CADD Operator	Admin Assistant	Staff Classi- fication 8	Staff Classi- fication 9	Staff Classi- fication 10	Staff Classi- fication 11	Staff Classi- fication 12	Total	
3. Project General and Project Common Tasks	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
4. Roadway Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
5. Roadway Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
6a. Drainage Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
6b. Drainage Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
7. Utilities	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
8. Environmental Permits, Compliance & Clearances	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
9. Structures - Misc. Tasks, Dwgs, Non-Tech.	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
10. Structures - Bridge Development Report	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
11. Structures - Temporary Bridge	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
12. Structures - Short Span Concrete Bridge	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
13. Structures - Medium Span Concrete Bridge	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
14. Structures - Structural Steel Bridge	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
15. Structures - Segmental Concrete Bridge	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
16. Structures - Movable Span	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
17. Structures - Retaining Walls	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
18. Structures - Miscellaneous	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
19. Signing & Pavement Marking Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
20. Signing & Pavement Marking Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
21. Signalization Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
22. Signalization Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
23. Lighting Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
24. Lighting Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
25. Landscape Architecture Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
26. Landscape Architecture Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
27. Survey (Field & Office Support)	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
28. Photogrammetry	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
29. Mapping	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
30. Terrestrial Mobile LiDAR	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
31. Architecture Development	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
32. Noise Barriers Impact Design Assessment	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
33. Intelligent Transportation Systems Analysis	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
34. Intelligent Transportation Systems Plans	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	
35. Geotechnical	213.62	1.0%	9.0%	54.0%	10.0%	3.0%	20.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.00%	

## CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Project Number: 599-525

DESCRIPTION: Single-Line DMS Upgrade

URS Corporation

OOCEA Contract No.: 001086

## SUMMARY FEE SHEET

ACTIVITY MANHOURS	Chief Engineer	Senior Engineer	Geotechnical Engineer	Senior Engineering Tech	Engineering Tech	CADD Operator	Admin Assistant	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	Total Manhours	Total Cost	Average Rate
3. Project General and Project Common Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
4. Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
5. Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
6a. Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
6b. Drainage Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
7. Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
8. Environmental Permits, Compliance & Clearan	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
9. Structures - Misc. Tasks, Dwgs, Non-Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
10. Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
11. Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
12. Structures - Short Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
13. Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
14. Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
15. Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
16. Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
17. Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
18. Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
19. Signing & Pavement Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
20. Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
21. Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
22. Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
23. Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
24. Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
25. Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
26. Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
27. Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
28. Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
29. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
30. Terrestrial Mobile LiDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
31. Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
32. Noise Barriers Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
33. Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
34. Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0.00
35. Geotechnical	2	19.23	115.35	21.36	6.41	42.72	6.41	0.00	0.00	0.00	0.00	0.00	213.62	\$9,050	\$42.36
<b>TOTAL MANHOURS</b>	<b>2</b>	<b>19</b>	<b>115</b>	<b>21</b>	<b>6</b>	<b>43</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>214</b>	<b>\$9,049.74</b>	
<b>WAGE RATES</b>	<b>\$77.35</b>	<b>\$55.29</b>	<b>\$49.42</b>	<b>\$27.87</b>	<b>\$19.50</b>	<b>\$28.94</b>	<b>\$25.55</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>			
<b>TOTAL DIRECT COSTS</b>	<b>\$165.53</b>	<b>\$1,063.23</b>	<b>\$5,700.60</b>	<b>\$595.30</b>	<b>\$125.00</b>	<b>\$1,236.32</b>	<b>\$163.78</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>		<b>\$9,049.74</b>	<b>\$42.36</b>

## Salary Related Costs

Total Activity Salary Costs

\$9,049.74

Overhead Activities

135.85%

\$12,294.07

Subtotal Salary Related Costs (Limiting Amount)

\$21,343.81

Operating Margin (Fixed Fee)

12%

\$2,561.26

## Expenses

Geotechnical Field and Lab Testing

\$18,780.00

Subtotal Expenses (Lump Sum)

\$18,780.00

GRAND TOTAL (Maximum Limiting Amount)

\$42,685.07

Notes:

1. This sheet to be used by Subconsultant to calculate its fee.

### 35. Geotechnical

Estimator: Rachel F. Andre'

Single-Line DMS Upgrade  
599-525

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
	<b>Roadway</b>					
35.1	Document Collection and Review	LS	1	16	16	
35.2	Develop Detailed Boring Location Plan	LS	1	0	0	
35.3	Stake Borings/Utility Clearance	Boring	0	0	0	
35.4	Muck Probing	Crew Day	0	0	0	
35.5	Coordinate and Develop MOT Plans for Field Investigation	EA	0	0	0	
35.6	Drilling Access Permits	Location	0	0	0	
35.7	Property Clearances	EA	0	0	0	
35.8	Groundwater Monitoring	EA	0	0	0	
35.9	LBR/Resilient Modulus Sampling	EA	0	0	0	
35.10	Coordination of Field Work	100 lf of boring	0	0	0	
35.11	Soil and Rock Classification - Roadway	100 lf of boring	0	0	0	
35.12	Design LBR	LS	1	0	0	Only if LBR tests are required
35.13	Laboratory Data	100 lf of boring	0	0	0	
35.14	Seasonal High Water Table	Boring	0	0	0	
35.15	Parameters for Water Retention Areas	EA	0	0	0	
35.16	Delineate Limits of Unsuitable Material	Cross-section	0	0	0	
35.17	Electronic Files for Cross-Sections	100 lf of boring	0	0	0	Duplication of Roadway Effort?
35.18	Embankment Settlement and Stability	Embankment Boring	0	0	0	
35.19	Protection of Existing Structures	LS	1	0	0	
35.20	Stormwater Volume Recovery and/or Background Seepage Analysis	EA	0	0	0	Duplication of Drainage Effort?
35.21	Geotechnical Recommendations	LS	1	0	0	
35.22	Pavement Condition Survey and Pavement Evaluation Report	LS	1	0	0	
35.23	Preliminary Roadway Report	LS	1	0	0	
35.24	Final Report	EA	0	0	0	
35.25	Auger Boring Drafting	100 lf boring	0	0	0	
35.26	SPT Boring Drafting	100 lf boring	0	0	0	
<b>Roadway Geotechnical Subtotal</b>					<b>16</b>	



### 35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
<b>Structures</b>						
35.27	Develop Detailed Boring Location Plan	LS	1	1	1	
35.28	Stake Borings/Utility Clearance	Boring	10	0.5	5	Assume 10 locations, review accessibility/rig type
35.29	Coordinate and Develop MOT Plans for Field Investigation	EA	2	2	4	
35.30	Drilling Access Permits	Location	0	0	0	
35.31	Property Clearances	EA	0	0	0	
35.32	Collection of Corrosion Samples	EA	0	0	0	
35.33	Coordination of Field Work	100 lf of boring	4.6	1.25	6	10 borings @ 40', contingency of extra 60 feet, total of 460 feet
35.34	Soil and Rock Classification - Structures	100 lf of boring	4.6	2	9	
35.35	Tabulation of Laboratory Data	100 lf of boring	4.6	0.8	4	
35.36	Estimate Design Groundwater Level for Structures	EA	16	0.5	8	
35.37	Selection of Foundation Alternatives (BDR)	Bridge boring	0	0	0	
35.38	Detailed Analysis of Selected Foundation Alternate(s)	Bridge boring	0	0	0	See Basis for reducing by 35.35
35.39	Bridge Construction and Testing Recommendations	Bridge boring	0	0	0	
35.40	Lateral Load Analysis (Optional)	Bridge boring	0	0	0	Duplication of Structural Effort?
35.41	Walls	Wall Boring	0	0	0	
35.42	Sheet Pile Wall Analysis (Optional)	Wall Boring	0	0	0	Duplication of Structural Effort?
35.43	Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations	Boring	16	0.8	13	
35.44	Box Culvert Analysis	EA	0	0	0	
35.45	Preliminary Report - BDR	EA	0	0	0	
35.46	Final Report - Bridge and Associated Walls	EA	0	0	0	
35.47	Final Reports - Signs, Signals, Box Culvert, Walls and High Mast Lights	EA	2	35	70	
35.48	SPT Boring Drafting	100 lf of boring	4.6	9	41	
35.49	Other Geotechnical	LS	1	0	0	
<b>Structural Geotechnical Subtotal</b>					<b>161</b>	
<b>Geotechnical Technical Subtotal</b>					<b>177</b>	
35.50	Technical Special Provisions	EA	0	0	0	
35.51	Field Reviews	LS	1	8	8	
35.52	Technical Meetings	LS	1	8	8	Meetings listed below
35.53	Quality Assurance/Quality Control	LS	%	3%	5.31	
35.54	Supervision	LS	%	3%	5.31	
<b>Geotechnical Nontechnical Subtotal</b>					<b>26.62</b>	
35.55	Coordination	LS	%	5%	10	
<b>35. Geotechnical Total</b>					<b>213.62</b>	

### 35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments	
Technical Meetings		Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
	Kickoff Meeting with FDOT	EA	1	4	4		0
	Boring Layout Approval	EA	0	0	0		0
	Attend in BDR Review Meeting	EA	0	0	0		0
	30/60/90% Submittal Review	EA	1	4	4		0
	Other Meetings	EA	0	0	0		0
	<b>Subtotal Technical Meetings</b>				<b>8</b>	<b>Subtotal Project Manager Meetings</b>	<b>0</b>
	Progress Meetings (if required by FDOT)	EA	0	0	0	PM attendance at Progress Meetings is manually entered on General Task 3	--
	Phase Review Meetings	EA	0	0	0	PM attendance at Phase Review Meetings is manually entered on General Task 3	--
	<b>Total Meetings</b>				<b>8</b>	<b>Total Project Manager Meetings (carries to Tab 3)</b>	<b>0</b>

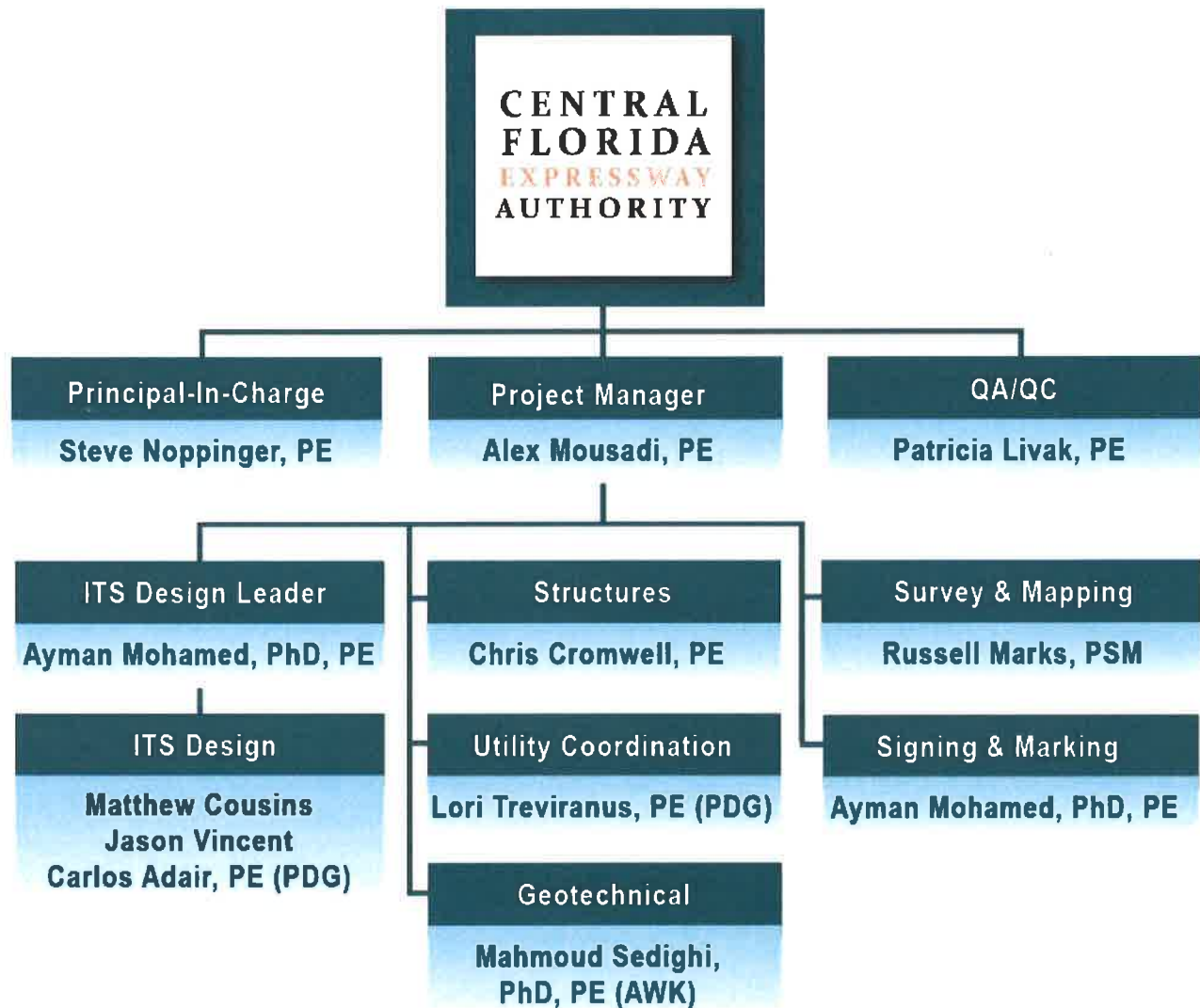
Carries to 33.18

Carries to Tab 3

**EXHIBIT D**

**PROJECT ORGANIZATIONAL CHART**

**ORGANIZATION CHART**



LEGEND	
URS	URS Corporation Southern
PDG	Protean Design Group (DBE / SBE)
AWK	AWK Consulting Engineer, Inc (DBE)