

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

MEMORANDUM

TO: CFX Board Members

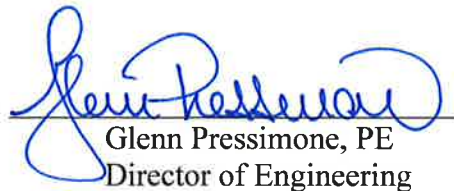
FROM: Aneth Williams 
Director of Procurement

DATE: March 27, 2017

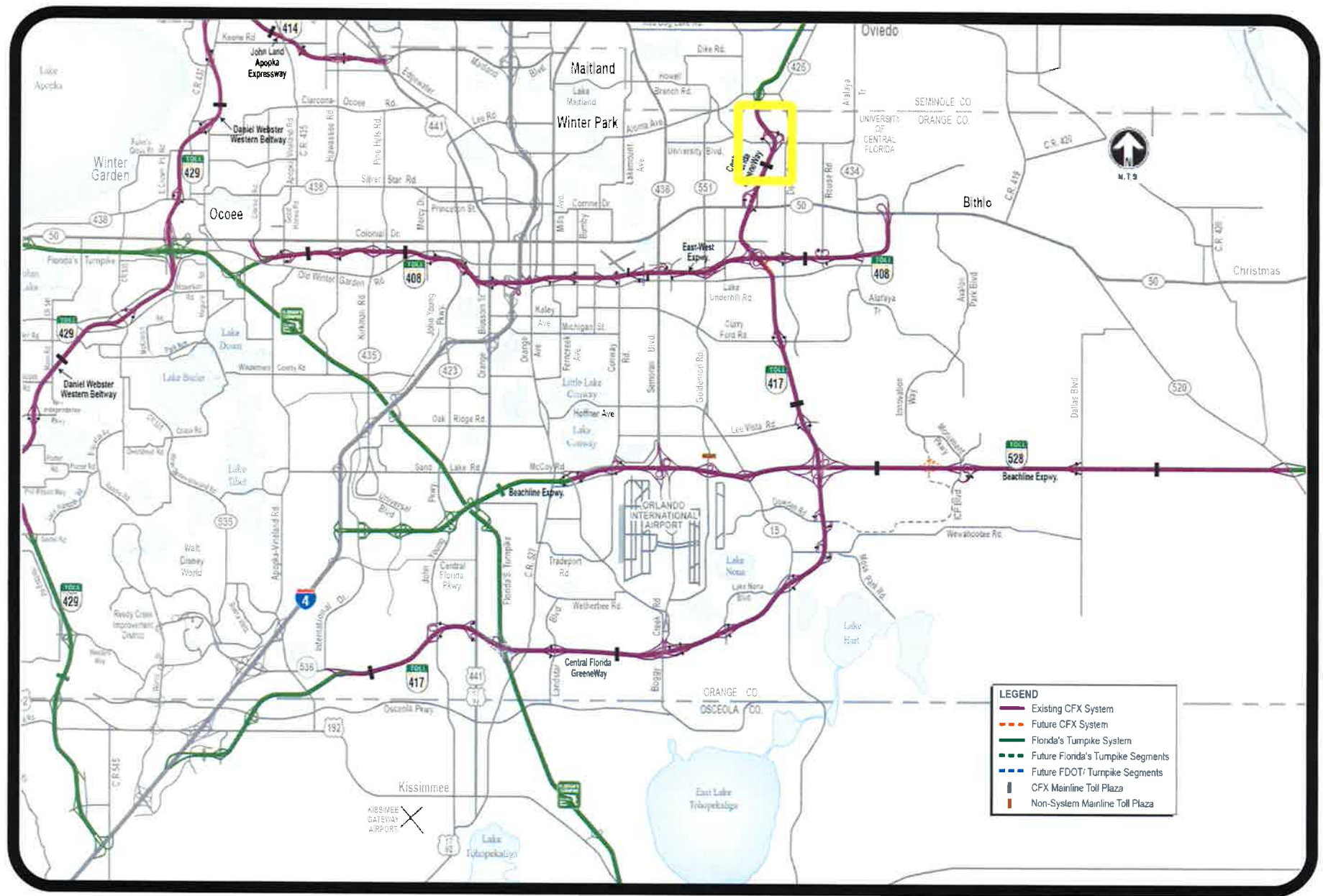
SUBJECT: Authorization for Approval to Execute Reimbursement Agreement with Florida's
Turnpike Enterprise
S.R. 417 Widening from Econlockhatchee Trail to the Seminole County Line
Project 417-134, Contract No. 001153

Board approval is requested to authorize execution of a Reimbursement Agreement between CFX and Florida's Turnpike Enterprise (FTE) in the amount of \$416,197.12. This Agreement provides CFX with a full reimbursement from FTE for all costs associated with Supplemental Agreement No.1 to Contract 001153 (Dewberry Engineers, Inc.) for additional design services related to the S.R. 417 Widening from Econlockhatchee Trail to the Seminole County Line, Project 417-134.

Reviewed by:


Glenn Pressimone, PE
Director of Engineering





Project Location Map for
S.R. 417 Widening from Econlockhatchee Trail to Seminole County Line (417-134)

**DEPARTMENT FUNDED AGREEMENT
BETWEEN
FLORIDA'S TURNPIKE ENTERPRISE AND
THE CENTRAL FLORIDA EXPRESSWAY AUTHORITY
FOR IMPROVEMENTS TO
THE CENTRAL FLORIDA GREENEWAY (S.R. 417)
FROM ECONLOCKHATCHEE TRAIL TO THE SEMINOLE COUNTY LINE
CFX PROJECT NO. 417-134, CFX CONTRACT NO. 001153**

This Agreement is made and entered into by and between **THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, FLORIDA'S TURNPIKE ENTERPRISE**, an executive agency of the State of Florida having a business address located at Florida's Turnpike Headquarters, Turkey Lake Service Plaza, Milepost 263, Florida's Turnpike, Building 5315, P.O. Box 613069, Ocoee, Florida 34761 (hereinafter referred to as "FTE" and sometimes referred to as "Department"), its successors and assigns, and the **CENTRAL FLORIDA EXPRESSWAY AUTHORITY**, an agency of the State of Florida, with a business address of 4974 ORL Tower Road, Orlando, Florida 32807 (hereinafter referred to as the "CFX").

WITNESSETH:

WHEREAS, FTE is authorized by Section 334.044(13), Florida Statutes, to coordinate the planning, development, and operation of the State Highway System;

WHEREAS, FTE is authorized under Section 338.2216(2), Florida Statutes, to plan, develop, own, purchase, lease, or otherwise acquire, demolish, construct, improve, relocate, equip, repair, maintain, operate, and manage the Florida Turnpike System; and to cooperate, coordinate, partner, and contract with other entities, public and private, to accomplish these purposes;

WHEREAS, CFX owns and operates the Central Florida Expressway Authority System, a system of limited access toll roads;

WHEREAS, FTE owns and operates the Florida Turnpike Enterprise System, a system of limited access toll roads;

WHEREAS, S.R. 417 is a limited access toll road forming the eastern beltway around the city of Orlando, portions of which are owned, operated, and maintained by CFX as part of the Central Florida Expressway System and portions of which are owned, operated and maintained by FTE as part of the Florida Turnpike Enterprise System;

WHEREAS, the northern jurisdictional limit between the Central Florida Expressway Authority System and the Florida Turnpike Enterprise System on S.R. 417 is the Orange/Seminole County Line;

WHEREAS, CFX is currently in the design phase for the widening of S.R. 417 from Econlockhatchee Trail north to the Orange/Seminole County Line, CFX Project No. 417-134 (hereinafter referred to as the "Project");

WHEREAS, the Engineer of Record for design services related to the Project is Dewberry Engineers, Inc. (hereinafter referred to as "Dewberry");

WHEREAS, Dewberry is currently under contract with CFX for design services related to the Project through CFX Contract No. 001153, attached as **Exhibit "A"**;

WHEREAS, design services provided by Dewberry related to the Project include the final design and preparation of construction drawings/specifications to provide six (6) general use lanes on S.R. 417 between Econlockhatchee Trail and the Orange/Seminole County line. Specifically, the project will include outside widening of S.R. 417 between Econlockhatchee Trail and the University Mainline Plaza, outside/median widening of S.R. 417 from the University Mainline Plaza to the Orange/Seminole County line, conversion of the S.R. 417 northbound and southbound inside cash lanes to express lanes and widening of the southbound S.R. 417 Bridge over University Boulevard. The project will also include the addition of one (1) northbound auxiliary lane and one (1) southbound auxiliary lane between the S.R. 50 / Colonial Drive ramps and the University Mainline Plaza and the addition of one (1) northbound auxiliary lane between the University Boulevard ramp and the S.R. 417 Aloma Avenue ramps;

WHEREAS, under FPID project number 427690-1-32-03, FTE has received an appropriation from the Florida legislature for design costs related to future capacity improvements on S.R. 417 within the Florida Turnpike Enterprise System between the Orange/Seminole County Line and Aloma Avenue, including without limitation, widening of the S.R. 417 mainline in the northbound and southbound directions to provide a total of eight (8) general use lanes (hereinafter referred to as the "FTE Improvements");

WHEREAS, for the mutual benefit of CFX and FTE customers traveling on S.R. 417 and to simplify the prosecution of work between the Project and FTE Improvements, FTE has requested that CFX enter into a Supplemental Agreement with Dewberry to provide additional design services related to a portion of the FTE Improvements (hereinafter referred to as the "FTE Project"). The scope of services for the FTE Project is attached as **Exhibit "B"**;

WHEREAS, FTE has agreed to provide an advance payment to CFX for all design fees associated with the Dewberry Supplemental Agreement for the FTE Project;

WHEREAS, a portion of the FTE Project will be designed in CFX's right of way, specifically one (1) southbound auxiliary lane between the Aloma Avenue ramp and the University Boulevard ramp; and

WHEREAS, CFX and FTE desire to formalize the terms and conditions for FTE's payment of the design fees to CFX for the FTE Project.

NOW THEREFORE, in consideration of the mutual benefits, conditions, promises, and covenants hereinafter set forth, and for other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties agree as follows:

1. **Recitals.** The recitals set forth above are specifically incorporated herein by reference and made a part of this Agreement.

2. **FTE Project Scope of Work.** The FTE Project design services to be provided by CFX through CFX Contract No. 001153 are set forth in Exhibit "B". The total estimated cost of the FTE Project is \$416,197.12.
3. **Term.** The term of this Agreement shall begin upon the Effective Date (as defined in Section 22 below) and shall end on December 31, 2017. This Agreement will expire at the end of the term unless an extension of the term is requested by FTE prior to the expiration of the term and CFX grants such extension in writing.

4. **FTE's Responsibilities.**

- a. The payment of funds under this Agreement will be made directly to CFX for deposit.
- b. FTE shall designate a project manager for the FTE Project to coordinate with CFX's designated project manager for its Project.
- c. FTE will provide phase submittal design reviews of the FTE Project within fourteen (14) business days from receipt of a phase submittal from Dewberry.
- d. At the request of CFX, FTE will assist Dewberry with permit agency coordination pertaining to the Project and the FTE Project (collectively referred to as the "Projects").
- e. FTE shall prepare a second Department Funded Agreement ("Second DFA") that addresses the ultimate construction of the FTE Project by CFX. CFX shall assist FTE with creation of a first draft of the Second DFA with the goal that such draft will be completed by June 30, 2017. Thereafter, CFX and FTE will work together to make modifications to the first draft of the Second DFA to the satisfaction of both parties. Such modifications shall not be unreasonably delayed by either party.

5. **CFX's Responsibilities.**

- a. In reliance upon FTE's advance payment of the above-referenced funds, CFX shall be responsible for executing a Supplemental Agreement with Dewberry in the same amount for design of the FTE Project.
- b. CFX shall designate a project manager for the FTE Project to manage and coordinate any and all matters between FTE's designated project manager for its FTE Project and Dewberry.
- c. All FTE Project plans preparation within FTE's right of way shall be in accordance with the current FDOT and TPPPH standards and specifications.
- d. Following completion and FTE acceptance of design services related to the FTE Project, CFX will prepare bidding documents and advertise the Projects for construction bids.

6. **Financial Provisions.**

- a. FTE shall advance an amount of \$332,957.70, which is equal to 80% of 100% of FTE's participation in the estimated cost of the FTE Project. The remaining 20% shall be withheld by FTE as a retainage amount to draw upon pursuant to subsection k. Any retainage amount that is not forfeited pursuant to subsection k will be paid to CFX upon FTE's acceptance of the work.
- b. The advance payment amount under 6.a shall be released after execution of this Agreement on or before June 30, 2017.
- c. The advanced amount must be accounted for separately from other funds of CFX.
- d. CFX shall invoice FTE upon completion of each deliverable for costs incurred. The amount advanced will be subtracted from each invoice only after such amounts are reviewed and approved by FTE's project manager.
- e. All invoices submitted to FTE must provide complete documentation, including a copy of the contractor's or consultant's invoice(s), to substantiate the cost on the invoice.
- f. CFX must certify on each invoice that the costs from the contractor(s) or consultant(s) are valid and have been incurred by the contractor(s) or consultant(s).
- g. Each monthly invoice subsequent to the first invoice from CFX must contain a statement from CFX that the previous month's cost incurred by the contractor(s) or consultant(s) has been paid by CFX to the contractor(s) or consultant(s).
- h. CFX will submit an invoice for the advance.
- i. Invoices shall be submitted by CFX in detail sufficient for a proper pre-audit and post audit based on the quantifiable, measurable and verifiable units of deliverables as established in Exhibit B – Scope of Services. Deliverables must be received and accepted in writing by FTE's project manager prior to payments.
- j. There shall be no reimbursement for travel expenses under this Agreement.
- k. If FTE determines that the performance of Dewberry is unsatisfactory, FTE shall notify CFX of the deficiency to be corrected, which correction shall be made within a time-frame to be specified by FTE. CFX shall, within five days after notice from FTE, provide FTE with a corrective action plan describing how Dewberry will address all issues of contract non-performance, unacceptable performance, failure to meet the minimum performance levels, deliverable deficiencies, or contract non-compliance. If the corrective action plan is unacceptable to FTE, CFX shall be assessed a non-performance retainage equivalent to 10% of the total invoice amount. The retainage shall be applied to the invoice for the then-current billing period. The retainage shall be withheld until CFX resolves the deficiency. If the deficiency is subsequently resolved, CFX may bill FTE for the retained amount during the next billing period. If

CFX is unable to cause Dewberry to resolve the deficiency, the funds retained may be forfeited at the end of the Agreement's term.

- l. Any unused funds remaining at the conclusion/termination of the Agreement will be due to FTE within 180 days of the completion/termination of the project.
- m. If a payment to CFX from FTE is not available within 40 days, a separate interest penalty at a rate as established pursuant to Section 55.03(1), F.S., will be due and payable, in addition to the invoice amount, to CFX. Interest penalties of less than one (1) dollar will not be enforced unless CFX requests payment. Invoices that have to be returned to CFX because of CFX preparation errors will result in a delay in the payment. The invoice payment requirements do not start until a properly completed invoice is provided to the Department. (Section 215.422(3)(b), F.S.).
- n. A Vendor Ombudsman has been established within the Department of Financial Services. The duties of this individual include acting as an advocate for CFX who may be experiencing problems in obtaining timely payment(s) from a state agency. The Vendor Ombudsman may be contacted at (850) 413-5516 or by calling the Division of Consumer Services at 1-877-693-5236. (Section 215.422(5) and (7), F.S.).
- o. Records of costs incurred under the terms of this Agreement shall be maintained and made available upon request to the Department at all times during the period of this Agreement and for three (3) years after final payment is made. Copies of these documents and records shall be furnished to the Department upon request. Records of costs incurred include CFX's general accounting records and the FTE Project records, together with supporting documents and records, of the contractor and all subcontractors performing work on the FTE Project, and all other records of the Contractor and subcontractors considered necessary by the Department for a proper audit of costs. (Section 287.058(4), F.S.).
- p. In the event this contract is for services in excess of \$25,000.00 and a term for a period of more than 1 year, the provisions of Section 339.135(6)(a), F.S., are hereby incorporated:

"The Department, during any fiscal year, shall not expend money, incur any liability, or enter into any contract which, by its terms, involves the expenditure of money in excess of the amounts budgeted as available for expenditure during such fiscal year. Any contract, verbal or written, made in violation of this subsection is null and void, and no money may be paid on such contract. The Department shall require a statement from the Comptroller of the Department that such funds are available prior to entering into any such contract or other binding commitment of funds. Nothing herein contained shall prevent the making of contracts for periods exceeding 1 year, but any contract so made shall be executory only for the value of the services to be rendered or agreed to be paid for in succeeding fiscal years; and this paragraph shall be incorporated verbatim in all contracts of the Department

which are for an amount in excess of \$25,000.00 and which have a term for a period of more than 1 year."

- q. The Department's obligation to pay is contingent upon an annual appropriation by the Florida Legislature. (Section 216.311, F.S.).

7. CFX and its contractor Dewberry shall:

- a. Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the CFX during the term of this Agreement; and
- b. Expressly require any contractors and subcontractors performing work or providing services pursuant to this Agreement to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

(Executive Order Number 11-116).

- 8. CFX shall cause Dewberry to add FTE as an additional insured under the Commercial General Liability coverage and Business Automobile Liability Coverage insurance policies provided for in sections 16.1 and 16.2 of the "Scope of Work" in CFX Contract No. 001153, attached as Exhibit "A," as provided by law. The insurance shall remain in effect until acceptance of the design work by FTE. Prior to commencement of the FTE Project and on such other occasions as either party may reasonably require, CFX shall provide FTE with certificates documenting that the required insurance coverage with Dewberry is in place and effective.
- 9. To the extent that there are design professional services subject to Section 725.08, Florida Statutes, and notwithstanding the provisions of Section 725.06, Florida Statutes, CFX shall cause Dewberry, through the execution of the Supplemental Agreement, to indemnify and hold harmless FTE and CFX, and their officers and employees, from liability, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of Dewberry and other persons employed or utilized by Dewberry in the performance of this Agreement. Nothing herein shall be construed to extend the limits of liability of CFX beyond that provided in Section 768.28, Florida Statutes. Nothing herein is intended as a waiver of CFX's sovereign immunity under Section 768.28, Florida Statutes. Nothing hereby shall inure to the benefit of any third party for any purpose, which might allow claims otherwise barred by sovereign immunity or operation of law. The parties shall notify each other in writing immediately upon becoming aware of such liabilities. The indemnities given by Dewberry in connection with the FTE Project shall survive termination of this Agreement. The insurance coverage and limits required in this Agreement may or may not be adequate to protect the FTE and such insurance coverage shall not be deemed a limitation of the indemnities to the FTE set forth in this Agreement. The provisions of this paragraph shall survive the expiration or earlier termination of this Agreement, in accordance with the laws

of the State of Florida. Furthermore, all of CFX's obligations under this Agreement are limited to the payment of no more than the amount limitation per person and in the aggregate contained in Section 768.28, Florida Statutes, even if the sovereign immunity limitations of that statute are not otherwise applicable to the matters as set forth herein.

10. **Notices; Service of Process.** All notices, requests, certificates, or other communications shall be sufficiently given and shall be deemed given when hand-delivered, mailed by registered or certified mail postage prepaid, return receipt required or overnight courier service with guaranteed next day delivery to the parties at the following addresses:

To FTE:

Executive Director & Chief Executive Officer
Florida's Turnpike Enterprise
Turnpike Headquarters -Bldg. 5315
P.O. Box 613069
Ocoee, FL 34761-3069

With Copy to:

Turnpike Chief Counsel
Turnpike Headquarters -Bldg. 5315
P.O. Box 613069
Ocoee, FL 34761-3069

To CFX:

Executive Director
Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, Florida 32807

With Copy to:

General Counsel
Central Florida Expressway Authority
4794 ORL Tower Road
Orlando, FL 32807

Either of the above parties may, by notice in writing given to the other, alter the address to which communications or copies are to be sent by giving notice of such change of address in conformity with the provisions of this Section for the giving of notice.

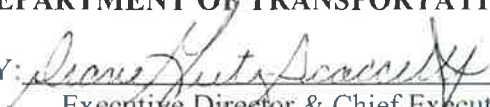
11. **Sovereign Immunity.** Nothing in this Agreement shall be deemed or otherwise interpreted as waiving the parties' respective sovereign immunity protections, or as increasing the limits of liability as set forth in Section 768.28, Florida Statutes.

12. **Entire Agreement.** This Agreement, including the exhibits to this Agreement, contain the sole and entire agreement between the parties with respect to their subject matter and supersede any and all other prior written or oral agreements between them with respect to such subject matter.
13. **Jurisdiction and Venue.** This Agreement is accepted and entered into in Florida and any question regarding its validity, construction, enforcement, or performance shall be governed by Florida law. Venue for any and all actions arising out of or in any way related to the interpretation, validity, performance or breach of this Agreement shall lie within a Florida circuit court having jurisdiction over the parties.
14. **Severability.** In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.
15. **Counterparts.** This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.
16. **Public Records Law.** The parties shall allow public access to all public records made or received in conjunction with this Agreement and the performance thereof, in accordance with the provisions of Chapter 119, Florida Statutes.
17. **Modifications, Amendments, or Alterations.** No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.
18. **Waiver.** The failure of either party to insist on one or more occasions on the strict performance or compliance with any term or provision of this Agreement shall not be deemed a waiver or relinquished in the future of the enforcement thereof, and it shall continue in full force and effect unless waived or relinquished in writing by the party seeking to enforce the same. A modification or waiver of any of the provisions of this Agreement shall be effective only if made in writing and executed with the same formality as this Agreement.
19. **Assignment.** This Agreement may not be assigned without the written consent of the parties.
20. **Binding Effect.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Nothing in this Agreement is intended to confer any rights, privileges, benefits, obligations or remedies upon any other person or entity except as expressly provided for herein.
21. **No Contingent Fees.** The parties warrant that they have not employed or obtained any company or person, other than their respective bona fide employees to solicit or to secure this Agreement and that they have not paid or agreed to pay any company, corporation, individual or firm, other than bona fide employees to solicit or secure this Agreement. For the breach or violation of this provision, CFX shall have the right to terminate the Agreement without liability at its discretion.

22. **Effective Date.** This Agreement shall become effective when all parties have signed it. The date this Agreement is signed by the last party to sign it (as indicated by the date stated under that party's signature) shall be deemed the effective date of this Agreement.

IN WITNESS WHEREOF, FTE and CFX have caused these present to be executed this Agreement for the purposes herein expressed on the dates indicated below. This Agreement was approved by the CFX's Board of Directors at its meeting on _____, 2017.

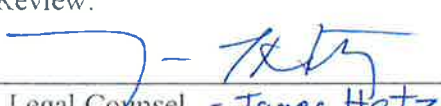
**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION**

BY: 
Executive Director & Chief Executive Officer
Florida's Turnpike Enterprise

DATE: 04/06/2017

ATTEST: 
Executive Secretary

Legal Review:

BY: 
Legal Counsel - James Hetz

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

BY: _____
Executive Director

Date: _____

ATTEST: _____
Executive Secretary

Legal Review:

BY: _____
General Counsel

Exhibits: A. Contract No. 001153 and B. Scope of Services for the FTE Project

EXHIBIT A

Contract with Dewberry Engineers, Inc.

CFX Contract No. 001153

AGREEMENT

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY
AND
DEWBERRY ENGINEERS, INC.**

**S.R. 417 WIDENING FROM ECONLOCKHATCHEE TRAIL
TO SEMINOLE COUNTY LINE**

CONTRACT NO. 001153, PROJECT NO. 417-134

**CONTRACT DATE: June 22, 2016
CONTRACT AMOUNT: \$2,575,000.00**

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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

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E	Exhibit "E", Project Location Map
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**CENTRAL FLORIDA EXPRESSWAY AUTHORITY
AGREEMENT FOR PROFESSIONAL SERVICES**

THIS AGREEMENT, made and entered into this 16th day of June, 2016, 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 "CFX" and DEWBERRY ENGINEERS, INC., hereinafter called "CONSULTANT", carrying on professional practice in engineering with offices located at 800 North Magnolia Avenue, Suite 1000, Orlando, FL. 32803.

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

WITNESSETH:

1.0 CFX does hereby retain the CONSULTANT to furnish certain services in connection with the design of the S.R. 417 Widening from Econlockhatchee Trail to Seminole County Line identified as Contract No. 001153.

2.0 The CONSULTANT and CFX 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 Agreement 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 CFX's Executive Director.

Reference herein to the Project Manager shall mean CFX's Director of Engineering or his authorized designee. The Project Manager shall provide the management and technical direction for this Agreement on behalf of CFX. 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 CFX 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 CFX and at intervals established by CFX. CFX 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 CFX, or of other agencies interested in the project on behalf of CFX. Either party to the Agreement may request and be granted a conference.

In the event there are delays on the part of CFX 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, CFX 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 CFX 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. CFX 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 CFX 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 CFX.

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 CFX, 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 CFX. It is understood and agreed that CFX 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.

Comprehensive Engineering Services, Inc. (Class 1)
The Balmoral Group, LLC (Class 1)
Tierra, Inc. (Class 2)
Aerial Cartographics of America, Inc. (Class 2)

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 CFX, which may be withheld in CFX'S sole and absolute discretion.

Any attempt by CONSULTANT to dispose of this Contract as described above, in part or in whole, without CFX'S written consent shall be null and void and shall, at CFX'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 CFX 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 CFX'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 CFX 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 CFX 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 CFX'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 CFX'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 CFX, 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 CFX of said plans, documents, reports, studies or other data for any purpose other than intended by the terms of this Agreement.

7.0 COMPENSATION

CFX 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 \$2,575,000.00. Bills for fees or other compensation for services or expenses shall be submitted to CFX in detail sufficient for a proper pre-audit and post audit thereof.

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

Records of costs incurred by the CONSULTANT under terms of this Agreement shall be maintained and made available upon request to CFX 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 CFX 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 CFX 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 CFX without restriction or limitation on their use on this project; and shall be made available, upon request, to CFX at any time. CFX 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 800 North Magnolia Avenue, Suite 1000, Orlando, FL. 32803.

The CONSULTANT shall allow public access to all documents, papers, letters, or other material as approved and authorized by CFX 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 CFX.

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 CFX 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 CFX, whichever is later.

11.0 TERMINATION

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

If CFX determines that the performance of the CONSULTANT is not satisfactory, CFX 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 CFX requires termination of the Agreement for reasons other than unsatisfactory performance of the CONSULTANT, CFX 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 CFX 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, CFX 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 CFX.

CFX 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 CFX, 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 CFX. The CONSULTANT shall be compensated for its services rendered up to the time of any such termination in accordance with Paragraph 11.0 hereof. CFX 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. CFX further reserves the right to

suspend the qualifications of the CONSULTANT to do business with CFX 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 CFX'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 CFX are not able to reach an agreement as to the amount of compensation to be paid to the CONSULTANT for supplemental work desired by CFX, the CONSULTANT shall be obligated to proceed with the supplemental work in a timely manner for the amount determined by CFX to be reasonable. In such event, the CONSULTANT will have the right to file a claim with CFX 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 CFX and request clarification of CFX'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 CFX 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 CFX or any of its officers, agents or employees during the performance of the Agreement.

When CFX 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, CFX will immediately forward the notice of claim to the CONSULTANT. The CONSULTANT and CFX 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 CFX alleging negligence or wrongdoing by the CONSULTANT, CFX and the CONSULTANT will jointly discuss options in defending the lawsuit. After reviewing the lawsuit, CFX will determine whether to request the participation of the CONSULTANT in the defense of the lawsuit or to request that the CONSULTANT defend CFX in such lawsuit as described in this section. CFX'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 CFX to the CONSULTANT of the notice of claim or filing of a lawsuit. CFX 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 CFX 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 CFX 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 CFX against any claim, suit or proceeding brought against CFX 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 CFX.

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, CFX 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 CFX, 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 CFX. 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 CFX) or the general aggregate limit shall be twice the required occurrence limit. CFX 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 CFX 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 CFX for negligence, errors, mistakes or omissions in the performance of services to be performed and furnished by the CONSULTANT.

The CONSULTANT shall provide CFX with Certificate(s) of Insurance with required endorsements on all the policies of insurance and renewals thereof in a form(s) acceptable to CFX. CFX 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 CFX 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 CFX, CFX 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 CFX. At the option of CFX, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as requests CFX, 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 CFX.

Compliance with these insurance requirements shall not relieve or limit the CONSULTANT's liabilities and obligations under this Agreement. Failure of CFX to demand such certificate or evidence of full compliance with these insurance requirements or failure of CFX 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 CFX of any certificate of insurance evidencing the required coverage and limits does not constitute approval or agreement by CFX 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 CFX 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 CFX.

Regarding the use of logos, printed documents and presentations produced for CFX shall not contain the name of logo of the CONSULTANT unless approved by CFX's Director of Public Affairs and Communication or his/her designee. If a copy of the CFX 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 CFX logo is of utmost importance to CFX. Any questions regarding the use of the CFX 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 CFX'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 CFX 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 CFX harmless for any violations of the same. Furthermore, if CFX determines that CONSULTANT has knowingly employed any unauthorized alien in the performance of this Agreement, CFX 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 CFX 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 CFX 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 CFX 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 is accepted and entered into in Florida and any question regarding its validity, construction, enforcement, or performance shall be governed by Florida law. The parties consent to the exclusive jurisdiction of the courts located 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
- Exhibit "E", Project Location Map
- Exhibit "F", Schedule

IN WITNESS WHEREOF, the CONSULTANT and CFX 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 CFX's Board of Directors at its meeting on June 16th, 2016.

DEWBERRY ENGINEERS, INC.

BY: [Signature]
Authorized Signature

Print Name: Kevin E. Knudson

Title: Vice President

ATTEST: Ruby A. Magee (Seal)
Secretary or Notary



Approved as to form and execution, only.

General Counsel for CFX

[Signature]

**CENTRAL FLORIDA
EXPRESSWAY AUTHORITY**

BY: [Signature] 7/24/16
Director of Procurement
Print Name: Robert Johnson

EXHIBIT A

SCOPE OF SERVICES

Exhibit A

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

SCOPE OF SERVICES

FOR

**S.R. 417 WIDENING
ECONLOCKHATCHEE TRAIL TO THE
ORANGE / SEMINOLE COUNTY LINE**

PROJECT NO. 417-134

IN ORANGE COUNTY, FLORIDA

JUNE, 2016

Exhibit A

SCOPE OF SERVICES

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1.0 GENERAL

1.01 Location

- A. See EXHIBIT "E", Project Location Map.

1.02 Description

The services to be provided for the project shall include final design and preparation of construction drawings/specifications to provide six (6) general use lanes on S.R. 417 between Econlockhatchee Trail and the Orange/Seminole County line. Specifically, the project will include outside widening of S.R. 417 between Econlockhatchee Trail and the University Mainline Plaza, outside/median widening of S.R. 417 from the University Mainline Plaza to the Orange/Seminole County line, conversion of the S.R. 417 northbound and southbound inside cash lanes to express lanes and widening of the southbound S.R. 417 Bridge over University Boulevard. The project will also include the addition of one (1) northbound auxiliary lane and one (1) southbound auxiliary lane between the S.R. 50 / Colonial Drive ramps and the University Mainline Plaza and the addition of one (1) northbound auxiliary lane between the University Boulevard ramp and the S.R. 417 Aloma Avenue ramps.

Additional elements include surveying, drainage evaluation and design, permitting, lighting, signing and pavement markings, maintenance of traffic, traffic operations modeling, utility design and coordination, geotechnical analysis, walls, scheduling and project control, progress reporting and any other incidental items necessary for the proposed design of the project.

1.03 Purpose

- A. The purpose of this Exhibit is to describe the scope of work and responsibilities required in connection with Final Engineering and Final Construction Drawings and Documents for the proposed S.R. 417 Widening from Econlockhatchee Trail to the Orange/Seminole County line.
- B. The Consultant shall perform those engineering services required for final roadway plans, final bridge plans, and the preparation of a complete environmental resource application including 100% storm water management, final lighting plans, final traffic control plans, final utility relocation plans, final toll plaza plans, final fiber optic network plans and final signing and pavement marking plans.
- C. The Authority's Project Manager will provide contract administration, management services and technical reviews of all work associated with the preliminary and final designs.

- D. It is understood that references throughout this document to items of work and services to be performed are the responsibility of the Consultant unless otherwise expressly stated as the responsibility of others.

1.04 Organization

- A. The Authority's Project Manager will administer the Consultant services detailed in this scope. The following sections define the duties and obligations of the Authority and the Consultant.

1.05 Term of Agreement for Design Services

- A. The term of the Agreement to perform the required design services shall be 12 months from notice to proceed, including all reviews.
- B. The Consultant may continue the design efforts while design submittals are being reviewed. Doing so, however, in no way relieves the Consultant of the responsibility to incorporate review comments into the design, nor does it entitle the Consultant to any additional design fees as a result of making changes due to review comments.

1. Project Milestones:

The Consultant will prepare a tabulation of major project milestones.

2. Project Schedule:

The Consultant shall include a schedule of major design tasks.

2.0 STANDARDS

A. The applicable design and construction standards and policies of the Florida Department of Transportation, Federal Highway Administration (FHWA), American Association of State Highway and Transportation Officials (AASHTO), Transportation Research Board (TRB), Standard Building Code, the Authority's Design Practices and Standard Notes and the Authority's Guidelines for Preparation of Signing and Pavement Marking Plans shall be followed throughout the design and construction of the project unless specifically stated otherwise. The editions of the applicable standards and policies in effect at the time of Contract execution shall be used except as follows:

1. Division II, Construction Details, and Division III, Materials, of the FDOT Standard Specifications for Road and Bridge Construction, 2015 edition, and updates, shall be used for this project.
2. The FDOT Design Standards (Index Drawings), latest edition and subsequent interim indexes and updates, shall be used for this project.
3. The FDOT Plans Preparation Manual, latest edition, shall be used for this project.
4. The FDOT Basis of Estimates Handbook, latest edition, shall be used for this project.
5. The AASHTO Policy on Geometric Design of Highway and Streets (Green Book), 2004 edition, shall be used for this project.
6. The FHWA Manual on Uniform Traffic Control Devices (MUTCD), 2009 edition, as amended, shall be used for this project.
7. The CFX ITS Design Standard Details for Design, Construction, Maintenance and Utility Operations on the State Highway System, April 2015, shall be used for this project.

3.0 DESIGN CRITERIA

3.01 General

Design of this project will be guided by the basic design criteria listed below.

- A. The design criteria listed in this section and Project Design Directives, provided by the Authority during the course of the project, may supplement the Project Design Guidelines.
- B. Design year – 2038
- C. Design vehicle – WB-62FL

3.02 Geometry

The following criteria are to be incorporated into the design:

DESIGN ELEMENT	EXPRESSWAY		CROSSROADS/ COLLECTORS
	MAINLINE	RAMPS	
<u>Design Speed, MPH</u>	70 mph	30 mph (Loop) 50 mph (Diamond) 50 mph (Directional)	30 Local 45 Urban 50 Rural
<u>Horizontal Alignment</u>			
a. Max. Curve, Degrees	3° 30'	24° 45' Loop 8° 15' Diamond 8° 15' Directional	20°
b. Max. Superelevation, ft/ft.	0.10	0.10	0.05 Urban 0.10 Rural
c. Lane Drop Tapers	70:1	50:1	
d. Transitions	Use spirals for curves > 1° 30'	Use spirals for curves > 1° 30'	Use spirals for curves > 1° 30'
<u>Vertical Alignment</u>			
a. Max. Grade	3%	5% to 7% (30 mph) 3% to 5% (50 mph)	5% Arterial Rural 7% Collector Rural
b. Vertical Curvature (K) (K=Len./%grade change)			
Crest	506 FDOT 290 to 540 AASHTO	31 (30 mph) 136 (50 mph) 110 to 160 Other (AASHTO)	31 to 136
Sag	206 FDOT 150 to 200 AASHTO	31 (30 mph) 136 (50 mph) 90 to 110 Other (AASHTO)	37 to 96
c. Decision Sight Dist., ft.	Refer to AASHTO	N/A	N/A

DESIGN ELEMENT	EXPRESSWAY		CROSSROADS/ COLLECTORS
	MAINLINE	RAMPS	
<u>Cross Sections</u>			
a. Lane Widths, ft.	12	12 dual lanes 15 min. single lane	12 inner lanes 12-16 outer lanes
b. Shoulder width, ft.	<u>4-Lane</u>	<u>Single Lane</u>	
Right	12 (10 paved)	6 (4 paved)	8 (4*paved)
Left	8 (4 paved)	6 (2 paved)	8 (2 paved)
			* min. 5' paved FDOT
	<u>6-Lane</u>	<u>Dual Lane</u>	
Right	12 (10 paved)	10* (8* paved)	
Left	12 (10 paved)	8 (4 paved) (* add 2' for interstate)	
<u>Bridges, ft.</u>			
Right	<u>4-Lane</u>	<u>Single-Lane</u>	
Left	10	6	
	6	6	
	<u>6-Lane</u>	<u>Dual Lane</u>	
Right	10	10	
Left	10	6	
c. Cross Slopes			
1. Traffic Lanes	2% (4-lane) 3% or tbd (6-lane)	2%	2%
2. Bridge Lanes	2% typ. (no break)		
3. Left Shoulder	5%	5%	5%
4. Right Shoulder	6%	6%	6%
d. Median Width (4-lane), ft. (E.O.P./E.O.P.)	64' (typical) 26' (with barrier)	N/A	22' or 40'
<u>Horizontal Clearance</u>	PPM 1-2.11	PPM 1-2.11	PPM 1-2.11
<u>Vertical Clearance, ft.</u>			
a. Over Roadway*	16.5	16.5	16.5
b. Overhead Signs	17.5	17.5	17.5
c. Over Railroad	23.5	23.5	N/A

Ramp Operations

- a. Two thousand (2,000) ft. between entrance and exit terminals – full freeways
- b. Six hundred (600) ft. between exit and entrance terminals
- c. Single Lane Entrance Ramp Parallel
- d. Exit Ramp Taper of 550 ft. (3° – divergence)

Right of Way

- a. Ten (10) ft. from back of walls or limit of construction.
- b. Two (2) ft. from back of sidewalk on frontage roads.
- c. Drainage and construction easements as required
- d. Limited access right-of-way limits per Index 450
- e. Right of way limits for ramps is based upon limit of construction plus 10 feet.

3.03 Bridge and Other Structures

- A. All plans and designs shall be prepared in accordance with the latest standard specifications adopted by AASHTO, FDOT Structures Design Guidelines (Manual), FDOT Structures Detailing Manual, FDOT Plans Preparation Manual, FDOT Standard Drawings, FDOT Indices, etc., except as otherwise directed by the Authority.

4.0 WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for the work outlined in this Section. The work shall conform to the standards, criteria, and requirements of this Scope of Services.

4.01 Design Features

A. The work required for this project includes preparation of final construction drawings and specifications as well as the preparation of a complete environmental resource application.

B. Major elements of the work include the following:

The services to be provided for the project shall include final design and preparation of construction drawings/specifications to provide six (6) general use lanes on S.R. 417 between Econlockhatchee Trail and the Orange/Seminole County line. Specifically, the project will include outside widening of S.R. 417 between Econlockhatchee Trail and the University Mainline Plaza, outside/median widening of S.R. 417 from the University Mainline Plaza to the Orange/Seminole County line, conversion of the S.R. 417 northbound and southbound inside cash lanes to express lanes and widening of the southbound S.R. 417 Bridge over University Boulevard. The project will also include the addition of one (1) northbound auxiliary lane and one (1) southbound auxiliary lane between the S.R. 50 / Colonial Drive ramps and the University Mainline Plaza and the addition of one (1) northbound auxiliary lane between the University Boulevard ramp and the S.R. 417 Aloma Avenue ramps.

Additional elements include surveying, drainage evaluation and design, permitting, lighting, signing and pavement markings, maintenance of traffic, traffic operations modeling, utility design and coordination, geotechnical analysis, walls, scheduling and project control, progress reporting and any other incidental items necessary for the proposed design of the project.

4.02 Governmental Agencies

A. The Consultant shall coordinate with and assist in securing the approval of all interested agencies involved. These agencies may include, but are not necessarily limited to Orange County, City of Orlando, FDOT, Florida's Turnpike and SJRWMD.

4.03 Preliminary Design Report - Review

A. The Consultant shall review the project concept for proposed alternatives with regard to proposed design criteria, maintenance of traffic and construction feasibility.

At the completion of this review, the Consultant shall submit to the

Authority a written list of recommendations and proposed revisions, if any, to the basic layout. A conference will be scheduled by the Authority's Project Manager with the Consultant to resolve any outstanding differences and agree upon a final layout for the project.

4.04 Surveys and Mapping

- A. All Surveying and Mapping shall be performed under the direction of a Surveyor and Mapper properly licensed with the Florida Board of Professional Surveyors and Mappers, under Chapter 472, Florida Statutes. The Consultant shall review data provided by the Authority and provide complete field surveys suitable for contract document preparation.

Survey activities shall be coordinated with the Consultant's design team including roadway, drainage, structures, geotechnical, and other disciplines as required.

Field surveys shall be performed with minimal disruption of the normal traffic flow for the project. Field personnel shall use safety devices such as warning signs, traffic cones, warning lights, and safety vests at all times, according to the Florida Department of Transportation requirements. Advanced warning signs required when survey crews are working on the Authority's system shall be made with 3M Scotchlite Diamond Grade Fluorescent orange roll up sign sheeting.

B. Alignment

1. Establish Survey Centerline by establishing the tangent lines of existing Right of Way maps if such maps exist, or in the center of dedicated Right of Way as per subdivision plats, or in the center of the pavement when no Right of Way map or dedication exists. Set alignment points Begin, End, PC's, PT's, PI's and at maximum 1400-foot intervals along alignment.
2. Establish and set alignment in the same manner on cross roads and major adjacent alignments.
3. Station all alignments at 100' intervals.
4. Meet with Authority's Project Manager to discuss methods for determining alignments prior to staking.

C. Reference Points

1. Set at all alignment points, left and right at 90-degrees to alignment where possible, outside the proposed construction limits.
2. Show obstructions where alternate references are set.

D. Bench Levels

1. The Consultant shall establish new benchmarks at 1000' intervals, along all alignments, using stable points.

E. Topography

1. Planimetric mapping and a digital terrain model (DTM), suitable for 1"=50' display scale shall be conducted by the Consultant.
2. The Consultant will obtain existing pavement elevations and cross-slopes along the inside travel lane and outside travel lane every 100'.
3. Additional topographic and DTM surveys, as needed for the project design, are the responsibility of the Consultant. These may include existing water bodies and pavement elevations.

F. Drainage Survey

Perform a drainage survey including pipe type, location, size and flow line elevations as needed for design.

G. Underground Utilities

Locate all underground utilities, horizontally and vertically as flagged by respective utility companies or a qualified utility marking consultant. Provide soft excavation verifications as needed to verify location and at utility conflict areas.

H. Side Street Surveys

Perform topographic and utility surveys of side streets as needed for engineering design.

I. Bridge Survey

Provide bridge survey data as needed for engineering design.

J. Jurisdictional Line Surveys

Perform Jurisdictional Line Surveys as needed for engineering design and permitting.

K. Geotechnical Surveys

Locate and/or stake boring locations as needed for geotechnical investigations.

L. Right-of-Way Ties

Locate right-of-way limits for construction purposes. No new right-of-way is anticipated.

- M. Prior to construction, the Consultant shall re-flag and reset alignment control points, references and benchmarks and meet with the construction contractor to review these points

4.05 Geotechnical Investigation

- A. The Consultant shall perform a geotechnical investigation of the project in accordance with the requirements of the Authority.
- B. Investigations shall be performed with minimal disruption of the normal traffic flow for the project. Field personnel shall use safety devices such as warning signs, traffic cones, warning lights, and safety vests at all times, according to Authority requirements. The Consultant shall adhere to all traffic control requirements when taking samples on existing roadways. A traffic control plan and permit may be required. Any advanced warning signs required when crews are working on the Authority system shall be made with 3M Scotchlite Diamond Grade Fluorescent orange roll up sign sheeting.
- C. The work includes, but is not limited to, identifying roadway structural section requirements, LBR testing, design methods for the selected foundation, external stability evaluation at proprietary retaining walls, groundwater and estimated seasonal high groundwater level, estimate of the maximum rate of pumping that will be required at sites that dewatering is anticipated, certification of all under drain and pond draw down times, pH and resistivity conditions requiring design considerations, soil shrinkage/swell characteristics, slope stability and benching in embankment/excavation locations, recommendation for methods of rock excavation, potential imported borrow sites and availability of structural section materials, location and depths of unsuitable material (muck), and design alternatives based on geotechnical findings; design values for active, at rest, and passive soil pressures; allowable design loads or pressures for each foundation type, corrosion testing for structures and design of foundations for sign structures.
- D. The results of the geotechnical investigation shall be contained in a Geotechnical Report which shall be submitted to the Authority's Project Manager for approval. The geotechnical investigation shall include all necessary laboratory testing of materials.
- E. Upon approval of the Geotechnical Report, the Consultant shall proceed with preparation of the pavement and foundation designs.

- F. Boring profiles shall be included on cross-section sheets in the contract plans and include the boring number, station, offset, soil legend, observed water table, design high water elevation and geotechnical consultant's address. A boring number and target symbol shall be shown at the appropriate location on the roadway and bridge plans.
- G. Roadway core samples shall be taken to determine the existing pavement section. The Consultant shall submit a plan to the Authority for location approval.

4.06 Contamination Impact Analysis

- A. The Consultant shall consider applicability of a contamination impact analysis of the project in accordance with the applicable rules and regulations of the FDOT Project Development and Environment Guidelines, Chapter 22, the Florida Department of Environmental Protection (FDEP), and all other pertinent State or Federal agencies having jurisdiction, and the requirements of the Authority.
- B. At a minimum, the Consultant shall conduct a windshield survey along the project corridor to identify any new sources of environmental contamination not reported in the referenced document(s).
- C. The testing of any sites including the use of ground penetrating radar, if required to complete the design and/or construction of the project, will be added to the Scope of Services by Supplemental Agreement.

4.07 Pavement Design

- A. The Consultant shall prepare the pavement design as appropriate in accordance with the requirements of the FDOT for mainline and ramps.
- B. The proposed pavement design recommendation, resulting from the Consultant's analysis of the various alternatives, shall be contained in a Pavement Design Summary.

4.08 Borrow Pits

- A. The Consultant's geotechnical investigation may include the investigation of current borrow pits. The location and testing of any new borrow pits if required to complete the construction of the project shall be added to the Scope of Services by Supplemental Agreement. The analysis and test results shall be contained in a separate report submitted not later than the preliminary submittal.

4.09 Governmental Agency and Public Meetings

- A. Except as may be provided elsewhere in this Scope of Services, the Consultant shall have appropriate representatives present at such meetings, conferences or hearings as the Authority may direct to secure necessary approvals and/or support of the project by county, municipal, or other governmental agencies. If so directed, the Consultant shall also have appropriate representatives present at meetings or conferences of the Authority, its Chairman or staff.
- B. The Consultant shall assist the Authority in presentations to various parties. The Consultant shall prepare exhibits pertaining to basic roadway, aesthetic treatments and noise wall elements. This scope assumes presentations at two public meetings with adjacent property owners.

4.10 Environmental Permits

- A. The Authority's Project Manager will review, coordinate and submit the applications for all environmental permits, including EPA's NPDES General Permits for Stormwater Discharges from Construction Sites. The Consultant shall provide all information, permit applications and data relating to Stormwater Management and Floodplain Impacts required for the permits to the Authority. (The Authority will be responsible for preparing all of the Wetlands and Protected Species analysis and documentation required for the permits.) The Consultant shall:
 - 1. Attend the pre-application meetings and site visits with the Authority and regulatory agencies.
 - 2. Provide additional information requested at the pre-application by regulatory agencies for permits.
 - 3. Provide aerial maps at a 1"=400' scale which include SCS soils data, 100-year floodplain limits and proposed project.
 - 4. Provide all plans, calculations, sketches and reports required for permits except as described above.
 - 5. Provide copies of all drainage calculation, including pond routing nodal diagrams, for the project.
 - 6. Assist the Authority in responding to any requests for additional information made by regulatory agencies after the permit application is submitted.
 - 7. Incorporate any changes required by changes in regulatory agency

requirements during the course of the project. If this requires additional work by the Consultant a Supplemental Agreement will be prepared.

8. Prepare a list of adjacent landowners along with address and nine-digit zip code at all wetland encroachment sites.
9. Provide all permit application material in .pdf format and 7 hard copies.
10. The Consultant will provide dredge and fill sketched as required by the permitting agencies if applicable. Mitigation plans, if required, may be added as a supplemental service.
11. Determine extent of floodplain impacts, if any, and provide compensatory flood stages as required.

4.11 Utilities

A. Location

The Consultant shall obtain available utility mapping and information and identify all utilities within the general project limits to determine potential conflicts and relocations. Where a potential conflict exists, the Consultant may need to arrange to probe or expose ("pothole") the utility and survey the horizontal and vertical location of the utility line. The Consultant shall coordinate this effort with involved utility companies. All existing utilities shall be shown on appropriate preliminary construction plans. The Consultant's notes shall include the name and telephone number of contact persons for the construction contractor's use.

B. Utility Coordination

1. The Consultant shall prepare reproducible utility adjustments plans based on information provided by respective utility companies.
2. Private utilities will prepare design plans for the relocation of their facilities. If a utility cannot or will not prepare these design plans, the work shall be added to the scope by Supplemental Agreement and the Consultant shall prepare design plans for utility relocation for approval of the utility and review by the Authority.
3. Where utility conflicts occur which require utility relocation agreements between the affected utility and Authority, the Consultant shall prepare the necessary data/plans required for the agreements. The Consultant shall advise the Authority seven days

in advance of meetings with utility companies/agencies scheduled to discuss utility relocations.

4. The preparation and negotiation of the agreement will be performed by the Authority's Project Manager. After approval of the agreement by the utility and Authority, the Consultant shall prepare reproducible utility adjustment sheets identifying proposed relocations with respect to the construction plans.
5. The Consultant shall prepare a utility conflict matrix to assist in identifying and resolving conflicts between utilities and proposed construction prior to completion of the plans.
6. The Consultant shall obtain utility work schedules from the utility companies.
7. The Consultant shall prepare the Utility Certification Letter certifying that all utility negotiations (full execution of each agreement, approved utility work schedule, technical special provisions written, etc.) have been completed with arrangements made for utility work to be undertaken and completed as required.

4.12 Roadway Design

- A. A Typical Section Package will not be prepared for this project. Rather, typical sections will be prepared as part of the 15% submittal and submitted to the Authority for review and approval.
- B. The Consultant shall design the geometrics for this project using the design standards included in the scope. The design elements shall include, but not be limited to, the horizontal and vertical alignments, cross section template development, lane width, shoulder widths, cross slopes, borders, sight distance, side slopes, lane transitions, superelevations, features of intersections, ramp terminal details, interchanges, and limited access points.
- C. The Consultant shall prepare designs and contract documents for the roadway improvements, including, but not necessarily limited to:
 1. Cover sheet (key sheet)
 2. Summary of Pay Items
 3. General notes
 4. Summary Quantities sheets

5. Project Layout
6. Typical roadway sections
7. Plans and profiles (plans at 1"=50' scale)
8. Interchange plans, profiles, alignment and plan index sheets
9. Interchange layout plans
10. Intersection plans and profiles or spot elevations
11. Interchange curve and coordinate data sheets
12. Ramp Terminal Details
13. Crossroad plans and profiles (1"= 50' scale)
14. Cross-sections (with pattern plan) (1" = 20' horiz.) (1" = 5' vert.)
15. Earthwork quantities
16. Traffic Control Sheets
17. Utility Adjustment Sheets
18. Details
19. Special provisions
20. Special specifications

4.13 Structures Design

- A. Prior to commencement of final design, the consultant shall prepare a Bridge Concept Memorandum which documents a limited range of structural alternatives and identifies preferred alternatives. Specifically, the alternatives to be examined include beam type, wall type / configuration and foundation pile type.
- B. The Consultant shall prepare designs and contract documents for structural design including, but not necessarily limited to the following items.
 1. Complete Bridge designs will be provided for all bridges.
 2. Retaining walls

3. Box Culverts
4. Slope protection
5. Approach slabs
6. Details
7. Summary quantity tables
8. Special provisions and specifications
9. Stage construction-sequencing details (if applicable).
10. Sign\Signal structures.
11. Sound walls.
12. The Consultant shall perform Load Rating Analysis per FDOT criteria for any box culverts and bridges at the 90% design phase. The Load Rating Analysis packages shall be submitted to FDOT for their review and approval.

4.14 Drainage Design

- A. As part of the drainage design requirements, the Consultant shall:
1. Perform all drainage design in accordance with the approved criteria from Section 3.01C.
 2. Finalize the pond design at the 30% submittal.
 3. Have its chief drainage engineer available at the scheduled (bi-weekly/monthly) team meetings to review progress and discuss problems.
 4. Notify the Authority's Project Manager immediately if any deviation from approved design criteria is anticipated.
 5. Provide drainage/contour maps used in the development of the drainage design to the Authority for use in scheduled reviews. These maps will be returned to the Consultant along with review comments at the end of the review process.
 6. Provide copies of its internal quality control comments and

calculations at the scheduled reviews.

Critical duration analysis is not included in this effort and, if required, shall be added to the scope by Supplemental Agreement. A pond siting report is not required.

- B. The Consultant shall prepare designs and contract documents for drainage features including, but not necessarily limited to:
 - 1. Connector pipes
 - 2. Drainage structure details
 - 3. Storm drain and culvert profiles and/or drainage cross-sections
 - 4. Lateral ditches/channels
 - 5. Outfall ditches/channels
 - 6. Retention/detention ponds/exfiltration system

4.15 Roadway Lighting

- A. The Consultant shall provide a complete set of final roadway lighting documents in accordance with FDOT and Authority design criteria. The work shall include coordination with the local utility to provide electrical service. Plan sheet scale shall be at 1"=50' scale.
- B. The Authority will provide a cut sheet for the type of lighting fixtures to be used for this project.

4.16 Traffic Engineering

- A. Traffic Data will be furnished by the Authority.
- B. Maintenance of Traffic Plans
 - 1. The Consultant shall prepare maintenance of traffic plans at scale of 1"=100' to safely and effectively move vehicular and pedestrian traffic during all phases of construction. The designs shall include construction phasing of roadways ingress and egress to existing property owners and businesses, routing, signing and pavement markings, and detour quantity tabulations. Special consideration shall be given to the construction of the drainage system when developing the construction phases. Positive drainage must be maintained at all times.

2. The Consultant shall investigate the need for temporary traffic signals, signs, alternative detour roads, arrow boards, flagging operations, and the use of materials such as sheet pilings in the analysis. A certified designer who has completed the FDOT training course shall prepare the maintenance of traffic plan.
3. Traffic shall be maintained during all phases of project construction at all locations determined by the Authority and other governmental agencies. This includes meeting with the governmental agencies which may be impacted by the maintenance of traffic plans.

4.17 Signing Plans

- A. The Consultant shall prepare designs and contract documents for final signing plans including layouts showing the locations of ground mounted and overhead signs, special sign details, lighting, and any structural or foundation requirements in accordance with applicable design standards. Any requirements for electric service shall be coordinated with the local electric utility.
- B. The Authority will provide conceptual signing plans for the project.
- C. The Authority will provide preliminary aesthetic input for the architectural modification of standard FDOT details for sign structures.
- D. Plan sheets will be developed at a scale of 1"=50' (11"x17" format).
- F. For the purposes of this proposal, six (6) cantilevers and seven (7) overhead truss signs are assumed to be required for the improvements. Of the signs mentioned above, two (2) existing overhead trusses and two (2) existing cantilevers along the project will be affected by the improvements and are assumed to require reconstruction since they do not meet current wind load criteria.

4.18 Pavement Marking Plans

- A. The Consultant shall prepare designs and contract documents for final pavement marking plans, including striping, crosswalks, intersection details, reflective pavement markers and traffic delineators.
- B. The pavement marking design will be shown on the same plan sheets as the signing design.

4.19 Right-of-Way Surveys

- A. No additional right-of-way is anticipated for this project.

4.20 Cost Estimates

- A. The Consultant shall prepare and submit to the Authority construction cost estimates at the 60%, 90%, 100%, Pre-Bid and Bid Set submittals outlined herein. The estimate shall be based on the current unit prices as applied to the latest concept of the proposed construction.

4.21 Special Provisions and Specifications

- A. The Consultant shall prepare and submit at the 90% level special provisions, special specifications, and technical special provisions for items, details and procedures not adequately covered by the Authority's Technical Specifications.

4.22 Fiber Optic Network (FON)

A. Fiber Optic Infrastructure Plans

1. The site construction plans shall be developed at a scale of 1" equals 50 feet. These plans shall include the relocation of all existing fiber optic ductbanks, cables, manholes, and pull boxes in areas where the existing locations conflict with construction. The Consultant shall identify existing physical features and utilities that will impact the construction and installation of the equipment. The Consultant shall review and modify standard FON details as necessary.

This scope has assumed that four (4) miles of ITS relocation will be required consisting of two (2) miles of relocations on each side of SR 417.

2. Fiber optic network (FON) plans shall include the following:
 - a. Roadway geometry
 - b. Rights-of-Way
 - c. Existing utilities within the right-of-way including the Authority's FON
 - d. Physical features affecting construction/installation (sign structures, light poles, fences, etc.)
 - e. Manhole/Pull box locations and stub-out details (standard details provided)
 - f. Device layout
 - g. Device installation details
 - h. Conduit installation details (standard details provided)
 - i. Fiber optic cable route marker detail (standard details provided)

- j. Fiber count per conduit
 - k. Communications interconnect
 - l. Connectivity with the FON backbone conduits
 - m. Fiber cable design to include link loss budget calculations, per Corning standard recommended procedure
 - n. Fiber cable routing summaries, fiber cable allocation charts, and splice details and tables
 - o. Controller cabinet, CCTV pole, and foundation details
 - p. Power interconnect, calculations to support conductor size, and details. Power conductors to each device location shall be sized to the capacity of the main breaker in the cabinet.
 - q. Grounding
 - r. Table of quantities
 - s. Special notes
 - t. Maintenance of fiber operations (protection of existing FON through all phases of construction and cutover phasing to ensure continuous operation of existing ITS devices)
 - u. All existing and proposed FON to be included and shown with roadway cross sections and drainage cross sections
 - v. No relocation of existing CCTV sites are anticipated under this contract nor or any new CCTV sites anticipated as part of the proposed improvements.
 - w. Relocation of existing data collection sensor (DCS) sites and any necessary structures, foundations, attachment details, power service, fiber optic connections, and cabinets (standard details provided), in the event existing DCS would not survive project construction.
 - x. No relocation of existing DMS sites are anticipated under this contract nor or any new DMS sites anticipated as part of the proposed improvements.
 - y. Conversion of any existing ITS devices within the project limits from point-to-point fiber optic modems to gigabit Ethernet field switches, relocation of video encoders from the mainline toll plazas to the CCTV cabinets, and upgrading other cabinet equipment as needed to meet current Authority ITS equipment standards.
3. The Consultant shall take the following information into consideration when developing the site construction plans:
- a. Minimize utility conflicts and adjustments.
 - b. Minimize traffic impact.
 - c. Accessibility and ease of equipment maintenance.

- d. Safety of equipment maintenance personnel and the traveling public.
- e. Maintain the existing FON system through all phases of construction.
- f. Environmental conditions.
- g. Concurrent/future Authority projects.
- h. Compatibility with existing and proposed ITS infrastructure (e.g. Authority enhanced grounding standards for ITS devices, Authority transient voltage surge suppression (TVSS) standards for ITS devices, etc.)
- i. Leased conduits in the Authority FON duct bank that are occupied by the fiber optic cable of other agencies or entities.

B. Splice and Cable Routing Details

- 1. The Consultant shall provide splicing detail diagrams to document fiber optic splices within and between manholes, ITS devices, tollbooths, and other junction points.
- 2. Splicing tables shall include ITS device connectivity, fiber use, drop cable fiber identification, drop cable identification, backbone cable identification, translateral cable identification, backbone into mainline cable identification, and toll plaza patch panel jack.
- 3. The Consultant shall provide cable routing diagrams and fiber allocation charts in the Authority's standard format to document the functional connectivity between fiber optic conduit and all splices.

C. Maintenance Of Fiber Operations

- 1. The Consultant shall provide a plan of action to ensure existing fiber optic network is not disrupted during construction operations.
- 2. The Consultant shall determine the sequence of fiber optic cable splices to minimize disruption to communications.

D. Inside Plant Plans

- 1. The Consultant shall be responsible for any data collection necessary to complete its design.
- 2. All equipment shown on the inside-plant construction plans shall be clearly delineated as existing, proposed, or by-others. The Consultant shall be responsible for identifying and detailing on the inside-plant construction plans with notes and drawings any make-ready work required. The Consultant shall also provide a table of quantities for all

materials and equipment specified in the inside-plant construction plans.

3. The Consultant shall sign and seal final 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.

Quantities And General Notes

4. Standard notes shall be included to provide direction to the contractor and provide pay item descriptions as necessary.
- E. Standard Authority specifications will be provided to the Consultant. The Consultant shall review the specifications and modify them as necessary.

4.23 Toll Plazas

- A. This proposal includes modifications pertaining to converting the existing S.R. 417 northbound and southbound inside cash lanes to express lanes at the University Mainline Toll Plaza.

4.24 Post-Design Services

- A. Services shall begin after authorization by the Authority. The Consultant compensation for post-design services may be added by Supplemental Agreement and shall be at an hourly rate, inclusive of overhead, profit and expenses, and exclusive of travel. No compensation will be made for correction of errors and omissions.
- B. The Consultant shall support the post design process as follows:
 - a. Answer questions relative to the plans, typical sections, quantities and special provisions.
 - b. Make any necessary corrections to the plans, typical sections, quantities, notes, etc., as may be required.
 - c. Attend pre-award meeting with construction contractor, the Authority, and the Authority's CEI.
- C. The Consultant shall, prior to the pre-bid conference, be prepared to walk the project with the Authority's CEI to discuss the plans and details. The Consultant shall be prepared to attend the pre-bid conference and respond to questions related to the plans, details, and special provisions.
- D. The Consultant shall prepare any addenda required to clarify the work included in the construction contract documents. Addenda may be required based on the project inspection with the CEI, or questions developed in the pre-bid conference, or conditions discovered by bidders during the bid

period.

- E. The Consultant shall be available to respond to questions in the field that may arise relative to the plans, details or special provisions during construction. The Consultant shall periodically visit the project site to observe the progress of construction on the project. This visit will not replace the formal construction inspection by the Authority. It is intended to provide the opportunity of the design team to observe whether the work is being performed in general conformance with the project plans. Written memos of all such field trips shall be submitted to the Authority within five working days of the trip.
- F. The Consultant shall review and approve shop drawings for structural, lighting, signing, traffic signal elements, and toll plaza shop drawings. This work will include the erection procedure plans, review proposals for substitutions, develop supplemental agreements, and provide other engineering services required to facilitate construction of the project. Reviews will be conducted and returned within two weeks from receipt of information.
- G. The Consultant shall appoint a responsible member of the firm to be the contact person for all post-design services. The person should be continually available during the course of construction for review of design plans.
- H. The Consultant shall make every reasonable effort to process any material presented for review in a prompt manner recognizing a construction contract is underway.
- I. The Consultant shall attend partnering meetings as requested by the Authority's Project Manager. The Consultant shall also attend progress/coordination meetings as requested by the Authority's Project Manager including, but not limited to, the Notice to Proceed meeting.
- J. Approved design bridge load ratings were obtained by the Consultant under the final design phase of this contract. The Contractor shall be responsible for revising and resubmitting the load ratings if changes to the bridge design occur during construction. Otherwise, the Consultant shall provide written correspondence to FDOT when construction is complete that the bridges were constructed in accordance with the plans and the design load ratings still apply.
- K. The Consultant shall provide geotechnical engineering services as needed by the Authority, relative to pile driving, earthwork, embankment and MSE wall construction.
- L. The Consultant shall provide utility consulting services as needed by the

Authority, relative to proposed utility adjustments within the project limits.

- M. The Consultant shall prepare Record Drawings in electronic format following completion of the construction phase. The Authority shall provide all As-Built drawings from the Contractor / CEI to the Consultant for their use in preparation of the Record Drawings.

5.0 MATERIALS FURNISHED BY THE AUTHORITY OR ITS DESIGNEE

5.01 Record Documents

- A. The Authority will provide the Consultant, within ten working days of a written request, the following items:
 - 1. Available record drawings of existing conditions
 - 2. Available right-of-way plans of existing conditions
 - 3. Current list available to the Authority of owners of all affected properties within the section.
 - 4. Sample plans to be used as guidelines for format, organization and content.
 - 5. Title searches of all affected properties for use by the Consultant in the preparation of the right-of-way maps.
 - 6. Contract unit prices from latest Authority construction projects.

5.02 Traffic Data

- A. The Authority will provide the following design traffic data:
 - 1. Current and design year ADT
 - 2. Current and design year peak hour volumes
 - 3. Turning movements at each intersection/interchange
 - 4. K, D and T factors
 - 5. Design speed - See Section 3.02, Geometry.
 - 6. AVI Percentages

5.03 Other

- 1. Utility designates for the FON and roadway lighting within CFX right-of-way.

6.0 WORK PERFORMED BY THE AUTHORITY OR ITS DESIGNEE

6.01 Right-of-Way Acquisition

- A. If necessary, the Authority, or its designee, will review all right-of-way plans, parcel sketches and legal descriptions prepared by the Consultant. The Authority will handle all appraisals, negotiations, relocations, condemnation, and property settlements.

6.02 Utility Agreements

- A. The Authority will support, as necessary, the Consultant's acquisition of information required for utility agreements.

6.03 Public Involvement

- A. The Authority will provide a moderator for all required public meetings and provide guidelines for the Public Involvement aspects of the project. The need for public meetings or public hearings will be determined by the Authority. The Authority will be responsible for mailings and advertisements for the public meetings.

6.04 Contracts and Specifications Services

- A. The Authority will prepare the necessary bid documents for the construction contract using plans, technical special provisions, and special specifications prepared by the Consultant.

6.05 Post-Design Services

- A. The Authority will be the principal initial contact for post-design questions and answer questions on a limited scope.

6.06 Environmental Permits

- A. The Authority will review and submit the environmental permit applications and coordinate with the Consultant on requests for additional information from the regulatory agencies.
- B. The Authority will stake wetland lines and coordinate agency site visits. The Authority will also prepare the wetland and wildlife analysis and documentation for the permits.

6.07 Conceptual Specialty Design

- A. The Authority will provide a conceptual major guide signing plan.

- B. The Authority will provide conceptual aesthetics design and treatments for structures.

7.0 ADMINISTRATION

7.01 Central Florida Expressway Authority

- A. The Authority's Project Manager will administer the Consultant services detailed in this scope.
- B. All contractual payments and changes shall be reviewed and approved by the Authority's Project Manager.

7.02 Authority's Project Manager

The Authority's Project Manager will:

- A. Conduct ongoing reviews of the Consultant's progress in performing the work and furnish technical comments in a timely manner.
- B. Review the Consultant's billings.
- C. Review and evaluate the Consultant's requests for extension of time and supplemental agreements and recommend appropriate action.
- D. Review all correspondence with public agencies prior to the Consultant's mailing of any correspondence except for requests for information.
- E. Coordinate the distribution of public information.
- F. Coordinate the data (including documentation of prior rights, cost estimates and plans) necessary for the Authority to prepare and execute all utility and railroad agreements.
- G. Conduct an introductory meeting to deliver relevant information and explain the administration process.
- H. Review the Consultant's Quality Control program and the Consultant's conformance to the Quality Control Program.
- I. Provide a focal point contact for all questions, requests, and submittals.
- J. Provide a system to monitor the Consultant's schedule, progress and key milestone submittal dates.

7.03 Consultant

- A. The Consultant has total responsibility for the accuracy and completeness

of the construction contract documents and related design prepared under this project and shall check all such material accordingly. The plans will be reviewed by Authority for conformity with the Authority procedures and the terms of the Contract, as well as coordination with adjacent design contracts. Review by the Authority does not include detailed review or checking of design of major components and related details or the accuracy with which such designs are depicted on the plans. The responsibility for accuracy and completeness of such items remains solely that of the Consultant. The Consultant shall:

1. Establish, furnish and maintain suitable office facilities to serve as the project office for the duration of the project at a location acceptable to the Authority.
2. Maintain an adequate staff of qualified support personnel to perform the work necessary to complete the project.
3. Establish internal accounting methods and procedures for documenting and monitoring project costs.
4. Establish and maintain contract administration procedures, which will include supplemental agreements, time extensions and subcontracts.

7.04 Project Control

- A. The Consultant shall provide data for the Authority's Management Information System to monitor costs and manpower, and report progress. This project control system may include features to:
 1. Determine and highlight critical path work from initial plans as work progresses.
 2. Identify progress against schedule for each identified work item.
 3. Forecast completion dates from current progress.
 4. Highlight rescheduled work in any area which is out of required sequence.
 5. Highlight rescheduling that has overloaded any physical area that requires more resources than originally allocated.
 6. Forecast future conflicts in any area.

7.05 Work Progress

- A. The Consultant shall meet with the Authority's Project Manager on a bi-weekly basis (or more often if necessary) and provide written progress reports which describe the work performed on each task. The dates and times of these meetings will be established by the Authority. Two working days prior to each progress meeting, the Consultant shall provide the Authority's Project Manager with a draft copy of the Progress Report and a typewritten agenda for the meeting. The Consultant shall prepare typewritten meeting minutes and submit them to the Authority's Project Manager within five working days after the meeting. The minutes shall indicate issues discussed and the resolution or action required to resolve any issues.

7.06 Schedule

- A. Within twenty (20) calendar days after receipt of the Notice to Proceed, the Consultant shall provide a schedule of calendar deadlines in a format prescribed by the Authority.

7.07 Project Related Correspondence

- A. The Consultant shall furnish copies of all written correspondence between the Consultant and any party pertaining specifically to this project to the Authority for its records within one (1) week of the receipt or mailing of said correspondence. The Consultant shall record and distribute the minutes of all meetings pertaining to this project.

7.08 Quality Control

- A. The Consultant has total responsibility for the accuracy and completeness of the plans and related designs prepared under this project and shall check all such material accordingly. Consultant shall have a quality control plan in effect during the entire time work is being performed under the Contract. The plan shall establish a process whereby calculations are independently checked, plans checked, corrected and back checked. All plans, calculations, and documents submitted for review shall be clearly marked as being fully checked by a qualified individual other than the originator. The FDOT plan review checklist shall be attached and appropriate items checked.
- B. The Consultant's quality control plan shall be submitted to the Authority within fifteen (15) working days of receipt of written notice to proceed.

7.09 Consultant Personnel

- A. The Consultant's work shall be performed and/or directed by the key personnel identified in Exhibit "D". Any changes in the indicated key personnel or the Consultant's office in charge of the work shall be subject to review and approval by the Authority.

7.10 Site Visit

- A. The Consultant shall arrange a site visit within ten (10) calendar days of receipt of written Notice to Proceed. Consultant personnel assigned to perform the work on the project shall attend. Authority representatives will be present. Within seven calendar days of the site visit, the Consultant shall issue to the Authority a brief written report including observations, discussions, and any questions pertaining to the scope or level of effort of the project. The purpose of this visit is to acquaint key personnel with the details and features of the project to facilitate the design process.

7.11 Acceptability of the Work

- A. The plans, design, calculations, reports and other documents furnished under this Scope of Services shall conform to the "standards-of-the industry" quality as acceptable to the Authority. The criteria for acceptance shall be a product of neat appearance, well organized, accurate and complete, technically and grammatically correct, checked in accordance with the approved Quality Control program, and have the maker and checker identified. The minimum standard of appearance, organization and content of drawings shall be similar to the type produced by the Florida Department of Transportation and the Authority.

7.12 Design Documentation

- A. The Consultant shall submit any design notes, sketches, worksheets, and computations to document the design conclusions reached during the development of the construction contract documents to the Authority for review.
- B. The design notes and computations shall be recorded on 8-1/2" x 11" computation sheets, appropriately titled, numbered, dated, indexed and signed by the designer and checker. Computer output forms and other oversized sheets shall be folded or legibly reduced to 8-1/2" x 11" size. The data shall be bound in a hard-back folder for submittal to the Authority.
- C. Three copies of the design notes and computations shall be submitted to Authority with each review submittal. When the plans are submitted for 90% review, the design notes and computations corrected for any Authority

comments shall be resubmitted. At the project completion (bid set), a final set of the design notes and computations, sealed by a Professional Engineer, registered in the State of Florida, shall be submitted with the record set of plans and tracings.

D. Design notes and calculations shall include, but are not necessarily limited to, the following data:

1. Field survey notes and computations.
2. Design criteria used for the project.
3. Geometric design calculations for horizontal alignment.
4. Vertical geometry calculations.
5. Right-of-way calculations.
6. Drainage computations.
7. Structural design calculations.
8. Geotechnical report.
9. Hydraulics Report for each bridged stream crossing.
10. Earthwork calculations not included in the quantity computation booklet.
11. Calculations showing cost comparisons of various alternatives considered.
12. Calculations of quantities.
13. Documentation of decisions reached resulting from meetings, telephone conversations or site visits.
14. Lighting and voltage drop calculations.
15. Lighting service letter from the power company stating the following: service voltage, type of service (overhead or underground), location of power company service point, and any other power company requirements.

7.13 Reviews and Submittals

- A. Review and coordination of the Consultant's work by the Authority shall continue through the project development process
- B. Formal submittals for review shall be made to the Authority when the plans have been developed to the following levels of completion:
 - 1. Preliminary Engineering (Memorandum) (3 sets and 1 .PDF required)
 - 2. 30% Roadway and Toll Plaza plans (6 sets and 1 .PDF CD/DVD required)
 - 3. 30% Bridge and Structural Plans (6 sets and 1 .PDF CD/DVD required)
 - 4. 60% Roadway, Toll Plaza and specifications, Geotechnical Report (6, 6, and 3 sets and 1 .PDF CD/DVD required)
 - 5. 60% Bridge Plans (required only on Category 2 bridges).
 - 6. 90% Bridge and Structural Plans (6 sets and 1 .PDF CD/DVD required)
 - 7. 90% Roadway, Toll Plaza and specifications (6 and 6 sets and 1 .PDF CD/DVD required)
 - 8. 100% Roadway Toll Plaza, Bridge and specifications, Geotechnical Report (6, 6, 6 and 3 sets and 1 .PDF CD/DVD required))
 - 9. Pre-Bid Plans (3 sets and 1 .PDF CD/DVD required)
 - 10. Bid Set (1 set signed and sealed plans, 1 set "clean" plans, 1 set signed and sealed reports and 1 .PDF of all plans and reports)
- C. Formal review submittals shall include copies as listed above. 8-1/2" x 11" and 11" x 17" documents do not require reproducible copies.
- D. Preparation and distribution of roadway and ROW plans to other than the Authority will not be made until approved by the Authority.
- E. The format of review submittal plans shall conform to the FDOT Plans Preparation Manual, except as amended by the Authority.
- F. Due to the compact schedule of the design, review and construction process,

any modification to the agreed submittal dates will require a letter from the Consultant to the Authority giving:

1. The reason for the delay.
 2. The design components impacted.
 3. Proposed methods to maintain submittal dates.
- G. The Consultant shall submit all CADD files, including GEOPAK files, use in the preparation of the plans and right of way mapping on compact disk with the final submittal.

7.14 30% Roadway and Toll Plaza Plan Submittal

- A. At the completion of this phase, design and plan development should be approximately 30 percent complete except stormwater pond designs. The designs of the stormwater ponds shall be at 90% complete. The following material shall be developed and submitted for review:

1. Key Map Prepared
 - a) Location map shown complete with destinations, ranges and townships.
 - b) Beginning and ending stations shown.
 - c) Any equations on project shown.
 - d) Project numbers and title shown.
 - e) Index shown.
2. Drainage Map Prepared
 - a) Existing culvert sizes and elevations.
 - b) Horizontal alignment shown.
 - c) Drainage areas and flow arrows shown.
 - d) High water information shown.
 - e) Beginning and end stations shown along with any equations

on project.

- f) Interchange supplemental maps prepared.

3. Typical Section Sheets

- a) Ramp typical sections developed.
- b) Pavement structure shown.
- c) Special details developed.
- d) General notes shown.

4. Plan and Profile Sheets

- a) Centerline plotted.
- b) Reference points and bench marks shown.
- c) Existing topography.
- d) Base line of surveys, curve data, bearings, etc. shown.
- e) Beginning and end stations (project and construction).
- f) Geometric dimensions.
- g) Proposed and existing limited access right-of-way lines.
- h) Existing ground line.
- i) Proposed profile grade.
- j) Type, size and horizontal location of existing utilities.
- k) Drainage structures and numbers are shown
- l) Drainage ponds are shown.

5. Cross Sections

- a) Existing ground line.
- b) Preliminary templates at critical locations (not to exceed 500

feet).

- c) Existing utilities shown.
- 6. Interchange Layout and Ramp Profiles
 - a) Geometric dimensions.
 - b) Proposed profile grades.
- 7. Right-of-Way Control Survey
- 8. Signing and Pavement Markings
 - a) Striping layout.
 - b) Sign structure locations.

7.15 30% Bridge and Structural Plan Submittal

- A. At completion of this phase, design and plan development should be approximately 30 percent complete. The Consultant shall refer to FDOT Structural Design Guidelines for plan contents and submittal requirements. Preliminary geotechnical results and recommendations should also be included with this submittal.

7.16 60% Roadway and Toll Plaza Plan Submittal

- A. At completion of this phase, design and plan development should be approximately 60 percent complete except stormwater pond designs. The designs of the stormwater ponds shall be at 100% complete. The following material shall be developed and submitted for review:
 - 1. Key Map
 - a) Project description and number shown.
 - b) Equations, exceptions and bridge stations shown.
 - c) North arrow and scale included.
 - d) Consultant and Authority sign-off included.
 - e) Contract set index complete.

- f) Index of sheets updated.
2. Drainage Maps
- a) Flood data shown.
 - b) Cross drains and storm sewer shown.
 - c) Bridges shown with beginning and ending stations.
 - d) Interchange supplemental sheets updated.
3. Typical Section Sheets
- a) All required typical sections are included.
 - b) Limited access right-of-way lines are shown.
 - c) Design speed and traffic are shown.
 - d) Special details have been completed.
 - e) Station limits of each typical section are shown.
4. Plan and Profile Sheets
- a) Match lines shown.
 - b) Limited access right-of-way lines shown.
 - c) Stations and offset shown for all fence corners and angles.
 - d) All work shown should be within right-of-way or proposed easement.
 - e) Drainage structures and numbers are shown.
 - f) Drainage ponds shown.
 - g) Curve data and superelevation included.
 - h) Pavement edges, shoulders and dimensions shown.
 - i) Project and construction limits shown.

- j) Bridges shown with beginning and ending stations.
- k) General Notes.
- 5. Drainage Structures
 - a) Drainage structures plotted and numbered.
 - b) Station location and offsets identified.
- 6. Cross Sections
 - a) Templates are shown at all stations.
 - b) Limited access right-of-way lines are shown.
 - c) Cross section pattern sheet included.
 - d) Miscellaneous notes included.
 - e) Boring profiles.
- 7. Interchange Layouts, Ramp Profiles and Intersection Details
 - a) Geometric data shown.
 - b) Profiles finalized.
 - c) Coordinate data shown.
 - d) Limited access right-of-way lines shown.
 - e) Curve data shown.
 - f) Bearings and bridges shown.
 - g) Cross roads, frontage roads, and access roads shown.
 - h) Intersection details shown.
- 8. Traffic Control Plans
- 9. Utility Adjustments
- 10. Signing and Pavement Marking Plans

11. Highway Lighting Plans

12. Selective Clearing and Grubbing (if required)

7.17 90 % Bridge and Structure Plan Submittal

- A. At completion of this phase, design and plan development should be approximately 90 percent complete. The Consultant shall refer to FDOT Structural Design Guidelines for plan contents and submittal requirements.

7.18 90% Roadway and Toll Plaza Plan Submittal

- A. At completion of this phase, design and plan development should be approximately 90 percent complete. The following material shall be developed and submitted for review:

1. Key Map

- a) Length of Project with exceptions shown.
- b) Index of sheets updated.

2. Drainage Maps

- a) Drainage divides, areas and flow arrows shown.
- b) Elevation datum and design high water information shown.
- c) Disclaimer and other appropriate notes added.

3. Typical Section Sheets

4. Plan and Profile Sheets

- a) Curve Control Points (P.C., P.I., P.T.) flagged and labeled.
- b) Limits of side road construction.
- c) Angle and stationing for intersections.
- d) Treatment for non-standard superelevation transitions diagramed.

- e) General notes shown.
- f) Special ditches profiled.

5. Drainage Structures

- a) Existing structures requiring modifications are shown.
- b) Existing and proposed utilities are shown.

6 Soil Borings

- a) Soils data and estimated high seasonal groundwater table shown.

7. Cross Section Sheets

- a) Scale and special ditch grades shown.
- b) Utilities plotted.
- c) Sub-excavation shown.
- d) Volumes computed and shown.

8. Utility Relocation Plans

- a) Utility relocation plans prepared.

9. Traffic Control Plans

10. Signing and Pavement Marking Plans

11. Highway Lighting Plans

12. Selective Clearing and Grubbing (if required)

7.19 100% Roadway, Toll Plaza, Bridge and Structural Plans

- A. At the completion of this phase, the design plans, technical specifications and special provisions shall be 100 percent complete.

7.20 Pre-Bid Plans

7.21 Bid Set

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 CFX 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 \$2,575,000.00.

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);
- An Allowance Amount for CFX to utilize as necessary.

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

DEWBERRY ENGINEERS, INC.

Total Activity Salary Costs	<u>\$519,688.03</u>
(a) Overhead Additives	
(1) Combined (<u>131.46%</u>)	<u>683,181.88</u>
Subtotal (Salary + Overhead)	<u>1,202,869.91</u>
(b) Lump Sum for Operating Margin (<u>12.00%</u>)	<u>144,344.39</u>
Subtotal (Salary Related)	<u>1,347,214.30</u>
(c) Design Survey - Field (Prime)	<u>147,858.72</u>
(d) Direct Expenses - Lump Sum (Prime)	<u>25,300.00</u>
BASIC FEE	1,520,373.02
(e) Subcontracts (Limiting Amount)	<u>827,863.92</u>
(f) Allowance	<u>226,763.06</u>
TOTAL MAXIMUM LIMITING AMOUNT	\$2,575,000.00

- 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:

CFX 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 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 CFX'S DIRECTOR.

3.11 Indirect Charges: Administrative overhead and payroll burden costs not to exceed a combined maximum rate of 131.46% 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 subconsultant: 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 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 CFX 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.

The basis for all CONSULTANT and Class 1 Subconsultant (as defined in Section 5.0 in the Agreement for Professional Services) invoices shall be the actual employee salary and wages at the time work was performed on the project by such employee. Staff classification maximum rates have been established in Exhibit "C" for the CONSULTANT and all Class 1 Subconsultants. It is understood that the staff classification maximum rates shall not be exceeded without prior written approval from CFX. It is further understood that the staff classification average rates used to generate the Total Maximum Limiting Amount in Exhibit "C" will not be revised throughout the term of the Agreement. All future Supplemental Agreements executed as part of this Agreement shall be based on the negotiated staff classification average rates detailed in Exhibit "C". Class 2 Subconsultants shall prepare their invoices in accordance with the provisions of Section 3.13.

4.11 The combined provisional allowance for administrative overhead and payroll burden, expressed as a percentage of salary related costs, for the CONSULTANT is 131.46 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 131.46%; 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 CFX 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 12.00 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 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.

CFX 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 CFX.

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 CFX. 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 CFX.

4.18 CFX 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 CFX. 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 CFX 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 CFX because of accounting errors or charges not in conformity with this Agreement, the CONSULTANT agrees that such disallowed amounts are due to CFX upon demand. Further, CFX shall have the right to deduct from any payment due the CONSULTANT under any other contract between CFX and the CONSULTANT an amount sufficient to satisfy any amount due and owing CFX 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 CFX for the overpayment, provided the net difference is not zero.

EXHIBIT C

DETAILS OF COST AND FEES

Dewberry

**SR 417 Widening - Econlockhatchee Trail to Orange/Seminole Co. Line
417-134**

C #

Contract Summary Sheet

	Firm Name	Overhead	Fixed Fee	Total Multiplier for Class II Subs (Unit Price)
Class I	Dewberry	131.46%	12.00%	
Class II	Aerial	250.00%	8.1221%	3.78
Class I	Balmoral	159.94%	12.00%	
Class II	Tierra	164.75%	12.00%	2.97
Class I	Comprehensive	177.42%	11.4447%	

- * **Class I will be billed using overhead and fixed fee.**
- * **Class II subs will be billed at unit price for classification.**

ESTIMATE OF WORK EFFORT AND COST - PRIME CONSULTANT

Name of Project: SR 417, Econodachtee Trail to Seminole County Line
 County: Seminole County
 FPN: 417-134
 P&P No: 00A

Consultant Name: Dewberry
 Consultant No: 0000000000
 Consultant Proj Number: 0072016
 Revision: 0000000000

Staff Classification	Total Staff Hours From Estimate	Project Manager	Senior Engineer	Engineer	Engineer Intern	Sr. Engr Technician	Engr Technician	Sr. Engr Assistant	Engr Assistant	Senior Surveyor	Survey Technician	Staff Class. Fraction	SH Activity	Salary Cost By Activity	Average Rate Per Hour
3 Project Control and Project Definition Tasks	420	252	84	42	0	0	0	0	0	0	0	0	420	\$30,433	\$72.45
4 Roadway Analysis	3,322	498	1,330	664	186	498	186	0	0	0	0	0	3,322	\$177,698	\$53.48
5 Roadway Plans	1,432	143	358	358	72	358	143	0	0	0	0	0	1,432	\$68,863	\$48.71
6a Drainage Analysis	1,140	114	466	342	0	228	0	0	0	0	0	0	1,140	\$56,868	\$50.72
6b Drainage Plans	978	98	244	244	49	252	49	0	0	0	0	0	978	\$46,407	\$47.55
7 Utilities	42	25	17	0	0	0	0	0	0	0	0	0	42	\$3,216	\$76.03
8 Environmental Permit, Compliance & Clearances	214	21	43	0	0	0	0	0	0	0	0	0	214	\$9,320	\$43.55
9 Structures - Misc. Tasks, Dwg's, Non-Tech	323	16	129	81	16	65	16	0	0	0	0	0	323	\$15,090	\$46.58
10 Structures - Bridge Development Report	180	8	68	40	8	32	16	0	0	0	0	0	180	\$7,451	\$41.40
11 Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
12 Structures - Short Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
13 Structures - Medium Span Concrete Bridge	840	42	210	210	84	252	42	0	0	0	0	0	840	\$37,473	\$44.61
14 Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
15 Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
16 Structures - Moveable Span	64	4	16	16	3	19	3	0	0	0	0	0	64	\$2,802	\$43.63
17 Structures - Retaining Walls	812	40	203	203	81	244	41	0	0	0	0	0	812	\$36,188	\$44.57
18 Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
19 Signing & Pavement Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
20 Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
21 Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
22 Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
23 Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
24 Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
25 Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
26 Landscape Architecture Plans	655	0	0	0	0	0	0	0	0	132	186	0	655	\$26,036	\$39.75
27 Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
28 Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
29 Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
30 Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
31 Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
32 Noise Barriers Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
33 Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
34 Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
35 Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	10,400	1,261	3,124	2,243	482	2,030	476	86	43	132	186	0	10,400	\$519,688.03	\$49.97
Total Staff Cost		\$10,589,701	\$165,502.16	\$33,600.36	\$14,112.66	\$73,039.40	\$9,351.48	\$3,268.00	\$1,148.95	\$8,871.72	\$3,641.54	\$0.00	Check =	\$519,688.03	

SALARY RELATED COSTS:
OVERHEAD: 131.46%
OPERATING MARGIN: 12%
EXPENSES: 118
 Survey (Field - If by Prime)
 SUBTOTAL ESTIMATED FEE: \$1,520,373.82
 Subcontractor: CES
 Subcontractor: Bellini
 Subcontractor: Terra
 Subcontractor: ACA
 Subcontractor: Sub 5
 SUBTOTAL SUBCONTRACTANTS: \$1,520,373.82
 Geotechnical Field and Lab Testing
 SUBTOTAL ESTIMATED FEE: \$0.00
 Optional Services
 GRAND TOTAL ESTIMATED FEE: \$2,348,236.94

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

Name of Consultant:

Dewberry

Project Staff Hour SummarySR 417, Econlockhatchee Trail to Seminole County Line
417-134

Activity No.	Activity	Dewberry	CES	Balmoral	Thema	Project Staff Hours										Total Hours
						Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12		
3	Project Common and General Tasks	420														420
4	Roadway Analysis	3322	140													3462
5	Roadway Plans	1432														1432
6a	Drainage Analysis	1140		40												1180
6b	Drainage Plans	976														976
7	Utilities	42	382													424
8	Env. Permit, Compliance & Cleanances	214		45												259
9	Structures - Summary, Misc. Tasks, Dwgs.	323														323
10	BOR	160														160
11	Temporary Bridge	0														0
12	Short Span Concrete Bridge	0														0
13	Medium Span Concrete Bridge	0														0
14	Structural Steel Bridge	840														840
15	Segmental Concrete Bridge	0														0
16	Movable Span	0														0
17	Retaining Walls	64														64
18	Miscellaneous Structures	812														812
19	Signing & Pavement Marking Analysis	0	65	680												745
20	Signing & Pavement Marking Plans	0		389												389
21	Signalization Analysis	0														0
22	Signalization Plans	0														0
23	Lighting Analysis	0	934													934
24	Lighting Plans	0	342													342
25	Landscape Architecture Analysis	0														0
26	Landscape Architecture Plans	0														0
27	Survey - Field and Office Support	655														655
28	Photogrammetry	0														0
29	Mapping	0														0
30	Terrestrial Mobile LIDAR	0														0
31	Architecture Development	0														0
32	Noise Barriers Impact Design Assessment	0														0
33	ITS Analysis	0	433													433
34	ITS Plans	0	288													288
35	Geotechnical	0			811											811
Project Total		10,400	2,584	1,109	868	0	0	0	0	0	0	0	0	0	0	14,849
27	Survey Field Crew Days	118														118

Notes:

1. Staff hours for prima consultant come directly from each discipline's worksheet.
2. Staff hours for subconsultants are to be entered manually into columns D through O.
3. For workbooks prepared by subconsultants, their project hours will be totaled in column C.

SR 417-134 MH Estimate-Dewberry-Negotiated-REV.xlsx
Summary

Project Activity 3: General Tasks

Estimator:

SR 417, Ecotobacco Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/Unit	Total Hours	Comments
3.1	Public Involvement					
3.1.1	Continuity Awareness Plan	LS	1	0	0	
3.1.2	Notifications	LS	1	0	0	
3.1.3	Prepare Mailing Lists	LS	1	0	0	
3.1.4	Median Modification Letters	LS	1	0	0	
3.1.5	Driveway Modification Letters	LS	1	0	0	
3.1.6	Newsletters	LS	1	0	0	
3.1.7	Renderings and Fly Throughs	LS	1	0	0	
3.1.8	PowerPoint Presentation	LS	1	0	0	
3.1.9	Public Meeting Preparations	LS	1	60	60	Exhibit Preparation
3.1.10	Public Meeting Attendance/Followup	LS	1	12	12	3 people @ 4 hrs/ea
3.1.11	Other Agency Meetings	LS	4	7	28	2 people (1 hr travel, 2 hr meeting ea) + 1 hiring agenda & minutes
3.1.12	Web Site	LS	1	0	0	
3.1 Public Involvement Subtotal						100
3.2	Joint Project Agreements	EA	0	0	0	
3.3	Specifications Package Preparation	LS	1	24	24	Review Spec Package prepared by Atkins
3.4	Contract Maintenance and EDMS	LS	1	40	40	16 hrs setup + 2 hrs/mo for 12 months
3.5	Value Engineering (Multi-Discipline Team) Review	LS	1	0	0	
3.6	Prime Consultant Project Manager Meetings	LS	1	240	240	See listing below
3.7	Plans Update	LS	1	0	0	

Project Activity 3: General Tasks

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
3.8	Post Design Services	LS	1	0	0	
3.9	Digital Delivery	LS	1	16	16	
3.10	Risk Assessment Workshop	LS	1	0	0	
3.11	Railroad, Transit, and/or Airport Coordination	LS	1	0	0	
3.12	Other Project General Tasks	LS	1	0	0	
1. Project Common and Project General Tasks Total					420	

3.6 - List of Project Manager Meetings	Units	No of Units	Hours/ Unit	Total Hours	Comments
Roadway Analysis	EA	0	0	0	
Drainage	EA	0	0	0	
Utilities	EA	0	0	0	
Environmental	EA	0	0	0	
Structures	EA	0	0	0	
Signing & Pavement Marking	EA	0	0	0	
Signalization	EA	0	0	0	
Lighting	EA	0	0	0	
Landscape Architecture	EA	0	0	0	
Survey	EA	0	0	0	
Photogrammetry	EA	0	0	0	
ROW & Mapping	EA	0	0	0	
Terrestrial Mobile LIDAR	EA	0	0	0	
Architecture	EA	0	0	0	
Noise Barriers	EA	0	0	0	
ITS Analysis	EA	0	0	0	
Geotechnical	EA	0	0	0	
Progress Meetings	EA	24	8	216	Bi-Weekly for 12 months (4 people @ 2hrs/ea) + 1 hr/mtg for agenda & minutes
Phase Reviews	EA	4	4	16	2 people @ 2 hrs/ea
Field Reviews	EA	2	4	8	2 people @ 4 hrs/ea
Total Project Manager Meetings				240	Total PM Meeting Hours carries to Task 3.6 above

Notes:

1. If the hours per meeting vary in length (hours) enter the average in the hour/unit column.
2. Do not double count agency meetings between permitting agencies.
3. Project manager meetings are calculated in each discipline sheet and brought forward to Column D, except for Photogrammetry.

Project Activity 4: Roadway Analysis

Estimator:

SR 417, Econbuckhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.1	Typical Section Package	LS	1	0	0	Included in Preliminary Design Review
4.2	Pavement Type Selection Report	LS	1	0	0	
4.3	Pavement Design Package	LS	1	50	50	SR 417 Widening, SR 417 M&R, University Blvd Ramp (20 hrs set-up + 10 hrs/typical)
4.4	Cross-Slope Correction	LS	1	80	80	Widening Transitions
4.5	Horizontal/Vertical Master Design Files	LS	1	986	986	SR 417 (1 mile @ 300 hrs/mi) + 2 miles @ 240 hrs/mi + Top Plaza Cash Lanes (0.5 mi @ 200 hrs/mi) + Univ Blvd On-Ramp (0.5 mi @ 200 hrs/mi) + 18 hrs for gen files
4.6	Access Management	LS	1	0	0	
4.7	Roundabout Evaluation	LS	1	0	0	
4.8	Roundabout Final Design Analysis	LS	1	0	0	
4.9	Cross Section Design Files	LS	1	525	525	SR 417 (3 mi) + Ramp (0.5 mi) = 3.5 mi @ 150 hrs/mi
4.10	Traffic Control Analysis	LS	1	360	360	Level 3 @ 3 miles, Analysis LS = 80 hrs, Cross Sections (Critical Locations) - SR 417 (1.5 mi x 3 phases x 40 hrs/phase) = 240 hrs, Univ Ramp (0.5 mi x 2 phases x 40 hrs/phase) = 40 hrs
4.11	Master TCP Design Files	LS	1	400	400	Level 3 @ 3 miles, SR 417 (40 hrs/mi x 3 phases x 3 miles) = 360 hrs, Univ Ramp (0.5 mi x 2 phases x 40 hrs/phase) = 40 hrs
4.12	Design Variations and Exceptions	LS	1	0	0	
4.13	Design Report	LS	1	52	52	Design Notebook
4.14	Quantities	LS	1	140	140	
4.15	Cost Estimate	LS	1	60	60	3 @ 20 hrs/ea
4.16	Technical Special Provisions	LS	1	0	0	
4.17	Other Roadway Analyses	LS	1	288	288	Preliminary Design Review (3 people x 3 weeks x 32 hrs/wk)
Roadway Analysis Technical Subtotal					2931	

Project Activity 4: Roadway Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.18	Field Reviews	LS	1	0	0	
4.18	Monitor Existing Structures	LS	1	0	0	
4.20	Technical Meetings	LS	1	0	0	Meetings are listed below
4.21	Quality Assurance/Quality Control	LS	%	5%	147	
4.22	Independent Peer Review	LS	%	0%	0	
4.23	Supervision	LS	%	5%	147	
Roadway Analysis Nontechnical Subtotal						294
4.24	Coordination	LS	%	3%	97	
4. Roadway Analysis Total						392

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Typical Section	EA	0	0	0		0
Pavement	EA	1	0	0		0
Access Management	EA	0	0	0		0
15% Line and Grade	EA	1	0	0		0
Driveways	EA	0	0	0		0
Local Governments (cities, counties, MPO)	EA	0	0	0		0
Work Zone Traffic Control	EA	0	0	0		0
30/60/90/100% Comment Review Meetings	EA	3	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				0	Subtotal Project Manager Meetings	0
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	
Total Meetings				0	Total Project Manager Meetings (carries to Tab 3)	0

Curves to Tab 3

Curves to Tab 3

Project Activity 5: Roadway Plans

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/Unit or Sheet	Total Hours	Comments
5.1	Key Sheet		Sheet	1	6	6	
5.2	Summary of Pay Items Including Quantity Input		Sheet	2	20	40	
5.3	Typical Section Sheets						
5.3.1	Typical Sections		EA	7	9	63	SR 417 (3), Cash Lanes (1), Ramp (3)
5.3.2	Typical Section Details		EA	3	10	30	Cross Slope Correction/Mill & Resurface and shoulder treatment Details
5.4	General Notes/Pay Item Notes		Sheet	2	16	32	
5.5	Summary of Quantities Sheets		Sheet	25	5	125	FDOT Method
5.6	Project Layout		Sheet	1	8	8	
5.7	Plan/Profile Sheet		Sheet	0	0	0	
5.8	Profile Sheet		Sheet	34	4	136	SR 417 (24), Cash Lanes (4), University Ramp (4)
5.9	Plan Sheet		Sheet	28	4	112	SR 417 (24), University Ramp (2)
5.10	Special Profile		Sheet	0	0	0	
5.11	Back-of-Sidewalk Profile Sheet		Sheet	0	0	0	
5.12	Interchange Layout Sheet		Sheet	1	24	24	University Blvd
5.13	Ramp Terminal Details (Plan View)		Sheet	7	10	70	Cash Lanes (4), University Blvd (2), Aloma (1)
5.14	Intersection Layout Details		Sheet	0	0	0	
5.15	Special Details		EA	0	0	0	
5.16	Cross-Section Pattern Sheet(s)		Sheet	2	6	12	

Project Activity 5: Roadway Plans

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/ Unit or Sheet	Total Hours	Comments
5.17	Roadway Soil Survey Sheet(s)		Sheet	1	1	1	
5.18	Cross Sections		EA	205	0.25	51	SR 417 (3 mi) x University Blvd Ramp (0.5 mi) = 3.5 mi = 18,480 LF @ 100' spacing
5.19	Temporary Traffic Control Plan Sheets		Sheet	72	5	360	3 mi @ 50 Scale = 24 sheets x 3 Phases = 72 sheets
5.20	Temporary Traffic Control Cross Section Sheets		EA	96	0.25	24	3 mi @ 500' spacing = 32 sections x 3 phases = 96 sections
5.21	Temporary Traffic Control Detail Sheets		Sheet	12	6	72	General Notes, Quantities, Pileup Typical & Notes, Debris Sheets, Advanced Signaling, etc
5.22	Utility Adjustment Sheets		Sheet	30	3	90	
5.23	Selective Clearing and Grubbing Sheet(s)		Sheet	12	3	36	
5.24	Project Network Control Sheet(s)		Sheet	0	0	0	Not Required
5.25	Environmental Detail Sheets		Sheet	0	0	0	Not Required
5.26	Utility Verification Sheet(s) (SUE Data)		Sheet	2	4	8	
Roadway Plans Technical Subtotal							
						1302	
5.27	Quality Assurance/Quality Control		LS	%	5%	65	
5.28	Supervision		LS	%	5%	85	
5. Roadway Plans Total							
						1432	

Project Activity 6a: Drainage Analysis

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.1	Drainage Map Hydrology	Per Map	9	12	108	9-Basins
6a.2	Base Clearance Report	Per Location	1	12	12	Alone Auxiliary Lane (Turnpike)
6a.3	Pond Siting Analysis and Report	Per Basin	0	0	0	
6a.4	Design of Cross Drains	EA	9	8	72	
6a.5	Design of Ditches	Per Ditch Mile	7	15	105	3.5 miles (lt & rt)
6a.6	Design of Stormwater Management Facility (Offsite or Infield Pond)	EA	6	40	240	Ponds 4.7, 8, 6E & 6U, Watermill
6a.7	Design of Stormwater Management Facility (Roadside Ditch as Linear Pond)	Per Cell	0	0	0	
6a.8	Design of Floodplain Compensation	Per Floodplain Basin	1	40	40	Lake Teller Floodplain
6a.9	Design of Storm Drains	EA	116	2	232	
6a.10	Optional Culvert Material	EA	0	0	0	
6a.11	French Drain Systems	Per Cell	0	0	0	
6a.12	Drainage Wells	EA	0	0	0	
6a.13	Drainage Design Documentation Report	LS	1	80	80	
6a.14	Bridge Hydraulic Report	EA	0	0	0	

Project Activity 6a: Drainage Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.15	Temporary Drainage Analysis	LS	1	40	40	Toll Plaza Area
6a.16	Cost Estimate	LS	1	8	8	
6a.17	Technical Special Provisions	LS	1	0	0	
6a.18	Other Drainage Analysis	LS	1	0	0	
Drainage Analysis Technical Subtotal						937
6a.19	Field Reviews	LS	1	32	32	2 reviews x 2 people x 8 hrs
6a.20	Technical Meetings	LS	1	44	44	Meetings are listed below
6a.21	Environmental Look-Around (ELA) Meeting	LS	1	0	0	
6a.22	Quality Assurance/Quality Control	LS	%	5%	47	
6a.23	Independent Peer Review	LS	%	0%	0	
6a.24	Supervision	LS	%	5%	47	
Drainage Analysis Nontechnical Subtotal						170
6a.25	Coordination	LS	%	3%	33	
6a. Drainage Analysis Total						1140

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Base Clearance Water Elevation	EA	0	0	0		0
Pond Siting	EA	0	0	0		0
Agency	EA	2	8	16		0
Local Governments (cities, counties)	EA	0	0	0		0
FDOT Drainage (Mtg w/Alkins)	EA	1	4	4		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				20		0
Progress Meetings (if required by FDOT)	EA	12	2	24	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	--
Total Meetings				44	Total Project Manager Meetings (carries to Tab 3)	0

6b. Drainage Plans

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/ Unit or Sheet	Total Hours	Comments
6b.1	Drainage Map (Including Interchanges)		Sheet	5	40	200	1" = 200'
6b.2	Bridge Hydraulics Recommendation Sheets		Sheet	0	0	0	
6b.3	Summary of Drainage Structures		Sheet	4	28	112	
6b.4	Optional Pipe/Culvert Material		Sheet	0	0	0	
6b.5	Drainage Structure Sheet(s) (Per Structure)		EA	116	2.5	290	
6b.6	Miscellaneous Drainage Detail Sheets		Sheet	3	24	72	
6b.7	Lateral Ditch Plan/Profile		Sheet	0	0	0	
6b.8	Lateral Ditch Cross Sections		EA	0	0	0	
6b.9	Retention/Detention Ponds Detail Sheet(s)		Sheet	6	32	192	
6b.10	Retention Pond Cross Sections		EA	48	0.3	14	3 per pond
6b.11	Erosion Control Plan Sheet(s)		Sheet	1	8	8	Notes only.
6b.12	SWPPP Sheet(s)		Sheet	0	0	0	Not Required
Drainage Plans Technical Subtotal							888
6b.13	Quality Assurance/Quality Control		LS	%	5%	44	
6b.14	Supervision		LS	%	5%	44	
8. Drainage Plans Total							976

Project Activity 7: Utilities

Estimator:

SR 417, Econlockhatchee Trail to Seminol

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
7.1	Utility Kickoff Meeting	LS	1	4	4	1 MTG X (2) ATTENDEES X 2 HR MTG
7.2	Identify Existing Utility Agency Owners (UAO(s))	LS	1		0	
7.3	Make Utility Contacts	LS	1		0	
7.4	Exception Processing	LS	1	0	0	
7.5	Preliminary Utility Meeting	LS	1	5	5	1 HR PRE-MTG PREP + 2 HR DURATION x 2 ATTENDEES
7.6	Individual/Field Meetings	LS	1	8	8	2 HR MEETING DURATION x 1 ATTENDEES X 4 MEETINGS
7.7	Collect and Review Plans and Data from UAO(s)	LS	1	0	0	
7.8	Subordination of Easements Coordination	LS	1	0	0	
7.9	Utility Design Meeting	LS	1	5	5	1 HR PRE-MTG PREP + 2 HR DURATION x 2 ATTENDEES
7.10	Review Utility Markups & Work Schedules, and Processing of Schedules & Agreements	LS	1	20	20	(1) HOURS X (1) UTILITY DOCUMENTS x 20 UAO's
7.11	Utility Coordination/Followup	LS	1	0	0	
7.12	Utility Constructability Review	LS	1	0	0	
7.13	Additional Utility Services	LS	1	0	0	
7.14	Processing Utility Work by Highway Contractor (UWHC)	LS	1	0	0	
7.15	Contract Plans to UAO(s)	LS	1	0	0	

Project Activity 7: Utilities

7.16	Certification/Close-Out	LS	1	0	0	
7.17	Other Utilities	LS	1	0	0	
7. Utilities Total						42

Technical Meetings		Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?
Kickoff (see 7.1)		EA	0	0	0	
Preliminary Meeting (see 7.5)		EA	0	0	0	
Individual UAO Meetings (see 7.6)		EA	0	0	0	
Field Meetings (see 7.6)		EA	0	0	0	
Design Meeting (see 7.8)		EA	0	0	0	
Other Meetings (this is automatically added into Utilities Total (cell F27))		EA	0	0	0	
Total Meetings					0	Total Project Manager Meetings (carries to Tab 3)

Project Activity 8: Environmental Permits

Estimator:

SR 417, Ecorockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
Environmental Permits, Compliances and Clearances						
8.1	Preliminary Project Research	LS	1	16	16	
Permits						
8.2	Field Work					
8.2.1	Pond Site Alternatives	per pond site	0	0	0	
8.2.2	Establish Wetland Jurisdictional Lines and Assessments	LS	1	0	0	
8.2.3	Species Surveys	LS	1	0	0	
8.2.4	Archeological Surveys	LS	1	0	0	
8.3	Agency Verification of Wetland Data	LS	1	0	0	
Complete And Submit All Required Permit Applications						
8.4.1	Complete and Submit All Required Wetland Permit Applications	LS	1	120	120	
8.4.2	Complete and Submit All Required Species Permit Applications	LS	1	0	0	
8.5	Prepare Dredge and Fill Sketches (as needed)	LS	1	24	24	
8.6	Prepare USCG Permit Sketches	LS	1	0	0	
8.7	Prepare Water Management District Right-of-Way Occupancy Permit	LS	1	0	0	
8.8	Prepare Coastal Construction Control Line (CCCL) Permit Application	LS	1	0	0	
8.9	Prepare Tree Permit Information	LS	1	0	0	
8.10	Mitigation Design	LS	1	0	0	
8.11	Mitigation Coordination and Meetings	LS	1	0	0	

Project Activity 8: Environmental Permits

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
8.12	Other Environmental Permits	LS	1	0	0	
	Environmental Clearances/Reevaluations					
8.13	Technical support to Department for Environmental Clearances and Reevaluations (use when consultant provides technical support only)					
8.13.1	NEPA or SEIR Reevaluation	LS	1	0	0	
8.13.2	Archaeological and Historical Features	LS	1	0	0	
8.13.3	Wetland Impact Analysis	LS	1	0	0	
8.13.4	Essential Fish Habitat	LS	1	0	0	
8.13.5	Wildlife and Habitat Impact Analysis	LS	1	0	0	
8.13.6	Section 7 or Section 10 Consultation	LS	1	0	0	
8.14	Preparation of Environmental Clearances and Reevaluations (use when consultant prepares all documents associated with reevaluation)					
8.14.1	NEPA or SEIR Reevaluation	LS	1	0	0	
8.14.2	Archaeological and Historical Features	LS	1	0	0	
8.14.3	Wetland Impact Analysis	LS	1	0	0	
8.14.4	Essential Fish Habitat	LS	1	0	0	
8.14.5	Wildlife and Habitat Impact Analysis	LS	1	0	0	
8.14.6	Section 7 or Section 10 Consultation	LS	1	0	0	
8.15	Contamination Impact Analysis	LS	1	0	0	
8.16	Asbestos Survey	LS	1	0	0	
	Environmental Permits, Compliance, and Clearances/Reevaluations Technical Subtotal			160		
8.17	Technical Meetings	LS	1	32	32	Meetings are listed below
8.18	Quality Assurance/Quality Control	LS	%	5%	8	
8.19	Supervision	LS	%	5%	8	
	Environmental Permits, Compliance and Clearances Nontechnical Subtotal				48	
8.20	Coordination	LS	%	3%	6	
	8. Environmental Permits, Compliance and Clearances Total				214	

Project Activity 8: Environmental Permits

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
Technical Meetings						
WMD		EA	1	8	8	PM Attendance at Meeting Required? 0
NNFS		EA	0	0	0	0
USACE		EA	1	8	8	0
USCG		EA	0	0	0	0
USFWS		EA	0	0	0	0
FFWCC		EA	0	0	0	0
FDOT		EA	0	0	0	0
Other Meetings		EA	2	8	16	0
Subtotal Technical Meetings					32	Subtotal Project Manager Meetings 0
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
Total Meetings					32	Total Project Manager Meetings (carries to Tab 3) 0

Carries to 8 18

Carries to Tab 3

Project Activity 9: Structures Summary and Miscellaneous Tasks and Drawings

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	Design and Production Staff Hours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
General Drawings											
9.1	Key Sheet and Index of Drawings	Sheet	1	8	1	8					
9.2	Project Layout	Sheet	0	0	0	0					
9.3	General Notes and Bid Item Notes	Sheet	2	16	2	32					
9.4	Miscellaneous Common Details	Sheet	0	0	0	0					
9.5	Incorporate Report of Core Borings	Sheet	1	1	1	1					
9.6	Existing Bridge Plans	LS	1	4		4					
9.7	Assemble Plan Summary Boxes and Quantities	LS	1	18		18					
9.8	Cost Estimate	LS	1	8		8					
9.9	Technical Special Provisions	LS	1	0		0					
Structures - Summary and Miscellaneous Tasks and Drawings Subtotal					4	69					
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	1000	160	0	0	0	840	0	0		
10-16	Bridge 2	0									
10-18	Bridge 3	0									
10-16	Bridge 4	0									
10-16	Bridge 5	0									
10-16	Bridge 6	0									

[illegible]

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
BDR Coordination/Review	EA	1	4	4		0
50/100% Comment Review	EA	1	4	4		0
Aesthetics Coordination	EA	1	4	4		0
Regulatory Agency	EA	0	0	0		0
Local Governments (cities, counties)	EA	0	0	0		0
Utility Companies	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				12		0
Progress Meetings (if required by FDOT)	EA	0	0	0	PM attendance at Progress Meetings is manually entered on General Task 3	0
Phase Review Meetings	EA	0	0	0	PM attendance at Phase Review Meetings is manually entered on General Task 3	0
Total Meetings				12	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

Project Activity 10: BDR

Estimator:
 Bridge Identifier (Number or Name):
 SR 417, Econlockhatchee Trail to Seminole County Line
 417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
General Requirement							
10.1	Bridge Geometry	LS	1	8		8	
10.2	Ship Impact Data Collection	LS	0	0		0	
10.3	Ship Impact Criteria	EA	0	0		0	
Superstructure Alternatives							
10.4	Short Span Concrete Bridge	EA ALT	0	0		0	
10.5	Medium Span Concrete Bridge	EA ALT	0	0		0	
10.6	Long Span Concrete Bridge	EA ALT	0	0		0	
10.7	Structural Steel Bridge	EA ALT	1	18		18	
Foundation & Substructure Alternatives							
10.8	Pier/Bent	EA Type	1	4		4	Match Existing
10.9	Shallow Foundations / GRS Abutments	EA Type	0	0		0	
10.10	Deep Foundations	EA Foundation Evaluated	2	4		8	Steel and concrete piles
Movable Span							
10.11	Data Collection and Design Criteria	LS	1	0		0	
10.12	Movable Span Geometrics and Clearances	LS	1	0		0	
10.13	Deck System Evaluation	LS	1	0		0	
10.14	Framing Plan Development	LS	1	0		0	
10.15	Main Order Preliminary Design	LS	1	0		0	
10.16	Conceptual Span Balance/Counterweight	LS	1	0		0	

Project Activity 10: BDR

Task No.	Task	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
10.17	Support System Development	LS	1	0		0	
10.18	Drive Power Calculations	LS	1	0		0	
10.19	Drive System Development	LS	1	0		0	
10.20	Power and Control Development	LS	1	0		0	
10.21	Conceptual Pier Design	LS	1	0		0	
10.22	Foundation Analysis (FL PIER)	LS	1	0		0	
10.23	Tender Viability Study	LS	1	0		0	
Other BDR Issues							
10.24	Asphaltes	LS	1	2		2	
10.25	TCP/Segged Construction Requirements	LS	1	16		16	
10.26	Constructability Requirements	LS	1	0		0	
10.27	Load Rating for damaged/widened structures	EA Unit	1	0		0	We will do the load rating with final design
10.28	Quantity and Cost Estimates	EA ALT	2	8		16	
10.29	Quantity and Cost Estimates - Movable Span	LS	1	0		0	
10.30	Wall Type Justification	LS	1	2		2	Match Existing
Report Preparation							
10.31	Exhibits	EA SHEET	4	16		64	Plan and Elevation, Typ Section, End Bents/ Wall modifications and phasing plan
10.32	Exhibits - Movable Span	EA SHEET	0	0		0	
10.33	Report Preparation	LS	1	24		24	
10.34	Report Preparation - Movable Span	LS	1	0		0	
10.35	BDR Submittal Package	LS	1	0		0	
10. Structures - Bridge Development Report Total							160
When ONLY 50% plans are final deliverable, use Task Nos. as shown for applicable bridge types for Project Activities 12 thru 16. Staff hours to be negotiated and scaled appropriately.							

Project Activity 14: Structures - Structural Steel

Estimator: SR 417, Econlockhatchee Trail to Seminole County Line
 Bridge Identifier (Number or Name): 417-134

Representing	Print Name	Signature / Date
FOOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Unit	No. of Units	Hour/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
14.1	Overall Bridge Final Geometry	LS	1	8		8	
14.2	Expansion/Contraction Analysis	EA Unit	1	8		8	
14.3	General Plan and Elevation	Sheet	1	32	1	32	Update preliminary plan
14.4	Construction Staging	Sheet	0	0	0	0	
14.5	Approach Slab Plan and Details	Sheet	1	32	1	32	
14.6	Miscellaneous Details	Sheet	1	8	1	8	slope protection details
End Bent Design and Plans							
14.7	End Bent Geometry	EA Bent	2	8		16	
14.8	Wingwall Design and Geometry	EA Bent	2	8		16	
14.9	End Bent Structural Design	EA Design	1	24		24	
14.10	End Bent Plan and Elevation	Sheet	2	20	2	40	
14.11	End Bent Details	Sheet	2	18	2	36	
Intermediate Bent Design and Plans							
14.12	Bent Geometry	EA bent	0	0		0	
14.13	Bent Stability Analysis	EA design	0	0		0	
14.14	Bent Structural Design	EA design	0	0		0	
14.15	Bent Plan and Elevation	Sheet	0	0	0	0	
14.16	Bent Details	Sheet	0	0	0	0	
Pier Design and Plans							
14.17	Pier Geometry	EA pier	0	0		0	

Project Activity 14: Structures -Structural Steel

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
14.18	Pier Stability Analysis	EA design	0	0		0	
14.19	Pier Structural Design	EA design	0	0		0	
14.20	Pier Plan and Elevation	Sheet	0	0	0	0	
14.21	Pier Details	Sheet	0	0	0	0	
Miscellaneous Substructure Design and Plans							
14.22	Foundation Layout	Sheet	1	16	1	16	
Superstructure Deck Design and Plans							
14.23	Finish Grade Elevation (FGE) Calculation	LS	1	24		24	
14.24	Finish Grade Elevations	Sheet	2	16	2	32	
14.25	Bridge Deck Design	EA section	1	24		24	
14.26	Bridge Deck Reinforcing and Concrete Quantities	EA Unit	1	8		8	
14.27	Superstructure Plan	Sheet	1	24	1	24	
14.28	Superstructure Section	Sheet	1	24	1	24	
14.29	Miscellaneous Bridge Deck Details	Sheet	1	24	1	24	Phasing
Reinforcing Bar Lists							
14.30	Preparation of Reinforcing Bar List	Sheet	1	12	1	12	
Structural Steel Plate Girder Design							
14.31	Unit Modeling	EA Unit	1	40		40	
14.32	Section Design	EA Unit	1	16		16	
14.33	Stiffener Design and Locations	EA Unit	1	16		16	
14.34	Cross-Frame Design	EA Unit	1	8		8	
14.35	Connections	EA Unit	1	24		24	
14.36	Bearing Assembly Design and Detailing (with Jacking Analysis)	EA Unit	1	18		18	
14.37	Splice Design	EA Unit	1	24		24	
14.38	Shear Stud Connectors	EA Unit	1	12		12	
14.39	Deflection Analysis	EA Unit	1	16		16	
14.40	Framing Plan	Sheet	1	16	1	16	

Project Activity 14: Structures-Structural Steel

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
14.41	Girder Elevation	Sheet	1	16	1	16	
14.42	Structural Steel Details	Sheet	3	28	3	84	
14.43	Splice Details	Sheet	1	16	1	16	
14.44	Girder Deflections and Camber	Sheet	1	16	1	16	
Structural Steel Box Girder Design							
14.45	Unit Modeling	EA Unit	0	0	0	0	
14.46	Section Design	EA Unit	0	0	0	0	
14.47	Stiffener Design and Locations	EA Unit	0	0	0	0	
14.48	Interior Cross-Frame Design	EA Unit	0	0	0	0	
14.49	Exterior Cross-Frame Design	EA Unit	0	0	0	0	
14.50	Connections	EA Unit	0	0	0	0	
14.51	Bearing Assembly Design and Detailing (with Jacking Analysis)	EA Unit	0	0	0	0	
14.52	Splice Design	EA Unit	0	0	0	0	
14.53	Shear Stud Connectors	EA Unit	0	0	0	0	
14.54	Deflection Analysis	EA Unit	0	0	0	0	
14.55	Framing Plan	Sheet	0	0	0	0	
14.56	Girder Elevation	Sheet	0	0	0	0	
14.57	Structural Steel Details	Sheet	0	0	0	0	
14.58	Splice Details	Sheet	0	0	0	0	
14.59	Girder Deflections and Camber	Sheet	0	0	0	0	
Erection Scheme							
14.60	Erection scheme analysis	EA Critical Stage	2	24		48	
14.61	Erection scheme	Sheet	1	24	1	24	
Load Rating							
14.62	Load Rating	EA Unit	1	40		40	
14. Structures - Structural Steel Bridge Total						22	840

Project Activity 17: Retaining Walls

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature block is optional, per District preference

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
General Requirements							
17.1	Key Sheet	Sheet	0	0	0	0	
17.2	Horizontal Wall Geometry	Per Wall	1	6		6	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	Per Wall	1	6		6	
17.4	Semi-Standard Drawings	Sheet	1	4	1	4	
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	2	16	2	32	
17.6	Details	Sheet	1	16	1	16	
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	Per Wall	0	0		0	
17.8	Semi-Standard Drawings	Sheet	0	0	0	0	
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	
17.10	Details	Sheet	0	0	0	0	
Cast-In-Place Retaining Walls							
17.11	Design	EA Design	0	0		0	
17.12	Vertical Wall Geometry	EA Wall	0	0		0	
17.13	General Notes	Sheet	0	0	0	0	
17.14	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	
17.15	Sections and Details	Sheet	0	0	0	0	
17.16	Reinforcing Bar List	Sheet	0	0	0	0	

Project Activity 17: Retaining Walls

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
Other Retaining Walls and Bulkheads							
17.17	Design	EA Design	0	0		0	
17.18	Vertical Wall Geometry	EA Wall	0	0		0	
17.19	General Notes, Tables and Misc. Details	Sheet	0	0	0	0	
17.20	Wall Plan and Elevations	Sheet	0	0	0	0	
17.21	Details	Sheet	0	0	0	0	
17. Structures - Retaining Walls Total					4	6.4	

Project Activity 16: Miscellaneous Structures

16.28	Feeder System	16	1	0	0	0
16.29	Feeder System Access	16	1	0	0	0
16.30	Special Structures	16	1	0	0	0
16.31	Other Structures	16	1	550	0	550
16. Structures - Miscellaneous Total						550
						550

(see Phase Revision)

27. Survey

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Dewberry		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Day	Field Support Hours	Office Support Hours / Crew Day	Office Support Hours	Comments
27.1	Horizontal Project Control (HPC)									
	2-Lane Roadway	Mile			0.00		0.00		0.00	Establish horizontal control as needed for tasks below, datum to match that used for previous Survey by Tumpika Authority.
	Multi-lane Roadway	Mile			0.00		0.00		0.00	
	Interstate	Mile	3.05	1.75	5.34		0.00	4.00	21.35	
27.2	Vertical PC / Bench Line									
	2-Lane Roadway	Mile			0.00		0.00		0.00	Establish vertical control as needed for tasks below, set project benchmarks at 1000's intervals along project corridor. Datum to match that used for previous Survey by Tumpika Authority. Add Benchmark information to PNC sheets.
	Multi-lane Roadway	Mile			0.00		0.00		0.00	
	Interstate	Mile	3.05	1.75	5.34		0.00	5.00	26.89	
27.3	Alignment and Existing RAW Lines									Re-trace alignment from the first PT south of Econ Trail to the first PC north of Abome Avenue. Compute existing ROW lines through project corridor.
		Mile	4.50	2.00	9.00	1.00	8.00	6.00	54.00	
27.4	Asial Targets			Units/Day						Locate (XYZ) targets set by ACA
	2-Lane Roadway	EA			0.00		0.00		0.00	
	Multi-lane Roadway	EA			0.00		0.00		0.00	
	Interstate	EA	72.00	12.00	8.00		0.00	5.00	30.00	
27.5	Reference Points			Units/Day						Stake and reference alignment through project corridor. Prepare PNC sheets with reference point details for EOR use in construction plans prep.
	2-Lane Roadway	EA			0.00		0.00		0.00	
	Multi-lane Roadway	EA			0.00		0.00		0.00	
	Interstate	EA	18.00	2.00	9.00	1.00	8.00	10.00	90.00	
	Reference Points	"B"		Units/Day						

27. Survey

Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
	Non Alignment Points/Approximate	EA			0.00		0.00		0.00	
27.6	Topography/DTM (3D)	Mile	3.05	5.00	15.25		0.00	6.00	91.50	Topo / DTM Survey of project corridor, lateral limits from outside edge of shoulder to 25' past ROW and within median. Prepare TIN, TOPORD.DGN, DREXRD.DGN and UTEXRD.DGN files - ACA to merge with their files.
27.7	Planimetric (2D)	Mile			0.00		0.00		0.00	Included in 27.6
27.8	Roadway Cross-Sections/Profiles									
27.9	Side Street Surveys	EA	33.00	0.1687	5.50		0.00	4.00	22.00	Check cross sections at 500' intervals through project corridor.
27.10	Underground Utilities	Mile	0.50	4.00	2.00		0.00	6.00	12.00	Topo / DTM Survey of obscure areas on side streets, add information to TIN, TOPORD.DGN, DREXRD.DGN and UTEXRD.DGN files.
	Designates	Mile/Spot	11.50	1.00	11.50		0.00	3.00	34.50	Designates: estimated 2 utilities through project corridor (6.1 miles); 5 utilities crossing at Trevethon and Econlockhatchee (2.8 miles); 6 utilities crossing at University (2.2 miles); 3 utilities crossing at Watermill and old plaza (0.4 miles); 40 VWHs at potential conflicts, locations to be provided by EOR. Locate same and add information to UTEXRD.DGN file
	Locates	Point	40	0.125	5.00		0.00	4.00	20.00	
	Survey		35%	16.50	5.75		0.00	5.00	28.88	
27.11	Outfall Survey	Mile			0.00		0.00		0.00	Included in 27.6 if needed
27.12	Drainage Survey	EA	60.00	12.00	5.00		0.00	4.00	20.00	Detail an estimated 60 existing drainage structures. Add information to DREXRD.DGN file.
27.13	Bridge Survey	EA	2.00	1.00	2.00		0.00	6.00	12.00	Detail bridges over University
27.14	Channel Survey	EA			0.00		0.00		0.00	Included in 27.6 if needed
27.15	Pond Site Survey	EA	8.00	1.00	8.00		0.00	6.00	48.00	Topo/DTM Survey & existing ponds within the ROW to waters edge (bottom of wet ponds not to be surveyed). Add information to TIN, TOPORD.DGN, DREXRD.DGN and UTEXRD.DGN files
27.16	Mitigation Survey	Mile			0.00		0.00		0.00	Not included
27.17	Jurisdiction Line Survey	Mile	1.00	2.00	2.00		0.00	6.00	12.00	Locate up to one mile of wetland lines to be flagged by others

27. Survey

Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
27.18	Geotechnical Support	EA	30	8	3.75		0.00	4.00	15.00	State or local 30 borings for walls and bridges.
27.19	Sectional / Grant Survey									
		Corner			0.00		0.00		0.00	Not included
		Mile			0.00		0.00		0.00	
27.20	Subdivision Location									
		Block			0.00		0.00		0.00	Not included
27.21	Maintained RW									
		Mile			0.00		0.00		0.00	Not included
27.22	Boundary Survey									
		EA			0.00		0.00		0.00	Not included
27.23	Water Boundary Survey									
		EA			0.00		0.00		0.00	Not included
27.24	R/W Staking / ROW Line									
		EA			0.00		0.00		0.00	Not included
		Mile			0.00		0.00		0.00	
27.25	R/W Monumentation									
		Point			0.00		0.00		0.00	Not included
27.26	Line Cutting									
		Mile			0.00					Included in other tasks if required
27.27	Work Zone Safety									
			100	0.125	12.50					One hour per day
27.28	Miscellaneous Surveys									
					0.00		0.00		0.00	
Survey Subtotal										
				Crew Days	113	Field Support Hours	10	Office Support Hours	535	
27.29	Supplemental Surveys									THE % FOR SUPPLEMENTAL WILL BE DETERMINED AT NEGOTIATIONS. THIS ITEM CAN ONLY BE USED IF AUTHORIZED IN WRITING BY THE DISTRICT SURVEYOR
			4.5%	113	5	1			27	
27.30	Document Research	Units								
									0	

SPLS =
PLS =
Office Support =
Total Hours =

Canham to Tard 3

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

MISCELLANEOUS & DIRECT EXPENSES									
Central Florida Expressway Authority					Consultant: Dewberry				
Name of Job					SR 417 - Econ Trail to Orange/Seminole County Line - 417-134				
Aerial Photography:		Sheets	Cost	Amount					
Right-of-Way Maps									
Drafting Medium (Mylar):		0	\$0.00	\$0			\$0.00	\$0.00	
30% Plans	BlueLine	Vellum	11X17	8.5X11	6000	1000	Sheets		
60% Plans					12000	8000	Sheets		
90% Plans					15000	10000	Sheets		
100% Plans					15000	6000	Sheets		
Final Plans					3000	5000	Sheets		
Misc. Prints					18000	10000	Sheets		
Total	0	0	69000	40000			Sheets		
Costs:	Blue Line		0	Sheets @	0.60		\$0.00		
	Vellum		0	Sheets @	3.60		\$0.00		
	Photocopy - 11X17		69000	Sheets @	0.30		\$20,700.00		
	Photocopy - 8.5X11		40000	Sheets @	0.10		\$4,000.00		\$24,700.00
Travel From: [Consultant Office Location]									
To Project: Trips									
(Overnight)	x	people x	days @ \$50				\$0.00		
(Per Diem)	x	people x	days @ \$6				\$0.00		
Transport. - (Comm.)	x	people x	0.00 per trip				\$0.00		
- (POV)	0 x	0 miles x	0.29 per mile				\$0.00		
-(Rental)	0 x	0 (days x \$	0.00 Day Rate)						
	+	0 (miles x \$	0.00 Mi. Rate)				\$0.00		
To District: Trips									
(Per Diem)	0 x	0 people x	0.00 days @ \$6				\$0.00		
Transport - (Comm.)	0 x	0 people x	0.00 per trip				\$0.00		
- (POV)	0 x	0 miles x	0.29 per mile				\$0.00		
-(Rental)	0 x	0 (days x \$	0.00 Day Rate)						
		0 (miles x \$	0.00 Mi. Rate)				\$0.00		
									\$0.00
Shipping & Telephone 12 months @ \$ 50.00 /Month)									\$600.00
TOTAL EXPENSES							LUMP SUM	\$25,300.00	
Kevin Knudsen									04/25/16

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project:
County:
CIP Contract Number

SR 417, Ecorlochalcon Trail to San Joaquin County Line
Orange
417-134

Consultant Name: Comprehensive Engineering Services, Inc
Consultant No.: TBD
Date: 6/7/2016

Staff Classification	Estimate Hourly Rate	Chief Engineer	Senior Engineer	Project Engineer	Engineer Intern	Senior Designer	Admin Assistant	Staff Class- Position 7	Staff Class- Position 8	Staff Class- Position 9	Staff Class- Position 10	Staff Class- Position 11	Staff Class- Position 12	SM By Activity	Salary Cost By Activity	Average Rate Per Task
3 Project General and Project Common Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
4 Roadway Analysis	140	14	28	35	28	35	0	0	0	0	0	0	0	140	\$6,382	\$45.58
5 Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6a Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6b Drainage Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
7 Utilities	382	38	76	96	76	96	0	0	0	0	0	0	0	382	\$17,359	\$45.55
8 Environmental Permits, Compliance & Clearances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9 Structures - Misc Tasks, Design, Non-Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
10 Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
11 Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
12 Structures - Short Span Concrete Bridges	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
13 Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
14 Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
15 Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
16 Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
17 Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
18 Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
19 Signing & Pavement Marking Analysis	65	7	13	16	13	16	0	0	0	0	0	0	0	65	\$2,989	\$45.99
20 Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
21 Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
22 Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
23 Lighting Analysis	934	93	187	234	187	233	0	0	0	0	0	0	0	934	\$42,658	\$45.57
24 Lighting Plans	342	34	68	86	68	86	0	0	0	0	0	0	0	342	\$15,575	\$45.54
25 Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
26 Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
27 Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
28 Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
29 Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
30 Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
31 Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
32 Noise Barrier Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
33 Intelligent Transportation System Analysis	433	43	87	108	87	108	0	0	0	0	0	0	0	433	\$19,727	\$45.56
34 Intelligent Transportation Systems Plans	268	26	52	65	52	65	0	0	0	0	0	0	0	268	\$13,143	\$45.84
35 Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	2,864	258	517	647	517	645	0	0	0	0	0	0	0	2,584	\$117,773.12	\$45.88
Total Staff Cost		\$23,301.00	\$32,312.50	\$24,768.57	\$12,709.90	\$24,542.25	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$117,773.12	

Subtotal: \$117,773.12

SALARY RELATED COSTS: \$ 117,773.12

OVERHEAD: \$ 208,863.07

OPERATING MARGIN: \$ 37,382.83

EXPENSES: \$ 9,322.87

SUBTOTAL ESTIMATED FEE: \$ 373,441.98

SUBTOTAL ESTIMATED FEE: \$ 373,441.98

Optional Services \$

GRAND TOTAL ESTIMATED FEE: \$ 373,441.98

Notes:
1 This sheet to be used by Subconsultant to calculate fee.

EXPENSES									
Prepared by:		Comprehensive Engineering Services, Inc.							
Project Identification No.:		417-134							
Project Description:		SR 417 - Econ Trail to Seminole County Line							
REPRODUCTION									
	8 1/2" X 11"	8 1/2" X 11"	8 1/2" X 14"	11" X 17"	11" X 17"	11" X 17"	Drill & Post	24" X 36"	24" X 36"
	COLOR	XEROX	XEROX	COLOR	XEROX	Laminate	Binding	Bond Paper Plots	Mylar Plots
Printing	665	4814		4120	23165				
Laminated Covers & Backs						156			
30%, 60% & Final Submittals							156		
Signed & Sealed Originals								0	0
SUBTOTAL	665	4814	0	4120	23165	156	156	0	0
UNIT COST	\$0.60	\$0.04	\$0.06	\$1.10	\$0.070	\$1.70	\$2.25	\$0.60	\$8.40
TOTALS COST	\$399.00	\$192.56	\$0.00	\$4,532.00	\$1,621.55	\$265.20	\$351.00	\$0.00	\$0.00
Sub Total								\$7,361.31	
TRAVEL EXPENSES									
TRAVEL (From Orlando Office)									
To Project :	12	Trips @	35	Miles @	\$0.445	Per Mile =	\$186.90		
Tolls:	12	Trips @	\$4.00	/round trip		=	\$48.00		
Meals	0	Trips with	\$0.00	per diem x	0	People =	\$0.00		
TRAVEL (From Orlando Office)									
To CFX Office:	10	Trips @	8.8	Miles @	\$0.445	Per Mile =	\$39.16		
Tolls:	10	Trips @	\$2.00	/round trip		=	\$20.00		
TRAVEL (From Orlando Office)									
	0	Trips @		Miles @	\$0.445	Per Mile =	\$0.00		
TRAVEL (From Orlando Office)									
To Other Office:	0	Trips @		Miles @	\$0.445	Per Mile =	\$0.00		
Sub Total								\$294.06	
SHIPPING									
	12	Months @	\$126.70	Per Month			\$1,520.40		
SHIPPING (Regular Mail)	10	Letters/Mo @	\$0.47	/letter			\$4.70		
SHIPPING (FEDEX)	2	Overnight Letters @	\$12.25	/letter			\$24.50		
(Includes Utilities Submittals)	5	Overnight Boxes @	\$18.25	/Box			\$91.50		
Monthly Total =							\$126.70		
COURIER SHIPPING									
	0	Trips @	\$32.85	per Trip			\$0.00 Final & Final Mylar Plots		
PUBLIC MEETINGS								\$0.00	
Public Meeting No. 1									
2' x 10' Project Board - 20sf							=		
3 - 3' x 2' Exhibits Boards - 18 sf							=		
(Typical Section, Sample Landscaping layout, Landscaping Typical)									
Handouts (10 color sheets - 30 sets)							=		
Public Meeting No. 2									
2' x 10' Project Board - 20sf							=		
3 - 3' x 2' Exhibits Boards - 18 sf							=		
(Typical Section, Sample Landscaping layout, Landscaping Typical)									
Handouts (10 color sheets - 30 sets)							=		
MISCELLANEOUS								\$147.20	
CD Recordable Disks							=		
Comp Book Covers							=		
Report Binding			\$147.20	32 @ \$4.60			=		
			\$147.20						
Sub Total								\$1,667.60	
TOTAL EXPENSES									\$9,322.97

Project Activity 4: Roadway Analysis

Estimator:

SR 417, Econohatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.1	Typical Section Package	LS	1	0	0	
4.2	Pavement Type Selection Report	LS	1	0	0	
4.3	Pavement Design Package	LS	1	0	0	
4.4	Cross Slope Correction	LS	1	0	0	
4.5	Horizontal /Vertical Master Design Files	LS	1	0	0	
4.6	Access Management	LS	1	0	0	
4.7	Roundabout Evaluation	LS	1	0	0	
4.8	Roundabout Final Design Analysis	LS	1	0	0	
4.9	Cross Section Design Files	LS	1	0	0	
4.10	Traffic Control Analysis	LS	1	0	0	
4.11	Master TCP Design Files	LS	1	0	0	
4.12	Design Variations and Exceptions	LS	1	0	0	
4.13	Design Report	LS	1	140	140	Traffic data reduction, field reviews, traffic projection & operational review, modeling, crash review, mailings, traffic analysis documentation
4.14	Quantities	LS	1	0	0	
4.15	Cost Estimate	LS	1	0	0	
4.16	Technical Special Provisions	LS	1	0	0	
4.17	Other Roadway Analysis	LS	1	0	0	
Roadway Analysis Technical Subtotal					140	

Project Activity 4: Roadway Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.18	Field Reviews	LS	1	0	0	
4.19	Monitor Existing Structures	LS	1	0	0	
4.20	Technical Meetings	LS	1	0	0	Meetings are listed below
4.21	Quality Assurance/Quality Control	LS	%	0%	0	
4.22	Independent Peer Review	LS	%	0%	0	
4.23	Supervision	LS	%	0%	0	
Roadway Analysis Nontechnical Subtotal					0	
4.24	Coordination	LS	%	0%	0	
4. Roadway Analysis Total					140	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Typical Section	EA	0	0	0		0
Pavement	EA	0	0	0		0
Access Management	EA	0	0	0		0
15% Line and Grade	EA	0	0	0		0
Driveways	EA	0	0	0		0
Local Governments (cities, counties, MPO)	EA	0	0	0		0
Work Zone Traffic Control	EA	0	0	0		0
30%>80/100% Contract Review Meetings	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings					Subtotal Project Manager Meetings	0
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	--
Total Meetings					Total Project Manager Meetings (carries to Tab 3)	0

Sheet 10 of 11

Sheet 10 of 11

Project Activity 7: Utilities

Estimator:

SR 417, Econtlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
7.1	Utility Kickoff Meeting	LS	1	4	4	2 people x 2 hours
7.2	Identify Existing Utility Agency Owners (UAO(s))	LS	1	10	10	0.5 hr x 20 utilities (Bright House, City of Orlando - wastewater, City of Winter Park, Duke Energy Distribution, Duke Energy Transmission, FPL Fibernet, Level 3, Lovelace Gas Service, Verizon Business fka VCI, Orange County Utilities Wastewater, Orange County Public Works, Central Florida Expressway Authority, Orange County Utilities, Orlando Telephone Company, TECO Gas, Centurylink fka Qwest, AT&T Florida, Seminole County, Comcast Cablevision, CenturyLink
7.3	Make Utility Contacts	LS	1	40	40	2 hr x 20 utilities
7.4	Exception Processing	LS	1	0	0	not anticipated
7.5	Preliminary Utility Meeting	LS	1	8	8	phase I meeting include prep & documentation
7.6	Individual/Field Meetings	LS	1	32	32	2 people x 4 hours for 4 meetings
7.7	Collect and Review Plans and Data from UAO(s)	LS	1	20	20	1 hr x 20 utilities
7.8	Subordination of Easements Coordination	LS	1	0	0	not anticipated
7.9	Utility Design Meeting	LS	1	8	8	Phase II meeting includes prep and documentation
7.10	Review Utility Markups & Work Schedules, and Processing of Schedules & Agreements	LS	1	80	80	2 hrs x 2 docs x 20 utilities
7.11	Utility Coordination/Followup	LS	1	60	60	20 utilities x 2 follow up x 1.5 complexity
7.12	Utility Constructability Review	LS	1	60	60	20 utilities x 2 follow up x 1.5 complexity
7.13	Additional Utility Services	LS	1	0	0	not anticipated
7.14	Processing Utility Work by Highway Contractor (UWHC)	LS	1	0	0	not anticipated
7.15	Contract Plans to UAO(s)	LS	1	20	20	1 hr x 20 utilities
7.16	Certification/Close-Out	LS	1	40	40	2 hr x 20 utilities
7.17	Other Utilities	LS	1	0	0	
7. Utilities Total					382	

Project Activity 19: Signing and Pavement Marking Analysis

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hour/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	57	57	11 cantilevers, 8 span truss structures, and 2 bridge mounted signs. Total of 38 sign panels to be lighted, including 18 existing sign panels anticipated to be upgraded to LED. 38 signs * 1.5 hours per sign = 76 hours.
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	
Signing and Pavement Marking Analysis Technical Subtotal					57	
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	%	5%	3	
19.14	Independent Peer Review	LS	%	0%	0	
19.15	Supervision	LS	%	5%	3	
Signing and Pavement Marking Analysis Nontechnical Subtotal					8	
19.16	Coordination	LS	%	3%	2	
19. Signing and Pavement Marking Analysis Total					65	

Project Activity 23: Lighting Analysis

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/Units	Total Hours	Comments
23.1	Lighting Justification Report	LS	0	0	0	N/A
23.2	Lighting Design Analysis Report	LS	1	120	120	Full photometric calculation color analysis of corridor (mainline, ramp, and interchange), evaluate areas without outside widening where existing light poles may be salvaged, veiling luminance calculations for each typical section, sign lighting calculations, and design future correspondence for CFX preference, includes relamping University Interchange with LED.
23.3	Aeronautical Evaluation	LS	1	40	40	FAA form required based on notice criteria tool - online approval process where information for each light pole is input for determination (altitude, longitude, ground elevation, pole height, and traverseway)
23.4	Voltage Drop Calculations	LS	1	48	48	Estimate 4 load centers and 8 circuits average per load center (alternating circuits)
23.5	FDEP Coordination and Report	LS	0	0	0	N/A
23.6	Reference and Master Design Files	LS	1	459	459	Project lengths: SR 417 mainline 3 miles, toll plaza 1.1 miles. University ramps 0.5 miles. Middle range (limited access with interchange spacing greater than two miles). 45 hours setup + (4.6 miles mainline/plaza/ramp) - 160 hours per mile = 459 hours (Toll plaza area redo with LED assumed & relamp University Interchange)
23.7	Temporary Lighting	LS	1	8	8	Noises only with spacing ranges based on temporary lighting fixture
23.8	Design Documentation	LS	1	16	16	Included with each submittal
23.9	Quantities	LS	1	70	70	35 plan sheets @ 2 hour per sheet
23.10	Cost Estimate	LS	1	16	16	3 estimates - initial, phase III, and final
23.11	Technical Special Provisions	LS	0	0	0	Not anticipated
23.12	Other Lighting Analysis	LS	0	0	0	Not anticipated
Lighting Analysis Technical Subtotal					777	
23.13	Field Reviews	LS	1	24	24	3 field reviews, 2 people @ 4 hours
23.14	Technical Meetings	LS	1	28	28	See listed meetings for breakdown
23.15	Quality Assurance/Quality Control	LS	%	5%	36	
23.16	Independent Peer Review	LS	%	0%	0	
23.17	Supervision	LS	%	5%	39	
Lighting Analysis Nontechnical Subtotal					130	
23.18	Coordination	LS	%	3%	27	

Project Activity 23: Lighting Analysis

23. Lighting Analysis Total					934	
Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
FOOT Lighting Design	EA	0	0	0		0
FOOT Traffic Design	EA	0	0	0		0
Power Company (service point coordination)	EA	1	6	6		0
Maintaining Agency (cables, conduits)	EA	1	6	6		0
Airport authority	EA	0	0	0		0
FOEP Lighting (coast areas)	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				12	Subtotal Project Manager Meetings	0
Progress Meetings (if required by FOOT)	EA	4	2	8	PM attendance at Progress Meetings is manually entered on General Task 3	**
Phase Review Meetings	EA	2	4	8	PM attendance at Phase Review Meetings is manually entered on General Task 3	**
Total Meetings				28	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 14

Carries to Tab 1

Continued on Tab 3

24. Lighting Plans

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing		Print Name		Signature / Date	
FDOT District					
Comprehensive Engineering Services					
<i>NOTE: Signature Block is optional, per District preference</i>					

Task No.	Task	Scale	Units	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
24.1	Key Sheet		Sheet	1	4	1	4	
24.2	Summary of Pay Items Including Designer Interface (TRANSPO) Input		Sheet	0	0	0	0	
24.3	Tabulation of Quantities		Sheet	5	7.2	5	36	4 sheets for 35 plan sheets and 3 underdeck sheets
24.4	General Notes/Pay Item Notes		Sheet	1	8	1	8	
24.5	Pole Data, Legend and Criteria		Sheet	6	16	6	96	Legend/criteria sheet and 4 pole data sheets (3 conventional lighting, 1 underdeck lighting)
24.6	Service Point Details		Sheet	4	12	4	48	4 load centers
24.7	Project Layout		Sheet	1	4	1	4	
24.8	Plan Sheet	1" = 50'	Sheet	35	2	35	70	700' per panel for 24,288' of lighting + tie in to existing lighting to remain
24.9	Special Details		Sheet	3	12	3	36	Under deck at 3 crossings
24.10	Temporary Lighting Data and Details		Sheet	1	8	1	8	Notes only with spacing ranges based on temporary lighting fixture
24.11	Traffic Control Plan Sheets		Sheet	0	0	0	0	
24.12	Interim Standards		LS	0	0	0	0	
Lighting Plans Technical Subtotal							67	
24.13	Quality Assurance/Quality Control		LS	%	5%		16	
24.14	Supervision		LS	%	5%		16	
24. Lighting Plans Total							67	342

33. ITS Analysis

Estimator: RLS

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	1	16	16	
33.2	Communications Plan Analysis	LS	1	24	24	
33.3	Lightning Protection Analysis	Per Site	0	0	0	N/A
33.4	Power Subsystem	LS	1	100	100	
33.5	Voltage Drop Calculations	LS	1	16	16	4 power service circuits
33.6	Design Documentation	LS	1	20	20	
33.7	Existing ITS System	LS	1	16	16	
33.8	Queue Analysis	PI	0	0	0	N/A
33.9	Reference and Master ITS Design File	PI	0	0	0	N/A
33.10	Reference and Master Communications Design File	PI	1	58	58	20 hrs/mile, SR 417 from Econlockhatchee Trail to Orange/Seminole County line - 2.9 miles
33.11	Pole Elevation Analysis	LS	1	7	7	6 CCTV locations
33.12	Sign Panel Design Analysis	LS	0	0	0	N/A
33.13	Quantities	Sheet	29	3	87	23 plan sheets, 6 MOT sheets
33.14	Cost Estimate	LS	1	8	8	Phase II, Phase III, Phase IV, Pre-Bid
33.15	Technical Special Provisions	LS	0	0	0	N/A
33.16	Other ITS Analyses	LS	1	0	0	
Intelligent Transportation Systems Analysis Technical Subtotal					352	

33. ITS Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.17	Field Reviews	LS	1	16	16	2 reviews, 2 people, 4 hours
33.18	Technical Meetings	LS	1	16	16	Meetings are listed below
33.19	Quality Assurance/Quality Control	LS	%	5%	18	
33.20	Supervision	LS	%	5%	18	
Intelligent Transportation Systems Analysis Nontechnical Subtotal						68
33.21	Coordination	LS	%	3%	13	
33. Intelligent Transportation Systems Analysis Total						433

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with FDOT	EA	0	0	0		0
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
Subtotal Technical Meetings						0
Progress Meetings (if required by FDOT)	EA	2	4	8	PM attendance at Progress Meetings is manually entered on General Task 3	0
Phase Review Meetings	EA	2	4	8	PM attendance at Phase Review Meetings is manually entered on General Task 3	0
Total Meetings						0
Total Project Manager Meetings (carries to Tab 3)						0

Carries to Tab 3

Carries to 33.18

34. ITS Plans

Estimator: RLS

6R 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Comprehensive Engineering Services		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units	Hour/Unit	No. of Sheets	Total Hours	Comments
34.1	Key Sheet		Sheet	1	4	1	4	
34.2	Summary of Pay Items-including Designer Interface (Time-port) Input		Sheet	0	0	0	0	Included in Rdwy
34.3	Tabulation of Quantities		Sheet	3	5	3	15	
34.4	General Notes/Pay Item Notes		Sheet	1	8	1	8	
34.5	Project Layout		Sheet	1	6	1	6	
34.6	Typical and Special Details		Sheet	3	6	3	18	Wiring/cabinet details for CCTV, DMS, DCS
34.7	Plan Sheet		Sheet	0	0	0	0	N/A
34.8	ITS Communications Plans		Sheet	23	6	23	138	
34.9	Fiber Optic Splice Diagrams		Sheet	17	2	17	34	
34.10	Lighting Protection Plans		Sheet	0	0	0	0	N/A
34.11	Cross Sections		Sheet	0	0	0	0	N/A
34.12	Guide Sign Worksheet(s)		Sheet	0	0	0	0	N/A
34.13	Special Service Point Details		Sheet	1	6	1	6	Electrical power service
34.14	Strain Pole Schedule		Sheet	1	3	1	3	Pole data tabulation
34.15	Overhead/Cantilever Sign Structure		Sheet	0	0	0	0	N/A
34.16	Other Overhead Sign Structures (Long Span, Monotube, etc.)		Sheet	0	0	0	0	N/A
34.17	Traffic Control Plans		Sheet	6	5	6	30	FOR MOT Plan
34.18	Interim Standards		Sheet	0	0	0	0	N/A
34.19	GIS Data and Asset Management Requirements		LS	0	0	0	0	N/A

34. ITS Plans

Task No.	Task	Scale	Units	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
		Intelligent Transportation System Plans Technical Subtotal				57	282	
34.20	Quality Assurance/Quality Control		LS	%	5%		18	
34.21	Supervision		LS	%	5%		13	
	34. Intelligent Transportation System Plans Total					97	298	

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project:
County:
FPN:
FAP No:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Consultant Name: The Balmoral Group
Consultant No: enter consultants proj number
Date: 9/7/2016

Staff Classification	Total Staff Hours From Est Summary	Chief Engineer	Project Manager	Senior Engineer	Project Engineer	Engineer Intern	Staff Class- location 4	Staff Class- location 7	Staff Class- location 8	Staff Class- location 9	Staff Class- location 10	Staff Class- location 11	Staff Class- location 12	Estimator S. Klass	SH By Activity	Salary Cost By Activity	Average Rate Per Task
3 Project General and Project Construction Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
4 Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
5 Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6a Drainage Analysis	40	20	10	0	10	0	0	0	0	0	0	0	0	0	40	\$2,353	\$58.64
6b Drainage Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
7 Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
8 Environmental Permit, Compliance & Clearances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9 Structures - Misc. Tasks, Digs, Non-Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
10 Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
11 Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
12 Structures - Short Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
13 Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
14 Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
15 Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
16 Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
17 Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
18 Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
19 Signing & Pavement Marking Analysis	660	34	0	170	238	238	0	0	0	0	0	0	0	0	0	\$25,982	\$38.18
20 Signing & Pavement Marking Plans	398	19	0	39	156	176	0	0	0	0	0	0	0	0	0	\$13,694	\$35.72
21 Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
22 Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
23 Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
24 Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
25 Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
26 Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
27 Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
28 Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
29 Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
30 Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
31 Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
32 Noise Barrier Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
33 Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
34 Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
35 Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	1,109	73	10	209	404	413	0	0	0	0	0	0	0	0	1,109	\$42,209.36	\$38.04
Total Staff Cost		\$5,018.75	\$576.90	\$9,770.75	\$16,220.60	\$10,622.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$42,209.36	\$42,209.36	

SALARY RELATED COSTS:

OVERHEAD:	150.94%
OPERATING MARGIN:	12%
FOCM (Facilities Capital Cost Money):	0.00%
EXPENSES:	0.4721%
SUBTOTAL ESTIMATED FEE:	\$123,464.44
Survey (Field)	0
Geotechnical Field and Lab Testing	4-man crew @ \$ / day
SUBTOTAL ESTIMATED FEE:	\$123,464.44
Optional Services	\$0.00
GRAND TOTAL ESTIMATED FEE:	\$123,464.44

Notes:
1 This sheet to be used by Subconsultant to calculate fee.

Project Activity 6a: Drainage Analysis

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Balmoral		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.1	Drainage Map Hydrology	Per Map	0	0	0	
6a.2	Base Clearance Report	Per Location	0	0	0	
6a.3	Pond Siting Analysis and Report	Per Basin	0	0	0	
6a.4	Design of Cross Drains	EA	0	0	0	
6a.5	Design of Ditches	Per Ditch Mile	0	0	0	
6a.6	Design of Stormwater Management Facility (Offsite or Infield Pond)	EA	0	0	0	
6a.7	Design of Stormwater Management Facility (Roadside Ditch as Linear Pond)	Per Cell	0	0	0	
6a.8	Design of Floodplain Compensation	Per Floodplain Basin	0	0	0	
6a.9	Design of Storm Drains	EA	0	0	0	
6a.10	Optional Culvert Material	EA	0	0	0	
6a.11	French Drain Systems	Per Cell	0	0	0	
6a.12	Drainage Wells	EA	0	0	0	
6a.13	Drainage Design Documentation Report	LS	1	0	0	
6a.14	Bridge Hydraulic Report	EA	0	0	0	

Project Activity 6a: Drainage Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.15	Temporary Drainage Analysis	LS	1	0	0	
6a.16	Cost Estimate	LS	1	0	0	
6a.17	Technical Special Provisions	LS	1	0	0	
6a.18	Other Drainage Analysis	LS	1	0	0	
Drainage Analysis Technical Subtotal						
6a.19	Field Reviews	LS	1	0	0	
6a.20	Technical Meetings	LS	1	0	0	Meetings are listed below
6a.21	Environmental Look-Around (ELA) Meeting	LS	1	0	0	
6a.22	Quality Assurance/Quality Control	LS	%	0%	0	
6a.23	Independent Peer Review	LS	1	40	40	Peer review by TBG - focus on stormwater management
6a.24	Supervision	LS	%	0%	0	
Drainage Analysis Non-technical Subtotal						
6a.25	Coordination	LS	%	0%	0	
6a. Drainage Analysis Total						
						40

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Base Clearance Water Elevation	EA	0	0	0		0
Pond Siting	EA	0	0	0		0
Agency	EA	0	0	0		0
Local Governments (cities, counties)	EA	0	0	0		0
FDOT Drainage	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings						0
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	**
Total Meetings						0
Total Project Manager Meetings (carries to Tab 3)						0

Carries to Tab 3

Carries to 6.19

Estimator: S. Klaus

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing		Print Name		Signature / Date		
FDOT District						
Consultant Name		The Balmoral Group				
NOTE: Signature Block is optional, per District preference						
Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
18.1	Traffic Data Analysis	LS	1	0	0	
18.2	No Passing Zone Study	LS	1	0	0	
19.3	Reference and Master Design File	LS	1	368	368	Middle range: Interchange/toll plaza spacing ~ 2 miles. Mainline = 2.65 miles; Ramps = 0.8 miles 45 hours setup + 80 hrs. X 3.6 miles
18.4	Multi-Post Sign Support Calculations	EA	4	3	12	4 ground mounted guide signs
19.5	Sign Panel Design Analysis	EA	24	4	96	18 Overhead panels (11 Replacements 7 New) & 4 multi-post ground mount, very detailed sign panels
18.6	Sign Lighting/Electrical Calculations	EA	0	0	0	By CES
19.7	Quantities	LS	1	75	75	3 hrs. X 25 sheets
19.8	Cost Estimate	LS	1	18	18	8 hours for initial estimate + 3 hrs X 4 add'l submittals
19.9	Technical Special Provisions	LS	1	0	0	
19.10	Other Signing and Pavement Marking	LS	1	0	0	
Signing and Pavement Marking Analysis Technical Subtotal					570	
18.11	Field Reviews	LS	1	18	18	3 reviews X 2 people X 3 hrs. average (incl. travel time)
19.12	Technical Meetings	LS	1	14	14	Meetings are listed below
19.13	Quality Assurance/Quality Control	LS	%	5%	29	
19.14	Independent Peer Review	LS	%	0%	0	
19.15	Supervision	LS	%	5%	29	
Signing and Pavement Marking Analysis Nontechnical Subtotal					90	
19.16	Coordination	LS	%	3%	20	
19. Signing and Pavement Marking Analysis Total					680	

Middle range: Interchange/toll plaza spacing ~ 2 miles. Mainline = 2.65 miles. Ramps = 0.8 miles
45 hours setup + 60 hrs. X 3.6 miles
4 ground mounted guide signs
18 Overhead panels (11 Replacements 7 New) & 4 multi-post ground mount, very detailed sign panels
By CES
3 hrs. X 25 sheets
8 hours for initial estimate + 3 hrs X 4 add'l submittals

3 reviews X 2 people X 3 hrs. average (incl. travel time)

Meetings are listed below

Project Activity 19: Signing and Pavement Marking Analysis

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments	Number
Technical Meetings							
	Sign Panel Design	EA	1	2	2	PM Attendance at Meeting Required?	0
	Queue Length Analysis	EA	0	0	0		0
	Local Government (cities, counties)	EA	0	0	0		0
	Other Meetings	EA	0	0	0		0
	Subtotal Technical Meetings				2	Subtotal Project Manager Meetings	0
	Progress Meetings (if required by FDOT)	EA	4	3	12	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	--
	Total Meetings				14	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

Project Activity 20: Signing and Pavement Marking Plans

S. Kleus

SR 417, Ecorlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FOOT District		
Consultant Name	The Balmoral Group	

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
20.1	Key Sheet		Sheet	1	6	1	6	
20.2	Summary of Pay Items Including TRNS-Port Input		LB	1	0		0	N/A - included in roadway
20.3	Tabulation of Quantities		Sheet	3	6	3	18	10 plan sheets per column. 12 hours for live tabulation sheet and 6 hours X 2 add'l sheets.
20.4	General Notes/Pay Item Notes		Sheet	1	4	1	4	Modify standard CFX notes
20.5	Project Layout		Sheet	1	6	1	6	
20.6	Plan Sheet	1"=50'	Sheet	28	4	28	112	700' per sheet. Project length: Mainline=15,032 ft. (22 sheets); ramp=2700 ft. (4 sheets)
20.7	Typical Details		EA	11	4	6	44	Incorporate CFX details into plans for exit gore signs, route confirmation markers, milepost signs, toll route shield, curve warning signs, loop ramp signs, loop ramp signs, option lane arrow, toll plaza signs, line of sight. Estimate 11 details X 2 hrs. = 2 hrs. X 6 sheets
20.8	Guide Sign Worksheet(s)		EA	22	2	6	44	17 sign panels; 4 per sheet
20.9	Traffic Monitoring Site		EA	0	0		0	
20.10	Cross Sections		EA	17	7	4	119	Develop full sections for 6 cantilever, 7 span truss & 4 ground mount
20.11	Special Service Point Details		EA	0	0		0	8 hrs. X 13 OH structures + 3 hrs. X 4 multi-post = 116 hrs. (~ 7 hrs. per section)
20.12	Special Details		LS	1	0		0	
20.13	Interim Standards		LS	1	0		0	
Signing and Pavement Marking Plans Technical Subtotal							363	
20.14	Quality Assurance/Quality Control		LS	%	5%		18	
20.15	Supervision		LS	%	5%		18	
20. Signing and Pavement Marking Plans Total							60	



MISCELLANEOUS & DIRECT EXPENSES										
Central Florida Expressway Authority					Consultant: The Balmoral Group, LLC					
Name of Job: SR 417 - Econ Trail to Orange/Seminole County Line - 417-134										
Aerial Photography:		Sheets	Cost	Amount						
Right-of-Way Maps										
Drafting Medium (Mylar):		0	\$0.00	\$0			\$0.00	\$0.00		
		BlueLine	Vellum	11X17	8.5X11					
30% Plans				30	0	Sheets				
60% Plans				47	0	Sheets				
90% Plans				47	0	Sheets				
100% Plans				47	0	Sheets				
Final Plans				47	0	Sheets				
Misc. Prints				2,180	0	Sheets				
Total		0	0	2,398	0	Sheets				
Costs:	Blue Line			0	0.00	Sheets @		\$0.00		
	Vellum			0	0.00	Sheets @		\$0.00		
	Photocopy - 11X17			2,398	0.19	Sheets @		\$455.62		
	Photocopy - 8.5X11			0	0.11	Sheets @		\$0.00	\$455.62	
Travel From: 165 Lincoln Avenue Winter Park, FL										
To Project: Trips										
(Overnight)	x	people x		days @ \$50				\$0.00		
(Per Diem)	x	people x		days @ \$6				\$0.00		
Transport - (Comm.)	x	people x		0.00 per trip				\$0.00		
- (POV)	3 x	19 miles x		0.445 per mile				\$25.37		
- (Rental)	0 x	0 (days x \$		0.00 Day Rate)						
	+	0 (miles x \$		0.00 Mi. Rate)				\$0.00		
To District: Trips										
(Per Diem)	0 x	0 people x		0.00 days @ \$6				\$0.00		
Transport - (Comm.)	0 x	0 people x		0.00 per trip				\$0.00		
- (POV)	4 x	22 miles x		0.445 per mile				\$39.18		
- (Rental)	0 x	0 (days x \$		0.00 Day Rate)						
		0 (miles x \$		0.00 Mi. Rate)				\$0.00		
									\$64.53	
Shipping & Telephone		12 months @ \$		\$5.00 /Month)						\$60.00
TOTAL EXPENSES								LUMP SUM	\$580.15	
Date: 04/22/16										

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project:
County:
FPM No:

SR 417, Econlockhatchee Trail to Seminole County Line
Orange
417-134

Consultant Name: Terra, Inc
Consultant No.: enter consultants proj. number
Date: 6/7/2016

Staff Classification	Project Manager	Senior Engineer	Chief Scientist	Senior Project Engineer	Geotechnical Engineer	Engineering Intern	Senior Scientist	Designer	Senior Engineering Technician	Geotechnical Technician	Survey/Int. Control	Staff Classification	SH	Salary	Average Rate Per Task
	\$188,25	\$188,16	\$151,47	\$153,38	\$134,09	\$85,26	\$117,34	\$51,06	\$85,16	\$47,03	\$48,31		By Activity	Cost By Activity	
3 Project General and Project Common Tasks	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
4 Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
5 Roadway Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
6a Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
6b Drainage Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
7 Utilities	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
8 Environmental Permit, Compliance & Clearances	45	2	7	0	0	0	18	7	5	5	1		45	\$5,025.58	\$111.68
9 Structures - Mac. Ties, Dips, Non-Tech.	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
10 Structures - Bridge Development Report	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
11 Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
12 Structures - Steel Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
13 Structures - Medium Span Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
14 Structures - Structural Steel Bridge	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
15 Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
16 Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
17 Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
18 Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
19 Signing & Pavement Marking Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
20 Signing & Pavement Marking Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
21 Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
22 Signalization Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
23 Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
24 Lighting Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
25 Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
26 Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
27 Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
28 Photogrammetry	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
29 Mapping	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
30 Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
31 Architecture Development	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
32 Noise Barrier Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
33 Intelligent Transportation Systems Analysis	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
34 Intelligent Transportation Systems Plans	0	0	0	0	0	0	0	0	0	0	0		0	\$0	#DIV/0!
35 Geotechnical	611	43	65	81	122	260	18	162	32	37	14		611	\$85,062.85	\$139.19
Total Staff Hours	654	43	65	81	122	260	18	162	32	37	14		654	\$100,068.44	\$151.60
Total Staff Cost	\$9,524.75	\$12,231.70	\$1,060.28	\$12,827.16	\$16,432.18	\$24,772.80	\$2,112.12	\$15,305.14	\$3,078.92	\$2,480.11	\$1,181.27		Cost =	\$100,068.44	

SALARY RELATED COSTS:

OVERHEAD:	0%
OPERATING MARGIN:	0%
FCCM (Facilities Capital Cost Money):	0.00%
EXPENSES:	0.00%
SUBTOTAL ESTIMATED FEE:	\$100,068.44
Contamination OCCs	\$152.00
Geotechnical Field and Lab Testing	\$69,070.20
SUBTOTAL ESTIMATED FEE:	\$169,290.64
Optional Services	\$0.00
GRAND TOTAL ESTIMATED FEE:	\$169,290.64

Notes:

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

Project Activity 8: Environmental Permits

Estimator:

SR 417, Ecnlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FDOT District		
Tierra, Inc.		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
Environmental Permits, Compliances and Clearances						
8.1	Preliminary Project Research	LS	1	0	0	
	Permits					
8.2	Field Work					
8.2.1	Pond Site Alternatives	per pond site	0	0	0	
8.2.2	Establish Wetland Jurisdictional Lines and Assessments	LS	1	0	0	
8.2.3	Species Surveys	LS	1	0	0	
8.2.4	Archeological Surveys	LS	1	0	0	
8.3	Agency Verification of Wetland Data	LS	1	0	0	
8.4	Complete And Submit All Required Permit Applications					
8.4.1	Complete and Submit All Required Wetland Permit Applications	LS	1	0	0	
8.4.2	Complete and Submit All Required Species Permit Applications	LS	1	0	0	
8.5	Prepare Dredge and Fill Sketches (as needed)	LS	1	0	0	
8.6	Prepare USCG Permit Sketches	LS	1	0	0	
8.7	Prepare Water Management District Right-of-Way Occupancy Permit	LS	1	0	0	
8.8	Prepare Coastal Construction Control Line (CCCL) Permit Application	LS	1	0	0	
8.9	Prepare Tree Permit Information	LS	1	0	0	
8.10	Mitigation Design	LS	1	0	0	
8.11	Mitigation Coordination and Meetings	LS	1	0	0	

Project Activity 8: Environmental Permits

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
8.12	Other Environmental Permits	LS	1	0	0	
	Environmental Clearances/Reevaluations					
8.13	Technical support to Department for Environmental Clearances and Reevaluations (use when consultant provides technical support only)					
8.13.1	NEPA or SEIR Reevaluation	LS	1	0	0	
8.13.2	Archaeological and Historical Features	LS	1	0	0	
8.13.3	Wetland Impact Analysis	LS	1	0	0	
8.13.4	Essential Fish Habitat	LS	1	0	0	
8.13.5	Wildlife and Habitat Impact Analysis	LS	1	0	0	
8.13.6	Section 7 or Section 10 Consultation	LS	1	0	0	
8.14	Preparation of Environmental Clearances and Reevaluations (use when consultant prepares all documents associated with reevaluation)					
8.14.1	NEPA or SEIR Reevaluation	LS	1	0	0	
8.14.2	Archaeological and Historical Features	LS	1	0	0	
8.14.3	Wetland Impact Analysis	LS	1	0	0	
8.14.4	Essential Fish Habitat	LS	1	0	0	
8.14.5	Wildlife and Habitat Impact Analysis	LS	1	0	0	
8.14.6	Section 7 or Section 10 Consultation	LS	1	0	0	
8.15	Contamination Impact Analysis	LS	1	40	40	desktop/windshield Level 1 update; appx 3 miles; analysis&field review 25 hrs + 15 hrs memo = 40 MHH
8.16	Asbestos Survey	LS	1	0	0	no asbestos, no Level 2, no EDR report (CLM only)
	Environmental Permits, Compliance, and Clearances/Reevaluations Technical Subtotal			40		
8.17	Technical Meetings	LS	1	0	0	Meetings are listed below
8.18	Quality Assurance/Quality Control	LS	%	5%	2	
8.19	Supervision	LS	%	5%	2	
	Environmental Permits, Compliance and Clearances Nontechnical Subtotal			4		
8.20	Coordination	LS	%	3%	1	
	8. Environmental Permits, Compliance and Clearances Total			45		

35. Geotechnical

Estimator:

SR 417, Econlockhatchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
CFX		
Tierra, Inc.		

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
	Roadway					
35.1	Document Collection and Review	LS	1	10	10	Literature Survey (Existing Plans, USDA, USGS, Potentiometric, etc.)
35.2	Develop Detailed Boring Location Plan	LS	1	8	8	195 roadway borings. 35 SPTs, 140 Augers: Total 1,800 LF.
35.3	Stake Borings/Utility Clearance	Boring	195	0.25	49	
35.4	Muck Probing	Crew Day	0	0	0	Terra will use separate pay item in fee schedule to perform muck probing.
35.5	Coordinate and Develop MOT Plans for Field Investigation	EA	2	4	8	Toll Plaza
35.6	Drilling Access Permits	Location	0	0	0	N/A
35.7	Property Clearances	EA	0	0	0	All Work within ROW
35.8	Groundwater Monitoring	EA	0	0	0	N/A
35.9	LBR/Resilient Module Sampling	EA	12	1.5	18	Collecting LBR/wr samples
35.10	Coordination of Field Work	100 lf of boring	18	1	18	
35.11	Soil and Rock Classification - Roadway	100 lf of boring	18	2	36	
35.12	Design LBR	LS	1	8	8	
35.13	Laboratory Data	100 lf of boring	18	0.75	14	
35.14	Seasonal High Water Table	Boring	185	0.2	39	
35.15	Parameters for Water Retention Areas	EA	2	1	2	Contingency, if Required.
35.16	Delineate Limits of Unsuitable Material	Cross-section	10	1.3	13	Assume 10 cross sections @ 0.5 hr/cross section (5 hrs) + 2 plan reviews @ 4 hrs each (8 hrs). 13 hrs
35.17	Electronic Files for Cross-Sections	100 lf of boring	18	1	18	
35.18	Embankment Settlement and Stability	Embankment Boring	2	4	8	
35.19	Monitor Existing Structures	LS	1	20	20	2 hrs preliminary review + 10 hrs field visit + 8 hrs recommendations
						Sum =

35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
35.20	Stormwater Volume Recovery and/or Background Seepage Analysis	EA	0	0	0	To be performed by others.
35.21	Geotechnical Recommendations	LS	1	20	20	
35.22	Pavement Condition Survey and Pavement Evaluation Report	LS	0	0	0	Pavement Coring and Evaluation Not Required.
35.23	Preliminary Roadway Report	LS	1	16	16	
35.24	Final Report	EA	1	18	18	
35.25	Auger Boring Drilling	100 lf boring	7	4	28	
35.26	SPT Boring Drilling	100 lf boring	11	5	55	
Roadway Geotechnical Subtotal					404	
Structures						
35.27	Develop Detailed Boring Location Plan	LS	1	4	4	36 structure borings. Total 1,445 LF
35.28	Stake Borings/Utility Clearance	Boring	38	0.3	11	
35.29	Coordinate and Develop MOT Plans for Field Investigation	EA	3	2	8	Bridge, Walls, Misc Structures
35.30	Drilling Access Permits	Location	0	0	0	N/A
35.31	Property Clearances	EA	0	0	0	All Work within ROW
35.32	Collection of Corrosion Samples	EA	0	0	0	To be collected at time of drilling.
35.33	Coordination of Field Work	100 lf of boring	14.45	1	14	
35.34	Soil and Rock Classification - Structures	100 lf of boring	14.45	2	29	
35.35	Tabulation of Laboratory Data	100 lf of boring	14.45	0.75	11	
35.36	Estimate Design Groundwater Level for Structures	EA	38	0.25	10	
35.37	Selection of Foundation Alternatives (BDR)	Bridge boring	2	4	8	Two borings at End Berms.
35.38	Detailed Analysis of Selected Foundation Alternative(s)	Bridge boring	2	4	8	
35.39	Bridge Construction and Testing Recommendations	Bridge boring	2	4	8	Anticipate standard foundation work.
35.40	Lateral Load Analysis (Optional)	Bridge boring	2	1.5	3	Provide soil parameters only.
35.41	Walls	Wall Boring	0	2	12	
35.42	Sheet Pile Wall Analysis (Optional)	Wall Boring	0	0	0	N/A
35.43	Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations	Boring	23	1	23	14 Sign Borings, 1 Signal Boring, 8 ITS Borings

35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
35.44	Box Culvert Analysis	EA	0	0	0	No Culvert Extensions.
35.45	Preliminary Report - BDR	EA	1	20	20	
35.46	Final Report - Bridge and Associated Walls	EA	1	20	20	
35.47	Final Reports - Signs, Signals, Box Culvert, Walls and High Mast Lights	EA	4	8	32	Reports for Signs, Signals, ITS and Sound Wall
35.48	SPT Boring Drilling	100 ft of boring	14.46	5	72	
35.49	Other Geotechnical	LS	0	0	0	N/A
Structural Geotechnical Subtotal					291	
Geotechnical Technical Subtotal					698	
35.50	Technical Special Provisions	EA	0	0	0	
35.51	Field Reviews	LS	1	8	8	
35.52	Technical Meetings	LS	1	14	14	Meetings listed below
35.53	Quality Assurance/Quality Control	LS	%	6%	35	
35.54	Supervision	LS	%	5%	35	
Geotechnical Nontechnical Subtotal					92	
35.55	Coordination	LS	%	3%	24	
35. Geotechnical Total					811	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with CFX	EA	1	2	2		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	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				2	Subtotal Project Manager Meetings	0
Progress Meetings (if required by FDOT)	EA	6	2	12	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 (carries to Tab 3)	--
Total Meetings				14	Total Project Manager Meetings (carries to Tab 3)	0

Continued on Tab 3

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
Geotechnical Field Investigation				
612-Geo Mobilization Drill Rig Truck Mount	Each	\$ 337.00	0	\$ -
614-Geo Mobilization Mudbug/All Terrain Vehicle	Each	\$ 500.00	0	\$ -
610-Geo Mobilization Drill Rig Truck Mount	Each	\$ 3,110.00	0	\$ -
418-Geo Drill Crew Support Vehicle	Day	\$ 152.00	1	\$ 152.00
609-Geo Mobilization Drill Rig Barge Mount	Each	\$ 7,420.00	0	\$ -
405-Geo Barge (Owned)	Day	\$ 2,500.00	0	\$ -
618-Geo Mobilization Support Boat	Each	\$ 500.00	0	\$ -
Geo Support Safety Boat	Day	\$ 275.00	0	\$ -
619-Geo Mobilization Tri-Pod	Each	\$ 1,250.00	0	\$ -
419-Geo Drilling Crew 2-Person	Hour	\$ 135.00	0	\$ -
420-Geo Drilling Crew 3-Person	Hour	\$ 185.00	0	\$ -
Geo SPT Truck 0-50 Ft	LF	\$ 12.00	0	\$ -
Geo SPT Truck 50-100 Ft	LF	\$ 14.00	0	\$ -
Geo SPT Truck 100-150 Ft	LF	\$ 20.00	0	\$ -
Geo SPT Truck 150-200 Ft	LF	\$ 39.00	0	\$ -
478-Geo SPT Truck-Mud Bug 0-50 Ft	LF	\$ 12.50	0	\$ -
479-Geo SPT Truck-Mud Bug 50-100 Ft	LF	\$ 16.00	0	\$ -
480-Geo SPT Truck-Mud Bug 100-150 Ft	LF	\$ 27.50	0	\$ -
481-Geo SPT Truck-Mud Bug 150-200 Ft	LF	\$ 42.00	0	\$ -
473-Geo SPT Barge/Track/Amphibious 000-050 Ft	LF	\$ 18.50	0	\$ -
474-Geo SPT Barge/Track/Amphibious 050-100 Ft	LF	\$ 25.00	0	\$ -
475-Geo SPT Barge/Track/Amphibious 100-150 Ft	LF	\$ 40.00	0	\$ -
476-Geo SPT Barge/Track/Amphibious 150-200 Ft	LF	\$ 70.00	0	\$ -
Geo Grout Boreholes- Truck 0-050 Ft	LF	\$ 4.50	0	\$ -
Geo Grout Boreholes- Truck 50-100 Ft	LF	\$ 5.00	0	\$ -
Geo Grout Boreholes- Truck 100-150 Ft	LF	\$ 5.50	0	\$ -
Geo Grout Boreholes- Truck 150-200 Ft	LF	\$ 14.00	0	\$ -
440-Geo Grout Boreholes- Truck/Mud Bug 000-050 Ft	LF	\$ 5.95	0	\$ -
441-Geo Grout Boreholes- Truck/Mud Bug 050-100 Ft	LF	\$ 7.10	0	\$ -
442-Geo Grout Boreholes- Truck/Mud Bug 100-150 Ft	LF	\$ 9.00	0	\$ -
443-Geo Grout Boreholes- Truck/Mud Bug 150-200 Ft	LF	\$ 18.00	0	\$ -
435-Geo Grout Boreholes- Barge/Track/Amphibious 000-050 Ft	LF	\$ 8.50	0	\$ -
436-Geo Grout Boreholes- Barge/Track/Amphibious 050-100 Ft	LF	\$ 9.00	0	\$ -
437-Geo Grout Boreholes- Barge/Track/Amphibious 100-150 Ft	LF	\$ 10.00	0	\$ -
438-Geo Grout Boreholes- Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
Geo Temp Casing 3" Truck 0-050 Ft	LF	\$ 7.50	0	\$ -
Geo Temp Casing 3" Truck 50-100 Ft	LF	\$ 8.75	0	\$ -
Geo Temp Casing 3" Truck 100-150 Ft	LF	\$ 10.50	0	\$ -
Geo Temp Casing 3" Truck 150-200 Ft	LF	\$ 15.00	0	\$ -

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
488-Geo Temp Casing 3" Truck/Mud Bug 000-050 Ft	LF	\$ 9.80	0	\$ -
489-Geo Temp Casing 3" Truck/Mud Bug 050-100 Ft	LF	\$ 12.75	0	\$ -
490-Geo Temp Casing 3" Truck/Mud Bug 100-150 Ft	LF	\$ 15.75	0	\$ -
491-Geo Temp Casing 3" Truck/Mud Bug 150-200 Ft	LF	\$ 22.00	0	\$ -
483-Geo Temp Casing 3" Barge/Track/Amphibious 0-050 Ft	LF	\$ 12.90	0	\$ -
484-Geo Temp Casing 3" Barge/Track/Amphibious 50-100 Ft	LF	\$ 14.70	0	\$ -
485-Geo Temp Casing 3" Barge/Track/Amphibious 100-150 Ft	LF	\$ 17.65	0	\$ -
486-Geo Temp Casing 3" Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
483-Geo Rock Coring Truck/Mud Bug 000-050 Ft less than 4" ID	LF	\$ 34.25	0	\$ -
485-Geo Rock Coring Truck/Mud Bug 050-100 Ft less than 4" ID	LF	\$ 36.55	0	\$ -
487-Geo Rock Coring Truck/Mud Bug 100-150 Ft less than 4" ID	LF	\$ 39.90	0	\$ -
453-Geo Rock Coring Barge/Track/Amphibious 000-050 Ft less than 4" ID	LF	\$ 45.79	0	\$ -
455-Geo Rock Coring Barge/Track/Amphibious 050-100 Ft less than 4" ID	LF	\$ 60.74	0	\$ -
457-Geo Rock Coring Barge/Track/Amphibious 100-150 Ft less than 4" ID	LF	\$ 65.00	0	\$ -
459-Geo Rock Coring Barge/Track/Amphibious 150-200 Ft less than 4" ID	LF	\$ 94.00	0	\$ -
427-Geo Extra SPT Samples-Truck/Mud Bug 000-050 Ft	Each	\$ 31.40	0	\$ -
428-Geo Extra SPT Samples-Truck/Mud Bug 050-100 Ft	Each	\$ 36.44	0	\$ -
429-Geo Extra SPT Samples-Truck/Mud Bug 100-150 Ft	Each	\$ 42.20	0	\$ -
430-Geo Extra SPT Samples-Truck/Mud Bug 150-200 Ft	Each	\$ 85.00	0	\$ -
422-Geo Extra SPT Samples-Barge/Track/Amphibious 000-050 Ft	Each	\$ 47.15	0	\$ -
423-Geo Extra SPT Samples-Barge/Track/Amphibious 050-100 Ft	Each	\$ 54.80	0	\$ -
424-Geo Extra SPT Samples-Barge/Track/Amphibious 100-150 Ft	Each	\$ 63.30	0	\$ -
425-Geo Extra SPT Samples-Barge/Track/Amphibious 150-200 Ft	Each	\$ 85.00	0	\$ -
519-Geo Undisturbed Samples Truck/Mud Bug 000-050 Ft	Each	\$ 119.50	0	\$ -
520-Geo Undisturbed Samples Truck/Mud Bug 050-100 Ft	Each	\$ 130.40	0	\$ -
521-Geo Undisturbed Samples Truck/Mud Bug 100-150 Ft	Each	\$ 195.80	0	\$ -
522-Geo Undisturbed Samples Truck/Mud Bug 150-200 Ft	Each	\$ 200.00	0	\$ -
515-Geo Undisturbed Samples Barge/Track/Amphibious 000-050 Ft	Each	\$ 179.00	0	\$ -
516-Geo Undisturbed Samples Barge/Track/Amphibious 050-100 Ft	Each	\$ 195.50	0	\$ -
517-Geo Undisturbed Samples Barge/Track/Amphibious 100-150 Ft	Each	\$ 293.40	0	\$ -
518-Geo Undisturbed Samples Barge/Track/Amphibious 150-200 Ft	Each	\$ 375.00	0	\$ -
401-Geo Auger Borings- Hand & Truck/Mud Bug	LF	\$ 9.25	0	\$ -
402-Geo Auger Borings- Track	LF	\$ 9.25	0	\$ -
432-Geo Field Permeability 0-10 Ft (Open - End Borehole Method)	Each	\$ 270.00	0	\$ -
Flagman and Barricades 2-Man Crew Own Equipment	Day	\$ 850.00	0	\$ -
450-Geo Piezometer 2" 000-050 Ft	LF	\$ 30.00	0	\$ -
445-Geo Grouted Monitor Well 2" 000-050 Ft	LF	\$ 6.25	0	\$ -
450.1 Piezometer Permit Cost Actual	Each	\$ 50.00	0	\$ -
403-Geo Backhoe (Owned)	Day	\$ 600.00	0	\$ -
416-Geo Dozer (Owned)	Day	\$ 800.00	0	\$ -
Silt Clearing to Access Boring or Test Locations	Hour	\$ 150.00	0	\$ -
407-Geo Chainsaw (Owned)	Day	\$ 28.00	0	\$ -
415-Geo Double Ring Infiltration (ASTM D3385)	Each	\$ 460.00	0	\$ -
434-Geo Ground Penetrating Radar (GPR)	Day	\$ 2,800.00	0	\$ -

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
Asphalt and Concrete Pavement Coring				
209-Asphalt Pavement Coring - 4" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
210-Asphalt Pavement Coring - 4" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
211-Asphalt Pavement Coring - 6" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
212-Asphalt Pavement Coring - 6" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
305-Concrete Pavement Coring - 4" Dia	Each	\$ 110.00	0	\$ -
306-Concrete Pavement Coring - 6" Dia	Each	\$ 110.00	0	\$ -
603-Mobilization Asphalt Coring equipment	Each	\$ 250.00	0	\$ -
606-Mobilization Concrete Coring	Each	\$ 250.00	0	\$ -
Geotechnical Soil Laboratory Testing				
812-Soils Materials Finer than 200 Sieve (FM 1-T011)	Test	\$ 35.00	0	\$ -
817-Soils Moisture Content Laboratory (AASHTO T 265)	Test	\$ 9.58	0	\$ -
821-Soils Particle Size Analysis (AASHTO T 88) (Including Hydrometer)	Test	\$ 131.00	0	\$ -
822-Soils Particle Size Analysis (AASHTO T 88) (No Hydrometer)	Test	\$ 67.00	0	\$ -
805-Soils Corrosion Series (FM 5-550 through 5-553)	Test	\$ 145.00	0	\$ -
825-Soils pH Soil or Water (FM 5-550)	Test	\$ 30.00	0	\$ -
829-Soils Resistivity Soil or Water (FM 5-551)	Test	\$ 35.00	0	\$ -
800-Soils Chloride Soil or Water (FM 5-552)	Test	\$ 40.00	0	\$ -
833-Soils Sulfate Soil or Water (FM 5-553)	Test	\$ 40.00	0	\$ -
819-Soils Organic Content Ignition (FM 1 T-267)	Test	\$ 35.00	0	\$ -
Atterberg Limit Tests (AASHTO T-89 and T-90) Combined	Test	\$ 81.00	0	\$ -
826-Soils Plastic Limit & Plasticity Index (AASHTO T 90)	Test	\$ 81.00	0	\$ -
811-Soils Liquid Limit (AASHTO T 89)	Test	\$ 41.00	0	\$ -
823-Soils Permeability Constant Head (AASHTO T 215)	Test	\$ 155.00	0	\$ -
824-Soils Permeability Falling Head (FM 5-513)	Test	\$ 155.00	0	\$ -
827-Soils Proctor Modified (FM 1-T 180)	Test	\$ 115.00	0	\$ -
828-Soils Proctor Standard (AASHTO T 99)	Test	\$ 111.00	0	\$ -
832-Soils Splitting Tensile Strength of Rock Cores (ASTM D3967)	Test	\$ 105.00	0	\$ -
838-Soils Unconfined Compression - Rock (ASTM D7012, Method C)	Test	\$ 105.00	0	\$ -
803-Soils Consolidation - Constant Strain (ASTM D4186)	Test	\$ 500.00	0	\$ -
804-Soils Consolidation - Extended Load Increments (AASHTO T216)	Each	\$ 50.00	0	\$ -
806-Soils Direct Shear Consolidated Drained/ Point AASHTO T 236	Test	\$ 250.00	0	\$ -
810-Soils Limerock Bearing Ratio (LBR)(FM 5-515)	Test	\$ 326.18	0	\$ -
Engineering and Technical Support Services				
Project Manager	Hour	\$ 198.25	2	\$ 396.50
Senior Engineer	Hour	\$ 188.18	0	\$ -
Chief Scientist	Hour	\$ 151.47	7	\$ 1,060.29
Senior Project Engineer	Hour	\$ 158.36	0	\$ -
Geotechnical Engineer	Hour	\$ 134.69	0	\$ -
Engineering Intern	Hour	\$ 95.28	0	\$ -
Senior Scientist	Hour	\$ 117.34	18	\$ 2,112.12
Designer	Hour	\$ 91.06	7	\$ 637.42
Sr Engineering Technician	Hour	\$ 83.16	5	\$ 415.80
Geotechnical Technician	Hour	\$ 67.03	5	\$ 335.15
Secretary/Clerical	Hour	\$ 68.31	1	\$ 68.31
Total Estimated Fee				\$ 5,177.59

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
Geotechnical Field Investigation				
612-Geo Mobilization Drill Rig Truck Mount	Each	\$ 337.00	4	\$ 1,348.00
614-Geo Mobilization Mudbug/All Terrain Vehicle	Each	\$ 500.00	4	\$ 2,000.00
610-Geo Mobilization Drill Rig Truck Mount	Each	\$ 3,110.00	0	\$ -
418-Geo Drill Crew Support Vehicle	Day	\$ 152.00	40	\$ 6,080.00
609-Geo Mobilization Drill Rig Barge Mount	Each	\$ 7,420.00	0	\$ -
405-Geo Barge (Owned)	Day	\$ 2,500.00	0	\$ -
618-Geo Mobilization Support Boat	Each	\$ 500.00	0	\$ -
Geo Support Safety Boat	Day	\$ 275.00	0	\$ -
619-Geo Mobilization Tri-Pod	Each	\$ 1,250.00	0	\$ -
419-Geo Drilling Crew 2-Person	Hour	\$ 135.00	0	\$ -
420-Geo Drilling Crew 3-Person	Hour	\$ 185.00	0	\$ -
Geo SPT Truck 0-50 Ft	LF	\$ 12.00	1585	\$ 19,020.00
Geo SPT Truck 50-100 Ft	LF	\$ 14.00	100	\$ 1,400.00
Geo SPT Truck 100-150 Ft	LF	\$ 20.00	60	\$ 1,200.00
Geo SPT Truck 150-200 Ft	LF	\$ 39.00	0	\$ -
478-Geo SPT Truck-Mud Bug 0-50 Ft	LF	\$ 12.50	800	\$ 10,000.00
479-Geo SPT Truck-Mud Bug 50-100 Ft	LF	\$ 16.00	0	\$ -
480-Geo SPT Truck-Mud Bug 100-150 Ft	LF	\$ 27.50	0	\$ -
481-Geo SPT Truck-Mud Bug 150-200 Ft	LF	\$ 42.00	0	\$ -
473-Geo SPT Barge/Track/Amphibious 000-050 Ft	LF	\$ 18.50	0	\$ -
474-Geo SPT Barge/Track/Amphibious 050-100 Ft	LF	\$ 25.00	0	\$ -
475-Geo SPT Barge/Track/Amphibious 100-150 Ft	LF	\$ 40.00	0	\$ -
476-Geo SPT Barge/Track/Amphibious 150-200 Ft	LF	\$ 70.00	0	\$ -
Geo Grout Boreholes- Truck 0-050 Ft	LF	\$ 4.50	1585	\$ 7,132.50
Geo Grout Boreholes- Truck 50-100 Ft	LF	\$ 5.00	100	\$ 500.00
Geo Grout Boreholes- Truck 100-150 Ft	LF	\$ 5.50	60	\$ 330.00
Geo Grout Boreholes- Truck 150-200 Ft	LF	\$ 14.00	0	\$ -
440-Geo Grout Boreholes- Truck/Mud Bug 000-050 Ft	LF	\$ 5.95	800	\$ 4,760.00
441-Geo Grout Boreholes- Truck/Mud Bug 050-100 Ft	LF	\$ 7.10	0	\$ -
442-Geo Grout Boreholes- Truck/Mud Bug 100-150 Ft	LF	\$ 9.00	0	\$ -
443-Geo Grout Boreholes- Truck/Mud Bug 150-200 Ft	LF	\$ 18.00	0	\$ -
435-Geo Grout Boreholes- Barge/Track/Amphibious 000-050 Ft	LF	\$ 8.50	0	\$ -
436-Geo Grout Boreholes- Barge/Track/Amphibious 050-100 Ft	LF	\$ 9.00	0	\$ -
437-Geo Grout Boreholes- Barge/Track/Amphibious 100-150 Ft	LF	\$ 10.00	0	\$ -
438-Geo Grout Boreholes- Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
Geo Temp Casing 3" Truck 0-050 Ft	LF	\$ 7.50	400	\$ 3,000.00
Geo Temp Casing 3" Truck 50-100 Ft	LF	\$ 8.75	80	\$ 700.00
Geo Temp Casing 3" Truck 100-150 Ft	LF	\$ 10.50	0	\$ -
Geo Temp Casing 3" Truck 150-200 Ft	LF	\$ 15.00	0	\$ -

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
488-Geo Temp Casing 3" Truck/Mud Bug 000-050 Ft	LF	\$ 9.80	150	\$ 1,470.00
489-Geo Temp Casing 3" Truck/Mud Bug 050-100 Ft	LF	\$ 12.75	0	\$ -
490-Geo Temp Casing 3" Truck/Mud Bug 100-150 Ft	LF	\$ 15.75	0	\$ -
491-Geo Temp Casing 3" Truck/Mud Bug 150-200 Ft	LF	\$ 22.00	0	\$ -
483-Geo Temp Casing 3" Barge/Track/Amphibious 0-050 Ft	LF	\$ 12.90	0	\$ -
484-Geo Temp Casing 3" Barge/Track/Amphibious 50-100 Ft	LF	\$ 14.70	0	\$ -
485-Geo Temp Casing 3" Barge/Track/Amphibious 100-150 Ft	LF	\$ 17.65	0	\$ -
486-Geo Temp Casing 3" Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
463-Geo Rock Coring Truck/Mud Bug 000-050 Ft less than 4" ID	LF	\$ 34.25	0	\$ -
465-Geo Rock Coring Truck/Mud Bug 050-100 Ft less than 4" ID	LF	\$ 36.55	0	\$ -
467-Geo Rock Coring Truck/Mud Bug 100-150 Ft less than 4" ID	LF	\$ 39.90	0	\$ -
453-Geo Rock Coring Barge/Track/Amphibious 000-050 Ft less than 4" ID	LF	\$ 45.79	0	\$ -
455-Geo Rock Coring Barge/Track/Amphibious 050-100 Ft less than 4" ID	LF	\$ 60.74	0	\$ -
457-Geo Rock Coring Barge/Track/Amphibious 100-150 Ft less than 4" ID	LF	\$ 65.00	0	\$ -
459-Geo Rock Coring Barge/Track/Amphibious 150-200 Ft less than 4" ID	LF	\$ 94.00	0	\$ -
427-Geo Extra SPT Samples-Truck/Mud Bug 000-050 Ft	Each	\$ 31.40	14	\$ 439.60
428-Geo Extra SPT Samples-Truck/Mud Bug 050-100 Ft	Each	\$ 36.44	20	\$ 728.80
429-Geo Extra SPT Samples-Truck/Mud Bug 100-150 Ft	Each	\$ 42.20	12	\$ 506.40
430-Geo Extra SPT Samples-Truck/Mud Bug 150-200 Ft	Each	\$ 85.00	0	\$ -
422-Geo Extra SPT Samples-Barge/Track/Amphibious 000-050 Ft	Each	\$ 47.15	0	\$ -
423-Geo Extra SPT Samples-Barge/Track/Amphibious 050-100 Ft	Each	\$ 54.80	0	\$ -
424-Geo Extra SPT Samples-Barge/Track/Amphibious 100-150 Ft	Each	\$ 63.30	0	\$ -
425-Geo Extra SPT Samples-Barge/Track/Amphibious 150-200 Ft	Each	\$ 85.00	0	\$ -
519-Geo Undisturbed Samples Truck/Mud Bug 000-050 Ft	Each	\$ 119.50	2	\$ 239.00
520-Geo Undisturbed Samples Truck/Mud Bug 050-100 Ft	Each	\$ 130.40	0	\$ -
521-Geo Undisturbed Samples Truck/Mud Bug 100-150 Ft	Each	\$ 195.60	0	\$ -
522-Geo Undisturbed Samples Truck/Mud Bug 150-200 Ft	Each	\$ 200.00	0	\$ -
515-Geo Undisturbed Samples Barge/Track/Amphibious 000-050 Ft	Each	\$ 179.00	0	\$ -
516-Geo Undisturbed Samples Barge/Track/Amphibious 050-100 Ft	Each	\$ 195.60	0	\$ -
517-Geo Undisturbed Samples Barge/Track/Amphibious 100-150 Ft	Each	\$ 293.40	0	\$ -
518-Geo Undisturbed Samples Barge/Track/Amphibious 150-200 Ft	Each	\$ 375.00	0	\$ -
401-Geo Auger Borings- Hand & Truck/Mud Bug	LF	\$ 9.25	700	\$ 6,475.00
402-Geo Auger Borings- Track	LF	\$ 9.25	0	\$ -
432-Geo Field Permeability 0-10 Ft (Open - End Borehole Method)	Each	\$ 270.00	4	\$ 1,080.00
Flagman and Barricades 2-Man Crew Own Equipment	Day	\$ 850.00	3	\$ 2,550.00
450-Geo Piezometer 2" 000-050 Ft	LF	\$ 30.00	0	\$ -
445-Geo Grouted Monitor Well 2" 000-050 Ft	LF	\$ 6.25	0	\$ -
450.1 Piezometer Permit Cost Actual	Each	\$ 50.00	0	\$ -
403-Geo Backhoe (Owned)	Day	\$ 600.00	0	\$ -
416-Geo Dozer (Owned)	Day	\$ 800.00	1	\$ 800.00
Site Clearing to Access Boring or Test Locations	Hour	\$ 150.00	8	\$ 1,200.00
407-Geo Chainsaw (Owned)	Day	\$ 28.00	1	\$ 28.00
415-Geo Double Ring Infiltration (ASTM D3385)	Each	\$ 460.00	0	\$ -
434-Geo Ground Penetrating Radar (GPR)	Day	\$ 2,800.00	0	\$ -

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL

Item Description	Unit	Unit Price	Quantity	Total
Asphalt and Concrete Pavement Coring				
209-Asphalt Pavement Coring – 4" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
210-Asphalt Pavement Coring – 4" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
211-Asphalt Pavement Coring – 6" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
212-Asphalt Pavement Coring – 6" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
305-Concrete Pavement Coring - 4" Dia	Each	\$ 110.00	0	\$ -
306-Concrete Pavement Coring - 6" Dia	Each	\$ 110.00	0	\$ -
603-Mobilization Asphalt Coring equipment	Each	\$ 250.00	0	\$ -
606-Mobilization Concrete Coring	Each	\$ 250.00	0	\$ -
Geotechnical Soil Laboratory Testing				
812-Soils Materials Finer than 200 Sieve (FM 1-T011)	Test	\$ 35.00	40	\$ 1,400.00
817-Soils Moisture Content Laboratory (AASHTO T 265)	Test	\$ 9.58	45	\$ 431.10
821-Soils Particle Size Analysis (AASHTO T 88) (Including Hydrometer)	Test	\$ 131.00	0	\$ -
822-Soils Particle Size Analysis (AASHTO T 88) (No Hydrometer)	Test	\$ 67.00	80	\$ 5,360.00
805-Soils Corrosion Series (FM 5-550 through 5-553)	Test	\$ 145.00	15	\$ 2,175.00
825-Soils pH Soil or Water (FM 5-550)	Test	\$ 30.00	0	\$ -
829-Soils Resistivity Soil or Water (FM 5-551)	Test	\$ 35.00	0	\$ -
800-Soils Chloride Soil or Water (FM 5-552)	Test	\$ 40.00	0	\$ -
833-Soils Sulfate Soil or Water (FM 5-553)	Test	\$ 40.00	0	\$ -
819-Soils Organic Content Ignition (FM 1 T-267)	Test	\$ 35.00	15	\$ 525.00
Atterberg Limit Tests (AASHTO T-89 and T-90) Combined	Test	\$ 81.00	0	\$ -
826-Soils Plastic Limit & Plasticity Index (AASHTO T 90)	Test	\$ 81.00	30	\$ 2,430.00
811-Soils Liquid Limit (AASHTO T 89)	Test	\$ 41.00	0	\$ -
823-Soils Permeability Constant Head (AASHTO T 215)	Test	\$ 155.00	0	\$ -
824-Soils Permeability Falling Head (FM 5-513)	Test	\$ 155.00	0	\$ -
827-Soils Proctor Modified (FM 1-T 180)	Test	\$ 115.00	0	\$ -
828-Soils Proctor Standard (AASHTO T 99)	Test	\$ 111.00	0	\$ -
832-Soils Splitting Tensile Strength of Rock Cores (ASTM D3967)	Test	\$ 105.00	0	\$ -
838-Soils Unconfined Compression - Rock (ASTM D7012, Method C)	Test	\$ 105.00	0	\$ -
803-Soils Consolidation - Constant Strain (ASTM D4186)	Test	\$ 500.00	1	\$ 500.00
804-Soils Consolidation - Extended Load Increments (AASHTO T216)	Each	\$ 50.00	0	\$ -
806-Soils Direct Shear Consolidated Drained/ Point AASHTO T 236	Test	\$ 250.00	0	\$ -
810-Soils Limerock Bearing Ratio (LBR)(FM 5-515)	Test	\$ 326.18	10	\$ 3,261.80
Engineering and Technical Support Services				
Project Manager	Hour	\$ 198.25	41	\$ 8,128.25
Senior Engineer	Hour	\$ 188.18	65	\$ 12,231.70
Chief Scientist	Hour	\$ 151.47	0	\$ -
Senior Project Engineer	Hour	\$ 158.36	81	\$ 12,827.16
Geotechnical Engineer	Hour	\$ 134.69	122	\$ 16,432.18
Engineering Intern	Hour	\$ 95.28	260	\$ 24,772.80
Senior Scientist	Hour	\$ 117.34	0	\$ -
Designer	Hour	\$ 91.06	162	\$ 14,751.72
Sr Engineering Technician	Hour	\$ 83.16	32	\$ 2,661.12
Geotechnical Technician	Hour	\$ 67.03	32	\$ 2,144.96
Secretary/Clerical	Hour	\$ 66.31	16	\$ 1,092.96
Total Estimated Fee				\$ 184,113.05

Mobile LIDAR MAPPING

Consultant: Dewberry

ACA Proposal #: 17607

Date: 5/31/2016

Estimator's Name: Aerial Cartographics of America, Inc.

Job Name: SR 417

From: Econ Trail

To: Orange/Seminole County Line

Project Length: 7.0 Corridor Miles/31.5 Scan Miles

Mobile LIDAR Item	Scale 1" =	Unit	No. of Unit	Price per Unit	Total Cost	Comments
1 LIDAR Mission Planning (MOC Item D.1.)		Mile	31.5	\$342.45	\$10,767.18	Scan miles (Task 30.1 - 18 hours and 30.2 - 24 hours)
2 Mobile LIDAR Acquisition Full Day (MOC Item E.1.)		Day	1	\$16,000.00	\$16,000.00	(Tasks 30.3 and 30.4)
3 LIDAR Mission Data Processing (MOC Item F.1.a.)		Mile	31.5	\$482.14	\$15,187.41	(Task 30.5 - 40 hours and Task 30.7 - 96 hours)
4 LIDAR Survey Report (MOC Item F.1.b.)		Each	1	\$1,258.62	\$1,258.62	(Task 30.14 - 24 hours)
5 LIDAR Mission Digital Imagery Processing (MOC Item F.1.c.)		Mile	31.5	\$212.08	\$6,679.89	(Task 30.6 - 24 hours)
6 LIDAR Point Cloud Classification Urban (MOC Item F.1.d.)		Mile	7	\$1,447.46	\$10,132.22	Corridor miles (SR 417, Sidestreets & Ramps) (Task 30.8 - 60 hours)
7 LIDAR Specific Surface Reporting (MOC Item F.1.e.)		Each		\$1,812.48	\$0.00	N/A
8 LIDAR Mapp Den Urb Rdwy 6-lane (MOC Item G.1.a.)		Mile	0.41	\$8,062.45	\$3,716.50	3D Topo University Blvd (Task 30.10 - 246 Total Hours)
9 LIDAR Mapp Mod Urb Rdwy 3-lane (MOC Item G.1.b.)		Mile	0.22	\$2,900.20	\$638.04	3D Topo Econ Trail & Trevarthon (Task 30.10)
10 LIDAR Mapp Multi-Lane Rdwy/Int 6-lane (MOC Item G.1.c.)		Mile	6	\$5,097.76	\$30,586.56	3D Topo SR 417 (Task 30.10)
11 LIDAR Mapp Multi-Lane Rdwy/Int 2-lane ramp (MOC Item G.1.c.)		Mile	0.37	\$2,038.28	\$754.18	3D Topo Ramps (Task 30.10)
12 LIDAR CAD Den Urb Rdwy 6-lane (MOC Item G.2.a.)		Mile	0.41	\$905.25	\$371.58	Cadd Edits University Blvd. (Task 30.12 - 26 Total hours)
13 LIDAR CAD Mod Urb Rdwy 3-lane (MOC Item G.2.b.)		Mile	0.22	\$340.77	\$74.97	Cadd Edits Econ Trail & Trevarthon (Task 30.12)
14 LIDAR CAD Multi-Lane Rdwy/Int 6-lane (MOC Item G.2.c.)		Mile	6	\$908.25	\$5,437.50	Cadd Edits SR 417 (Task 30.12)
15 LIDAR CAD Multi-Lane Rdwy/Int 2-lane ramp (MOC Item G.2.c.)		Mile	0.37	\$452.60	\$167.46	Cadd Edits Ramps (Task 30.12)
16 LIDAR Data Merging (MOC Item G.3.a.)		Mile	6	\$2,831.62	\$16,989.72	Merging Survey Data Furnished By Dewberry (Task 30.13 - 28 Hours)
17 Mapping 4-man crew (MOC Item G.4.a.)		Day	4	\$1,948.58	\$7,794.32	Set and maintain control targets (Task 27.4 & 27.27 - 4 man crew @ 4 days)
18 Mapping 4-man crew (MOC Item G.4.a.)		Day	2	\$1,948.58	\$3,897.16	Field Review (Task 30.15 - 4 man crew @ 2 days)
19 Senior Surveyor and Mapper		Hour	59	\$189.72	\$11,193.48	Includes Tasks 30.16 thru 30.19 (59 hours total)
20 Professional Surveyor and Mapper		Hour	0	\$160.85	\$0.00	N/A
TOTAL FEES					\$141,685.85	

Prepared by: Patrick Senne, PSM, Sr. Vice President

Date: May 31, 2016

EXHIBIT D

PROJECT ORGANIZATIONAL CHART

Organization and Management

CENTRAL FLORIDA TRANSPORTATION AUTHORITY

Project Manager

Kevin Krudsen, PE

Asst. Project Manager

Don Hammack, PE

Roadway Design

Dan Christie, PE
Ray Lee, PE
Mike Greenberg, PE

Structures Design

Marybeth Monin, PE
Justin Fries, PE

Drainage / Hydraulic

Clayton Lee, PE
Kevin Koehler, PE
Greg Seidel, PE
Jennifer Nunn, PE

Traffic / ITS / Lighting / Utility Coordination

Chris Simonaeuz, PE
Rob Sykes, PE
Ryan McGinnis, PE
Ginny Davis

Environmental / Permitting

Nicole Gough
Jason Paryman

Signing & Pavement Markings

Sherman Klaus, PE
Bryon Sprague, PE

Maintenance of Traffic

Jim Bradford, PE
Vu Vu, PE

Surveying / Mapping

Bill Byrd, PSM
Luke Fulford, PSM
Steve Kudla, PSM

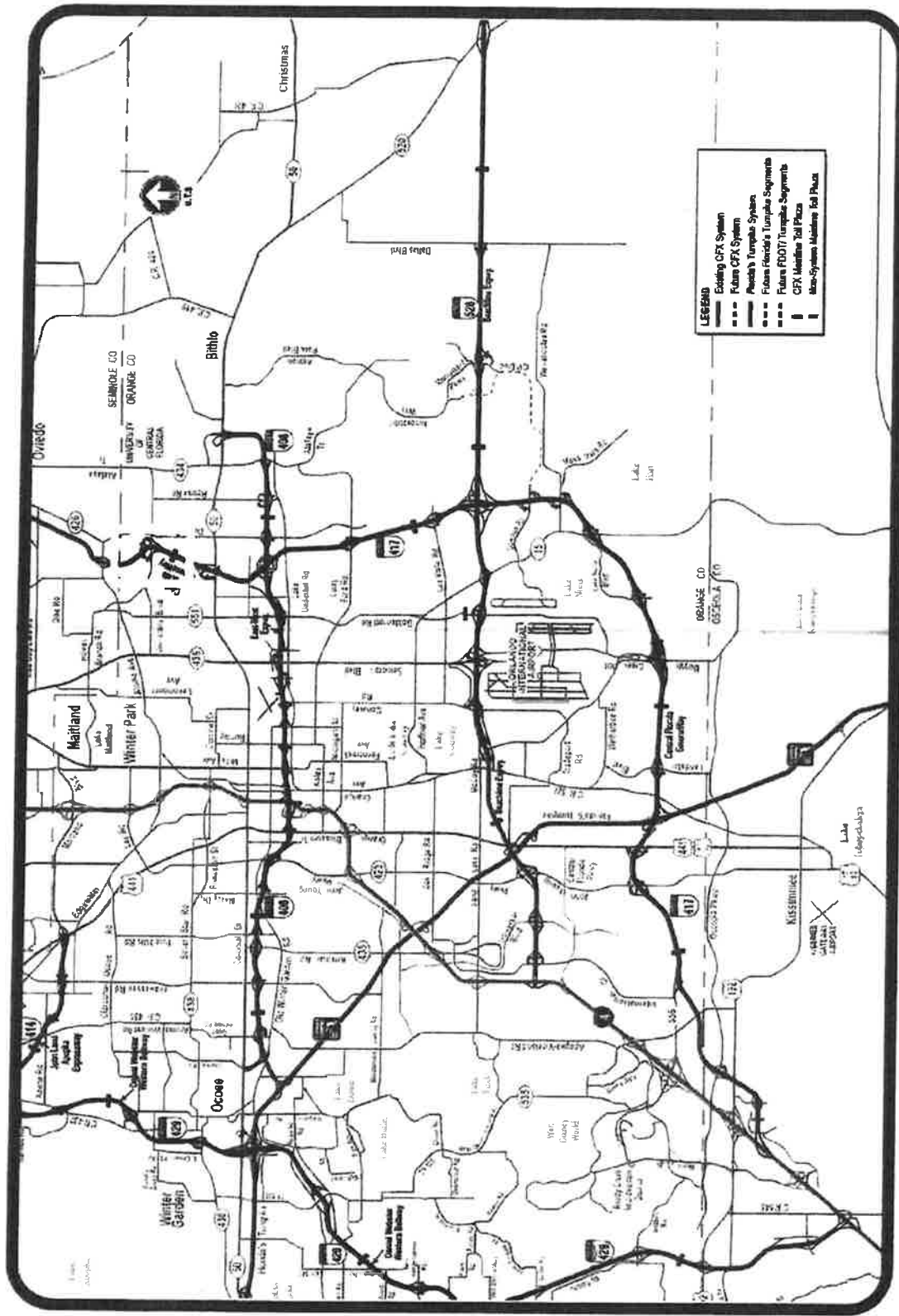
Toll Plaza

Bill Bentley, PE
Molly deVivero, PE

Geotechnical Investigations

Larry Moore, PE
Mustapha Annoud, PE

EXHIBIT E
PROJECT LOCATION MAP



Project Location Map for
S.R. 417 Widening from Econlockhatchee Trail to Seminole County Line (417-134)

EXHIBIT F

SCHEDULE

Contract No. 001153, Project 417-134

SR 417 Widening from Econlockhatchee Trail to Orange / Seminole County Line

Project Schedule

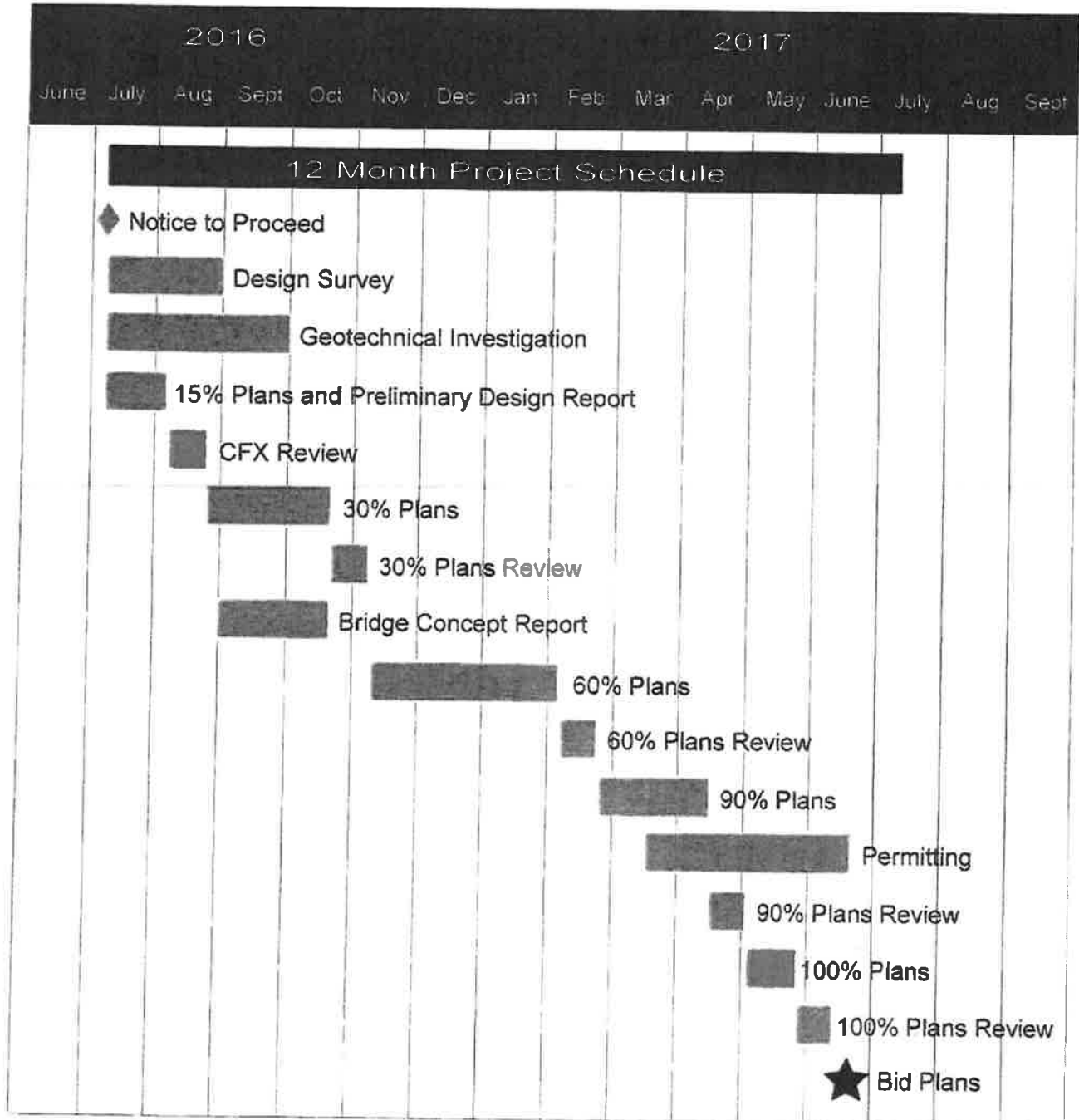


EXHIBIT B

**Scope of Services for Supplemental Agreement No. 1
to
CFX Contract No. 001153**

EXHIBIT "A"
SCOPE OF SERVICES
FOR
SR 417 Widening from Econlockhatchee Trail to Seminole County Line
Orange County, Florida

March 23, 2017

I. INTRODUCTION

The Central Florida Expressway Authority (CFX) is proposing to widen SR 417 from Econlockhatchee Trail northward to the Orange / Seminole County Line to a six-lane facility. The County Line is the jurisdictional limit between the CFX and Florida's Turnpike maintenance on SR 417. The County Line is located just south of the SR 426 (Aloma Avenue) interchange, which is a logical termini for the roadway widening improvements. FTE has future plans to widen SR 417 to an eight-lane section from the County Line northward. FTE wishes to limit future rework, avoid throw-away construction and minimize impacts to their customers by coordinating improvements with the CFX SR 417 design project

II. PROJECT DESCRIPTION

The CFX project will be modified to include a one-mile southbound auxiliary lane between Aloma Avenue and University Boulevard. The auxiliary lane will tie-in to the existing two lane University Boulevard off-ramp. In addition, the southbound on-ramp at Aloma Avenue will be widened to two lanes from the ramp gore to the existing ramp plaza, a distance of approximately 0.2 miles. The southbound mainline pavement will also be widened to the physical ramp gore so that the gore will be in its ultimate location. The northbound mainline pavement will transition from 3-lanes to 2-lanes between the Aloma Avenue exit ramp and the existing bridge over Aloma Avenue. The Aloma Avenue northbound off-ramp will also be improved to 2-lanes. The exit ramp gore will be shifted southward to maximize the merge distance between the gore and bridge.

The southbound auxiliary lane between Aloma Avenue and University Boulevard will add a significant amount of impervious surface and impact two existing ponds (Ponds 7W and 8). Retaining walls and/or guardrail and shoulder gutter may be required to provide the additional treatment volumes required. The existing infield pond (Pond 6W) at the University Boulevard interchange will be expanded to handle the additional stormwater. The roadway widening within the FTE/CFX transition area will also add a significant amount of impervious surface. Currently, there is one existing dry pond (Pond 9) that handles the interchange drainage. FTE has permitted adding an infield pond (Pond 9A) in the southeast quadrant of the interchange as part of the future

8-laning project. A portion of this pond (Pond 9A) will be designed and constructed to provide the treatment required for the additional SB pavement. The existing pond (Pond 9) outfall to Deep Lake will also be improved. Stormwater and environmental permits will be modified.

Additional geotechnical and survey services will be required. The lighting, ITS and signing and pavement marking plans will be updated for the added auxiliary lane and ramps.

All improvements within the FTE jurisdiction and right-of-way will be designed in accordance with FTE standards and specifications.

III. SERVICES TO BE PERFORMED BY THE CONSULTANT

ACTIVITY 3) - PROJECT COMMON AND GENERAL TASKS:

Additional meetings and contract maintenance will be required.

ACTIVITIES 4) and 5) - ROADWAY ANALYSIS AND PLANS:

The CONSULTANT shall update the roadway design and plans to accommodate the auxiliary lane and ramp improvements. The major work efforts include:

- Horizontal/Vertical Master Design Files.
- Cross Section Design Files.
- Traffic Control Analysis, Design and Plans.
- Quantities.
- Cost Estimates.
- Typical Sections.
- Plan and Profile Sheets.
- Ramp Terminal Details.
- Roadway Cross Sections.

ACTIVITY 6) - DRAINAGE ANALYSIS AND PLANS:

The CONSULTANT shall update the drainage design and plans to accommodate the auxiliary lane and ramp improvements. The major work efforts include:

- Drainage Maps
- Design of Cross Drains.
- Design of Ditches.
- Design and Plans for Stormwater Management Facilities.
- Design and Plans for Storm Drains.
- Update Drainage Design Documentation Report.
- Miscellaneous Drainage Detail Sheets.

ACTIVITY 7) - UTILITIES:

No additional utility tasks anticipated.

ACTIVITY 8) - ENVIRONMENTAL PERMITS, COMPLIANCE AND CLEARANCES:

The CONSULTANT shall update the permit application and submittal to accommodate the proposed improvements. The major work efforts include:

Complete and Submit Permit Applications.

ACTIVITY 9) and 18) – MISCELLANEOUS STRUCTURES:

The CONSULTANT shall design the required miscellaneous structures. The major work efforts include:

Overhead Sign Structures

Sta. 1231+80

Sta. 1249+00

Sta. 1258+50

Retaining Walls

Pond 7W

Pond 8

ACTIVITIES 19) and 20) – SIGNING AND PAVEMENT MARKING ANALYSIS AND PLANS:

The CONSULTANT shall update the signing and pavement marking design and plans to accommodate the auxiliary lane and ramp improvements. The major work efforts include:

Master Design Files

Signing and Pavement Marking Plans

ACTIVITIES 23) and 24) - LIGHTING ANALYSIS AND PLANS:

The CONSULTANT shall update the lighting design and plans to accommodate the auxiliary lane and ramp improvements and shall convert to LED. The major work efforts include:

Lighting Design Analysis Report

Voltage Drop Calculations

Master Design Files

Lighting Plans

ACTIVITY 27) - SURVEY

The CONSULTANT shall provide additional topographic and drainage surveys for the proposed roadway and drainage improvements. The major work efforts include:

- Drainage Survey
- Pond Site Survey
- Geotechnical Support
- Work Zone Safety

ACTIVITIES 33) and 34) – ITS ANALYSIS AND PLANS:

The CONSULTANT shall update the ITS design and plans to accommodate the auxiliary lane and ramp improvements. The major work efforts include:

- Master ITS Design Files
- ITS Plans

ACTIVITY 35) - GEOTECHNICAL:

The CONSULTANT shall be responsible for a complete geotechnical investigation to accommodate the design improvements. The major work efforts include:

- Roadway and Pond Borings
- Structure Borings
- Geotechnical Reports
- Laboratory Testing
- Engineering Support Services

ESTIMATE OF WORK EFFORT AND COST - PRIME CONSULTANT

Name of Project:
County:
FPM:
FAP No.:

SR 417, East Trail to Seminole County Line, SA 81
Seminole County
417-134
N/A

Consultant Name: Dendary
Consultant (No.: 0000017)
Enter consultants proj. number

Staff Classification	Total Staff Hours From	Project Manager	Senior Engineer	Engineer	Engineer Intern	Sr. Engr. Technician	Engr. Technician	Sr. Engr. Specialist	Engr. Specialist	Surveyor	Survey Technician	Staff Class. Station	Activity	Salary	Cost By Activity	Average Rate Per Task
3. Project General and Project Common Tasks	71	43	14	7	0	126	41	0	0	0	0	0	71	\$5,100	\$5,100	\$72.67
4. Roadway Analysis	834	125	334	167	42	90	35	0	0	0	0	0	834	\$44,821	\$44,821	\$53.60
5. Roadway Plans	359	36	90	90	18	90	35	0	0	0	0	0	359	\$18,799	\$18,799	\$46.79
6a. Drainage Analysis	312	31	125	94	0	62	0	0	0	0	0	0	312	\$16,415	\$16,415	\$52.61
6b. Drainage Plans	288	30	72	72	14	88	14	0	0	0	0	0	288	\$13,760	\$13,760	\$47.78
7. Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0.00
8. Environmental Permit, Compliance & Clearances	41	4	4	8	0	0	0	17	8	0	0	0	41	\$1,786	\$1,786	\$43.56
9. Structures - Misc. Tasks, Over, Non-Tech.	55	3	22	14	3	10	3	0	0	0	0	0	55	\$2,082	\$2,082	\$34.80
10. Structures - Bridge Development Report	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	\$0.00
12. Structures - Short Span Concrete Bridge	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	\$0.00
14. Structures - Structural Steel Bridge	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	\$0.00
16. Structures - Segmental Concrete Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0.00
17. Structures - Retaining Walls	80	4	20	20	8	24	4	0	0	0	0	0	80	\$3,569	\$3,569	\$44.61
18. Structures - Miscellaneous	72	4	18	18	6	22	4	0	0	0	0	0	72	\$3,234	\$3,234	\$44.92
19. Signing & Pavement Marking Analysis	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	\$0.00
21. Signalization Analysis	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	\$0.00
23. Lighting Analysis	111	11	44	34	0	22	0	0	0	0	0	0	111	\$5,830	\$5,830	\$52.52
24. Lighting Plans	28	3	8	8	1	8	0	0	0	0	0	0	28	\$1,387	\$1,387	\$48.89
25. Landscape Architecture Analysis	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	\$0.00
27. Survey (Field & Office Support)	45	0	0	0	0	0	0	0	0	14	22	0	45	\$1,785	\$1,785	\$39.66
28. Photogrammetry	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	\$0.00
30. Terrestrial Mobile LIDAR	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0.00
31. Archæological Development	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	\$0.00
33. Intelligent Transportation Systems Analysis	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	\$0.00
35. Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	\$0	\$0.00
Total Staff Hours	2,285	764	751	532	82	459	101	17	8	14	22	0	2,285	\$117,048.10	\$117,048.10	\$50.96
Total Staff Cost		\$25,783.80	\$45,315.34	\$22,200.35	\$2,802.70	\$16,408.68	\$1,982.73	\$648.00	\$213.76	\$834.89	\$573.32	\$0.00				

Survey Field Days by Subconsultant
4- Person Crew

SALARY RELATED COSTS:
OVERHEAD:
Sub-total Salary Related Costs

131.46%

OPERATING MARGIN:
EXPENSES:

12%

Check = \$117,048.10

\$117,048.10
\$153,871.43
\$270,919.53
\$32,510.34
\$0.00

Notes:

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

Survey (Field - if by Prime) 0 4-man crew days @ \$ 1,283.04 / day

SUBTOTAL ESTIMATED FEE:

\$11,277.35

Subconsultant CES

\$314,707.23

Subconsultant Electrical

\$48,832.47

Subconsultant Terra

\$14,172.02

Subconsultant Sub 4

\$38,485.40

Subconsultant Sub 3

\$0.00

SUBTOTAL SUBCONSULTANTS:

\$161,689.89

Geotechnical Field and Lab Testing

\$0.00

SUBTOTAL ESTIMATED FEE:

\$418,197.12

Optional Services

\$0.00

GRAND TOTAL ESTIMATED FEE:

\$418,197.12

Project Activity 3: General Tasks

Estimator

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Michael Menden	4/21/17
Dowberry	Kevin Krudse	4/21/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
3.1	Public Involvement					N/A
3.1.1	Community Awareness Plan	LS	0	0	0	N/A
3.1.2	Notifications	LS	0	0	0	N/A
3.1.3	Prepare Mailing Lists	LS	0	0	0	N/A
3.1.4	Median Modification Letters	LS	0	0	0	N/A
3.1.5	Driveway Modification Letters	LS	0	0	0	N/A
3.1.6	Newsletters	LS	0	0	0	N/A
3.1.7	Renditions and Fly Throughs	LS	0	0	0	N/A
3.1.8	PowerPoint Presentation	LS	0	0	0	N/A
3.1.9	Public Meeting Preparations	LS	0	0	0	N/A
3.1.10	Public Meeting Attendance/Followup	LS	0	0	0	N/A
3.1.11	Other Agency Meetings	LS	0	0	0	N/A
3.1.12	Web Site	LS	0	0	0	N/A
3.1 Public Involvement Subtotal						0
3.2	Joint Project Agreements	EA	0	0	0	N/A
3.3	Specifications Package Preparation	LS	0	0	0	N/A
3.4	Contract Maintenance and EDMS	LS	0	0	0	N/A
3.5	Value Engineering (Multi-Discipline Team) Review	LS	0	0	0	N/A
3.6	Prime Consultant Project Manager Meetings	LS	1	71	71	See listing below
3.7	Plans Update	LS	0	0	0	N/A

Project Activity 3: General Tasks

Task No.	Task	Units	No of Units	Hour/Unit	Total Hours	Comments
3.8	Post Design Services	LS	0	0	0	N/A
3.9	Digital Delivery	LS	0	0	0	N/A
3.10	Risk Assessment Workshop	LS	0	0	0	N/A
3.11	Railroad, Transit, and/or Airport Coordination	LS	0	0	0	N/A
3.12	Other Project General Tasks	LS	0	0	0	N/A
3. Project Common and Project General Tasks Total					71	

3.6 - List of Project Manager Meetings	Units	No of Units	Hour/Unit	Total Hours	Comments
Roadway Analysis	EA	0	0	0	N/A
Drainage	EA	0	0	0	N/A
Utilities	EA	0	0	0	N/A
Environmental	EA	0	0	0	N/A
Structures	EA	0	0	0	N/A
Signing & Pavement Marking	EA	0	0	0	N/A
Signalization	EA	0	0	0	N/A
Lighting	EA	0	0	0	N/A
Landscape Architecture	EA	0	0	0	N/A
Survey	EA	0	0	0	N/A
Photogrammetry	EA	0	0	0	N/A
ROW & Mapping	EA	0	0	0	N/A
Terrrestrial Mobile LIDAR	EA	0	0	0	N/A
Architecture	EA	0	0	0	N/A
Noise Barriers	EA	0	0	0	N/A
ITS Analysis	EA	0	0	0	N/A
Geotechnical	EA	0	0	0	N/A
Progress Meetings	EA	4	9	36	Bi-Weekly for 2 months (4 people @ 2hrs/ea) + 1 hr/mg for agenda & minutes
Phase Reviews	EA	3	9	27	Tumpline Coord Migs (3 migs - 3 people - 3 hrs/ea)
Field Reviews	EA	1	8	8	2 people @ 4 hrs/ea
Total Project Manager Meetings				71	Total PM Meeting Hours carries to Task 3.6 above

- Notes:
1. If the hours per meeting vary in length (hours) enter the average in the hour/unit column.
 2. Do not double count agency meetings between permitting agencies.
 3. Project manager meetings are calculated in each discipline sheet and brought forward to Column D, except for Photogrammetry

Project Activity 4: Roadway Analysis

Estimator:

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Muench	3/31/17
Dewberry	Kenneth Kauder	4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.1	Typical Section Package	LS	0	0	0	N/A
4.2	Pavement Type Selection Report	LS	0	0	0	N/A
4.3	Pavement Design Package	LS	1	0	0	Use Pump Design from FTE Express Lane Project
4.4	Cross-Slope Correction	LS	0	0	0	N/A
4.5	Horizontal/Vertical Master Design Files	LS	1	304	304	SR 417 (1.0 mile of SB Auxiliary Lane between Aloma Avenue and University Blvd) @ 240 hrs/mi + Ramps (0.2 mi of SB on-ramp at Aloma Ave and 0.2 mi of SB off-ramp at University Blvd = 0.4 mi @ 180 hrs/mi) = 240 hrs + 64 hrs = 304 hrs
4.6	Access Management	LS	0	0	0	N/A
4.7	Roundabout Evaluation	LS	0	0	0	N/A
4.8	Roundabout Final Design Analysis	LS	0	0	0	N/A
4.9	Cross Section Design Files	LS	1	188	188	SR 417 (1.0 mi) + Ramps (0.4 mi) = 1.4 mi @ 120 hrs/mi
4.10	Traffic Control Analysis	LS	1	80	80	Level 2 @ 1.4 miles, Analysis LS = 60 hrs
4.11	Master TCP Design Files	LS	1	112	112	Level 2 @ 1.4 miles, SR 417 (40 hrs/mi x 2 phases x 1.0 miles) = 80 hrs, Ramp (0.4 mi x 2 phases x 40 hrs/phase) = 32 hrs
4.12	Design Variations and Exceptions	LS	0	0	0	N/A
4.13	Design Report	LS	0	0	0	N/A
4.14	Quantities	LS	1	60	60	
4.15	Cost Estimate	LS	1	32	32	2 @ 16 hrs/ea
4.16	Technical Special Provisions	LS	0	0	0	N/A
4.17	Other Roadway Analyses	LS	0	0	0	N/A
Roadway Analysis Technical Subtotal					736	

[Signature]

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
4.18	Field Reviews	LS	0	0	0	N/A
4.19	Monitor Existing Structures	LS	0	0	0	N/A
4.20	Technical Meetings	LS	0	0	0	N/A
4.21	Quality Assurance/Quality Control	LS	%	5%	37	
4.22	Independent Peer Review	LS	%	0%	0	N/A
4.23	Supervision	LS	%	5%	37	
Roadway Analysts Nontechnical Subtotal					74	
4.24	Coordination	LS	%	3%	24	
4. Roadway Analysis Total					834	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Typical Section	EA	0	0	0	N/A	
Pavement	EA	0	0	0	N/A	
Access Management	EA	0	0	0	N/A	
15% Line and Grade	EA	0	0	0	N/A	
Driveways	EA	0	0	0	N/A	
Local Governments (cities, counties, MPO)	EA	0	0	0	N/A	
Work Zone Traffic Control	EA	0	0	0	N/A	
3080(B)(100% Comment Review Meetings	EA	0	0	0	N/A	
Other Meetings	EA	0	0	0	N/A	
Subtotal Technical Meetings				0		
Progress Meetings (if required by FDOT)	EA	0	0	0	N/A	0
Phase Review Meetings	EA	0	0	0	N/A	
Total Meetings				0		
Total Project Manager Meetings (carries to Tab 3)						0

Project Activity 5: Roadway Plans

Estimator

SR 417, Eason Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Muench	<i>Patrick Muench</i> 3/31/17
Dewberry	Kevin Knudsen	<i>Kevin Knudsen</i> 4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/Unit or Sheet	Total Hours	Comments
5.1	Key Sheet		Sheet	1	2	2	Revise
5.2	Summary of Pay Items Including Quantity Input		Sheet	2	4	8	Revise
5.3	Typical Section Sheets						
5.3.1	Typical Sections		EA	3	6	18	SR 417 (1), Univ Off-Ramp (1), Aloma On-Ramp (1)
5.3.2	Typical Section Details		EA	0	0	0	N/A
5.4	General Notes/Pay Item Notes		Sheet	0	0	0	N/A
5.5	Summary of Quantities Sheets		Sheet	8	1	8	FDOT Method
5.6	Project Layout		Sheet	1	2	2	Add Ramps
5.7	Plan/Profile Sheet		Sheet	0	0	0	N/A
5.8	Profile Sheet		Sheet	15	4	60	SR 417 (1), University Off-Ramp (1), Aloma On-Ramp (3)
5.9	Plan Sheet		Sheet	12	4	48	SR 417 (1), University Off-Ramp (1)
5.10	Special Profile		Sheet	0	0	0	N/A
5.11	Back-of-Sidewalk Profile Sheet		Sheet	0	0	0	N/A
5.12	Interchange Layout Sheet		Sheet	0	0	0	N/A
5.13	Ramp Terminal Details (Plan View)		Sheet	2	10	20	University Off-Ramp (1), Aloma On-Ramp (1)
5.14	Intersection Layout Details		Sheet	0	0	0	N/A
5.15	Special Details		EA	0	0	0	N/A
5.18	Cross-Section Pattern Sheet(s)		Sheet	1	4	4	N/A

Project Activity 5: Roadway Plans

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/ Unit or Sheet	Total Hours	Comments
5.17	Roadway Soil Survey Sheet(s)		Sheet	0	0	0	N/A
5.18	Cross Sections		EA	74	0.25	19	SR 417 (1.0 mi) + Ramp (0.4 mi) = 1.4 mi = 7,382 LF @ 100' spacing
5.19	Temporary Traffic Control Plan Sheets		Sheet	24	4	96	12 sheets x 2 Phases = 24 sheets
5.20	Temporary Traffic Control Cross Section Sheets		EA	22	0.25	6	1.4 mi @ 500' spacing = 11 sections x 2 phases = 22 sections
5.21	Temporary Traffic Control Detail Sheets		Sheet	3	4	12	General Notes, Quantities, Placing Typical & Notes, Detour Sheets, Advanced Signing, etc
5.22	Utility Adjustment Sheets		Sheet	12	2	24	Revised
5.23	Selective Clearing and Grubbing Sheet(s)		Sheet	0	0	0	N/A
5.24	Project Network Control Sheet(s)		Sheet	0	0	0	N/A
5.25	Environmental Detail Sheets		Sheet	0	0	0	N/A
5.26	Utility Verification Sheet(s) (SUE Data)		Sheet	0	0	0	N/A
Roadway Plans Technical Subtotal							327
5.27	Quality Assurance/Quality Control		LS	%	5%	18	
5.28	Supervision		LS	%	5%	18	
5. Roadway Plans Total							359

Project Activity 6a: Drainage Analysis

Estimator:

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Muench	3/31/17
Dewberry	Kevin Knudsen	4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.1	Drainage Map Hydrology	Per Map	1	8	8	Pond 9A
6a.2	Base Clearance Report	Per Location	0	0	0	N/A
6a.3	Pond Siting Analysis and Report	Per Basin	0	0	0	N/A
6a.4	Design of Cross Drains	EA	2	8	16	Pond 9A-Aloma
6a.5	Design of Ditches	Per Ditch Mile	1.4	15	21	1.4 miles (lt)
6a.6	Design of Stormwater Management Facility (Offsite or Infield Pond)	EA	4	34	136	2 New Ponds (8W & 8A) @ 40 hrs/ea, 2 Exist Ponds (7W & 8) @ 28 hrs/ea
6a.7	Design of Stormwater Management Facility (Roadside Ditch as Linear Pond)	Per Cell	0	0	0	N/A
6a.8	Design of Floodplain Compensation	Per Floodplain Basin	0	0	0	N/A
6a.9	Design of Storm Drains	EA	24	2	48	Add shoulder gutter, Aloma Interchange area
6a.10	Optional Culvert Material	EA	0	0	0	N/A
6a.11	French Drain Systems	Per Cell	0	0	0	N/A
6a.12	Drainage Wells	EA	0	0	0	N/A
6a.13	Drainage Design Documentation Report	LS	1	24	24	Update
6a.14	Bridge Hydraulic Report	EA	0	0	0	N/A

Project Activity 6a: Drainage Analysis

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
6a.15	Temporary Drainage Analysis	LS	1	18	18	SB 417 at Abma
6a.16	Cost Estimate	LS	0	0	0	N/A
6a.17	Technical Special Provisions	LS	0	0	0	N/A
6a.18	Other Drainage Analysis	LS	0	0	0	N/A
Drainage Analysis Technical Subtotal					269	
6a.19	Field Reviews	LS	1	8	8	1 reviews x 2 people x 4 hrs
6a.20	Technical Meetings	LS	0	0	0	N/A
6a.21	Environmental Look-Around (ELA) Meeting	LS	1	0	0	N/A
6a.22	Quality Assurance/Quality Control	LS	%	5%	13	
6a.23	Independent Peer Review	LS	%	0%	0	N/A
6a.24	Supervision	LS	%	5%	13	
Drainage Analysis Nontechnical Subtotal					34	
6a.25	Coordination	LS	%	3%	9	
6a. Drainage Analysis Total					312	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PIM Attendance at Meeting Required?	Number
Base Clearance Water Elevation	EA	0	0	0	N/A	0
Pond Siting	EA	0	0	0	N/A	0
Agency	EA	0	0	0	N/A	0
Local Governments (cities, counties)	EA	0	0	0	N/A	0
FTE Drainage	EA	0	0	0	N/A	0
Other Meetings	EA	0	0	0	N/A	0
Subtotal Technical Meetings				0		0
Progress Meetings (if required by FDOT)	EA	0	0	0	N/A	0
Phase Review Meetings	EA	0	0	0	N/A	--
Total Meetings				0	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

Carries to Tab 3

Estimator:

SR 417, Econ Trail to Sam Houston County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Muench	2/20/17
Dewberry	Kevin Knudsen	4/2/17

NOTE: Signature Block is optional, per District preference

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units or Sheet	Hours/ Unit or Sheet	Total Hours	Comments
6b.1	Drainage Map (Including Interchanges)		Sheet	4	18	64	1" = 200'
6b.2	Bridge Hydraulics Recommendation Sheets		Sheet	0	0	0	N/A
6b.3	Summary of Drainage Structures		Sheet	1	18	18	New structures
6b.4	Optional Pipe/Culvert Material		Sheet	0	0	0	N/A
6b.5	Drainage Structure Sheet(s) (Per Structure)		EA	24	2.5	60	New structures
6b.6	Miscellaneous Drainage Detail Sheets		Sheet	1	24	24	New Pond outfalls
6b.7	Lateral Ditch Plan/Profile		Sheet	0	0	0	N/A
6b.8	Lateral Ditch Cross Sections		EA	0	0	0	N/A
6b.9	Retention/Detention Ponds Detail Sheet(s)		Sheet	4	22	88	2 New Ponds (BW & BA) @ 28 hrs/ea, 2 East Ponds (7W & B) @ 18 hrs/ea
6b.10	Retention Pond Cross Sections		EA	32	0.3	10	8 per pond
6b.11	Erosion Control Plan Sheet(s)		Sheet	0	0	0	N/A
6b.12	SWPPP Sheet(s)		Sheet	0	0	0	N/A
Drainage Plans Technical Subtotal						282	
6b.13	Quality Assurance/Quality Control		LS	%	5%	13	
6b.14	Supervision		LS	%	5%	13	
6. Drainage Plans Total						288	

Project Activity 8: Environmental Permits

Estimator

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Phseach	<i>Patrick Phseach</i> 2/21/17
Dewberry	Kevin Knudsen	<i>Kevin Knudsen</i> 4/21/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/Units	Total Hours	Comments
Environmental Permits, Compliances and Clearances						
8.1	Preliminary Project Research	LS	1	4	4	
Permits						
8.2	Field Work					
8.2.1	Pond Site Alternatives	per pond site	0	0	0	N/A
8.2.2	Establish Wetland Jurisdictional Lines and Assessments	LS	0	0	0	N/A
8.2.3	Species Surveys	LS	0	0	0	N/A
8.2.4	Archaeological Surveys	LS	0	0	0	N/A
8.3	Agency Verification of Wetland Data	LS	0	0	0	N/A
8.4	Complete And Submit All Required Permit Applications					
8.4.1	Complete and Submit All Required Wetland Permit Applications	LS	1	24	24	Pond 8A
8.4.2	Complete and Submit All Required Species Permit Applications	LS	0	0	0	N/A
8.5	Prepare Dredge and Fill Sketches (as needed)	LS	1	8	8	Modify Impacts
8.6	Prepare USCG Permit Sketches	LS	0	0	0	N/A
8.7	Prepare Water Management District Right-of-Way Occupancy Permit	LS	0	0	0	N/A
8.8	Prepare Coastal Construction Control Line (CCCL) Permit Application	LS	0	0	0	N/A
8.9	Prepare Tree Permit Information	LS	0	0	0	N/A
8.10	Mitigation Design	LS	0	0	0	N/A
8.11	Mitigation Coordination and Meetings	LS	0	0	0	N/A

Project Activity 8: Environmental Permits



Task No.	Task	Units	No. of Units	Hours/Units	Total Hours	Comments
8.12	Other Environmental Permits	LS	0	0	0	N/A
	Environmental Clearances/Reevaluations					
8.13	Technical support to Department for Environmental Clearances and Reevaluations (use when consultant provides technical support only)					
8.13.1	NEPA or SEIR Reevaluation	LS	0	0	0	N/A
8.13.2	Archaeological and Historical Features	LS	0	0	0	N/A
8.13.3	Wetland Impact Analysis	LS	0	0	0	N/A
8.13.4	Essential Fish Habitat	LS	0	0	0	N/A
8.13.5	Wildlife and Habitat Impact Analysis	LS	0	0	0	N/A
8.13.6	Section 7 or Section 10 Consultation	LS	0	0	0	N/A
8.14	Preparation of Environmental Clearances and Reevaluations (use when consultant prepares all documents associated with reevaluation)					
8.14.1	NEPA or SEIR Reevaluation	LS	0	0	0	N/A
8.14.2	Archaeological and Historical Features	LS	0	0	0	N/A
8.14.3	Wetland Impact Analysis	LS	0	0	0	N/A
8.14.4	Essential Fish Habitat	LS	0	0	0	N/A
8.14.5	Wildlife and Habitat Impact Analysis	LS	0	0	0	N/A
8.14.6	Section 7 or Section 10 Consultation	LS	0	0	0	N/A
8.15	Contamination Impact Analysis	LS	0	0	0	N/A
8.16	Asbestos Survey	LS	0	0	0	N/A
Environmental Permits, Compliance, and Clearances/Reevaluations Technical Subtotal					36	
8.17	Technical Meetings	LS	0	0	0	N/A
8.18	Quality Assurance/Quality Control	LS	%	5%	2	
8.19	Supervision	LS	%	5%	2	
Environmental Permits, Compliance and Clearances Nontechnical Subtotal					4	
8.20	Coordination	LS	%	3%	1	
8. Environmental Permits, Compliance and Clearances Total					41	

Samuel

Conclusions for Table 3

Project Activity 9: Structures Summary and Miscellaneous Tasks and Drawings

Estimator:

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Moench	3/21/17
Dewberry	Kevin Knudsen	4/21/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	Design and Production Staff/Hours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
General Drawings											
9.1	Key Sheet and Index of Drawings	Sheet	1	2	1	2	Revise				
9.2	Project Layout	Sheet	0	0	0	0	N/A				
9.3	General Notes and Bid Item Notes	Sheet	1	4	1	4	Add Notes				
9.4	Miscellaneous Common Details	Sheet	0	0	0	0	N/A				
9.5	Incorporate Report of Core Borings	Sheet	1	1	1	1	Walls				
9.6	Existing Bridge Plans	LS	0	0		0	N/A				
9.7	Assemble Plan Summary Boxes and Quantities	LS	1	4		4					
9.8	Cost Estimate	LS	1	4		4					
9.9	Technical Special Provisions	LS	0	0		0	N/A				
Structures - Summary and Miscellaneous Tasks and Drawings Subtotal					3	15					
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									
10-16	Bridge 4	0									
10-16	Bridge 5	0									
10-16	Bridge 6	0									

John P.

(Covered by Tab 2)

Project Activity 17: Retaining Walls

Estimator



SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FDOT District	<i>Samuel M. Knudsen</i>	<i>3/31/17</i>
Dewberry	<i>Ken Knudsen</i>	<i>4/2/17</i>

NOTE: Signature Block is optional, per District preference

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Requirements							
17.1	Key Sheet	Sheet	0	0	0	0	N/A
17.2	Horizontal Wall Geometry	Per Wall	1	8		8	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	Per Wall	2	8		16	Ponds 7W and 8
17.4	Semi-Standard Drawings	Sheet	2	4	2	8	Ponds 7W and 8
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	2	16	2	32	Ponds 7W and 8
17.6	Details	Sheet	1	16	1	16	Ponds 7W and 8
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	Per Wall	0	0		0	N/A
17.8	Semi-Standard Drawings	Sheet	0	0	0	0	N/A
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	N/A
17.10	Details	Sheet	0	0	0	0	N/A
Cast-In-Place Retaining Walls							
17.11	Design	EA Design	0	0	0	0	N/A
17.12	Vertical Wall Geometry	EA Wall	0	0	0	0	N/A
17.13	General Notes	Sheet	0	0	0	0	N/A
17.14	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	N/A
17.15	Sections and Details	Sheet	0	0	0	0	N/A
17.16	Reinforcing Bar List	Sheet	0	0	0	0	N/A

Project Activity 17: Retaining Walls



Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
Other Retaining Walls and Bulkheads							
17.17	Design	EA Design	0	0	0	0	N/A
17.18	Vertical Wall Geometry	EA Wall	0	0	0	0	N/A
17.19	General Notes, Tables and Misc. Details	Sheet	0	0	0	0	N/A
17.20	Wall Plan and Elevations	Sheet	0	0	0	0	N/A
17.21	Details	Sheet	0	0	0	0	N/A
17. Structures - Retaining Walls Total						5	80

Estimator

Project Activity 18: Miscellaneous Structures

GR 417: Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature	Date
FOOT District	Patrick Misench	<i>Patrick Misench</i>	3/21/17
Democracy	Kevin Knudsen	<i>Kevin Knudsen</i>	3/21/17

NOTE: Signature Block is optional, per District preference

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	N/A
18.2	Concrete Box Culverts Extensions	EA Extension Sheet	0	0	0	0	N/A
18.3	Concrete Box Culvert Data Table Plan Sheets	Sheet	0	0	0	0	N/A
18.4	Concrete Box Culvert Special Details Plan Sheets	Sheet	0	0	0	0	N/A
Steel Poles							
18.5	Steel Span Poles	Initial Config EA Add'l Config	0	0	0	0	N/A
18.6	Concrete Span Poles	Initial Config EA Add'l Config	0	0	0	0	N/A
18.7	Span Pole Data Table Plan Sheets	Sheet	0	0	0	0	N/A
18.8	Span Pole Special Details Plan Sheets	Sheet	0	0	0	0	N/A
Steel Arms							
18.9	Steel Arms	EA Design	0	0	0	0	N/A
18.10	Steel Arms Data Table Plan Sheets	Sheet	0	0	0	0	N/A
18.11	Steel Arm Special Details Plan Sheets	Sheet	0	0	0	0	N/A
Overhead/Candlepower Sign Structures							
18.12	Candlepower Sign Structures	EA Design	0	0	0	0	N/A
18.13	Overhead Sign Structures	EA Design	3	16	48	48	Revised for Axis Lane
18.14	Special (Loop Span) Overhead Sign Structures	EA Design	0	0	0	0	N/A
18.15	Monotube Overhead Sign Structures	EA Design	0	0	0	0	N/A
18.16	Bridge Mounted Signs (Attached to Support)	EA Design	0	0	0	0	N/A
18.17	Overhead and Candlepower Sign Structures Data Table Plan Sheets	Sheet	3	8	24	24	Revised for Axis Lane
18.18	Overhead and Candlepower Sign Structures Special Details Plan Sheets	Sheet	0	0	0	0	N/A
High Mast Lighting							
18.19	Non-Standard High Mast Lighting Structures	EA Design	0	0	0	0	N/A
18.20	High Mast Lighting Special Details Plan Sheets	Sheet	0	0	0	0	N/A
Noise Barrier Walls (Ground Mount)							
18.21	Horizontal Wall Geometry	EA Wall	0	0	0	0	N/A
18.22	Vertical Wall Geometry	EA Wall	0	0	0	0	N/A
18.23	Summary of Quantities - Acoustic Requirements	Sheet	0	0	0	0	N/A
18.24	Control Drawings	Sheet	0	0	0	0	N/A
18.25	Design of Noise Barrier Walls Covered by Standards	EA Design	0	0	0	0	N/A
18.26	Design of Noise Barrier Walls Not Covered by Standards	EA Design	0	0	0	0	N/A
18.27	Acoustic Details	LS	0	0	0	0	N/A
Special Structures							

Project Activity 18. Miscellaneous Structures

18.28	Fender System	LS	1	0	0	0	N/A
18.29	Fender System Access	LS	1	0	0	0	N/A
18.30	Special Structures	LS	1	0	0	0	N/A
18.31	Other Structures	LS	1	0	0	0	N/A
18. Structures - Miscellaneous Total							3 72

Project Activity 23: Lighting Analysis

Estimator

SR 417, Ecan Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FOOT District	Patrick Phoench	<i>Patrick Phoench</i> 3/31/17
Dewberry	Kevin Knudsen	<i>Kevin Knudsen</i> 4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/Units	Total Hours	Comments
23.1	Lighting Justification Report	LS	0	0	0	Lighting Design by CES, Electrical Design by Dewberry
23.2	Lighting Design Analysis Report	LS	1	36	36	PDAR (includes in LDAR)
23.3	Aeronautical Evaluation	LS	0	0	0	N/A
23.4	Voltage Drop Calculations	LS	1	20	20	Load Center
23.5	FDEP Coordination and Report	LS	0	0	0	N/A
23.6	Reference and Master Design Files	LS	0	0	0	N/A
23.7	Temporary Lighting	LS	0	0	0	N/A
23.8	Design Documentation	LS	0	0	0	N/A
23.9	Quantities	LS	0	0	0	N/A
23.10	Cost Estimate	LS	0	0	0	N/A
23.11	Technical Special Provisions	LS	0	0	0	N/A
23.12	Other Lighting Analysis	LS	1	32	32	Load Analysis, Short Circuit Analysis, Arc Flash Analysis
Lighting Analysis Technical Subtotal						88
23.13	Field Reviews	LS	1	4	4	1 review, 1 person, 4 hrs
23.14	Technical Meetings	LS	1	8	8	Meetings are listed below
23.15	Quality Assurance/Quality Control	LS	%	5%	4	
23.16	Independent Peer Review	LS	%	0%	0	N/A
23.17	Supervision	LS	%	5%	4	
Lighting Analysis Nontechnical Subtotal						20
23.18	Coordination	LS	%	1%	3	
23. Lighting Analysis Total						111

Project Activity 23: Lighting Analysis

[Signature]

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
FDOT Lighting Design	EA	0	0	0		0
FDOT Traffic Design	EA	0	0	0		0
Power Company (service point coordination)	EA	1	4	4		0
Maintaining Agency (cites, courties)	EA	0	0	0		0
Airport authority	EA	0	0	0		0
FDOT Lighting (cost areas)	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				4		0
Progress Meetings (if required by FDOT)	EA	0	0	0	PM attendance at Progress Meetings is manually entered on General Task 3	0
Phase Review Meetings	EA	1	4	4	PM attendance at Phase Review Meetings is manually entered on General Task 3	0
Total Meetings				8	Total Project Manager Meetings (carries to Tab 3)	0

Carried to Tab 3

Carried to 23.4

27. SURVEY

Estimator

SR 417, Econ Trail to Seminole County Line, SA #1
417-134

Representing	Print Name	Signature / Date
FOOT District	Patrick Moench	<i>Patrick Moench</i> 3/21/17
Dewberry	Kevin Knudsen	<i>Kevin Knudsen</i> 4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
27.1	Horizontal Project Control (HPC)									
	2-Lane Roadway	Mile			0.00		0.00		0.00	N/A
	Multi-lane Roadway	Mile			0.00		0.00		0.00	
	Interstate	Mile	0.00	1.75	0.00		0.00	4.00	0.00	
27.2	Vertical PC / Bench Line									
	2-Lane Roadway	Mile			0.00		0.00		0.00	N/A
	Multi-lane Roadway	Mile			0.00		0.00		0.00	
	Interstate	Mile	0.00	1.75	0.00		0.00	5.00	0.00	
27.3	Alignment and Existing ROW Lines									
		Mile	0.00	2.00	0.00	1.00	0.00	8.00	0.00	N/A
27.4	Aerial Targets			Units/Day						
	2-Lane Roadway	EA			0.00		0.00		0.00	N/A
	Multi-lane Roadway	EA			0.00		0.00		0.00	
	Interstate	EA	0.00	12.00	0.00		0.00	5.00	0.00	
27.5	Reference Points	"A"		Units/Day						
	2-Lane Roadway	EA			0.00		0.00		0.00	N/A
	Multi-lane Roadway	EA			0.00		0.00		0.00	
	Interstate	EA	0.00	2.00	0.00	1.00	0.00	10.00	0.00	
	Reference Points	"B"		Units/Day						N/A

27. Survey



Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
	Non Alignment Points/Approximate	EA			0.00		0.00		0.00	N/A
27.6	Topography/DTM (3D)									
		Mile	0.00	5.00	0.00		0.00	6.00	0.00	N/A
27.7	Planimetric (2D)									
		Mile			0.00		0.00		0.00	N/A
27.8	Roadway Cross-Sections/Profiles									
		EA	0.00	0.1867	0.00		0.00	4.00	0.00	N/A
27.9	Side Street Surveys									
		Mile	0.00	4.00	0.00		0.00	6.00	0.00	N/A
27.10	Underground Utilities									
	Designates	Mile/Site	0.00	1.00	0.00		0.00	3.00	0.00	
	Locates	Point	0	0.125	0.00		0.00	4.00	0.00	N/A
	Survey		35%	0.00	0.00		0.00	5.00	0.00	
27.11	Outfall Survey									
		Mile			0.00		0.00		0.00	N/A
27.12	Drainage Survey			Units/Day						
		EA	20.00	12.00	1.67		0.00	4.00	8.87	Detail an estimated 20 existing drainage structures in FTE limits SB. Add information to DREXRD.DGN file.
27.13	Bridge Survey									
	Minor / Major	EA	0.00	1.00	0.00		0.00	6.00	0.00	N/A
27.14	Channel Survey									
		EA			0.00		0.00		0.00	N/A
27.15	Pond Site Survey									
		EA	2.00	2.00	4.00		0.00	8.00	24.00	TOPODTM Survey 2 ponds within the RMW - Pond 6W and Pond 9A. Add information to TIN, TOFORD.DGN, DREXRD.DGN and UTEXRD.DGN files
27.16	Mitigation Survey									
		Mile			0.00		0.00		0.00	N/A
27.17	Jurisdiction Line Survey									
		Mile	0.00	2.00	0.00		0.00	8.00	0.00	N/A

27. Survey



Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
27.18	Geotechnical Support			Units/Day						
		EA	18	8	2.00		0.00	4.00	8.00	State or locate 18 borings for ponds and walls
27.19	Sectional / Grant Survey									
		Corner			0.00		0.00		0.00	Not Included
		Mile			0.00		0.00		0.00	
27.20	Subdivision Location									
		Block			0.00		0.00		0.00	Not Included
27.21	Maintained R/W									
		Mile			0.00		0.00		0.00	Not Included
27.22	Boundary Survey									
		EA			0.00		0.00		0.00	Not Included
27.23	Water Boundary Survey									
		EA			0.00		0.00		0.00	Not Included
27.24	R/W Staking / R/W Line									
		EA			0.00		0.00		0.00	Not Included
		Mile			0.00		0.00		0.00	
27.25	R/W Monumentation									
		Point			0.00		0.00		0.00	Not Included
27.26	Line Cutting									
		Mile			0.00					Included in other tasks if required
27.27	Work Zone Safety									
			8	0.125	1.00					One hour per day
27.28	Miscellaneous Surveys									
					0.00		0.00		0.00	Not Included
Survey Subtotal										
27.29	Supplemental Surveys									
			4.5%	9	0		0		39	THE % FOR SUPPLEMENTAL WILL BE DETERMINED AT NEGOTIATIONS. THIS ITEM CAN ONLY BE USED IF AUTHORIZED IN WRITING BY THE DISTRICT SURVEYOR
27.30	Document Research	Units								
										N/A

27. SURVEY

[Signature]

Task No.	Task	Units	No of Units	Field Crew Days/Unit	Crew Days	Field Support Hours / Crew Days	Field Support Hours	Office Support Hours / Crew Days	Office Support Hours	Comments
27.31	Field Reviews	Units								
27.32	Technical Meetings	LS							0	N/A
27.33	Quality Assurance / Quality Control	LS	0.00						0	N/A
27.34	Supervision	LS						5%	2	
27.36	Coordination	LS						5%	2	
27. Survey Total				Crew Days	9	Field Support Hours	0	Office Support Hours	45	

SPLS =
PLS =
Office Support =
Total Hours = 45

Technical Meetings	Units	No of Units	Hour/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with FDOT	EA	0	0	0		0
Baseline Approval Review	EA	0	0	0		0
Network Control Review	EA	0	0	0		0
Vertical Control Review	EA	0	0	0		0
Local Governments (cities, counties)	EA	0	0	0		0
Final Submittal Review	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				0	Subtotal PM Meetings	0
Progress Meetings (if required by FDOT)	EA	0	0	0	**	**
Phase Review Meetings	EA	0	0	0	**	**
Total Meetings				0	Total PM Mts (carries to Tab 3)	0

Carries to 27.31

Carries to Tab 3

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

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: SR 417, Eastlochleches Trail to Seminole County Line

County: 0

FFN: 417-134

FAP No: 1001900

Consultant Name: Comprehensive Engineering Services, Inc.
Consultant No.: 37502017

Date: 3/30/2017

Staff Classification	Total Staff Hours From Firm	Chief Engineer	Senior Engineer	Project Engineer	Engineer Intern	Staff Class- Reaction 8	Staff Class- Reaction 9	Staff Class- Reaction 10	Staff Class- Reaction 11	Staff Class- Reaction 12	Estimator	By Activity	Salary Cost By Activity	Average Rate Per Task
3. Project General and Project Common Tasks	8	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
5. Roadway Plans	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
6b. Drainage Plans	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
8. Environmental Permits, Compliance & Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9. Structures - Misc. Tasks, Design, Non-Tech.	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
11. Structures - Temporary Bridge	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
13. Structures - Medium Span Concrete Bridge	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
15. Structures - Segmental Concrete Bridge	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
17. Structures - Retaining Walls	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
19. Signing & Pavement Marking Analysis	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
21. Signalization Analysis	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
23. Lighting Analysis	209	21	42	42	52	0	0	0	0	0	0	0	209	\$44.97
24. Lighting Plans	42	4	8	8	11	0	0	0	0	0	0	0	42	\$44.28
25. Landscape Architecture Analysis	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
27. Survey (Field & Office Support)	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
29. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30. Territorial Mobile LIDAR	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
32. Noise Barriers Impact Design Assessment	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33. Intelligent Transportation Systems Analysis	61	6	14	14	19	0	0	0	0	0	0	0	0	\$2,788
34. Intelligent Transportation Systems Plans	34	3	8	8	8	0	0	0	0	0	0	0	34	\$45.38
35. Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	\$44.98
Total Staff Hours	345	34	72	72	58	0	0	0	0	0	0	0	345	\$15,554.02
Total Staff Cost		\$3,078.70	\$4,500.00	\$2,758.32	\$2,173.60	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$15,554.02	\$44.98

Notes:
1 This sheet to be used by Subconsultant to calculate its fee

SALARY RELATED COSTS:
OVERHEAD: 177.42%
SUBTOTAL SALARY-RELATED COSTS \$27,587.01
OPERATING MARGIN: 11.4447%
EXPENSES: 0.00%
SUBTOTAL ESTIMATED FEE: \$4,038.67

SUBTOTAL ESTIMATED FEE:
Optional Services \$48,832.47
GRAND TOTAL ESTIMATED FEE: \$49,832.47

Project Activity 23: Lighting Analysis

Estimator

SR 417, Ecanlochitchee Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FOOT District	Patrick Morsch	3/31/17
CES	Kevin Kruse	4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hours/Units	Total Hours	Comments
23.1	Lighting Justification Report	LS	0	0	0	N/A
23.2	Lighting Design Analysis Report	LS	1	48	48	Update design documentation
23.3	Aeronautical Evaluation	LS	1	8	8	FAA filing required based on notice criteria tool - online approval process where information for each light pole is input for determination (latitude, longitude, ground elevation, pole height, and traverseway)
23.4	Voltage Drop Calculations	LS	0	0	0	To be completed by Dewberry
23.5	FDEP Coordination and Report	LS	0	0	0	N/A
23.6	Reference and Master Design Files	LS	1	79	79	Project lengths: SR 417 mainline 1.0 miles, University ramps 0.2 miles, Aloma ramps 0.2 miles. Middle range (limited access with interchange spacing greater than two miles), 16 hours setup + (1.4 miles mainline/0.1 plaza/ramps) * 4.5 hours per mile = 79 hours
23.7	Temporary Lighting	LS	0	0	0	N/A
23.8	Design Documentation	LS	1	8	8	Included with each submittal
23.9	Quantities	LS	1	12	12	8 plan sheets @ 2 hour per sheet
23.10	Cost Estimate	LS	1	4	4	2 estimates - phase III, and final
23.11	Technical Special Provisions	LS	0	0	0	N/A
23.12	Other Lighting Analysis	LS	0	0	0	N/A
Lighting Analysis Technical Subtotal						159
23.13	Field Reviews	LS	1	16	16	2 field reviews, 2 people @ 4 hours
23.14	Technical Meetings	LS	1	12	12	See listed meetings for breakdown
23.15	Quality Assurance/Quality Control	LS	%	5%	8	
23.16	Independent Peer Review	LS	%	0%	0	
23.17	Supervision	LS	%	5%	8	
Lighting Analysis Nontechnical Subtotal						44
23.18	Coordination	LS	%	3%	6	

Project Activity 23: Lighting Analysis

23. Lighting Analysis Total					209	
Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
FDOT Lighting Design	EA	0	0	0		0
FDOT Traffic Design	EA	0	0	0		0
Power Company (service point coordination)	EA	1	4	4		0
Maintaining Agency (cables, courties)	EA	1	4	4		0
Airport authority	EA	0	0	0		0
FDEP Lighting (coast areas)	EA	0	0	0		0
Other Meetings	EA	0	0	0		0
Subtotal Technical Meetings				8		0
Progress Meetings (if required by FDOT)	EA	0	0	0	PM attendance at Progress Meetings is manually entered on General Task 3	0
Phase Review Meetings	EA	1	4	4	PM attendance at Phase Review Meetings is manually entered on General Task 3	0
Total Meetings				12	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

Carries to 23.14

24. Lighting Plans

Estimator

SR 417, Ezonlockhatches Trail to Seminole County Line
417-134

Representing	Print Name	Signature / Date
FOOT District	Patrick Muench	<i>Patrick Muench</i> 4/12/17
CES	Kevin Knudsen	4/12/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units	Hour/ Unit	No. of Sheets	Total Hours	Comments
24 1	Key Sheet		Sheet	1	0	0	0	Include with CFX project
24 2	Summary of Pay Items including Designer Interface (TRANS-Port) Input		Sheet	1	0	0	0	N/A
24 3	Tabulation of Quantities		Sheet	1	8	1	8	1 sheet
24 4	General Notes/Pay Item Notes		Sheet	1	6	1	6	FTE Notes
24 5	Pole Data, Legend and Criteria		Sheet	1	12	1	12	1 pole data sheet, LED
24 6	Service Point Details		Sheet	1	0	0	0	N/A
24 7	Project Layout		Sheet	1	0	0	0	N/A
24 8	Plan Sheet	1" = 50'	Sheet	1	12	6	12	6 plan sheets
24 9	Special Details		Sheet	1	0	0	0	N/A
24 10	Temporary Lighting Data and Details		Sheet	1	0	0	0	N/A
24 11	Traffic Control Plan Sheets		Sheet	1	0	0	0	N/A
24 12	Interim Standards		LS	0	0	0	0	N/A
Lighting Plans Technical Subtotal								
24 13	Quality Assurance/Quality Control		LS	2	5%	9	38	
24 14	Supervision		LS	2	5%	9	2	
24. Lighting Plans Total								42

33. ITS Analysis

Estimator: RLS

SR 417, Econohatchas Trail to Seminole County Lane
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Maend	3/31/17
CES	Kevin Knudson	4/12/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.1	ITS Analysis	LS	0	0	0	N/A
33.2	Communications Plan Analysis	LS	0	0	0	N/A
33.3	Lighting Protection Analysis	Per Site	1	0	0	N/A
33.4	Power Subsystem	LS	0	0	0	N/A
33.5	Voltage Drop Calculations	LS	0	0	0	N/A
33.6	Design Documentation	LS	0	0	0	N/A
33.7	Existing ITS System	LS	1	8	8	Review FTE as-builts
33.8	Queue Analysis	PI	1	0	0	N/A
33.9	Reference and Master ITS Design File	PI	0	0	0	N/A
33.10	Reference and Master Communications Design File	PI	1	16	16	Aux Lane - 1.0 mi @ 16 hrs/mi
33.11	Pole Elevation Analysis	LS	0	0	0	N/A
33.12	Sign Panel Design Analysis	LS	0	0	0	N/A
33.13	Quantities	Sheet	5	3	15	Aux Lane - 5 plan sheets
33.14	Cost Estimate	LS	0	0	0	N/A
33.15	Technical Special Provisions	LS	0	0	0	N/A
33.16	Other ITS Analysis	LS	0	0	0	N/A
Intelligent Transportation Systems Analysis Technical Subtotal					39	

33. ITS Analysis

Garrett

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
33.17	Field Reviews	LS	1	16	16	2 reviews, 2 people, 4 hours
33.18	Technical Meetings	LS	1	0	0	Meetings are listed below
33.19	Quality Assurance/Quality Control	LS	%	5%	2	
33.20	Supervision	LS	%	5%	2	
Intelligent Transportation Systems Analysis Nontechnical Subtotal						
33.21	Coordination	LS	%	3%	2	
33. Intelligent Transportation Systems Analysis Total						
					61	

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with FDOT	EA	0	0	0		0
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
Subtotal Technical Meetings						
				0	Subtotal Project Manager Meetings	0
				0	PM attendance at Progress Meetings is manually entered on General Task 3	0
				0	PM attendance at Phase Review Meetings is manually entered on General Task 3	0
				0	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

34. ITS Plans

Estimator RLS

SR 417, Econtodatchere Trail to Seminole County Line
417 134

Representing	Print Name	Signature Date
FDOT District	Patrick Muench	4/2/17
CES	Kevin Knudsen	4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
34.1	Key Sheet		Sheet	1	0	0	0	N/A
34.2	Summary of Pay Items including Designer Interface (Trans-port) Input		Sheet	0	0	0	0	N/A
34.3	Tabulation of Quantities		Sheet	1	5	1	5	
34.4	General Notes/Pay Item Notes		Sheet	0	0	0	0	N/A
34.5	Project Layout		Sheet	0	0	0	0	N/A
34.6	Typical and Special Details		Sheet	0	0	0	0	N/A
34.7	Plan Sheet		Sheet	0	0	0	0	N/A
34.8	ITS Communications Plans		Sheet	5	4	5	20	Aux Lane - 5 plan sheets, 100 scale
34.9	Fiber Optic Splice Diagrams		Sheet	0	0	0	0	N/A
34.10	Lightning Protection Plans		Sheet	0	0	0	0	N/A
34.11	Cross Sections		Sheet	0	0	0	0	N/A
34.12	Guide Sign Worksheet(s)		Sheet	0	0	0	0	N/A
34.13	Special Services Point Details		Sheet	0	0	0	0	N/A
34.14	Strain Pole Schedule		Sheet	0	0	0	0	N/A
34.15	Overhead/Cantilever Sign Structure		Sheet	0	0	0	0	N/A
34.16	Other Overhead Sign Structures (Long Span, Monolube, etc.)		Sheet	0	0	0	0	N/A
34.17	Traffic Control Plans		Sheet	5	1	5	5	FOR MOT Plan
34.18	Interim Standards		Sheet	0	0	0	0	N/A
34.19	GIS Data and Asset Management Requirements		LS	0	0	0	0	N/A

Sam

34. ITS Plans

Task No.	Task	Scale	Units	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
Intelligent Transportation System Plans Technical Subtotal								
34.20	Quality Assurance/Quality Control		LS	%	1/2h	11	30	
34.21	Supervision		LS	%	5h		2	
34. Intelligent Transportation System Plans Total							11	
							34	

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: SR 417, Econ Trail to Seminole County Line (S4#1)
 County: Orange
 FPN: 417-134

Consultant Name: The Balmoral Group
 Consultant No.: enter consultants proj number
 Date: 3/30/2017
 Estimator: S. Klaus

Staff Classification	Total Staff Hours From Summary	Chief Engineer	Project Manager	Senior Engineer	Project Engineer	Engineer Intern	Staff Class- Location 6	Staff Class- Location 7	Staff Class- Location 8	Staff Class- Location 9	Staff Class- Location 10	Staff Class- Location 11	Staff Class- Location 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
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 Permit, Compliance & Clearances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9. Structures - Misc. Tasks, Design, 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 - Moveable 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	74	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20. Signing & Pavement Marking Plans	57	3	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. Territorial 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Staff Hours	131	7	0	24	46	52	0	0	0	0	0	0	0	121	\$4,867.20	\$37.16
Total Staff Cost		\$481.25	\$0.00	\$1,122.00	\$1,827.20	\$1,337.44	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0	\$4,867.20	\$37.16

SALARY RELATED COSTS:
 OVERHEAD: 159.84%
 SUB-TOTAL SALARY-RELATED COSTS: \$7,785.70
 PROFIT MARGIN: 12.00%
 EXPENSES: \$12,653.50
 SUBTOTAL ESTIMATED FEE: \$14,172.02
 Survey (Field) \$0.00
 Geotechnical Field and Lab Testing \$0.00
 SUBTOTAL ESTIMATED FEE: \$14,172.02
 Optional Services \$0.00
 GRAND TOTAL ESTIMATED FEE: \$14,172.02

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

Project Activity 19: Signing and Pavement Marking Analysis

Estimator: S. Klaus

SR 417, Ecom Trail to Seminole County Line (SA#1)
417-134

Representing	Print Name	Signature / Date
FDOT District	<i>Patrick Mwench</i>	<i>Patrick Mwench</i>
Consultant Name	The Baltimore Group	<i>4/24/17</i>

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No. of Units	Hourly Units	Total Hours	Comments
19.1	Traffic Data Analysis	LS	0	0	0	N/A
19.2	No Passing Zone Study	LS	0	0	0	N/A
19.3	Reference and Master Design File	LS	1	48	48	Mainline (Sta 1232+00 to Sta. 283+00) = 1.0 miles; Ramps (SB UNIV-OFF=1000'; SB AL-ON=1250') = 0.4 miles
19.4	Multi-Post Sign Support Calculations	EA	2	4	8	Originally 45 hours setup + 90 hrs./mile; Use 0 setup + 30 hrs. X 1.8 miles = 48 hrs.
19.5	Sign Panel Design Analysis	EA	1	4	4	2 additional ground mounted guide signs (1 new, 1 relocate)
19.6	Sign Lighting/Electrical Calculations	EA	0	0	0	1 new multi-post ground mount affected by widening X 4 hrs. = 4 hrs.
19.7	Quantities	LS	0	0	0	By CES
19.8	Cost Estimate	LS	0	0	0	Task accounted for in original hours
19.9	Technical Special Provisions	LS	0	0	0	Task accounted for in original hours
19.10	Other Signing and Pavement Marking	LS	0	0	0	N/A
Signing and Pavement Marking Analysis Technical Subtotal						80
19.11	Field Reviews	LS	1	6	6	1 reviews X 2 people X 3 hrs. (incl travel time) for additional sign inventory
19.12	Technical Meetings	LS	0	0	0	N/A
19.13	Quality Assurance/Quality Control	LS	%	5%	3	
19.14	Independent Peer Review	LS	%	0%	0	
19.15	Supervision	LS	%	5%	3	
Signing and Pavement Marking Analysis Nontechnical Subtotal						12
19.16	Coordination	LS	%	3%	2	
19. Signing and Pavement Marking Analysis Total						74

Project Activity 19: Signing and Pavement Marking Analysis



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

Carries to 19.12

Carries to Tab 3

Project Activity 20: Signing and Pavement Marking Plans

Estimator: B. Klaus

SR 417 Econ Trail to Seminole County Line (SA#1)
417-134

Representing	Print Name	Signature / Date
FDOT District	Patrick Muench	3/31/17
Consultant Name	The Balmoral Group	4/2/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
20 1	Key Sheet		Sheet	1	0	0	0	N/A - included in roadway
20 2	Summary of Pay Items Including TRNS-Port Input		LS	0	0		0	N/A - included in roadway
20 3	Tabulation of Quantities		Sheet	0	0	0	0	Task accounted for in original hours
20 4	General Notes/Pay Item Notes		Sheet	1	2	1	2	Review and incorporate necessary FTE SAPM notes
20 5	Project Layout		Sheet	0	0	0	0	Task accounted for in original hours
20 6	Plan Sheet	1"=50'	Sheet	11	1	11	11	Revise 11 plan sheets
20 7	Typical Details		EA	0	0	0	0	No additional details anticipated
20 8	Guide Sign Worksheet(s)		EA	1	8	1	8	1 new multi-post ground mount affected by widening
20 9	Traffic Monitoring Site		EA	0	0		0	N/A
20 10	Cross Sections		EA	5	6	5	30	Develop full section for 3 span truss & half sections for 2 ground mount (1 new, 1 relocate) 6 hrs. X 3 OH structure = 2 hrs X 3 multi-post = 30 hrs
20 11	Special Service Post Details		EA	0			0	N/A
20 12	Special Details		LS	0			0	N/A
20 13	Plan Standards		LS	0			0	N/A
Signing and Pavement Marking Plans Technical Subtotal							61	
20 14	Quality Assurance/Quality Control		LS	%	5%		3	
20 15	Supervision		LS	%	5%		3	
20: Signing and Pavement Marking Plans Total							67	

Name of Project	
County	
FPN	
FAP No.	

Consultant Name: Tierra
Consultant No.: enter consultants proj number
Date: 3/30/2017

00001000

Staff Classification		12/27/2023										Estimator			Interest Rates		
		Total Staff New from "SH" Plan	Project Manager	Senior Engineer	Chief Scientist	Senior Project	Geotechnical Engineer	Engineering Intern	Senior Scientist	Designer	Senior Engineering	Geotechnical Technician	Secretarial/C Mortals	Staff Class: Resident 12	BH Activity	Salary Cost By Activity	Average Rate Per Task
3. Project General and Project Common Tasks		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
4. Residency Analysis		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	\$0.00
6. Drainage Analysis		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
6a. Drainage Plans		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	\$0.00
8. Environmental Permit, Compliance & Clearances		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
9. Structures - Misc. Tasks, Dwg, Non-Tech.		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	\$0.00
11. Structures - Temporary Bridge		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	\$0.00
13. Structures - Medium Span Concrete Bridge		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	\$0.00
15. Structures - Segmental Concrete Bridge		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	\$0.00
17. Structures - Retaining Walls		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	\$0.00
19. Signaling & Pavement Marking Analysis		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
20. Signaling & Pavement Marking Plans		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	\$0.00
22. Signalization Plans		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	\$0.00
24. Lighting Plans		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	\$0.00
26. Landscape Architecture Plans		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	\$0.00
28. Photogrammetry		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	\$0.00
30. Terrestrial Mobile LIDAR		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	\$0.00
32. Noise Barriers Impact Design Assessment		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	\$0.00
34. Intelligent Transportation Systems Plans		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00
35. Geotechnical		187	0	15	0	18	0	18	0	28	64	0	4	8	187	\$23,974.48	\$16.98
Total Staff Hours		187	0	15	0	18	0	18	0	28	64	0	4	8	187	\$23,974.48	\$16.98
Total Staff Cost		\$1,764.25	\$2,822.70	\$0.00	\$3,604.44	\$3,771.32	\$6,470.04	\$0.00	\$2,548.08	\$542.12	\$603.27	\$273.34	\$0.00	\$0.00	\$59,724.48	\$16.98	

SALARY RELATED COSTS		\$21,874.48
OVERHEAD:	0%	\$0.00
OPERATING MARGIN:	0%	\$0.00
FOCM (Feesless Capital Cost Money):	0.00%	\$0.00
EXPENSES	0.00%	\$0.00
SUBTOTAL ESTIMATED FEE:		\$21,874.48
Contamination OOCs		\$0.00
Geotechnical Field and Lab Testing		\$16,610.94
SUBTOTAL ESTIMATED FEE:		\$38,485.40
Optional Services		\$0.00
GRAND TOTAL ESTIMATED FEE:		\$38,485.40

Notes:

1 This sheet to be used by Subcontractor to calculate its fee

35. Geotechnical

Estimator

SR 417, Econtochutchee Trail to Seminole County Line - Supplemental
417 134

Representing	Print Name	Signature / Date
CFX	<i>Patrick Atkinson</i>	<i>[Signature]</i>
Tierra Inc	Kevin Kullin	4/24/17

NOTE: Signature Block is optional, per District preference

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
	Roadway					
35.1	Document Collection and Review	LS	0	0	0	N/A - Performed during Initial Investigation
35.2	Develop Detailed Boring Location Plan	LS	1	8	8	Per CFX Direction 4D roadway borings 8 SPTs - 20' 32 Augers - 5' Total 465 LF (180 LF SPT + 180 LF Augers)
35.3	Stake Borings/Utility Clearance	Boring	40	0.25	10	
35.4	Muck Probing	Crew Day	0	0	0	Tierra will use separate pay item in fee schedule to perform muck probing.
35.5	Coordinate and Develop MOT Plans for Field Investigation	EA	0	0	0	N/A
35.6	Drilling Access Permits	Location	1	8	8	Permit for work within Seminole County - FL Turnpike ROW
35.7	Property Clearances	EA	0	0	0	N/A - All work within ROW
35.8	Groundwater Monitoring	EA	0	0	0	N/A
35.9	LBR/Resilient Modulus Sampling	EA	0	0	0	N/A - Performed during Initial Investigation
35.10	Coordination of Field Work	100 lf of boring	3.2	1	3	
35.11	Soil and Rock Classification - Roadway	100 lf of boring	3.2	2	6	
35.12	Design LBR	LS	0	0	0	N/A
35.13	Laboratory Data	100 lf of boring	3.2	0.75	2	
35.14	Seasonal High Water Table	Boring	40	0.2	8	
35.15	Parameters for Water Retention Areas	EA	0	0	0	
35.16	Determine Limits of Unsuitable Material	Cross-section	6	1.2	7	Assume 6 cross sections @ 0.5 hr/cross section (3 hrs) + 2 plan reviews @ 2 hrs each (4 hrs) Sum = 7 hrs
35.17	Electronic Files for Cross-Sections	100 lf of boring	3.2	1	3	
35.18	Embankment Settlement and Stability	Embankment Boring	0	0	0	N/A
35.19	Monitor Existing Structures	LS	0	0	0	N/A

35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
35.20	Stormwater Volume Recovery and/or Background Seepage Analysis	EA	0	0	0	To be performed by others.
35.21	Geotechnical Recommendations	LS	1	8	8	
35.22	Pavement Condition Survey and Pavement Evaluation Report	LS	0	0	0	Pavement Coring and Evaluation Not Required.
35.23	Preliminary Roadway Report	LS	1	8	8	To Be Included With Overall Report
35.24	Final Report	EA	1	12	12	To Be Included With Overall Report
35.25	Auger Boring Drafting	100 ft boring	1.6	4	6	
35.26	SPT Boring Drafting	100 ft boring	1.6	5	8	
Roadway Geotechnical Subtotal					97	
Structures						
35.27	Develop Detailed Boring Location Plan	LS	1	4	4	Total Approx 1,800 LF of Gravity Walls and 3 Sign Structures
35.28	State Boring/Utility Clearance	Boring	7	0.4	3	Per CFX Direction: 3 Sign Structure Borings to 50' (150 LF) + 4 Wall Borings to 20' (80 LF) = 7 borings for 230 LF
35.28	Coordinate and Develop MOT Plans for Field Investigation	EA	0	0	0	N/A
35.30	Drilling Access Permits	Location	0	0	0	N/A - Turnpike Permit Included with Roadway Investigation
35.31	Property Clearances	EA	0	0	0	N/A - All Work within ROW
35.32	Collection of Corrosion Samples	EA	0	0	0	To be collected at time of drilling.
35.33	Coordination of Field Work	100 ft of boring	2.3	1	2	
35.34	Soil and Rock Classification - Structures	100 ft of boring	2.3	2	5	
35.35	Tabulation of Laboratory Data	100 ft of boring	2.3	0.75	2	
35.36	Estimate Design Groundwater Level for Structures	EA	7	0.25	2	
35.37	Selection of Foundation Alternatives (BDR)	Bridge boring	0	0	0	N/A
35.38	Detailed Analysis of Selected Foundation Alternative(s)	Bridge boring	0	0	0	N/A
35.38	Bridge Construction and Testing Recommendations	Bridge boring	0	0	0	N/A
35.40	Lateral Load Analysis (Optional)	Bridge boring	0	0	0	N/A
35.41	Wells	Well Boring	2	2	4	Analyze all Wells - Use 1 Representative Boring Per Well
35.42	Sheet Pile Wall Analysis (Optional)	Well Boring	0	0	0	N/A
35.43	Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations	Boring	3	1	3	3 Sign Structures

35. Geotechnical

Task No.	Task	Units	No of Units	Hours/ Unit	Total Hours	Comments
35.44	Box Culvert Analysis	EA	0	0	0	N/A - No Culvert Extensions.
35.45	Preliminary Report - BDR	EA	0	0	0	N/A
35.46	Final Report - Bridge and Associated Walls	EA	0	0	0	N/A
35.47	Final Reports - Signs, Signals, Box Culvert, Walls and High Mast Lights	EA	1	20	20	
35.48	SPT Boring Drafting	100 ft of boring	2.3	5	12	
35.49	Other Geotechnical	LS	0	0	0	N/A
Structural Geotechnical Subtotal						57
Geotechnical Technical Subtotal						164
35.50	Technical Special Provisions	EA	0	0	0	
35.51	Field Reviews	LS	1	8	8	
35.52	Technical Meetings	LS	1	4	4	Meetings listed below
35.53	Quality Assurance/Quality Control	LS	%	5%	8	
35.54	Supervision	LS	%	5%	8	
Geotechnical Nontechnical Subtotal						28
35.55	Coordination	LS	%	3%	5	
35. Geotechnical Total						187

Technical Meetings	Units	No of Units	Hours/ Unit	Total Hours	PM Attendance at Meeting Required?	Number
Kickoff Meeting with CFX	EA	0	0	0		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	0	0	0		0
Other Meetings	EA	2	2	4		0
Subtotal Technical Meetings				4		0
Progress Meetings (if required by FDOT)	EA	0	0	0		0
Phase Review Meetings	EA	0	0	0		--
Total Meetings				4	Total Project Manager Meetings (carries to Tab 3)	0

Carries to Tab 3

Contract Number: 001153
Project Number: 5511-16-004

Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL - Supplemental

Item Description	Unit	Unit Price	Quantity	Total
Geotechnical Field Investigation				
612-Geo Mobilization Drill Rig Truck Mount	Each	\$ 337.00	1	\$ 337.00
614-Geo Mobilization Mudbug/All Terrain Vehicle	Each	\$ 500.00	1	\$ 500.00
610-Geo Mobilization Drill Rig Truck Mount	Each	\$ 3,110.00	0	\$ -
418-Geo Drill Crew Support Vehicle	Day	\$ 152.00	6	\$ 912.00
608-Geo Mobilization Drill Rig Barge Mount	Each	\$ 7,420.00	0	\$ -
405-Geo Barge (Owned)	Day	\$ 2,500.00	0	\$ -
618-Geo Mobilization Support Boat	Each	\$ 500.00	0	\$ -
Geo Support Safety Boat	Day	\$ 275.00	0	\$ -
619-Geo Mobilization Tri-Pod	Each	\$ 1,250.00	0	\$ -
419-Geo Drilling Crew 2-Person	Hour	\$ 135.00	0	\$ -
420-Geo Drilling Crew 3-Person	Hour	\$ 185.00	0	\$ -
Geo SPT Truck 0-50 Ft	LF	\$ 12.00	0	\$ -
Geo SPT Truck 50-100 Ft	LF	\$ 14.00	0	\$ -
Geo SPT Truck 100-150 Ft	LF	\$ 20.00	0	\$ -
Geo SPT Truck 150-200 Ft	LF	\$ 39.00	0	\$ -
478-Geo SPT Truck-Mud Bug 0-50 Ft	LF	\$ 12.50	390	\$ 4,875.00
479-Geo SPT Truck-Mud Bug 50-100 Ft	LF	\$ 16.00	0	\$ -
480-Geo SPT Truck-Mud Bug 100-150 Ft	LF	\$ 27.50	0	\$ -
481-Geo SPT Truck-Mud Bug 150-200 Ft	LF	\$ 42.00	0	\$ -
473-Geo SPT Barge/Track/Amphibious 000-050 Ft	LF	\$ 18.50	0	\$ -
474-Geo SPT Barge/Track/Amphibious 050-100 Ft	LF	\$ 25.00	0	\$ -
475-Geo SPT Barge/Track/Amphibious 100-150 Ft	LF	\$ 40.00	0	\$ -
476-Geo SPT Barge/Track/Amphibious 150-200 Ft	LF	\$ 70.00	0	\$ -
Geo Grout Boreholes- Truck 0-050 Ft	LF	\$ 4.50	0	\$ -
Geo Grout Boreholes- Truck 50-100 Ft	LF	\$ 5.00	0	\$ -
Geo Grout Boreholes- Truck 100-150 Ft	LF	\$ 5.50	0	\$ -
Geo Grout Boreholes- Truck 150-200 Ft	LF	\$ 14.00	0	\$ -
440-Geo Grout Boreholes- Truck/Mud Bug 000-050 Ft	LF	\$ 5.95	390	\$ 2,320.50
441-Geo Grout Boreholes- Truck/Mud Bug 050-100 Ft	LF	\$ 7.10	0	\$ -
442-Geo Grout Boreholes- Truck/Mud Bug 100-150 Ft	LF	\$ 8.00	0	\$ -
443-Geo Grout Boreholes- Truck/Mud Bug 150-200 Ft	LF	\$ 18.00	0	\$ -
435-Geo Grout Boreholes- Barge/Track/Amphibious 000-050 Ft	LF	\$ 8.50	0	\$ -
436-Geo Grout Boreholes- Barge/Track/Amphibious 050-100 Ft	LF	\$ 9.00	0	\$ -
437-Geo Grout Boreholes- Barge/Track/Amphibious 100-150 Ft	LF	\$ 10.00	0	\$ -
438-Geo Grout Boreholes- Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
Geo Temp Casing 3" Truck 0-050 Ft	LF	\$ 7.50	0	\$ -
Geo Temp Casing 3" Truck 50-100 Ft	LF	\$ 8.75	0	\$ -
Geo Temp Casing 3" Truck 100-150 Ft	LF	\$ 10.50	0	\$ -
Geo Temp Casing 3" Truck 150-200 Ft	LF	\$ 15.00	0	\$ -

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Tierra Inc
Table 6 Standard Fee Schedule 2016

SR 417 Widening from Econlockhatchee Tr
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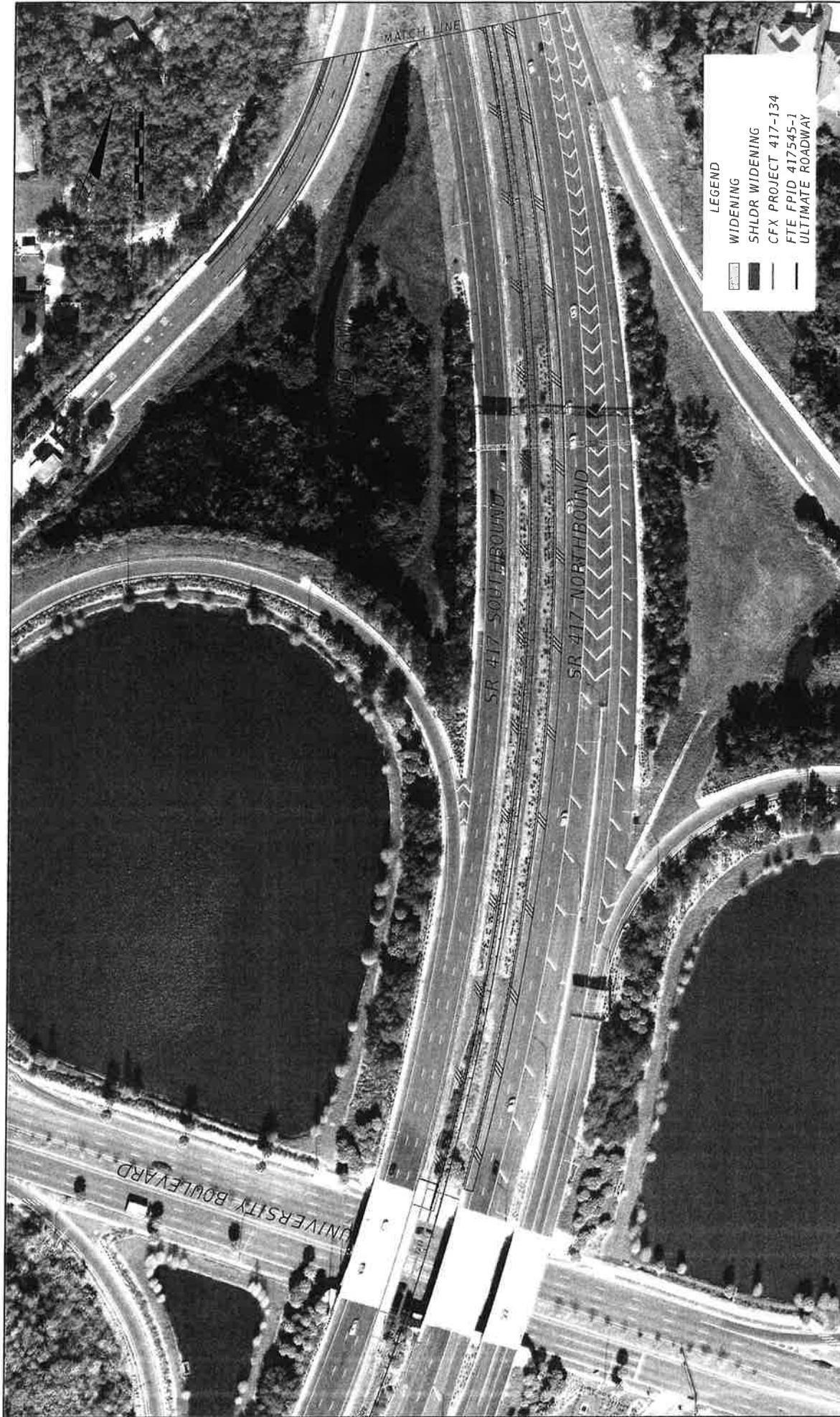
Item Description	Unit	Unit Price	Quantity	Total
488-Geo Temp Casing 3" Truck/Mud Bug 000-050 Ft	LF	\$ 9.80	80	\$ 784.00
489-Geo Temp Casing 3" Truck/Mud Bug 050-100 Ft	LF	\$ 12.75	0	\$ -
490-Geo Temp Casing 3" Truck/Mud Bug 100-150 Ft	LF	\$ 15.75	0	\$ -
491-Geo Temp Casing 3" Truck/Mud Bug 150-200 Ft	LF	\$ 22.00	0	\$ -
483-Geo Temp Casing 3" Barge/Track/Amphibious 0-050 Ft	LF	\$ 12.90	0	\$ -
484-Geo Temp Casing 3" Barge/Track/Amphibious 50-100 Ft	LF	\$ 14.70	0	\$ -
485-Geo Temp Casing 3" Barge/Track/Amphibious 100-150 Ft	LF	\$ 17.65	0	\$ -
486-Geo Temp Casing 3" Barge/Track/Amphibious 150-200 Ft	LF	\$ 25.00	0	\$ -
463-Geo Rock Coring Truck/Mud Bug 000-050 Ft less than 4" ID	LF	\$ 34.25	0	\$ -
465-Geo Rock Coring Truck/Mud Bug 050-100 Ft less than 4" ID	LF	\$ 36.55	0	\$ -
467-Geo Rock Coring Truck/Mud Bug 100-150 Ft less than 4" ID	LF	\$ 39.90	0	\$ -
453-Geo Rock Coring Barge/Track/Amphibious 000-050 Ft less than 4" ID	LF	\$ 45.79	0	\$ -
455-Geo Rock Coring Barge/Track/Amphibious 050-100 Ft less than 4" ID	LF	\$ 60.74	0	\$ -
457-Geo Rock Coring Barge/Track/Amphibious 100-150 Ft less than 4" ID	LF	\$ 85.00	0	\$ -
459-Geo Rock Coring Barge/Track/Amphibious 150-200 Ft less than 4" ID	LF	\$ 94.00	0	\$ -
427-Geo Extra SPT Samples-Truck/Mud Bug 000-050 Ft	Each	\$ 31.40	0	\$ -
428-Geo Extra SPT Samples-Truck/Mud Bug 050-100 Ft	Each	\$ 36.44	0	\$ -
429-Geo Extra SPT Samples-Truck/Mud Bug 100-150 Ft	Each	\$ 42.20	0	\$ -
430-Geo Extra SPT Samples-Truck/Mud Bug 150-200 Ft	Each	\$ 85.00	0	\$ -
422-Geo Extra SPT Samples-Barge/Track/Amphibious 000-050 Ft	Each	\$ 47.15	0	\$ -
423-Geo Extra SPT Samples-Barge/Track/Amphibious 050-100 Ft	Each	\$ 54.80	0	\$ -
424-Geo Extra SPT Samples-Barge/Track/Amphibious 100-150 Ft	Each	\$ 63.30	0	\$ -
425-Geo Extra SPT Samples-Barge/Track/Amphibious 150-200 Ft	Each	\$ 85.00	0	\$ -
519-Geo Undisturbed Samples Truck/Mud Bug 000-050 Ft	Each	\$ 119.50	0	\$ -
520-Geo Undisturbed Samples Truck/Mud Bug 050-100 Ft	Each	\$ 130.40	0	\$ -
521-Geo Undisturbed Samples Truck/Mud Bug 100-150 Ft	Each	\$ 195.60	0	\$ -
522-Geo Undisturbed Samples Truck/Mud Bug 150-200 Ft	Each	\$ 200.00	0	\$ -
515-Geo Undisturbed Samples Barge/Track/Amphibious 000-050 Ft	Each	\$ 179.00	0	\$ -
516-Geo Undisturbed Samples Barge/Track/Amphibious 050-100 Ft	Each	\$ 195.80	0	\$ -
517-Geo Undisturbed Samples Barge/Track/Amphibious 100-150 Ft	Each	\$ 293.40	0	\$ -
518-Geo Undisturbed Samples Barge/Track/Amphibious 150-200 Ft	Each	\$ 375.00	0	\$ -
401-Geo Auger Borings- Hand & Truck/Mud Bug	LF	\$ 9.25	160	\$ 1,480.00
402-Geo Auger Borings- Track	LF	\$ 9.25	0	\$ -
432-Geo Field Permeability 0-10 Ft (Open - End Borehole Method)	Each	\$ 270.00	0	\$ -
Flagman and Barricades 2-Man Crew Own Equipment	Day	\$ 850.00	1	\$ 850.00
450-Geo Piezometer 2" 000-050 Ft	LF	\$ 30.00	0	\$ -
445-Geo Grouted Monitor Well 2" 000-050 Ft	LF	\$ 8.25	0	\$ -
450.1 Piezometer Permit Cost Actual	Each	\$ 50.00	0	\$ -
403-Geo Backhoe (Owned)	Day	\$ 600.00	0	\$ -
416-Geo Dozer (Owned)	Day	\$ 800.00	0	\$ -
Site Clearing to Access Boring or Test Locations	Hour	\$ 150.00	4	\$ 600.00
407-Geo Chainsaw (Owned)	Day	\$ 28.00	0	\$ -
415-Geo Double Ring Infiltration (ASTM D3385)	Each	\$ 460.00	0	\$ -
434-Geo Ground Penetrating Radar (GPR)	Day	\$ 2,800.00	0	\$ -

Contract Number: 001153
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Tierra Inc
Table 6 Standard Fee Schedule 2016

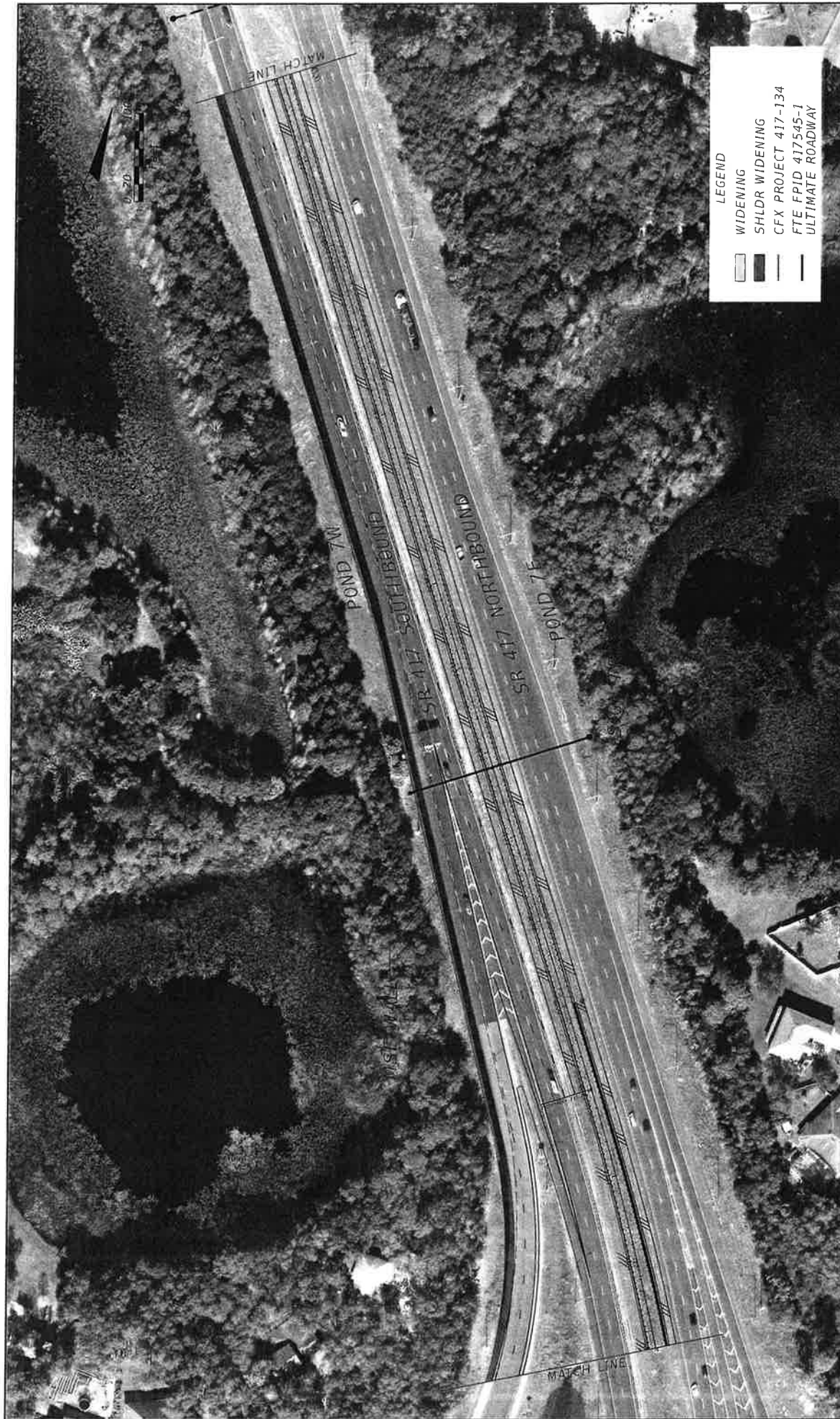
SR 417 Widening from Econlockhatchee Tr
from Orange-Seminole CL - Supplemental

Item Description	Unit	Unit Price	Quantity	Total
Asphalt and Concrete Pavement Coring				
209-Asphalt Pavement Coring - 4" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
210-Asphalt Pavement Coring - 4" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
211-Asphalt Pavement Coring - 6" dia with Base Depth Check	Each	\$ 125.00	0	\$ -
212-Asphalt Pavement Coring - 6" dia without Base Depth Check	Each	\$ 110.00	0	\$ -
305-Concrete Pavement Coring - 4" Dia	Each	\$ 110.00	0	\$ -
306-Concrete Pavement Coring - 6" Dia	Each	\$ 110.00	0	\$ -
803-Mobilization Asphalt Coring equipment	Each	\$ 250.00	0	\$ -
806-Mobilization Concrete Coring	Each	\$ 250.00	0	\$ -
Geotechnical Soil Laboratory Testing				
812-Soils Materials Finer than 200 Sieve (FM 1-T011)	Test	\$ 35.00	15	\$ 525.00
817-Soils Moisture Content Laboratory (AASHTO T 285)	Test	\$ 9.58	18	\$ 172.44
821-Soils Particle Size Analysis (AASHTO T 88) (Including Hydrometer)	Test	\$ 131.00	0	\$ -
822-Soils Particle Size Analysis (AASHTO T 88) (No Hydrometer)	Test	\$ 87.00	15	\$ 1,005.00
805-Soils Corrosion Series (FM 5-550 through 5-553)	Test	\$ 145.00	8	\$ 1,160.00
825-Soils pH Soil or Water (FM 5-550)	Test	\$ 30.00	0	\$ -
829-Soils Resistivity Soil or Water (FM 5-551)	Test	\$ 35.00	0	\$ -
800-Soils Chloride Soil or Water (FM 5-552)	Test	\$ 40.00	0	\$ -
833-Soils Sulfate Soil or Water (FM 5-553)	Test	\$ 40.00	0	\$ -
810-Soils Organic Content Ignition (FM 1 T-267)	Test	\$ 35.00	8	\$ 280.00
Atterberg Limit Tests (AASHTO T-89 and T-90) Combined	Test	\$ 81.00	10	\$ 810.00
826-Soils Plastic Limit & Plasticity Index (AASHTO T 90)	Test	\$ 81.00	0	\$ -
811-Soils Liquid Limit (AASHTO T 89)	Test	\$ 41.00	0	\$ -
823-Soils Permeability Constant Head (AASHTO T 215)	Test	\$ 155.00	0	\$ -
824-Soils Permeability Falling Head (FM 5-513)	Test	\$ 155.00	0	\$ -
827-Soils Proctor Modified (FM 1-T 180)	Test	\$ 115.00	0	\$ -
828-Soils Proctor Standard (AASHTO T 99)	Test	\$ 111.00	0	\$ -
832-Soils Splitting Tensile Strength of Rock Cores (ASTM D3987)	Test	\$ 105.00	0	\$ -
838-Soils Unconfined Compression - Rock (ASTM D7012, Method C)	Test	\$ 105.00	0	\$ -
803-Soils Consolidation - Constant Strain (ASTM D4186)	Test	\$ 500.00	0	\$ -
804-Soils Consolidation - Extended Load Increments (AASHTO T218)	Each	\$ 50.00	0	\$ -
806-Soils Direct Shear Consolidated Drained/ Point AASHTO T 236	Test	\$ 250.00	0	\$ -
810-Soils Limerock Bearing Ratio (LBR)(FM 5-515)	Test	\$ 326.18	0	\$ -
Engineering and Technical Support Services				
Project Manager	Hour	\$ 198.25	9	\$ 1,784.25
Senior Engineer	Hour	\$ 188.18	15	\$ 2,822.70
Chief Scientist	Hour	\$ 151.47	0	\$ -
Senior Project Engineer	Hour	\$ 158.38	19	\$ 3,008.84
Geotechnical Engineer	Hour	\$ 134.69	28	\$ 3,771.32
Engineering Intern	Hour	\$ 85.28	68	\$ 6,479.04
Senior Scientist	Hour	\$ 117.34	0	\$ -
Designer	Hour	\$ 91.08	28	\$ 2,549.68
Sr Engineering Technician	Hour	\$ 83.18	7	\$ 582.12
Geotechnical Technician	Hour	\$ 67.03	9	\$ 603.27
Secretary/Clerical	Hour	\$ 68.31	4	\$ 273.24
Total Estimated Fee				\$ 38,485.40



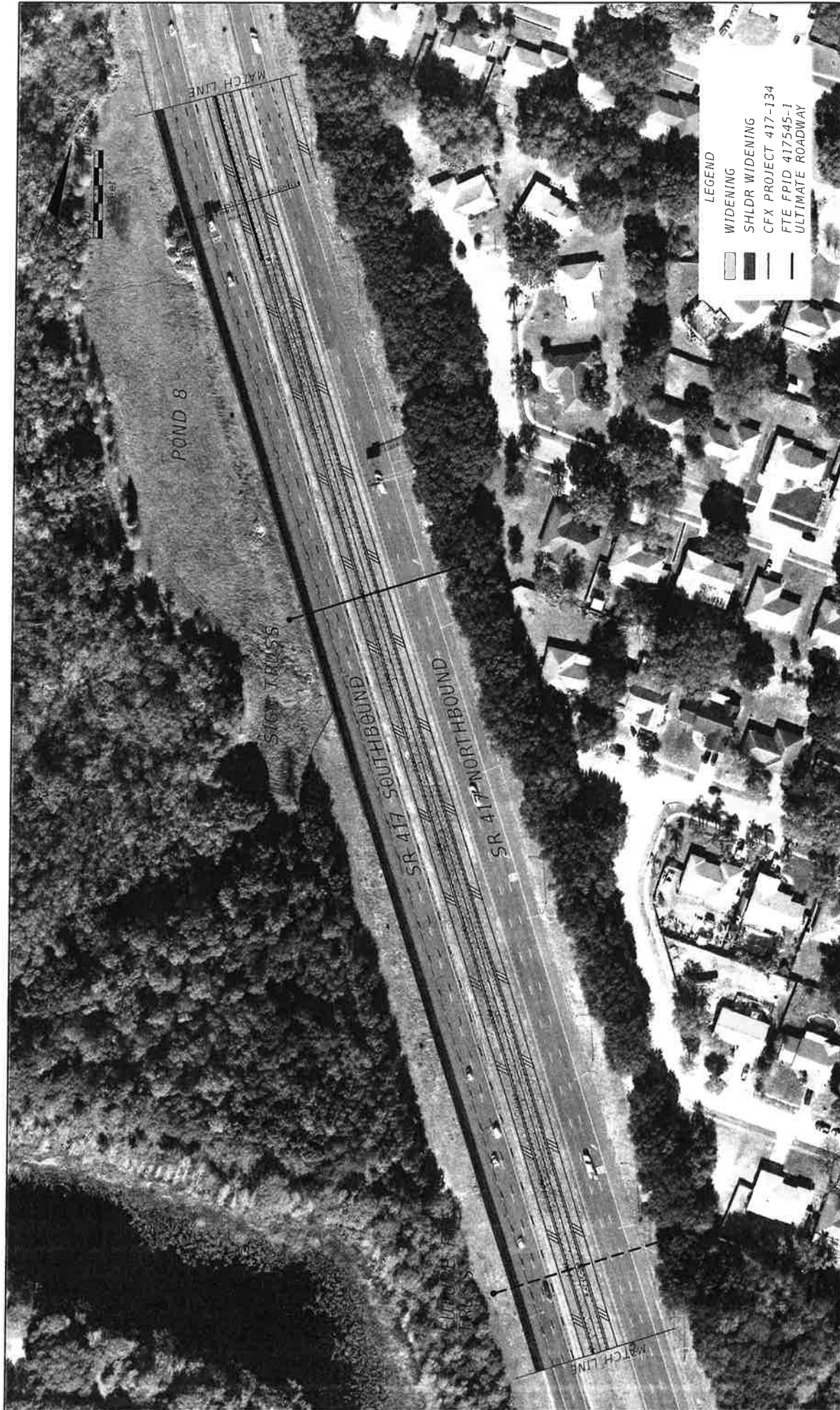
**FTE FPID 417545-1
PROJECT COORDINATION**

**CFX PROJECT 417-134
SR 417 WIDENING SOUTH OF ECONLOCKHATCHEE
TRAIL TO ORANGE/SEMINOLE COUNTY LINE**



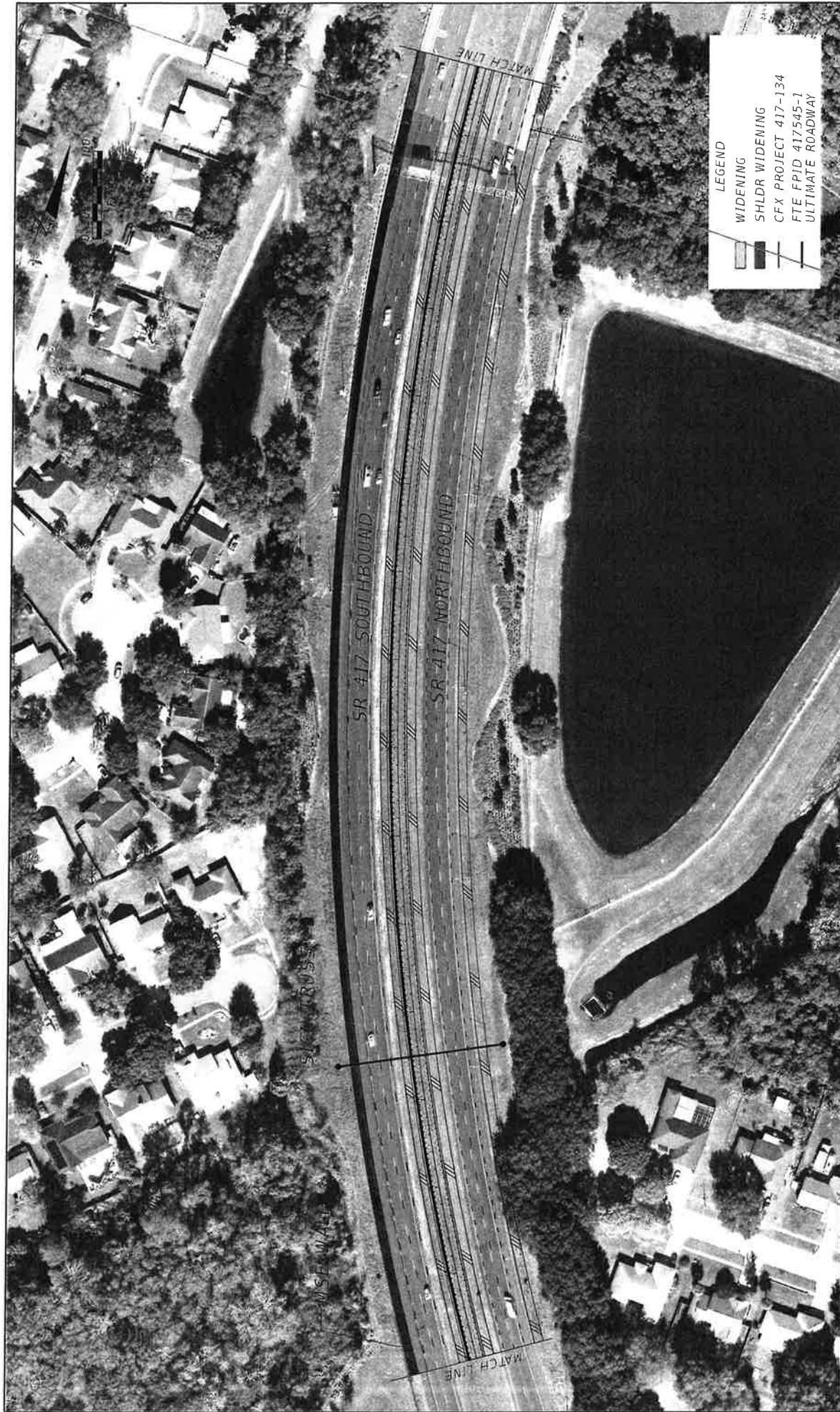
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