

Town of Esto

Bid Proposal and

Contract Documents

for

Commerce Street and 4th Ave N

Resurfacing Project

August 2019

FDOT FPID: 444088-1-54-01
Contract Number: G1288

WSP Project No. 188928

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SECTION 00020

INVITATION TO BID

Sealed Bids, subject to the conditions contained herein, will be received by the Town of Esto, 3312 Second Ave. S., Esto, FL 32425, until **5:00 p.m.** local time, **Oct 15, 2019**, at which time and place all bids will be publicly opened and read aloud, for the **Commerce Street and 4th Ave N. Resurfacing Project**, WSP Project 188928. Primary items of work include the following:

- Resurfacing of Commerce St and 4th Ave
- Replacement of street signs and traffic signs along Commerce St and 4th
- Replacement of culvert and headwalls crossing Commerce St.

Envelope containing bids must be sealed and marked "Bids for **Commerce Street and 4th Ave N. Resurfacing Project**, WSP Project 188928, for the Town of Esto."

Any bids received after the stipulated time of bid opening will not be accepted and will be returned unopened.

Plans, specifications and contract documents may be inspected and/or obtained at the office of the Esto Town Clerk, 3312 Second Ave. S., Esto, FL 32425, at a non-refundable cost of \$100 each (shipped regular mail). No partial sets of documents will be issued.

All bids must be submitted on the Bid Form as furnished in this Specification. The bids must be accompanied by a Public Entity Crime Statement and by a Bid Bond, certified check, or cashier's check, in the amount of five percent (5%) of the Base Bid as a guarantee that the bidder will enter into an agreement with the Owner if his bid is accepted.

The bid shall remain in force for sixty (60) days after the time of opening.

A **non-mandatory pre-bid conference** will be held at the Town Hall, located at 3312 Second Ave. S., Town of Esto, Florida, on **Tuesday, Oct 1, 2019** at **3pm.**

Attention of bidders is called to the licensing law of Florida. All bidders must comply with all applicable State and local laws concerning licensing, registration, and regulation of contractors doing business in the State of Florida.

The Owner reserves the right to reject any or all bids and to waive informalities in any bid whenever such rejection or waiver is in the best interest of the Owner.

Town of Esto is an Equal Opportunity Employer

Town of Esto

END OF SECTION 00020

SECTION 00100

INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.01 DEFINITIONS

- A. Bidding Documents include the Instructions to Bidders and Bid Form, Invitation to Bid, and Contract Documents including any addenda issued prior to receipt of bids.
- B. All definitions set forth in the General Conditions are applicable to the Bidding Documents.
- C. Addenda are written or graphic instruments issued by the Engineer prior to the receipt of bids which modify or interpret the Bidding Documents by addition, deletion, clarification, or correction. Addenda will be issued only to those known to the Engineer as registered planholders.

1.02 BIDDING DOCUMENTS

- A. Plans and specifications are available from the Engineer as stated in the Invitation to Bid. No partial sets of the Bidding Documents will be issued.

1.03 EXAMINATION

- A. Bidders shall carefully examine the Bidding Documents and the construction site and obtain first-hand knowledge of existing conditions.

1.04 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

- A. Bidders shall promptly notify the Engineer of any ambiguity, inconsistency, or error which they may discover upon examination of the Bidding or Contract Documents or of the site and local conditions.
- B. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Engineer, to reach him at least 5 (five) business days prior to the date for receipt of bids.
- C. Any interpretation, correction, or change to the Bidding Documents shall be made by Addenda. No oral clarification will be made.
- D. If a substitution is acceptable, such acceptance shall be set forth in Addenda.

1.05 BASIS OF BIDS AND AWARDS:

- A. Each Bid shall be submitted on the prescribed form and indicate the bid prices thereon in proper spaces, for the entire work. Any erasure or other correction in the bid may be explained or noted over the signature of the Bidder. Bids containing any conditions, items not called for, or irregularities of any kind may be rejected by the Owner. Only one copy of the Bid Form is required.

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INSTRUCTIONS TO BIDDERS

- C. Each Bid shall give the full business address of the Bidder and state whether he is an individual, corporation or partnership.
- D. Bids by a corporation shall be signed with the legal name and seal of the corporation followed by the name of the state of its incorporation, and the manual signature and designation of an officer, agent, or other person authorized to bind the corporation.
- E. Bids by partnerships shall show the names of all partners and must be signed in the partnership name by one of the partners. The partnership signature shall be followed by the manual signature of the partner signing.
- F. In every case, the name of the person signing and his designation shall be typed or printed below his signature. A person who affixes to his signature the word "President", "Secretary", "Agent", or other designation without disclosing his principal may be held individually responsible for such bid. Satisfactory evidence of the authority of an officer, agent, attorney, or other person signing for a corporation and agent, attorney, or other person signing for a partnership or individual shall be furnished.
- G. Each Bid must be submitted in a sealed envelope bearing on the outside the name of the Bidder, his address, and the name of the project for which the Bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in the Bid Form.
- H. The successful Bidder shall be notified by letter, mailed to the address shown on his Proposal, that his bid has been accepted and that he has been awarded the Contract. Award will be made within 90 days after bids are received unless otherwise stated in the Special Provisions. This period may be extended if mutually agreeable to Owner and Contractor.
- I. The Owner reserves the right to award the Contract to the lowest responsible bidder based on the total base bid or any base bid plus one or combination of the various additive and/or alternative base bids.

1.07 BID MODIFICATION

- A. Bid modification shall be accepted from bidders if received prior to the opening of bids. Modification shall be in printed form. Modification will be read by Owner or Engineer prior to opening formal bids.

1.08 BID WITHDRAWAL

- A. Bids may be withdrawn on written or telegraphic request received from Bidders prior to the time fixed for opening. Negligence on the part of the Bidder in preparing the bid confers no right for the withdrawal of the Bid after it has been opened. No bidder may withdraw a bid within 60 days after the actual date of the opening.

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INSTRUCTIONS TO BIDDERS

1.09 QUALIFICATION OF BIDDER

- A. The Owner may make such investigations as he deems necessary to determine the ability of the Bidder to perform the work, including bidder pre-qualification, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein. Conditional Bids will not be accepted. The Bidder will be required to perform at least fifty percent (50%) of the contract work with his/her own employees. If requested by the Owner, the Bidder shall supply the name and address of the major material suppliers and subcontractors.

1.10 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. The Owner will, after executing the Contract, issue to the Contractor in writing a Notice to Proceed. The beginning of the time allotted for the Contract completion will be 10 days after the date of the Notice to Proceed, or the day on which Work is actually started, whichever occurs first. The Bidder agrees to fully complete the work within the number of consecutive calendar days as specified in the Proposal.
- B. Liquidated Damages: Time is an essential element in the Contract. As the prosecution of the Work will inconvenience the public, obstruct traffic, and interfere with business, it is important that the work be pressed vigorously to completion. Also, the cost to the Owner for the administration of the Contract, inspection, and engineering for the Work under construction will be increased if the time occupied in the Work is lengthened. Therefore, for each day that the Work remains uncompleted after the time specified in the Contract, or additional time that may be allowed by the Owner for the completion of the Work when extra or additional work is ordered by the Owner, the amount specified in the Agreement shall be paid by the Contractor to the Owner as liquidated damages for the loss sustained by the Owner because of the failure of the Contractor to complete the Work within the specified time. Liquidated damages will be deducted monthly from partial payments otherwise due the Contractor. The amount of liquidated damages shall be the amount set forth in the Agreement.
- C. Time Extensions for Unusually Severe Weather - The following paragraphs specify the procedure for the determination of time extensions for unusually severe weather. In order that a time extension may be awarded by the Owner, the following two conditions must be satisfied.
1. The weather experienced at the project site during the contract period must be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month; and

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INSTRUCTIONS TO BIDDERS

2. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

1.11 WORKING HOURS

- A. The Contractor shall be responsible for adjusting his working hours as required to meet the construction schedule. Unless noted otherwise, the Contractor may work between the hours of 7:00 a.m. and 7:00 p.m weekdays. The Owner reserves the right to limit work hours as may become necessary but will extend the Contractor's construction timeframe accordingly without subjecting the Contractor to liquidated damages due to the delay. The Contractor shall not exceed the work hour limits unless approved by the Owner in writing.

1.12 SECURITY

- A. The Contractor shall be responsible for maintaining security, and the Contractor shall be responsible for the replacement or repair of items and/or equipment stolen, lost, or damaged while the security is under the care of the Contractor. The Contractor shall be responsible for having a job superintendent present whenever subcontractors are working in connection with the Contractor's basic contract.

1.13 SPECIAL POLICY AND PROCEDURES

- A. Profane language or improper behavior of Contractor and subcontractor personnel will result in immediate termination of individual(s) involved.
- B. Asbestos or asbestos-bearing materials shall not be used in any materials used in the execution of this project.

1.14 LICENSES

- A. Contractor shall have all local, State and Federal licenses required to complete the work.

1.15 CONSTRUCTION DOCUMENTS

- A. The successful Bidder will be provided with three (3) complete sets of plans, specifications, and addenda for construction purposes. Any additional sets will be furnished at cost of printing plus, if applicable, shipping charges.

1.16 BID SECURITY

- A. Bids shall be accompanied by a bid guarantee of five percent (5%) of the amount of the bid, which may be a certified check, a cashier's check, or Bid Bond made payable to the Owner. Such check or Bid Bond shall be submitted with the understanding that it shall guarantee that the Bidder will not withdraw his bid for a

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INSTRUCTIONS TO BIDDERS

period of sixty (60) days after the scheduled closing time for the receipt of bids; that if his bid is accepted, he will enter into written contract with the Owner, and that the required Performance and Payment Bond will be given; and that in the event of the withdrawal of said bid within said period, or failure to enter into said contract and give said bond within ten (10) days after he has received notice of acceptance of his bid, the Bidder shall be liable to the Owner for the full amount of the bid guarantee as representing the damage to the Owner on account of the default of the bidder after the formal opening of the bids. All Bid Bonds will be returned, if requested, within 30 days following bid opening; except those of the three lowest bidders, which will be returned, if requested, after the accepted Bidder has executed the Contract and Performance Bond has been approved by the Owner. If the required contract and Bond have not been executed within sixty (60) days after the date of the opening of the bids, then the Bid Bond or check of any Bidder will be returned upon his request, provided he has not been notified of the acceptance of his bid prior to the date of such request.

1.17 PAY REQUEST FORMAT

- A. The Contractor shall submit pay requests using the AIA Standard Application and Certificate for Payment, AIA Document G702 and G703. Computer generated schedule of value, in the AIA G703 format, may be submitted. The Contractor shall submit a complete schedule of values for the Engineer's approval prior to submittal of the first pay request. The schedule of values must show a complete breakdown of all work involved. Four copies of the Pay Request must be submitted prior to the 20th day of each month.

1.18 PRE-BID CONFERENCE

- A. A non-mandatory pre-bid conference shall be held on October 1, 2019 at 3:00 PM at Town Hall. A site visit will be made. Questions arising shall be addressed in an Addendum.

1.19 QUANTITIES IN PROPOSAL

- A. If the proposal form contains unit price items, the quantities stated therein are approximate only and are intended to serve as a basis for the comparison of bids and to fix the approximate amount of the cost of the project. The Owner does not expressly agree or imply that the actual amount of the work done in the performance of the contract will correspond with the quantities in the proposal form; the amount of work done may be more or less than the said quantities and may be increased or decreased by the Engineer as circumstances may require. The increase or decrease of any quantity shall not be regarded as grounds for an increase in the unit price or in the time allowed for the completion of the work, except as provided in the contract documents.

1.20 DISQUALIFICATION OF BIDDERS

- A. Bidders may be disqualified for any or all of the following:

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INSTRUCTIONS TO BIDDERS

1. Reasonable grounds for believing that a bidder is interested in more than one proposal will cause the rejection of all proposals in which such bidder is believed to be interested. Any or all proposals will be rejected if there is reason for believing that collusion exists among the bidders, and no participant in such collusion will be considered in future proposals for the same work.
2. Failure to acknowledge addenda.
3. Bids which are incomplete, unbalanced, conditional, or obscure.

1.21 RIGHT TO ACCEPT OR REJECT BIDS

- A. The Owner reserves the right to reject any one or all bids, or any part of any bid, to waive any informality in any bid, and to award a contract deemed to be in the best interest of the Owner. Bids which contain additions not requested, or irregularities of any kind, or which do not comply in every respect with the instructions to bidders, may be rejected at the option of the Owner.

1.22 EXECUTION OF CONTRACT

- A. The bidder to whom a contract is awarded will be required to execute, in three (3) counterparts, the prescribed contract form and contract bond form within ten (10) days from the date of notice to him that such forms are ready for execution.

1.23 PUBLIC ENTITY CRIMES

- A. The person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid or a contract to provide any goods or services to a public entity, may not submit a bid on a contract on a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for Category Two for a period of 36 months from the date of being placed on the convicted vendor list.

1.24 PERFORMANCE AND PAYMENT BONDS

- A. Performance and Payment Bonds are required as described herein and shall be submitted on Standard Form AIA Form A312.

END OF SECTION 00100

SECTION 00300

PROPOSAL

for
Town of Esto
Commerce St. and 4th Ave Resurfacing Project

Name: _____

Address: _____

Date: _____

TO: Town of Esto, Florida

The Bidder, having carefully examined the plans and specifications with related documents and the site of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials, labor, and supplies, hereby proposes to furnish all labor, materials, tools, and equipment, machinery, equipment rental, transportation, and superintendent, and to perform all work, provide all services, and to construct the project in accordance with the Contract Documents, within the time set forth therein, and at the prices stated below. These prices cover all expenses incurred in performing the work required under the Contract Documents.

In submitting this bid, we agree:

1. To hold this bid open for 60 days from the bid due date.
2. To accept the provisions of the Instructions to Bidders regarding disposition of Bid Security.
3. To enter into and execute a Contract, if awarded, for the Work and to furnish all insurance and bonds required by the Bidding Documents.
4. To accomplish the work in accordance with the Contract Documents.
5. To begin the work with an adequate force and with sufficient equipment and facilities within ten (10) days of the date stated in the written notice to proceed issued and served upon him by the Engineer, and to complete work in 135 consecutive calendar days. If the Contractor chooses to begin work before the ten (10) days expire then the start date becomes when work actually

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PROPOSAL

commences.

6. For the purpose of reimbursing the Owner for additional costs experienced by it and resulting from the failure of the Contractor to complete the work within the prescribed time limits, it is understood that the reductions for liquidated damages will apply in the event the work is not completed within such time limits.
7. That the description of bid items are briefly stated; however the prices stated include all incidentals necessary to complete such work as described in the Specifications and shown on the Plans.
8. Contractors are required to submit bids on Base Bid and Additive Bids or Deductive (if used). Incomplete bids shall be rejected. The Owner reserves the right to reject any or all bids and to waive informalities in any bid whenever such rejection or waiver is in the best interest of the Owner.
9. The Owner reserves the right to award the contract (if awarded) based on the Base Bid and any combination of alternates and/or additive or deductive bid item(s) (if applicable), whichever combination the Owner believes is in their best interest.
10. The quantities for unit price bid items listed on the Proposal sheet are estimated quantities only for the purpose of comparing bids. Any differences between these estimated quantities and actual quantities required for construction shall not be taken as a basis for claims by the Contractor for extra compensation. Compensation will be based on the lump sum or unit prices and actual construction quantities.
11. Bids shall include sales tax and all other applicable taxes and fees.

SECTION 00300 - BID FORM

Town of Esto
Commerce Street and 4th Avenue N. Resurfacing Project

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the following unit prices or lump sums. Bids shall include sales tax and all other taxes and fees.

ITEM NO.	DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE	TOTAL
101-1	Mobilization	LS	1		
102-1	Maintenance of Traffic	LS/DA	1		
104-10-3	Sediment Barrier	LF	6054		
107-1	Litter Removal	AC	0.79		
107-2	Mowing	AC	0.79		
110-1-1	Clearing and Grubbing	AC	0.84		
110-4-10	Removal of Existing Concrete	SY	37.7		
110-7-1	Mailbox, F&I Single	EA	2		
120-71	Regular Excavation (3-R Projects Only)	LS/LS	1		
285-708	Optional Base, Base Group 08	SY	284.3		
286-1	Turnout Construction /Driveway Base - Optional Materials	SY	338.6		
334-1-12	Superpave Asphaltic Concrete Traffic B	TN	848.4		
400-1-2	Conc Class I, Endwalls	CY	3.78		
430-175-224	Pipe Culvert, Optional Material, Other Shape Elip/Arch, 24" S/CD	LF	35		
524-1-2	Concrete Ditch Pavement, Non Reinforced, 4"	SY	35		
550-10-918	Fencing, Special Type, 0.0'-5.0', Reset Existing	LF	243		
570-1-2	Performance Turf, Sod	SY	1796		
700-1-11	Single Post Sign, F&I Ground Mount, Up to 12 SF	AS	23		
700-1-12	Single Post Sign, F&I Ground Mount, 12-20 SF	AS	2		
700-1-60	Single Post Sign, Remove	AS	12		
700-3-501	Sign Panel, Relocate, Up to 12 SF	EA	1		
706-3	Retro-Reflective/Raised Pavement Markers	EA	156		

SECTION 00300 - BID FORM

ITEM NO.	DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE	TOTAL
710-11-125	Painted Pavement Markings, Standard, White, Solid for Stop Line or Crosswalk, 24"	LF	126		
710-11-201	Painted Pavement Markings, Standard, Yellow, Solid, 6"	GM	1.152		
711-11-125	Thermoplastic, Standard, White, Solid, 24" for Stop Line and Crosswalk	LF	126		
711-14-123	Thermoplastic, Performed, White, Solid, 12" for Crosswalk	LF	40		
711-14-125	Thermoplastic, Performed, White, Solid, 24" for Crosswalk	LF	33		
711-16-201	Thermoplastic, Standard-Other Surfaces, Yellow, Solid, 6"	GM	1.152		

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PROPOSAL

TRENCH SAFETY ACT

The Trench Safety Act requires that the Contract Bid include a separate item which identifies the cost of compliance with the Trench Safety Standards. Although sheeting and shoring costs are included in the Unit Price pay items, the BIDDER shall indicate below the estimated cost of compliance. There will be no payment for sheeting and shoring.

<u>Description</u>	<u>Unit of Measure</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Sheeting	LF	\$_____	\$_____
Shoring	SF	\$_____	\$_____

Method of Compliance for Sheeting:

Method of Compliance for Shoring:

SECTION 00300

PROPOSAL

The Bidder further agrees that, in the event of his failure to execute the appropriate contract documents within ten (10) consecutive calendar days after his receipt of written notice of the award of the contract, the check or bid bond accompanying his bid, and the monies payable thereon, shall become the property of and be retained and used by the Owner as liquidated damages; otherwise, the check or bid bond shall be returned by the Owner to the undersigned.

Attached hereto is a certified check on the _____
Bank of _____ or Bid Bond for the sum of
\$ _____ Dollars (\$ _____)
made payable to the Town of Esto, Florida.

(In the event the bidder is a corporation, there shall be attached hereto a certified copy of a resolution of the board of directors of the corporation authorizing the officer who signs the proposal and bid bond to do so in its behalf.)

Check accordingly: Firm: _____
We operate as By: _____
Individual Owner ()
Partnership () Title: _____
Corporation () Date: _____

We acknowledge receipt of the following addenda (addendum number and date received):

Contact Person: _____

Telephone No. _____

Fax No.: _____

END OF SECTION 00300

SECTION 00310

PUBLIC ENTITY CRIME STATEMENT FORM

SWORN STATEMENT UNDER SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.)

STATE OF _____

COUNTY OF: _____

Before me, the undersigned authority, personally appeared _____, who, being by me first duly sworn, made the following statement:

1. The Business address of _____ (name of bidder or contractor) is _____

2. My relationship to _____ (name of bidder or contractor) is _____ (relationship such as sole proprietor, partner, president, vice president).
3. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
4. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), **Florida Statutes**, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

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PUBLIC ENTITY CRIME STATEMENT FORM

5. I understand that an "affiliate" is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (2) an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

6. Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

(Draw a line through Paragraph 6 if Paragraph 7 below applies)

7. There has been a conviction of a public entity crime by the bidder or contractor, or an officer, director, executive, partner, shareholder, employee, member or agent of the bidder or contractor or an affiliate of the bidder or contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____. A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through Paragraph 7 if Paragraph 6 above applies)

Sworn to and subscribed before me in the State and County first mentioned above on the _____ day of _____, 20 ____.

Personally known _____ OR produced identification _____
(type of identification)

Notary Public - State of _____

My commission expires: _____

(Printed typed or stamped Commissioned name of Notary Public)

CERTIFICATION BY BIDDER

This certification is required pursuant to Executive Order 11246 (30 F.R. 12319-25). The implementing rules and regulations provide that any bidder or prospective contractor, or any of their proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicates that the bidder has not filed a compliance report due under applicable instructions, such bidder shall be required to submit a compliance report within seven calendar days after bid opening. No contract shall be awarded unless such report is submitted.

NAME AND ADDRESS OF BIDDER (include ZIP Code):

- 1. Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
Yes () No ()
- 2. Compliance reports were filed in connection with such contract or subcontract.
Yes () No ()
- 3. Bidder has filed all compliance reports due under applicable instructions, including SF 100.
Yes () No ()
- 4. Have you ever been or are you being considered for sanction due to violation of Executive Order 112246, as amended? Yes () No ()

NAME AND TITLE OF SIGNER (Please Type): _____

(Signature)

(Date)

DRUG FREE WORKPLACE

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

Name of Business

does:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for the drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 1893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

Date

RESPONSIBLE AGENT FORM

If applicable, the contractor shall designate a responsible agent and alternate as necessary, for all dealings, communications, or notices or contracts between the City of Alachua and the contractor by completing and returning this Responsible Agent Form. Any notice or communication to or from the responsible agent shall be deemed to be a communication to the contractor.

RESPONSIBLE AGENT:

ADDRESS:

PHONE NUMBER:

FAX NUMBER:

ALTERNATE RESPONSIBLE AGENT:

ADDRESS:

PHONE NUMBER:

FAX NUMBER:

SIGNED: _____

DATE: _____

PROPOSED SUBCONTRACTORS FORM

The undersigned representative of the Bidder states that the Bidder plans to utilize the following Subcontractors and they have agreed to perform the work for **the total dollar value and percentage of the bid/contract** set forth below. The undersigned representative of the Bidder further states that the following information regarding the Subcontractors is true and correct to the best of his or her knowledge and belief.

_____ Signature	_____ Title	____/____/____ Date
--------------------	----------------	------------------------

_____ Name of Contractor	_____ SBE Yes/No?	_____ Name of Contractor	_____ SBE Yes/No?
_____ Address		_____ Address	
_____ Scope of Work to be Performed		_____ Scope of Work to be Performed	
\$ _____ (Total \$ Value)	_____% (% of Total Bid)	\$ _____ (Total \$ Value)	_____% (% of Total Bid)
_____ Name of Contractor	_____ SBE Yes/No?	_____ Name of Contractor	_____ SBE Yes/No?
_____ Address		_____ Address	
_____ Scope of Work to be Performed		_____ Scope of Work to be Performed	
\$ _____ (Total \$ Value)	_____% (% of Total Bid)	\$ _____ (Total \$ Value)	_____% (% of Total Bid)
_____ Name of Contractor	_____ SBE Yes/No?	_____ Name of Contractor	_____ SBE Yes/No?
_____ Address		_____ Address	
_____ Scope of Work to be Performed		_____ Scope of Work to be Performed	
\$ _____ (Total \$ Value)	_____% (% of Total Bid)	\$ _____ (Total \$ Value)	_____% (% of Total Bid)

SECTION 00320

BID BOND

STATE OF FLORIDA)
COUNTY OF HOLMES) ss.:

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the _____ (Owner), in the penal sum of _____ Dollars (\$_____), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying bid, dated _____, 20____, for the Town of Esto Commerce Street and 4th Ave. N. Resurfacing Project.

NOW THEREFORE,

- (a) If said bid shall be rejected, or in the alternate
- (b) If said bid shall be accepted and the Principal shall properly execute and deliver to said Owner the appropriate contract documents, including the contract form and contract bond form, and shall in all respects fulfill all terms and conditions attributable to the acceptance of said bid.

Then this obligation shall be void, otherwise, it shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby agrees that the obligations of the said Surety and its bond shall be in no way impaired or affected by any extension of time within which said Owner accept such bid; and said Surety does hereby waive notice of any such extension.

SECTION 000320

BID BOND

IN WITNESS WHEREOF, the obligated parties have executed this instrument under their several seals this _____ day of _____, _____, the name and the corporate seal of each corporate party being hereto affixed and these presents being duly signed by its undersigned representative, pursuant to the authority of the governing body.

IN PRESENCE OF:

(Individual or Partnership Principal)

SEAL

(Business Address)

ATTEST:

(Secretary)

(Corporate Principal)*

(Corporate Surety)*

*Impress Corporate Seal

END OF SECTION 00320

SECTION 00330

STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR

(This document has important legal consequences; consultation with an attorney is encouraged with respect to its completion or modification).

THIS AGREEMENT made as of the ____ day of _____ in the year 2019 by and between, the Town of Esto, Florida, hereinafter called OWNER) and _____, (hereinafter called CONTRACTOR),

WITNESSETH THAT OWNER and CONTRACTOR in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK. The CONTRACTOR shall perform all Work as specified or indicated in the Contract Documents for the completion of the Project generally described as follows:

Town of Esto

Commerce Street and 4th Ave. N. Resurfacing Project

Article 2. **WSP USA**, 301 East Pine Street Suite 1020 Orlando, FL 32801, will act as Engineer in connection with this Project in accordance with the Contract Documents.

The Project has been designed by:

WSP USA, 301 East Pine Street Suite 1020 Orlando, FL 32801.

Article 3. CONTRACT TIME. The Work shall be completed within 135 consecutive calendar notice to proceed men in work

Article 4. CONTRACT PRICE. Owner shall pay Contractor for performance of the Work in accordance with the Contract documents in the current funds as follows:

(\$ _____).

Article 5. APPLICATIONS FOR PAYMENT. Contractor may submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be reviewed and approved by Engineer as provided in the General Conditions.

Article 6. PROGRESS AND FINAL PAYMENTS. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment as approved by Engineer during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 14.01 of the General Conditions.

6.1 Prior to Substantial Completion progress payments will be in an amount equal to: 90% of the Work completed, and 90% of stored materials that have been paid for (10% retainage).

SECTION 00330

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

6.2 Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95% (5% retainage) of the Final Contract Price, less any additional retainage as Engineer shall determine in accordance with paragraph 4, 5,&6 of the General Conditions and less any liquidated damages should the Contractor fail to complete the work within the specified time.

6.3 Upon final completion of the Work, including receipt of "As Built" drawings, Contractor's Final Affidavit, Warranty and settlement of all claims, Owner shall pay the remainder of the Final Contract Price (less liquidated damages, if applicable).

Article 7. CONTRACT DOCUMENTS. The Contract Documents which comprise the Contract between Owner and Contractor are attached hereto and made a part hereof and consist of the following:

- 7.1 Instructions to Bidders
- 7.2 Contractor's Bid Proposal and Insurance Certificate
- 7.3 Addenda (if issued)
- 7.4. Sworn Statement, Florida Statutes on Public Entity Crimes
- 7.5 This Agreement (pages 1 through 3)
- 7.6 Performance Bond and Payment Bond
- 7.7 General Conditions
- 7.8 Technical Specifications
- 7.9 Drawings

Article 8. TIME FOR COMPLETION; LIQUIDATED DAMAGES.

8.1 Contractor agrees to commence work under the Contract Documents within ten (10) calendar days after written Notice to Proceed and, subject to authorized adjustments, to achieve Final Completion with the contract time as defined in Article 3.

8.2 It is mutually agreed between the Contractor and the Owner that time is the essence of this Contract, and in the event the construction of the Work is not completed within the time herein specified, it is agreed that from the compensation otherwise to be paid to the Contractor, the Owner may retain the sum of \$1,500 per day for each day thereafter, Sundays and holidays included, that the Work remains uncompleted, which sum shall represent the actual damages which the Owner will have sustained per day by failure of the Contractor to

SECTION 00330

STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR

complete the Work within the time stipulated and this sum is not a penalty, being the stipulated damage the Owner will have sustained in the event of such default by the Contractor.

Article 9. MISCELLANEOUS.

9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.

9.2 Neither Owner nor Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part his interest under any of the Contract Documents; and, specifically, Contractor shall not assign any monies due or to become due without the prior written consent of Owner.

9.3 Owner and Contractor each binds himself, his partners, successors, assigns, and legal representatives to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.4 The Contract Documents constitute the entire Agreement between Owner and Contractor and may be altered, amended or repealed only by a duly executed written instrument, in the form of a Change Order.

Article 10. OTHER PROVISIONS.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

OWNER:

CONTRACTOR:

Town of Esto, Florida _____

By _____

By _____

Print/Type _____
(Name and Title)

Print/Type _____
(Name and Title)

Attest _____
(SEAL)

Attest _____
(SEAL)

SECTION 00340

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____, as Principal hereinafter called Contractor, whose business address is _____, and whose telephone number is _____, a corporation duly organized under the laws of the State of _____, as Surety, whose business address is _____, and whose telephone number is _____, are held and firmly bound unto _____, as Obligee, whose business address is _____, and whose telephone number is _____, hereinafter called Owner, in the sum of _____ Dollars (\$_____), for the payment of which sum, well and truly to be made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Town of Esto Commerce Street and 4th Ave N Resurfacing Project, in accordance with drawings and specifications prepared by the _____, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract, for work to be performed at the following location(s): _____, said property owned by, _____, whose business address is, _____, and whose telephone number is, _____.

THE PRINCIPAL FEATURES of the work are briefly described as follows: _____

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

- 1. A claimant is defined as one having a direct contract with the Contractor or with a Subcontractor of the Contractor for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being constructed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
- 2. The above named Contractor and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.
- 3. No suit or action shall be commenced hereunder by any claimant.
 - a) Unless claimant, other than one having a direct contract with the Contractor shall have given written notice to any two of the following, the Contractor, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for

SECTION 00340

LABOR AND MATERIAL PAYMENT BOND

which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid in an envelope addressed to the Contractor, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

- b) After the expiration of one (1) year following the date on which Contractor ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project, or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.
4. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed on record against said improvement, whether or not claim for the amount of such lien be presented under and against this Bond.
 5. The notice and time limitation provisions of Section 255.05, Florida Statutes are incorporated in this Bond by reference.

Signed, sealed and dated _____.

	(Seal)
_____	_____
(Witness)	(Signature)

	(Print/Type)

	(Title)

	(Surety)

	By _____

(Attach Certified Copy of Power of Attorney)

END OF SECTION 00340

SECTION 00350

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____, as Principal hereinafter called Contractor, whose business address is _____, and whose telephone number is _____, and _____, a corporation duly organized under the laws of the State of _____, as Surety, whose business address is _____, and whose telephone number is _____, are held and firmly bound unto _____ as Obligee, whose business address is _____, and whose telephone number is _____, hereinafter called Owner, in the sum of Dollars (\$_____).

for the payment of which sum, well and truly to be made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Contractor has entered into a written contract dated _____, _____ with the Owner for Town of Esto Commerce Street and 4th Ave. N. Resurfacing Project in accordance with drawings and specifications prepared by the _____, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract, for work to be performed at the following location(s):

 _____, said property owned by, _____, whose business address is, _____, and whose telephone number is, _____.

THE PRINCIPAL FEATURES of the work are briefly described as follows: _____

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and voided otherwise shall remain in full force and effect. The Surety hereby waives notice of any alteration or extension of time made by the Owner. Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligation thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or,
2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but

SECTION 00350

PERFORMANCE BOND

- 3. not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

The notice and time limitation provisions of Section 255.05, Florida Statutes, are incorporated in this Bond by reference.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of Owner.

Signed, sealed and delivered _____.

(Seal)

(Witness)

(Signature)

(Print/Type)

(Title)

(Surety)

By _____

(Attach Certified Copy of Power of Attorney)

END OF SECTION 00350

00700
GENERAL TERMS AND CONDITIONS
OF ROADWAY OR PAVING AGREEMENT
for TOWN OF ESTO, FLORIDA

1. INTENT OF CONTRACT DOCUMENTS.

1.1. It is the intent of the Contract Documents to describe a functionally complete project (or portion thereof) to be constructed in accordance with the Contract Documents. Any work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association or to the laws or regulations of any governmental authority having jurisdiction over the Project, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, law or regulation in effect at the time the Work is performed, except as may be otherwise specifically stated herein.

1.2. If before or during the performance of the Work, Contractor discovers a conflict, error or discrepancy in the Contract Documents, Contractor immediately shall report same to Design Professional in writing and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from the Design Professional. Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents before commencing any portion of the Work.

1.3 Drawings are intended to show general arrangements, design and extent of Work and are not intended to serve as shop drawings. Specifications are separated into divisions for convenience of reference only and shall not be interpreted as establishing divisions for the Work, trades, subcontracts, or extent of any part of the Work. In the event of a discrepancy between or among the drawings, specifications or other Contract Document provisions, Contractor shall be required to comply with the provision which is the more restrictive or stringent requirement upon the Contractor, as determined by the Design Professional. Unless otherwise specifically mentioned, all anchors, bolts, screws, fittings, fillers, hardware, accessories, trim and other parts required in connection with any portion of the Work to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the Work, whether or not called for by the Contract Documents.

2. INVESTIGATION AND UTILITIES.

2.1. Contractor shall have the sole responsibility of satisfying itself concerning the nature and location of the Work and the general and local conditions, and particularly, but without limitation, with respect to the following: those affecting transportation, access, disposal, handling and storage of materials; availability and quality of labor; water and electric power; availability and condition of roads; work area; living facilities; climatic conditions and seasons; physical conditions at the work-site and the project area as a whole; topography and ground surface conditions; nature and quantity of the surface materials to be encountered; subsurface conditions; equipment and facilities needed preliminary to and during performance of the Work; and all other costs associated with such performance. The failure of Contractor to acquaint itself with any applicable conditions shall not relieve Contractor from any of its responsibilities to perform under the Contract Documents, nor shall it be considered the basis for any claim for additional time or compensation.

2.2 Contractor shall locate all existing roadways, railways, drainage facilities and utility services above, upon, or under the Project site, said roadways, railways, drainage facilities and utilities being referred to in this Sub-Section 2.2 as the "Utilities". Contractor shall contact the owners of all Utilities to determine the necessity for relocating or temporarily interrupting any Utilities during the construction of the Project. Contractor shall schedule and coordinate its Work around any such relocation or temporary service interruption. Contractor shall be responsible for properly shoring, supporting and protecting all Utilities at all times during the course of the Work. Relocation or shutdown of Town of Esto facilities must be requested by the Contractor in writing a minimum of ten (10) calendar days prior to the proposed Work. The Town of Esto shall have the final decision with respect to whether the relocation or shutdown

is required and when the relocation or shutdown of facilities may take place. The Work may need to be performed at night or on weekends to minimize the interruption of service or to meet the operational needs of the Town of Esto's facilities.

3. SCHEDULE.

3.1. The Contractor, within ten (10) calendar days after receipt of a Notice of Award, shall prepare and submit to the Town of Esto and Design Professional, for their review and approval, a progress schedule for the Project (herein "Progress Schedule"). The Progress Schedule shall relate to all Work required by the Contract Documents and shall provide for expeditious and practicable execution of the Work within the Contract Time. The Progress Schedule shall indicate the dates for starting and completing the various stages of the Work.

3.2 The Progress Schedule shall be updated monthly by the Contractor. All monthly updates to the Progress Schedule shall be subject to the Town of Esto's and Design Professional's review and approval. Contractor shall submit the updates to the Progress Schedule with its monthly Applications for Payment noted below. The Town of Esto's and Design Professional's review and approval of the submitted Progress Schedule updates shall be a condition precedent to the Town of Esto's obligation to pay Contractor.

4. PROGRESS PAYMENTS.

4.1. Prior to submitting its first monthly Application for Payment, Contractor shall submit to the Town of Esto and the Design Professional, for their review and approval, a schedule of values based upon the Contract Price, listing the major elements of the Work and the dollar value for each element. After its approval by the Town of Esto and Design Professional, this schedule of values shall be used as the basis for the Contractor's monthly Applications for Payment. This schedule shall be updated and submitted each month to the Design Professional along with a completed and notarized copy of the Application for Payment form. A sample Application for Payment form is included with these General Terms and Conditions.

4.2. Prior to submitting its first monthly Application for Payment, Contractor shall submit to the Town of Esto and the Design Professional a complete list of all its proposed subcontractors and materialmen, showing the work and materials involved and the dollar amount of each proposed subcontract and purchase order. The first Application for Payment shall be submitted no earlier than thirty (30) days after the Commencement Date.

4.3. If payment is requested on the basis of materials and equipment not incorporated into the Project, but delivered and suitably stored at the site or at another location agreed to by the Town of Esto in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that the Town of Esto has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances, together with evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the Town of Esto's interest therein, all of which shall be subject to the Town of Esto's satisfaction.

4.4. Contractor shall submit six (6) copies of its monthly Application for Payment to the Design Professional on or before the 25th day of each month for work performed during the previous month. Invoices received after the 25th day of each month shall be considered for payment as part of the next month's application. Within ten (10) calendar days after receipt of each Application for Payment, the Design Professional shall either:

4.4.1 Indicate his approval of the requested payment;

4.4.2 Indicate his approval of only a portion of the requested payment, stating in writing his reasons therefore; or

4.4.3 Return the Application for Payment to the Contractor indicating, in writing, the reason for refusing to approve payment.

In the event of a total denial and return of the Application for Payment by the Design Professional, the Contractor may make the necessary corrections and resubmit the Application for Payment. The Town of Esto shall, within thirty (30) calendar days after Town of Esto approval of an Application for Payment, pay the Contractor the amounts so approved. Provided, however, in no event shall the Town of Esto be obligated to pay any amount greater than that portion of the Application for Payment approved by the Design Professional.

4.5. The Town of Esto shall initially retain ten percent (10%) of the gross amount of each monthly payment request or ten percent (10%) of the portion thereof approved by the Design Professional for payment, whichever is less. After 50% of the services are completed, the Town of Esto will reduce the retainage to five percent (5%) of each subsequent progress payment. Such sums shall be accumulated and released to Contractor with final payment. For purposes of determining 50% completion, stored material and general job costs such as mobilization, bonds, insurance, field office costs and like costs shall be excluded. Additionally, for purposes of this determination, each major discipline (electrical and instrumentation, structural, and mechanical) must independently achieve 50% completion in order for the project services to be deemed 50% complete.

4.6. Monthly payments to Contractor shall in no way imply approval or acceptance of Contractor's work.

4.7. Each Application for Payment shall be accompanied by a Release and Affidavit, in the form attached as Section 00850, showing that all materials, labor, equipment and other bills associated with that portion of the Work for which payment is being requested have been paid in full. The Town of Esto shall not be required to make payment until and unless these affidavits are furnished by the Contractor.

4.8 Contractor agrees and understands that funding limitations exist and that the expenditure of funds must be spread over the duration of the Project at regular intervals based on the Contract Amount and Progress Schedule. Accordingly, prior to submitting its first monthly Application for Payment, Contractor shall prepare and submit for the Town of Esto's and Design Professional's review and approval, a detailed Project Funding Schedule, which shall be updated as necessary and approved by the Town of Esto to reflect approved adjustments to the Contract Amount and Contract Time. No voluntary acceleration or early completion of the Work shall modify the time of payments to Contractor as set forth in the approved Project Funding Schedule.

5. PAYMENTS WITHHELD.

5.1. The Design Professional or the Town of Esto may decline to approve any Application for Payment, or portions thereof, because of subsequently discovered evidence or subsequent inspections. The Design Professional or the Town of Esto may nullify the whole or any part of any approval for payment previously issued and the Town of Esto may withhold any payments otherwise due Contractor under this Agreement or any other agreement between the Town of Esto and Contractor, to such extent as may be necessary in the Town of Esto's opinion to protect it from loss because of:

5.1.1 Defective Work not remedied;

5.1.2 Third party claims filed or reasonable evidence indicating probable filing of such claims;

5.1.3 Failure of Contractor to make payment properly to subcontractors or for labor, materials or equipment;

5.1.4 Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Amount;

5.1.5 Reasonable indication that the Work will not be completed within the Contract Time;

5.1.6 Unsatisfactory prosecution of the Work by the Contractor;

5.1.7 Failure to provide accurate and current "As-Builts"; or

5.1.8 Any other material breach of the Contract Documents.

5.2 If these conditions in Subsection 5.1 are not remedied or removed, the Town of Esto may, after three (3) days written notice, rectify the same at Contractor's expense. The Town of Esto also may offset against any sums due Contractor the amount of any liquidated or unliquidated obligations of Contractor to the Town of Esto, whether relating to or arising out of this Agreement or any other agreement between Contractor and the Town of Esto.

6. FINAL PAYMENT.

6.1. The Town of Esto shall make final payment to Contractor within thirty (30) calendar days after the Work is finally inspected and accepted by both the Town of Esto and the Design Professional in accordance with Section 20.1 herein, provided that Contractor first, and as an explicit condition precedent to the accrual of Contractor's right to final payment, shall have furnished the Town of Esto with a properly executed and notarized copy of the Release and Affidavit attached as Section 00850, as well as, a duly executed copy of the Surety's consent to final payment and such other documentation that may be required by the Contract Documents and the Town of Esto.

6.2 Contractor's acceptance of final payment shall constitute a full waiver of any and all claims by Contractor against the Town of Esto arising out of this Agreement or otherwise relating to the Project, except those previously made in writing and identified by Contractor as unsettled at the time of the final Application for Payment. Neither the acceptance of the Work nor payment by the Town of Esto shall be deemed to be a waiver of the Town of Esto's right to enforce any obligations of Contractor hereunder or to the recovery of damages for defective Work not discovered by the Design Professional or the Town of Esto at the time of final inspection.

7. SUBMITTALS AND SUBSTITUTIONS.

7.1. Contractor shall carefully examine the Contract Documents for all requirements for approval of materials to be submitted such as a schedule of values, safety manual, shop drawings, data, test results, schedules and samples. Contractor shall submit all such materials at its own expense and in such form as required by the Contract Documents in sufficient time to prevent any delay in the delivery of such materials and the installation thereof.

7.2. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other suppliers may be accepted by the Town of Esto if sufficient information is submitted by Contractor to allow the Town of Esto to determine that the material or equipment proposed is equivalent or better than to that named. Requests for review of substitute items of material and equipment will not be accepted by the Town of Esto from anyone other than Contractor and all such requests must be submitted by Contractor to Design Professional within thirty (30) calendar days after Notice of Award is received by Contractor.

7.3. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make application to the Design Professional for acceptance thereof, certifying that the proposed substitute shall perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application shall state that the evaluation and acceptance of the proposed substitute will not prejudice Contractor's achievement of substantial completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with the Town of Esto for the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service shall be indicated. The application also shall contain an itemized estimate of all costs that will result, directly or indirectly, from acceptance of such substitute, including costs for redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the Design Professional in evaluating the proposed substitute. The Design Professional may require Contractor to furnish at Contractor's expense additional data about the proposed substitute.

7.4. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to the Design Professional, if Contractor submits sufficient information to allow the Design Professional to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedures for submission to and review by the Design Professional shall be the same as those provided herein for substitute materials and equipment.

7.5 The Design Professional shall be allowed a reasonable time within which to evaluate each proposed substitute. The Design Professional shall be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without the Design Professional's and the Town of Esto's prior written acceptance which shall be evidenced by either a Change Order or an approved Shop Drawing. The Town of Esto may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute. The Design Professional will record time required by the Design Professional and the Design Professional's consultants in evaluating substitutions proposed by Contractor and making changes in the Contract Documents occasioned thereby. Whether or not the Town of Esto accepts a proposed substitute, Contractor shall reimburse the Town of Esto for the charges of the Design Professional and the Design Professional's consultants for evaluating each proposed substitute.

8. DAILY REPORTS, AS-BUILTS AND MEETINGS.

8.1. Unless waived in writing by the Town of Esto, Contractor shall complete and submit to Design Professional on a weekly basis a daily log of the Contractor's work for the preceding week in a format approved by the Design Professional and the Town of Esto. The daily log shall document all activities of Contractor at the Project site including, but not limited to, the following:

8.1.1. Weather conditions showing the high and low temperatures during work hours, the amount of precipitation received on the Project site, and any other weather conditions which adversely affect the Work;

8.1.2. Soil conditions which adversely affect the Work;

8.1.3. The hours of operation by Contractor's and subcontractor's personnel;

8.1.4. The number of Contractor's and subcontractor's personnel present and working at the Project site, by subcontract and trade;

8.1.5. All equipment present at the Project site, description of equipment use and designation of time equipment was used (specifically indicating any down time);

8.1.6. Description of Work being performed at the Project site;

8.1.7. Any unusual or special occurrences at the Project site;

8.1.8. Materials received at the Project site;

8.1.9. A list of all visitors to the Project site; and

8.1.10. Any problems that might impact either the cost or quality of the Work or the time of performance.

The daily log shall not constitute nor take the place of any notice required to be given by Contractor to the Town of Esto or Design Professional pursuant to the Contract Documents.

8.2. Contractor shall maintain in a safe place at the Project site one record copy of the Contract Documents,

including, but not limited to, all drawings, specifications, addenda, amendments, Change Orders, Work Directive Changes and Field Orders, as well as all written interpretations and clarifications issued by the Design Professional, in good order and annotated to show all changes made during construction. The annotated drawings shall be continuously updated by the Contractor throughout the prosecution of the Work to accurately reflect all field changes that are made to adapt the Work to field conditions, changes resulting from Change Orders, Work Directive Changes and Field Orders, and all concealed and buried installations of piping, conduit and utility services. All buried and concealed items, both inside and outside the Project site, shall be accurately located on the annotated drawings as to depth and in relationship to not less than two (2) permanent features (e.g. interior or exterior wall faces). The annotated drawings shall be clean, and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color. The "As-Built" record documents, together with all approved samples and a counterpart of all approved shop drawings shall be available to Design Professional for reference. Current and accurate "As-Built" record documents shall be submitted with each Application for Payment. Failure to provide current and accurate "As-Built" record drawings shall be reason for rejecting the Application for Payment. Upon completion of the Work and as a condition precedent to Contractor's entitlement to final payment, these "As-Built" record documents, samples and shop drawings shall be delivered to Design Professional by Contractor for the Town of Esto.

8.3 Contractor shall keep all records and supporting documentation which concern or relate to the Work hereunder for a minimum of five (5) years from the date of termination of this Agreement or the date the Project is completed, whichever is later. The Town of Esto, or any duly authorized agents or representatives of the Town of Esto, shall have the right to audit, inspect and copy all such records and documentation as often as they deem necessary during the period of this Agreement and during the five (5) year period noted above; provided, however, such activity shall be conducted only during normal business hours.

9. CONTRACT TIME AND TIME EXTENSIONS.

9.1. Contractor shall diligently pursue the completion of the Work and coordinate the Work being done on the Project by its subcontractors and materialmen, as well as coordinating its Work with all work of others at the Project Site, so that its Work or the work of others shall not be delayed or impaired by any act or omission by Contractor. Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures, as well as coordination of all portions of the Work under the Contract Documents, and the coordination of the Town of Esto's suppliers and contractors as set forth in Paragraph 12.2. herein.

9.2. Should Contractor be obstructed or delayed in the prosecution of or completion of the Work as a result of unforeseeable causes beyond the control of Contractor, and not due to its fault or neglect, including but not restricted to acts of God or of the public enemy, acts of government, fires, floods, epidemics, quarantine regulation, strikes or lockouts, Contractor shall notify the Town of Esto in writing within forty-eight (48) hours after the commencement of such delay, stating the cause or causes thereof, or be deemed to have waived any right which Contractor may have had to request a time extension.

9.3. No interruption, interference, inefficiency, suspension or delay in the commencement or progress of the Work from any cause whatever, including those for which the Town of Esto may be responsible, in whole or in part, shall relieve Contractor of his duty to perform or give rise to any right to damages or additional compensation from the Town of Esto. Contractor expressly acknowledges and agrees that it shall receive no damages for delay. Contractor's sole remedy, if any, against the Town of Esto will be the right to seek an extension to the Contract Time; provided, however, the granting of any such time extension shall not be a condition precedent to the aforementioned "No Damage For Delay" provision. This paragraph shall expressly apply to claims for early completion, as well as to claims based on late completion.

10. CHANGES IN THE WORK.

10.1. The Town of Esto shall have the right at any time during the progress of the Work to increase or decrease the Work. Promptly after being notified of a change, Contractor shall submit an itemized estimate of any cost or time increases or savings it foresees as a result of the change. Except in an emergency endangering life or property, or as expressly set forth herein, no addition or changes to the Work shall be made except upon written order of the Town

of Esto, and the Town of Esto shall not be liable to the Contractor for any increased compensation without such written order. No officer, employee or agent of the Town of Esto is authorized to direct any extra or changed work orally.

10.2. A Change Order shall be issued and executed promptly after an agreement is reached between Contractor and the Town of Esto concerning the requested changes. Contractor shall promptly perform changes authorized by duly executed Change Orders. The Contract Amount and Contract Time shall be adjusted in the Change Order in the manner as the Town of Esto and Contractor shall mutually agree.

10.3. If the Town of Esto and Contractor are unable to agree on a Change Order for the requested change, Contractor shall, nevertheless, promptly perform the change as directed by the Town of Esto in a written Work Directive Change. In that event, the Contract Amount and Contract Time shall be adjusted as directed by the Town of Esto. If Contractor disagrees with the Town of Esto's adjustment determination, Contractor must make a claim pursuant to Section 11 of these General Conditions or else be deemed to have waived any claim on this matter it might otherwise have had.

10.4. In the event a requested change results in an increase to the Contract Amount, the amount of the increase shall be limited to the Contractor's reasonable direct labor and material costs and reasonable actual equipment costs as a result of the change (including allowance for labor burden costs) plus a maximum ten percent (10%) markup for all overhead and profit. In the event such change Work is performed by a Subcontractor, a maximum ten percent (10%) markup for all overhead and profit for all Subcontractors' and sub-subcontractors' direct labor and material costs and actual equipment costs shall be permitted, with a maximum five percent (5%) markup thereon by the Contractor for all of its overhead and profit, for a total maximum markup of fifteen percent (15%). All compensation due Contractor and any Subcontractor or sub-subcontractor for field and home office overhead is included in the markups noted above.

10.5. The Town of Esto shall have the right to conduct an audit of Contractor's books and records to verify the accuracy of the Contractor's claim with respect to Contractor's costs associated with any Change Order.

10.6. The Design Professional shall have authority to order minor changes in the Work not involving an adjustment to the Contract Amount or an extension to the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes may be effected by Field Order or by other written order. Such changes shall be binding on the Contractor.

11. CLAIMS AND DISPUTES.

11.1. A Claim is a demand or assertion by one of the parties seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time or other relief with respect to the terms of the Contract Documents. The term "Claim" also includes other disputes and matters in question between the Town of Esto and Contractor arising out of or relating to the Contract Documents. The responsibility to substantiate a Claim shall rest with the party making the Claim.

11.2. Claims by the Contractor shall be made in writing to the Town of Esto and Design Professional within forty-eight (48) hours after the first day of the event giving rise to such Claim or else the Contractor shall be deemed to have waived the Claim. Written supporting data shall be submitted to the Town of Esto and Design Professional within fifteen (15) calendar days after the occurrence of the event, unless the Town of Esto grants additional time in writing, or else the Contractor shall be deemed to have waived the Claim. All claims shall be priced in accordance with the provisions of Subsection 10.4.

11.3 The Contractor shall proceed diligently with its performance as directed by the Town of Esto, regardless of any pending Claim, action, suit or administrative proceeding, unless otherwise agreed to by the Town of Esto in writing. The Town of Esto shall continue to make payments in accordance with the Contract Documents during the pendency of any Claim.

12. OTHER WORK.

12.1. The Town of Esto may perform other work related to the Project at the site by the Town of Esto's own forces, have other work performed by utility owners or let other direct contracts. If the fact that such other work is to be performed is not noted in the Contract Documents, written notice thereof will be given to Contractor prior to starting any such other work. If Contractor believes that such performance will involve additional expense to Contractor or require additional time, Contractor shall send written notice of that fact to the Town of Esto and Design Professional within forty-eight (48) hours of being notified of the other work. If the Contractor fails to send the above required forty-eight (48) hour notice, the Contractor will be deemed to have waived any rights it otherwise may have had to seek an extension to the Contract Time or adjustment to the Contract Amount.

12.2. Contractor shall afford each utility owner and other contractor who is a party to such a direct contract (or the Town of Esto, if the Town of Esto is performing the additional work with the Town of Esto's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work and shall properly connect and coordinate its Work with theirs. Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the Design Professional and the others whose work will be affected. The duties and responsibilities of Contractor under this paragraph are for the benefit of such utility owners and other Contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between the Town of Esto and such utility owners and other contractors.

12.3 If any part of Contractor's Work depends for proper execution or results upon the work of any other contractor or utility owner (or the Town of Esto), Contractor shall inspect and promptly report to Design Professional in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. Contractor's failure to report will constitute an acceptance of the other work as fit and proper for integration with Contractor's Work.

13. INDEMNIFICATION AND INSURANCE.

13.1. Contractor agrees to save harmless, indemnify, and defend or, at the option of the Town of Esto, pay the cost of defense, the Town of Esto and its representative from any and all claims, losses, penalties, demands, judgments, and costs of suit, including attorneys' fees and paralegals' fees, for any expense, damage or liability incurred by any of them, whether for personal injury, property damage, direct or consequential damages, or economic loss, arising directly or indirectly on account of or in connection with the Work done by Contractor under this Agreement or by any person, firm or corporation to whom any portion of the Work is subcontracted by Contractor or resulting from the use by Contractor, or by any one for whom Contractor is legally liable, of any materials, tools, machinery or other property of the Town of Esto. This provision is intended to apply even if the injury or damage is caused in whole or in part by any act, omission or default of the Town of Esto or Design Professional or their consultants, agents, officers and employees. The Town of Esto and Contractor agree the first \$100.00 of the Contract Amount paid by the Town of Esto to Contractor shall be given as separate consideration for this indemnification, and any other indemnification of the Town of Esto by Contractor provided for within the Contract Documents, the sufficiency of such separate consideration being acknowledged by Contractor by Contractor's execution of the Agreement. The Contractor's obligation under this provision shall not be limited in any way by the agreed upon contract price as shown in this contract or the Contractor's limit of, or lack of, sufficient insurance protection.

13.2. Contractor shall obtain and carry, at all times during its performance under the Contract Documents, insurance of the types and in the amounts as required for projects contracted with the State of Florida Department of Transportation, unless modified by the specifications in the requests for bids. All insurance policies shall be from responsible companies duly authorized to do business in the State of Florida and/or responsible risk retention group insurance companies which are registered with the State of Florida. Within fifteen (15) calendar days after Notice of Award is received by Contractor, Contractor shall provide the Town of Esto with properly executed Certificates of Insurance to evidence Contractor's compliance with the insurance requirements of the Contract Documents. Said Certificates of Insurance shall be on forms approved by the Town of Esto. The Certificates of Insurance shall be personally, manually signed by the authorized representatives of the insurance company/companies shown on the Certificates of Insurance, with proof that they are authorized representatives thereof. In addition, certified, true and

exact copies of all insurance policies required hereunder shall be provided to the Town of Esto, on a timely basis, when requested by the Town of Esto.

13.3. The Certificates of Insurance and required insurance policies shall contain provisions that thirty (30) days prior written notice by registered or certified mail shall be given the Town of Esto of any cancellation, intent not to renew, or reduction in the policies or coverages, except in the application of the aggregate limits provisions. In the event of a reduction in the aggregate limit of any policy, Contractor shall immediately take steps to have the aggregate limit reinstated to the full extent permitted under such policy.

13.4. All insurance coverages of the Contractor shall be primary to any insurance or self-insurance program carried by the Town of Esto applicable to this Project. The acceptance by the Town of Esto of any Certificate of Insurance does not constitute approval or agreement by the Town of Esto that the insurance requirements have been satisfied or that the insurance policy shown on the Certificate of Insurance is in compliance with the requirements of the Contract Documents. No work shall commence at the Project site unless and until the required Certificates of Insurance are received by the Town of Esto.

13.5. Contractor shall require each of its subcontractors to procure and maintain, until the completion of the subcontractor's work, insurance of the types and to the limits specified in Section 00710, unless such insurance requirements for the subcontractor is expressly waived in writing by the Town of Esto. All liability insurance policies, other than professional liability, worker's compensation, employer's liability and business auto liability policies, obtained by Contractor to meet the requirements of the Contract Documents shall name the Town of Esto and Design Professional as additional insureds and shall contain severability of interest provisions. If any insurance provided pursuant to the Contract Documents expires prior to the completion of the Work, renewal Certificates of Insurance and, if requested by the Town of Esto, certified, true copies of the renewal policies, shall be furnished by Contractor within thirty (30) days prior to the date of expiration.

13.6. Should at any time the Contractor not maintain the insurance coverages required herein, the Town of Esto may terminate the Agreement or at its sole discretion shall be authorized to purchase such coverages and charge the Contractor for such coverages purchased. The Town of Esto shall be under no obligation to purchase such insurance, nor shall it be responsible for the coverages purchased or the insurance company or companies used. The decision of the Town of Esto to purchase such insurance coverages shall in no way be construed to be a waiver of any of its rights under the Contract Documents.

13.7 Contractor shall submit to Design Professional a copy of all accident reports arising out of any injuries to its employees or those of any firm or individual to whom it may have subcontracted a portion of the Work, or any personal injuries or property damages arising or alleged to have arisen on account of any work by Contractor under the Contract Documents.

14. COMPLIANCE WITH LAWS.

14.1 Contractor agrees to comply, at its own expense, with all federal, state and local laws, codes, statutes, ordinances, rules, regulations and requirements applicable to the Project, including but not limited to those dealing with taxation, worker's compensation, equal employment and safety. If Contractor observes that the Contract Documents are at variance therewith, it shall promptly notify the Town of Esto and Design Professional in writing.

15. CLEANUP AND PROTECTIONS.

15.1. Contractor agrees to keep the Project site clean at all times of debris, rubbish and waste materials arising out of the Work. At the completion of the Work, Contractor shall remove all debris, rubbish and waste materials from and about the Project site, as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the Project site clean and ready for occupancy by the Town of Esto.

15.2 Any existing surface or subsurface improvements, including, but not limited to, pavements, curbs, sidewalks, pipes, utilities, footings, structures, trees and shrubbery, not indicated in the Contract Documents to be

removed or altered, shall be protected by Contractor from damage during the prosecution of the Work. Any such improvements so damaged shall be restored by Contractor to the condition equal to that existing at the time of Contractor's commencement of the Work.

16. ASSIGNMENT.

16.1 Contractor shall not assign this Agreement or any part thereof, without the prior consent in writing of the Town of Esto. If Contractor does, with approval, assign this Agreement or any part thereof, it shall require that its assignee be bound to it and to assume toward Contractor all of the obligations and responsibilities that Contractor has assumed toward the Town of Esto.

17. PERMITS, LICENSES AND TAXES.

17.1. The Town of Esto will pay for all Town of Esto permits and fees, including license fees, permit fees, impact fees or inspection fees applicable to the work. Contractor is not responsible for paying for permits issued by the Town of Esto wherein the work is to be performed but is responsible for acquiring all permits. The Town of Esto may require the Contractor to deliver internal budget transfer documents to applicable Town of Esto agencies when the Contractor is acquiring permits.

17.2 All permits, fees and licenses necessary for the prosecution of the Work which are not issued by the Town of Esto shall be acquired and paid for by the Contractor.

18. TERMINATION FOR DEFAULT.

18.1. Contractor shall be considered in material default of the Agreement and such default shall be considered cause for the Town of Esto to terminate the Agreement, in whole or in part, as further set forth in this Section, if Contractor: (1) fails to begin the Work under the Contract Documents within the time specified herein; or (2) fails to properly and timely perform the Work as directed by the Town of Esto or the Design Professional or as provided for in the approved Progress Schedule; or (3) performs the Work unsuitably or neglects or refuses to remove materials or to correct or replace such Work as may be rejected as unacceptable or unsuitable; or (4) discontinues the prosecution of the Work; or (5) fails to resume Work which has been suspended within a reasonable time after being notified to do so; or (6) becomes insolvent or is declared bankrupt, or commits any act of bankruptcy; or (7) allows any final judgment to stand against it unsatisfied for more than ten (10) days; or (8) makes an assignment for the benefit of creditors; or (9) fails to obey any applicable codes, laws, ordinances, rules or regulations with respect to the Work; or (10) materially breaches any other provision of the Contract Documents.

18.2. The Town of Esto shall notify Contractor in writing of Contractor's default(s). If the Town of Esto determines that Contractor has not remedied and cured the default(s) within seven (7) calendar days following receipt by Contractor of said written notice, then the Town of Esto, at its option, without releasing or waiving its rights and remedies against the Contractor's sureties and without prejudice to any other right or remedy it may be entitled to hereunder or by law, may terminate Contractor's right to proceed under the Agreement, in whole or in part, and take possession of all or any portion of the Work and any materials, tools, equipment, and appliances of Contractor, take assignments of any of Contractor's subcontracts and purchase orders, and complete all or any portion of Contractor's Work by whatever means, method or agency which the Town of Esto, in its sole discretion, may choose.

18.3. If the Town of Esto deems any of the foregoing remedies necessary, Contractor agrees that it shall not be entitled to receive any further payments hereunder until after the Project is completed. All monies expended and all of the costs, losses, damages and extra expenses, including all management, administrative and other overhead and other direct and indirect expenses (including Design Professional and attorneys' fees) or damages incurred by the Town of Esto incident to such completion, shall be deducted from the Contract Amount, and if such expenditures exceed the unpaid balance of the Contract Amount, Contractor agrees to pay promptly to the Town of Esto on demand the full amount of such excess, including costs of collection, attorney's fees (including appeals) and interest thereon at the maximum legal rate of interest until paid. If the unpaid balance of the Contract Amount exceeds all such costs, expenditures and damages incurred by the Town of Esto to complete the Work, such excess shall be paid to the

Contractor. The amount to be paid to the Contractor or the Town of Esto, as the case may be, shall be approved by the Design Professional, upon application, and this obligation for payment shall survive termination of the Agreement.

18.4. The liability of Contractor hereunder shall extend to and include the full amount of any and all sums paid, expenses and losses incurred, damages sustained, and obligations assumed by the Town of Esto in good faith under the belief that such payments or assumptions were necessary or required, in completing the Work and providing labor, materials, equipment, supplies, and other items therefore or re-letting the Work, and in settlement, discharge or compromise of any claims, demands, suits, and judgments pertaining to or arising out of the Work hereunder.

18.5 If, after notice of termination of Contractor's right to proceed pursuant to this Section, it is determined for any reason that Contractor was not in default, or that its default was excusable, or that the Town of Esto is not entitled to the remedies against Contractor provided herein, then Contractor's remedies against the Town of Esto shall be the same as and limited to those afforded Contractor under Section 19 below.

19. TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION.

19.1. The Town of Esto shall have the right to terminate this Agreement without cause upon seven (7) calendar days written notice to Contractor. In the event of such termination for convenience, Contractor's recovery against the Town of Esto shall be limited to that portion of the Contract Amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred, but Contractor shall not be entitled to any other or further recovery against the Town of Esto, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.

19.2 The Town of Esto shall have the right to suspend all or any portions of the Work upon giving Contractor not less than two (2) calendar days' prior written notice of such suspension. If all or any portion of the Work is so suspended, Contractor's sole and exclusive remedy shall be to seek an extension of time to its schedule in accordance with the procedures set forth in the Contract Documents. In no event shall the Contractor be entitled to any additional compensation or damages. Provided, however, if the ordered suspension exceeds six (6) months, the Contractor shall have the right to terminate the Agreement with respect to that portion of the Work which is subject to the ordered suspension.

20. COMPLETION.

20.1. When the entire Work (or any portion thereof designated in writing by the Town of Esto) is ready for its intended use, Contractor shall notify the Town of Esto and Design Professional in writing that the entire Work (or such designated portion) is substantially complete and request that Design Professional issue a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion). Within a reasonable time thereafter, the Town of Esto, Contractor and Design Professional shall make an inspection of the Work (or designated portion thereof) to determine the status of completion. If the Town of Esto and Design Professional do not consider the Work (or designated portion) substantially complete, Design Professional shall notify Contractor in writing giving the reasons therefor. If the Town of Esto and Design Professional consider the Work (or designated portion) substantially complete, Design Professional shall prepare and deliver to Contractor a Certificate of Substantial Completion (or Certificate of Partial Substantial Completion) which shall fix the date of Substantial Completion for the entire Work (or designated portion thereof) and include a tentative punchlist of items to be completed or corrected by Contractor before final payment. The Town of Esto shall have the right to exclude Contractor from the Work and Project site (or designated portion thereof) after the date of Substantial Completion, but the Town of Esto shall allow Contractor reasonable access to complete or correct items on the tentative punchlist.

20.2 Upon receipt of written certification by Contractor that the Work is completed in accordance with the Contract Documents and is ready for final inspection and acceptance and upon receipt of a final Application for Payment, Design Professional will make such inspection and, if he finds the Work acceptable and fully performed under the Contract Documents, he shall promptly issue a final Certificate for Payment, recommending that, on the basis of his observations and inspections, and the Contractor's certification that the Work has been completed in accordance with the terms and conditions of the Contract Documents, that the entire balance found to be due

Contractor is due and payable. Neither the final payment nor the retainage shall become due and payable until Contractor submits: (1) the Release and Affidavit in the form attached as Section 00850, (2) consent of surety to final payment, and (3) if required by the Town of Esto, other data establishing payment or satisfaction of all obligations, such as receipts, releases and waivers of liens, arising out of the Contract Documents, to the extent and in such form as may be designated by the Town of Esto. The Town of Esto reserves the right to inspect the Work and make an independent determination as to the Work's acceptability, even though the Design Professional may have issued his recommendations. Unless and until the Town of Esto is completely satisfied, neither the final payment nor the retainage shall become due and payable.

21. WARRANTY.

21.1. Contractor shall obtain and assign to the Town of Esto all express warranties given to Contractor or any subcontractors by any materialmen supplying materials, equipment or fixtures to be incorporated into the Project. Contractor warrants to the Town of Esto that any materials and equipment furnished under the Contract Documents shall be new unless otherwise specified, and that all Work shall be of good quality, free from all defects and in conformance with the Contract Documents. Contractor further warrants to the Town of Esto that all materials and equipment furnished under the Contract Documents shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturers, fabricators, suppliers or processors except as otherwise provided for in the Contract Documents. If, within one (1) year after final completion, any Work is found to be defective or not in conformance with the Contract Documents, Contractor shall correct it promptly after receipt of written notice from the Town of Esto. Contractor shall also be responsible for and pay for replacement or repair of adjacent materials or Work which may be damaged as a result of such replacement or repair. These warranties are in addition to those implied warranties to which the Town of Esto is entitled as a matter of law.

22. TESTS AND INSPECTIONS.

22.1. The Town of Esto, Design Professional, their respective representatives, agents and employees, and governmental agencies with jurisdiction over the Project shall have access at all times to the Work, whether the Work is being performed on or off of the Project site, for their observation, inspection and testing. Contractor shall provide proper, safe conditions for such access. Contractor shall provide Design Professional with timely notice of readiness of the Work for all required inspections, tests or approvals.

22.2. If the Contract Documents or any codes, laws, ordinances, rules or regulations of any public authority having jurisdiction over the Project requires any portion of the Work to be specifically inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Design Professional the required certificates of inspection, testing or approval. All inspections, tests or approvals shall be performed in a manner and by organizations acceptable to the Design Professional and the Town of Esto.

22.3. If any Work that is to be inspected, tested or approved is covered without written concurrence from the Design Professional, such work must, if requested by Design Professional, be uncovered for observation. Such uncovering shall be at Contractor's expense unless Contractor has given Design Professional timely notice of Contractor's intention to cover the same and Design Professional has not acted with reasonable promptness to respond to such notice. If any Work is covered contrary to written directions from Design Professional, such Work must, if requested by Design Professional, be uncovered for Design Professional's observation and be replaced at Contractor's sole expense.

22.4. The Town of Esto shall charge to Contractor and may deduct from any payments due Contractor all engineering and inspection expenses incurred by the Town of Esto in connection with any overtime work. Such overtime work consisting of any work during the construction period beyond the regular eight (8) hour day and for any work performed on Saturday, Sunday or holidays.

22.5 Neither observations nor other actions by the Design Professional nor inspections, tests or approvals by others shall relieve Contractor from Contractor's obligations to perform the Work in accordance with the Contract Documents.

23. DEFECTIVE WORK.

23.1. Work not conforming to the requirements of the Contract Documents shall be deemed defective Work. If required by the Town of Esto or Design Professional, Contractor shall, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or if the defective Work has been rejected by the Town of Esto or Design Professional, remove it from the site and replace it with conforming Work. Contractor shall bear all direct, indirect and consequential costs of such correction or removal (including, but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby, and shall hold the Town of Esto harmless for same.

23.2. If the Town of Esto or Design Professional consider it necessary or advisable that covered Work be observed by Design Professional or inspected or tested by others, Contractor, at the Town of Esto's or Design Professional's request, shall uncover, expose or otherwise make available for observation, inspection or tests as the Town of Esto or Design Professional may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, Contractor shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals), and the Town of Esto shall be entitled to an appropriate decrease in the Contract Amount. If, however, such Work is not found to be defective, Contractor shall be allowed an increase in the Contract Amount and/or an extension to the Contract Time, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction.

23.3. If any portion of the Work is defective, or Contractor fails to supply sufficient skilled workers with suitable materials or equipment, or fails to finish or perform the Work in such a way that the completed Work will conform to the Contract Documents, the Town of Esto or Design Professional may order Contractor to stop the Work, or any portion thereof, until the cause for such stop in the work has been eliminated; however, this right of the Town of Esto and Design Professional to stop the Work shall not give rise to any duty on the part of the Town of Esto or Design Professional to exercise this right for the benefit of Contractor or any other party.

23.4. Should the Town of Esto determine, in its sole opinion, that it is in the Town of Esto's best interest to accept defective Work, the Town of Esto may do so. Contractor shall bear all direct, indirect and consequential costs attributable to the Town of Esto's evaluation of and determination to accept defective Work. If such determination is rendered prior to final payment, a Change Order shall be executed evidencing such acceptance of such defective Work, incorporating the necessary revisions in the Contract Documents and reflecting an appropriate decrease in the Contract Amount. If the Town of Esto accepts such defective Work after final payment, Contractor shall promptly pay the Town of Esto an appropriate amount to adequately compensate the Town of Esto for its acceptance of the defective Work.

23.5. If Contractor fails, within a reasonable time after the written notice from the Town of Esto or Design Professional, to correct defective Work or to remove and replace rejected defective Work as required by Design Professional or the Town of Esto, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any of the provisions of the Contract Documents, the Town of Esto may, after seven (7) days written notice to Contractor, correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, the Town of Esto may exclude Contractor from any or all of the Project site, take possession of all or any part of the Work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Project site and incorporate in the Work all materials and equipment stored at the Project site or for which the Town of Esto has paid Contractor but which are stored elsewhere. Contractor shall allow the Town of Esto, Design Professional and their respective representatives, agents, and employees such access to the Project site as may be necessary to enable the Town of Esto to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of the Town of Esto in exercising such rights and remedies shall be charged against Contractor, and a Change Order shall be issued, incorporating the necessary revisions to the Contract Documents, including an appropriate decrease to the Contract Amount. Such direct, indirect and consequential costs shall include, but not be limited to, fees and charges of engineers, architects,

attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of Contractor's defective Work. Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the Town of Esto of the Town of Esto's rights and remedies hereunder.

24. SUPERVISION AND SUPERINTENDENTS.

24.1. Contractor shall plan, organize, supervise, schedule, monitor, direct and control the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents. Contractor shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without prior written notice to the Town of Esto and Design

Professional except under extraordinary circumstances. The superintendent shall be Contractor's representative at the Project site and shall have authority to act on behalf of Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor. The Town of Esto shall have the right to direct Contractor to remove and replace its Project superintendent, with or without cause.

25. PROTECTION OF WORK.

25.1. Contractor shall fully protect the Work from loss or damage and shall bear the cost of any such loss or damage until final payment has been made. If Contractor or any one for whom Contractor is legally liable is responsible for any loss or damage to the Work, or other work or materials of the Town of Esto or the Town of Esto's separate contractors, Contractor shall be charged with the same, and any monies necessary to replace such loss or damage shall be deducted from any amounts due Contractor.

25.2. Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger said Work or property.

25.3. Contractor shall not disturb any benchmark established by the Design Professional with respect to the Project. If Contractor, or its subcontractors, agents or anyone for whom Contractor is legally liable, disturbs the Design Professional's benchmarks, Contractor shall immediately notify the Town of Esto and Design Professional. The Design Professional shall reestablish the benchmarks and Contractor shall be liable for all costs incurred by the Town of Esto associated therewith.

26. EMERGENCIES.

26.1. In the event of an emergency affecting the safety or protection of persons or the Work or property at the Project site or adjacent thereto, Contractor, without special instruction or authorization from the Town of Esto or Design Professional is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Design Professional written notice within forty-eight (48) hours after the occurrence of the emergency, if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the Design

Professional determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Change Order shall be issued to document the consequences of the changes or variations. If Contractor fails to provide the forty-eight (48) hour written notice noted above, the Contractor shall be deemed to have waived any right it otherwise may have had to seek an adjustment to the Contract Amount or an extension to the Contract Time.

27. USE OF PREMISES.

27.1. Contractor shall confine all construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents

and other lands and areas permitted by law, rights of way, permits and easements, and shall not unreasonably encumber the Project site with construction equipment or other material or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or any land or areas contiguous thereto, resulting from the performance of the Work.

28. SAFETY.

28.1. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

28.1.1. All employees on the Work and other persons and/or organizations who may be affected thereby;

28.1.2. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Project site; and

28.1.3. Other property on Project site or adjacent thereto, including trees, shrubs, walks, pavements, roadways, structures, utilities and any underground structures or improvements not designated for removal, relocation or replacement in the Contract Documents.

28.2. Contractor shall comply with all applicable codes, laws, ordinances, rules and regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of underground structures and improvements and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation or replacement of their property. Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as the Work is completed and final acceptance of same by the Town of Esto has occurred.

28.3 Contractor shall designate a responsible representative at the Project site whose duty shall be the prevention of accidents. This person shall be Contractor's superintendent unless otherwise designated in writing by Contractor to the Town of Esto.

29. PROJECT MEETINGS.

29.1 Prior to the commencement of Work, the Contractor shall attend a preconstruction conference with the Design Professional and others as appropriate to discuss the Progress Schedule, procedures for handling shop drawings and other submittals, and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work. During the prosecution of the Work, the Contractor shall attend any and all meetings convened by the Design Professional or the Town of Esto with respect to the Project, when directed to do so by the Town of Esto or Design Professional. Contractor shall have its subcontractors and suppliers attend all such meetings (including the preconstruction conference) as may be directed by the Town of Esto or Design Professional.

UTILITY RELOCATION SCHEDULE

CIP NO.	PROJECT NAME	PROJECT NO.
G1288	Commerce Street and 4th Ave N Resurfacing Project	444088-1-54-01

THIS FORM TO BE INCLUDED IN HIGHWAY CONTRACT DOCUMENTS

Agency/Owner: AT&T

Facilities Involved (Detail as to type and location of adjustments and relocations):

Buried cable, pedestal and service wires along John Clark Hwy between SR 79 and Magruder Pl.

Anticipated Construction Relocation Schedule

(Describe each phase and all work that can be done concurrently during each phase in relation to a construction activity)

	*Working Days Estimated
Phase 1 (a) <u>Relocate facilities to back of right of way along John Clark Hwy</u>	
<i>Total Phase 1</i>	<u>45</u>
Phase 2 (a) <u>N/A</u>	
<i>Total Phase 2</i>	<u>X</u>
Phase 3 (a) <u>N/A</u>	
<i>Total Phase 3</i>	<u>X</u>
Total Construction Working Days <i>(Including Page 2 if applicable)</i>	<u>45</u>

Preconstruction Items

Dependent activities: Right of way cleared and staked. Power company set new service pole at Magruder Pl.

Total Pre-Construction Days X Days
(Including Page 2 if applicable)

**Individual phases may be spread throughout the contract with begin and end dates as necessary to coordinate construction activities with the Town contractor and other utilities. The AGENCY/OWNER shall cooperate with the Town's contractor to include their adjustment/relocation work progress schedule prior to the pre-construction conference.*

The above date is based on construction plans DATED 08/13/2019

This AGENCY/OWNER is not responsible for circumstances beyond its normal control. However, the AGENCY/OWNER agrees to fully expeditiously as possible. The AGENCY/OWNER'S field representative can be contacted at:

Telephone Number: 850-623-3654

SUBMITTED FOR THE AGENCY BY: Michael Fillingim Date: 8/13/2019
Michael Fillingim

APPROVAL BY: Lisa Fruge Date: 8/15/2019
Engineer of Record Lisa Fruge, PE

Yvonnee Hagans Date: 08/19/2019
Town Project Manager Yvonnee Hagans

CIP NO.	PROJECT NAME	PROJECT NO.
G1288	Commerce Street and 4th Ave N Resurfacing Project	444088-1-54-01
THIS FORM TO BE INCLUDED IN HIGHWAY CONTRACT DOCUMENTS		
Agency/Owner: AT&T		
<u>Facilities Involved (Continuation):</u> Buried cable, pedestal, service wires		
<u>Anticipated Construction Schedule (Continuation)</u> (Additional Phases or Continuation of a Phase)		Working Days Estimated
Total Working Days		_____45_____
<u>Preconstruction Items (Continuation)</u>		
Total Days		_____X_____
<u>Special Notations (Continuation)</u>		
<u>SPECIAL NOTATIONS</u>		
1. Right of way must be cleared and staked prior to AT&T relocation.		
2. Power company must set new service pole prior to AT&T relocation. Power company, WFEC, to communicate location of new pole to be set.		
3. XX		
4. XX		
5. XX		
EMERGENCY NUMBER 24/7 365 FOR AT&T – 877-737-2478		

Date: 7/3/2019 Permit No.: 2019-K-390-00011

Name of Applicant or Authorized Agent: LISA FRUGE

Entity (if applicable): _____

(If entity, furnish contact information for responsible representative)

Address: 301 E. Pine St, Suite 1020 Zip Code: 32801

City/State: Orlando, Florida Telephone No.: (407) 587-7889 ext. _____

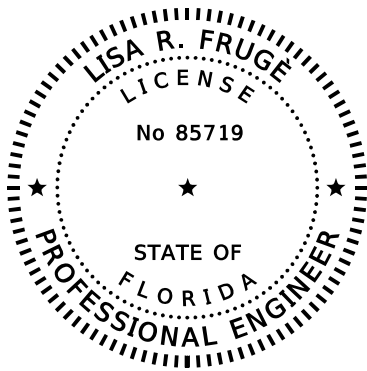
Email Address: lisa.fruge@wsp.com

Activity / Project Site		
County: <u>Holmes</u>	State Road: <u>SR 79</u>	Section: <u>030, 000</u>
From Mile Post: <u>16.706</u> to Mile Post: <u>17.821</u>		
Construction Proposed or Underway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> FM Project No.: _____		
Name of Municipality if Work is within Limits: <u>Esto</u>		
Description of Work Activity: Maintenance of traffic signs to be installed within SR79 R/W alerting drivers of side road closed.		

General Provisions
<ol style="list-style-type: none"> 1. Attach any pertinent plans or drawings. 2. Attach notification letters sent to any Utilities both aerial and underground that will be potentially impacted. 3. The designated FDOT Engineer shall be notified 48 hours prior to beginning of work. Contact <u>Howard Williams</u> at <u>8508365790</u>. 4. All work, materials and equipment shall be subject to inspection and approval by FDOT. Applicants certification of work at completion is required. 5. The permittee shall be responsible to place and display safety devices and proper maintenance of traffic in accordance with the latest version of the Department's Design Standards, index series 600, or an alternative plan signed and sealed by a professional Engineer and attached with the permit. 6. All FDOT property shall be restored to its original condition. Any damage to FDOT property as a result of this work shall be repaired and restored in a manner acceptable to the FDOT at the sole expense of the permittee.

Approved
 2019-K-390-00011
 Howard Williams
 7/23/2019

TECHNICAL SPECIFICATIONS



This item has been digitally signed and sealed by Lisa Fruge on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

Date: 9-12-19

State of Florida,

Professional Engineer, License No.: 85719

Firm Name: WSP USA

Firm Address: 301 East Pine St. Suite 1020

City, State, Zip Code: Orlando, FL 32801

Certificate of Authorization Number: 1462

Page(s): 50-77

TECHNICAL SPECIFICATIONS

Florida Department of Transportation, JULY 2019 Standard Specifications for Road and Bridge Construction shall govern on this project except the sections as amended below. The Florida Department of Transportation, JULY 2019 Specifications for Road and Bridge Construction can be found at the following website:
<http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM). (REV 1-23-12) (FA 2-27-12)

SECTION 120 EARTHWORK AND RELATED OPERATIONS FOR LAP (OFF-SYSTEM)

120-1 Description.

120-1.1 General: Perform earthwork and related operations based on the type of work specified in the Contract and the Earthwork Categories as defined below. Meet the applicable requirements for materials, equipment and construction as specified.

Earthwork and related operations consists of excavation for the construction of the roadway, excavation for structures and pipe, constructing backfill around structures and pipe, and constructing embankments as required for the roadway, ditches, and channel changes.

120-1.2 Earthwork Categories: Performance of Earthwork Operations will fall into one of the following Earthwork Categories:

120-1.2.1 Earthwork Category 1: Includes the earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities.

120-1.2.2 Earthwork Category 2: Includes the earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement.

120-1.2.3 Earthwork Category 3: Includes the earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement.

120-2 Classes of Excavation.

120-2.1 Excavation of Unsuitable Material: Excavation of unsuitable material consists of the removal of muck, clay, rock or any other material that is unsuitable in its original position and that is excavated below the finished grading template. For stabilized bases and sand bituminous road mixes, the finished grading template is the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, the finished grading template is the finished shoulder and slope lines and bottom of completed base or rigid pavement.

120-2.2 Lateral Ditch Excavation: Lateral ditch excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches

parallel to the roadway right-of-way. Dress lateral ditches to the grade and cross-section shown in the plans.

120-2.3 Channel Excavation: Channel excavation consists of the excavation and satisfactory disposal of all materials from the limits of the channel as shown in the plans.

120-2.4 Excavation for Structures and Pipe: Excavation for structures consists of the excavation for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3 Excavation Requirements.

120-3.1 Excavation and Replacement of Unsuitable Materials: Where rock, muck, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the plans or indicated by the Engineer, and backfill with suitable material. Shape backfill materials to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance of plus or minus 0.2 foot in depth and plus or minus 6 inches (each side) in width.

120-3.2 Lateral Ditch Excavation: Excavate inlet and outlet ditches to structures and roadway, changes in channels of streams and ditches parallel to the roadway. Dress lateral ditches to the grade and cross-section shown in the plans.

120-3.3 Channel Excavation: Excavate and dispose of all materials from the limits of the channel as shown in the plans. Excavate for bridge foundations, box culverts, pipe culverts, storm sewers and all other pipe lines, retaining walls, headwalls for pipe culverts and drains, catch basins, drop inlets, manholes, and similar structures.

120-3.4 Excavation for Structures and Pipe.

120-3.4.1 Requirements for all Excavation: Excavate foundation pits to permit the placing of the full widths and lengths of footings shown in the plans, with full horizontal beds. Do not round or undercut corners or edges of footings. Perform all excavation to foundation materials, satisfactory to the Engineer, regardless of the elevation shown on the plans. Perform all excavation in stream beds to a depth at least 4 feet below the permanent bed of the stream, unless a firm footing can be established on solid rock before such depth is reached, and excavate to such additional depth as may be necessary to eliminate any danger of undermining. Wherever rock bottom is secured, excavate in such manner as to allow the solid rock to be exposed and prepared in horizontal beds for receiving the masonry. Remove all loose and disintegrated rock or thin strata. Have the Engineer inspect and approve all foundation excavations prior to placing masonry.

120-3.4.2 Earth Excavation:

120-3.4.2.1 Foundation Material other than the Rock: When masonry is to rest on an excavated surface other than rock, take special care to avoid disturbing the bottom of the excavation, and do not remove the final foundation material to grade until just before placing the masonry. In case the foundation material is soft or mucky, the Engineer may require excavation to a greater depth and to backfill to grade with approved material.

120-3.4.2.2 Foundation Piles: Where foundation piles are used, complete the excavation of each pit before driving the piles. After the driving is completed, remove all loose and displaced material, leaving a smooth, solid, and level bed to receive the masonry.

120-3.4.2.3 Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

120-3.4.3 Rock Excavation: Clean all rock and other hard foundation material, remove all loose material, and cut all rock to a firm surface. Either level, step vertically and horizontally, or serrate the rock, as may be directed by the Engineer. Clean out all seams, and fill them with concrete or mortar.

120-3.4.4 Pipe Trench Excavation: Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified as suitable backfill material in 120-8.3.2.2 to a depth of 4 inches below the bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

For pipe lines placed above the natural ground line, place and compact the embankment, prior to excavation of the trench, to an elevation at least 2 feet above the top of the pipe and to a width equal to four pipe diameters, and then excavate the trench to the required grade.

120-4 Disposal of Surplus and Unsuitable Material.

120-4.1 Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the plans or, if the plans do not indicate the method of disposal, take ownership of the materials and dispose of them outside the right-of-way.

120-4.2 Disposal of Muck on Side Slopes: As an exception to the provisions of 120-4.1, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The Engineer will determine the limits adjacent to channels within which such materials may be disposed.

120-4.3 Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.

120-4.4 Disposal Areas: Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

Provide areas for disposal of removed paving materials out of sight of the project and at least 300 feet from the nearest roadway right-of-way line of any road. If the materials are buried, disregard the 300 foot limitation.

120-5 Materials for Embankment.

120-5.1 General Requirements for Embankment Materials: Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.

Construct the embankment using maximum particle sizes as follows:

In top 12 inches: 3 1/2 inches (in any dimension).

12 to 24 inches: 6 inches (in any dimension).

In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-7.2.

When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling.

120-5.2 Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.

120-5.3 Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until so ordered by the Engineer, and then only use material from approved borrow pits.

120-5.3.1 Haul Routes for Borrow Pits: Provide and maintain, at no expense to the Agency, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.

Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.

120-5.3.2 Borrow Material for Shoulder Build-up: When so indicated in the plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

120-5.4 Materials Used at Pipes, Culverts, etc.: Construct embankments over and around pipes, culverts, and bridge foundations with selected materials.

120-6 Embankment Construction.

120-6.1 General: Construct embankments in sections of not less than 300 feet in length or for the full length of the embankment.

120-6.2 Dry Fill Method:

120-6.2.1 General: Construct embankments to meet compaction requirements in 120-7 and in accordance with the acceptance program requirements in 120-9. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-6.2.1.1 For A-3 and A-2-4 Materials with up to 15% fines:

Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

120-6.2.1.2 For A-1 Plastic materials (As designated in FDOT Design Standard Index 505) and A-2-4 Materials with greater than 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

120-6.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with 120-7.2.4.

120-6.2.2 Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions of 120-7.2.4 and 120-7.2.6.

120-6.2.3 Placing on Steep Slopes: When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut into steps the surface of the original ground on which the embankment is to be placed.

120-6.2.4 Placing Outside Standard Minimum Slope: Where material that is unsuitable for normal embankment construction is to be used in the embankment outside the standard minimum slope (approximately one to two), place such material in layers of not more than 18 inches in thickness, measured loose. The Contractor may also place material which is suitable for normal embankment, outside such standard minimum slope, in 18 inch layers. Maintain a constant thickness for suitable material placed within and outside the standard minimum slope, unless placing in a separate operation.

120-6.3 Hydraulic Method:

120-6.3.1 Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is re-handled, or moved and placed in its final position by any other method, as specified in 120-7.2. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on

submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

120-6.3.2 Excess Material: Do not use excess material placed outside the prescribed slopes, below the normal high-water level, to raise the fill. Remove only the portion of this material required for dressing the slopes.

120-6.3.3 Protection of Openings in Embankment: Leave openings in the embankments at the bridge sites. Remove any material which invades these openings or existing channels without additional compensation to provide the same depth of channel as existed before the construction of the embankment. Do not excavate or dredge any material within 200 feet of the toe of the proposed embankment.

120-7 Compaction Requirements.

120-7.1 Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

120-7.2 Compaction of Embankments:

120-7.2.1 Earthwork Category 1 and 2 Density Requirements: The Engineer will accept a minimum density of 95% of the maximum density as determined by AASHTO T-99 Method C for all earthwork items requiring densities.

120-7.2.2 Earthwork Category 3 Density Requirements: The Engineer will accept a minimum of 100% of the maximum density as determined by AASHTO T-99 Method C for all densities required under category 3.

Except for embankments constructed by the hydraulic method as specified in 120-6.3, and for the material placed outside the standard minimum slope as specified in 120-6.2.4, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to the required density stated above. Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

120-7.2.3 Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided in 120-6.2.2), compact the top 6 inches (compacted thickness) of such layer to the density as specified in 120-9.5.

120-7.2.4 Compaction Where Plastic Material Has Been Removed: Where unsuitable material is removed and the remaining surface is of the A-4, A-5, A-6, or A-7 Soil Groups, as determined by the Engineer, compact the surface of the excavated area by rolling with a sheepfoot roller exerting a compression of at least 250 psi on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Perform rolling before beginning any backfill, and continue until the roller feet do not penetrate the surface more than 1 inch. Do not perform such rolling where the remaining surface is below the normal water table and covered with water. Vary the procedure and equipment required for this operation at the discretion of the Engineer.

120-7.2.5 Compaction of Material To Be Used In Base, Pavement, or Stabilized Areas: Do not compact embankment material which will be incorporated into a pavement, base course, or stabilized subgrade, to be constructed as a part of the same Contract.

120-7.2.6 Compaction of Grassed Shoulder Areas: For the upper 6 inch layer of all shoulders which are to be grassed, since no specific density is required, compact only to the extent directed.

120-7.2.7 Compaction of Grassed Embankment Areas: For the outer layer of all embankments where plant growth will be established, do not compact. Leave this layer in a loose condition to a minimum depth of 6 inches for the subsequent seeding or planting operations.

120-7.3 Compaction of Subgrade: If the plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in 120-9.5. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.

Where trenches for widening strips are not of sufficient width to permit the use of standard compaction equipment, perform compaction using vibratory rollers, trench rollers, or other type compaction equipment approved by the Engineer.

Maintain the required density until the base or pavement is placed on the subgrade.

120-8 Backfilling Around Structures and Pipe.

120-8.1 Requirements for all Structures:

120-8.1.1 General: Backfill around structures and pipe in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-8.1.2 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps, wellpoints and header pipe and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, perforated pipe drains, sumps and siphons.

120-8.1.3 Backfill Materials: Backfill to the original ground surface or subgrade surface of openings made for structures, with a sufficient allowance for settlement. The Engineer may require that the material used for this backfill be obtained from a source entirely apart from the structure.

Do not allow heavy construction equipment to cross over culvert or storm sewer pipes until placing and compacting backfill material to the finished earthwork grade or to an elevation at least 4 feet above the crown of the pipe.

120-8.1.4 Use of A-7 Material: In the backfilling of trenches, A-7 material may be used from a point 12 inches above the top of the pipe up to the elevation shown on the FDOT Design Standards as the elevation for undercutting of A-7 material.

120-8.1.5 Time of Placing Backfill: Do not place backfill against any masonry or concrete abutment, wingwall, or culvert until the Engineer has given permission to do so, and in no case until the masonry or concrete has been in place seven days or until the specified 28-day compressive strength occurs.

120-8.1.6 Placement and Compaction: When the backfill material is deposited in water, compact per 120-8.2.5 and 120-8.3.4. Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. The Engineer may approve placing material in thicker lifts of no more than 12 inches compacted thickness above the soil envelope if a test section demonstrates the required density can be achieved. Approval will be based on five passing density tests over the test

section consisting of a lift of backfill from structure to structure. The Engineer will identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. The Engineer reserves the right to terminate the Contractor's use of thick lift construction and have him revert to the 6 inch compacted lifts whenever it is determined that satisfactory results are not being obtained.

120-8.2 Additional Requirements for Structures Other than Pipe:

120-8.2.1 Density: Where the backfill material is deposited in water, obtain a 12 inch layer of comparatively dry material, thoroughly compacted by tamping, before the Engineer verifies layer and density requirements. Meet the requirements of the density Acceptance Criteria.

120-8.2.2 Box Culverts: For box culverts over which pavement is to be constructed, compact around the structure to an elevation not less than 12 inches above the top of the structure, using rapid-striking mechanical tampers.

120-8.2.3 Other Limited Areas: Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in². Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

120-8.2.4 Culverts and Piers: Backfill around culverts and piers on both sides simultaneously to approximately the same elevation.

120-8.2.5 Compaction Under Wet Conditions: Where wet conditions do not permit the use of mechanical tampers, compact using hand tampers. Use only A-3 material for the hand tamped portions of the backfill. When the backfill has reached an elevation and condition such as to make the use of the mechanical tampers practical, perform mechanical tamping in such manner and to such extent as to transfer the compaction force into the sections previously tamped by hand.

120-8.3 Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:

120-8.3.1 General: Trenches for pipe may have up to four zones that must be backfilled.

Lowest Zone: The lowest zone is backfilled for deep undercuts up to within 4 inches of the bottom of the pipe.

Bedding Zone: The zone above the Lowest Zone is the Bedding Zone. Usually it will be the backfill which is the 4 inches of soil below the bottom of the pipe. When rock or other hard material has been removed to place the pipe, the Bedding Zone will be the 12 inches of soil below the bottom of the pipe.

Cover Zone: The next zone is backfill that is placed after the pipe has been laid and will be called the Cover Zone. This zone extends to 12 inches above the top of the pipe. The Cover Zone and the Bedding Zone are considered the Soil Envelope for the pipe.

Top Zone: The Top Zone extends from 12 inches above the top of the pipe to the base or final grade.

120-8.3.2 Material:

120-8.3.2.1 Lowest Zone: Backfill areas undercut below the Bedding Zone of a pipe with coarse sand, or other suitable granular material, obtained from the grading operations on the project, or a commercial material if no suitable material is available.

120-8.3.2.2 Soil Envelope: In both the Bedding Zone and the Cover Zone of the pipe, backfill with materials classified as A-1, A-2, or A-3. Material classified as A-4 may be used if the pipe is concrete pipe.

120-8.3.2.3 Top Zone: Backfill the area of the trench above the soil envelope of the pipe with materials allowed on Design Standard, Index No. 505.

120-8.3.3 Compaction:

120-8.3.3.1 Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.

120-8.3.3.2 Bedding Zone: If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.

If the trench was undercut, place the bedding material and leave it in a loose condition below the middle third of the outside diameter of the pipe. Compact the outer portions to meet the density requirements of the Acceptance Criteria. Place the material in lifts no greater than 6 inches (compacted thickness).

120-8.3.3.3 Cover Zone: Place the material in 6 inches layers (compacted thickness), evenly deposited on both sides of the pipe, and compact with mechanical tampers suitable for this purpose. Hand tamp material below the pipe haunch that cannot be reached by mechanical tampers. Meet the requirements of the density Acceptance Criteria.

120-8.3.3.4 Top Zone: Place the material in layers not to exceed 12 inches in compacted thickness. Meet the requirements of the density Acceptance Criteria.

120-8.3.4 Backfill Under Wet Conditions: Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.

Granular material may be used below the elevation at which mechanical tampers would be effective, but only material classified as A-3. Place and compact the material using tampers or hand tampers until the backfill reaches an elevation such that its moisture content will permit the use of mechanical tampers. When the backfill has reached such elevation, use normally acceptable backfill material. Compact the material using mechanical tampers in such manner and to such extent as to transfer the compacting force into the material previously tamped by hand.

120-9 Acceptance Program.

120-9.1 Density over 105%: When a computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, the Engineer will perform a second density test within 5 feet. If the second density results in a value greater than 105%, investigate the compaction methods, examine the applicable Maximum Density and material description. If necessary, the Engineer will test an additional sample for acceptance in accordance with AASHTO T 99, Method C.

120-9.2 Maximum Density Determination: The Engineer will determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in 120-9.3.

120-9.3 Density Testing Requirements: Compliance with the requirements of 120-9.5 will be determined in accordance FM 1-T 238. The in-place moisture content will be determined

for each density in accordance with FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven).

120-9.4 Soil Classification: The Engineer will perform soil classification tests in accordance with AASHTO T-88, and classify soils in accordance with AASHTO M-145 (Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes) in order to determine compliance with embankment utilization requirements.

120-9.5 Acceptance Criteria: The Engineer will accept a minimum density in accordance with 120-7.2 with the following exceptions:

- 1) embankment constructed by the hydraulic method as specified in 120-6.3;
- 2) material placed outside the standard minimum slope as specified in 120-6.2.4;
- 3) other areas specifically excluded herein.

120-9.6 Frequency: The Engineer will conduct sampling and testing at a minimum frequency listed in the table below.

Test Name	Frequency
Maximum Density	One per soil type
Density	1 per 500' RDWY (Alt Lift)
Soil Classification	One per Maximum Density

120-10 Maintenance and Protection of Work.

While construction is in progress, maintain adequate drainage for the roadbed at all times. Maintain a shoulder at least 3 feet wide adjacent to all pavement or base construction in order to provide support for the edges.

Maintain and protect all earthwork construction throughout the life of the Contract, and take all reasonable precautions to prevent loss of material from the roadway due to the action of wind or water. Repair any slides, washouts, settlement, subsidence, or other mishap which may occur prior to final acceptance of the work. Maintain all channels excavated as a part of the Contract work against natural shoaling or other encroachments to the lines, grades, and cross-sections shown in the plans, until final acceptance of the project.

120-11 Construction.

120-11.1 Construction Tolerances: Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the plan cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the plan cross-section.
2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
3. Shape the bottom of ditches so that the ditch impounds no water.
4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the plans.

120-11.2 Operations Adjacent to Pavement: Carefully dress areas adjacent to pavement areas to avoid damage to such pavement. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

When shoulder dressing is underway adjacent to a pavement lane being used to maintain traffic, exercise extreme care to avoid interference with the safe movement of traffic.

120-12 Method of Measurement.

120-12.1 Excavation: Excavation will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Measurement for payment will include the excavation of unsuitable material, lateral ditch excavation, channel excavation, and excavation for structures and pipe. Payment will not be made for excavation or embankment beyond the limits shown in the plans or authorized by the Engineer.

120-12.2 Embankment: Measurement will be made on a loose volume basis, as measured in trucks or other hauling equipment at the point of dumping on the road. Payment will not be made for embankment beyond the limits shown in the plans or authorized by the Engineer.

120-13 Basis of Payment.

120-13.1 General: Prices and payments for the work items included in this Section will be full compensation for all work described herein, including excavating, dredging, hauling, placing, and compacting; dressing the surface of the earthwork; and maintaining and protecting the complete earthwork.

120-13.2 Excavation: The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation. No payment will be made for the excavation of any materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

120-13.3 Embankment: The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment. No payment will be made for materials which are used for purposes other than those shown in the plans or designated by the Engineer. No payment will be made for materials placed outside the lines and grades given by the Engineer.

SUPERPAVE ASPHALT FOR LAP (OFF-SYSTEM). (REV 1-26-15) (FA 1-29-15)

SECTION 334 SUPERPAVE ASPHALT FOR LAP (OFF-SYSTEM)

334-1 Description.

334-1.1 General: Construct a Superpave asphalt pavement (consisting of either Hot Mix Asphalt (HMA) or Warm Mix Asphalt (WMA)) based on the type of work specified in the

Contract and the Asphalt Work Categories as defined below. Meet the applicable requirements for plants, equipment, and construction requirements as defined below. Use an asphalt mix, either HMA or WMA, which meets the requirements of this specification.

334-1.2 Asphalt Work Mix Categories: Construction of asphalt pavement will fall into one of the following work categories:

334-1.2.1 Asphalt Work Category 1: Includes the construction of shared use paths and miscellaneous asphalt.

334-1.2.2 Asphalt Work Category 2: Includes the construction of new asphalt turn lanes, paved shoulders and other non-mainline pavement locations.

334-1.2.3 Asphalt Work Category 3: Includes the construction of new mainline asphalt pavement lanes, milling and resurfacing.

334-1.3 Mix Types: Use the appropriate asphalt mix as shown in Table 334-1.

Asphalt Work Category	Mix Types	Traffic Level	ESALs (millions)
1	Type SP-9.5	A	<0.3
2	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	B	0.3 to <3
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C	≥3

A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost (i.e. Traffic Level B may be substituted for Traffic Level A, etc.). Traffic levels are as defined in Section 334 of the Florida Department of Transportation's (FDOT's) Specifications.

334-1.4 Gradation Classification: The Superpave mixes are classified as fine and are defined in 334-3.2.2. The equivalent AASHTO nominal maximum aggregate size Superpave mixes are as follows:

- Type SP-9.5, FC-9.5 9.5 mm
- Type SP-12.5, FC-12.5 12.5 mm

334-1.5 Thickness: The total pavement thickness of the asphalt pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

$$\text{Spread rate (lbs/yd}^2\text{)} = t \times G_{mm} \times 43.3$$

where: t = Thickness (in.) (Plan thickness or individual layer thickness)
 G_{mm} = Maximum specific gravity from the mix design

For target purposes only, spread rate calculations shall be rounded to the nearest whole number.

334-1.5.1 Layer Thicknesses: Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for asphalt mixtures are as follows:

Type SP-9.5, FC-9.53/4 to 1-1/2 inches

Type SP-12.5, FC-12.5 1-1/2 to 2-1/2 inches

334-1.5.2 Additional Requirements: The following requirements also apply to asphalt mixtures:

1. When construction includes the paving of adjacent shoulders (less than or equal to 5 feet wide), the layer thickness for the upper pavement layer and shoulder shall be the same and paved in a single pass, unless otherwise called for in the Contract Documents.

2. For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by 1/2 inch, and the maximum allowable thickness will be as specified below, unless called for differently in the Contract Documents.

Type SP-9.5.....3/8 to 2 inches

Type SP-12.5.....1/2 to 3 inches

3. Variable thickness overbuild layers may be tapered to zero thickness provided the contract documents require a minimum of 1-1/2 inches of mix placed over the variable thickness overbuild layer.

334-1.6 Weight of Mixture: The weight of the mixture shall be determined as provided in 320-3.2 of the FDOT Specifications.

334-2 Materials.

334-2.1 Superpave Asphalt Binder: Unless specified elsewhere in the Contract or in 334-2.3.3, use a PG 67-22 asphalt binder from the FDOT's Approved Products List (APL). If the Contract calls for an alternative asphalt binder, meet the requirements of FDOT Specifications Section 336 or 916, as appropriate.

334-2.2 Aggregate: Use aggregate capable of producing a quality pavement.

For Type FC mixes, use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

1. Up to 40% fine aggregate from other sources; or,
2. A combination of up to 20% RAP and the remaining fine aggregate

from other sources.

A list of aggregates approved for use in friction courses may be available on the FDOT's State Materials Office website. The URL for obtaining this information, if available, is: <ftp://ftp.dot.state.fl.us/fdot/smo/website/sources/frictioncourse.pdf>.

334-2.3 Reclaimed Asphalt Pavement (RAP) Material:

334-2.3.1 General requirements: RAP may be used as a component of the asphalt mixture, provided the RAP meets the following requirements:

1. When using a PG 76-22 (PMA), or PG 76-22 (ARB) asphalt binder, limit the amount of RAP material used in the mix to a maximum of 20% by weight of total aggregate. As an exception, amounts greater than 20% RAP by weight of total aggregate can be used if no more than 20% by weight of total asphalt binder comes from the RAP material.
2. Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines.
3. Provide RAP material having a minimum average asphalt binder content of 4.0% by weight of RAP. As an exception, when using fractionated RAP, the minimum average asphalt binder content for the coarse portion of the RAP shall be 2.5% by weight of the coarse portion of the RAP. The coarse portion of the RAP shall be the portion of the RAP retained on the No. 4 sieve. The Engineer may sample the stockpile to verify that this requirement is met.
4. Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

334-2.3.2 Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, and bulk specific gravity (G_{sb}) of the RAP material based on a representative sampling of the material.

334-2.3.3 Asphalt Binder for Mixes with RAP: Select the appropriate asphalt binder grade based on Table 334-2. The Engineer reserves the right to change the asphalt binder type and grade during production based on characteristics of the RAP asphalt binder.

Percent RAP	Asphalt Binder Grade
0 - 15	PG 67-22
16 – 30	PG 58-22
> 30	PG 52-28

334-3 Composition of Mixture.

334-3.1 General: Compose the asphalt mixture using a combination of aggregates, mineral filler, if required, and asphalt binder material. Size, grade and combine the aggregate fractions to meet the grading and physical properties of the mix design. Aggregates from various sources may be combined.

334-3.2 Mix Design:

334-3.2.1 General: Design the asphalt mixture in accordance with AASHTO R 35-12, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer’s conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to

a laboratory designated by the Engineer for verification. As an exception to these requirements, use a currently approved FDOT Mix Design.

Warm mix technologies (additives, foaming techniques, etc.) listed on the Department’s website may be used in the production of the mix. The URL for obtaining this information, is:

<http://www.dot.state.fl.us/statematerialsoffice/quality/programs/warmmixasphalt/index.shtm>.

The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

334-3.2.2 Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M 323-12, Table 3. Aggregates from various sources may be combined.

334-3.2.2.1 Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45 Power Gradation Chart. Include the Control Points from AASHTO M323-12, Table-3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323-12, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point.

334-3.2.3 Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312-12, with the following exceptions: use the number of gyrations at N_{design} as designed in Table 334-3.

Table 334-3 Gyratory Compaction Requirements	
Traffic Level	N_{design} Number of Gyrations
A	50
B	65
C	75

334-3.2.4 Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO M323-12, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323-12, Table 6. $N_{initial}$ and $N_{maximum}$ requirements are not applicable.

334-3.2.5 Moisture Susceptibility: Test 4 inch specimens in accordance with FDOT Test Method FM 1-T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 pounds per square inch. If necessary, add a liquid anti-stripping agent from the FDOT’s APL or hydrated lime in order to meet these criteria.

In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT’s APL. Add 0.5% liquid anti-stripping agent by weight of asphalt binder.

334-3.2.6 Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1. The design traffic level and the design number of gyrations (N_{design}).
2. The source and description of the materials to be used.

3. The FDOT source number and the FDOT product code of the aggregate components furnished from an FDOT approved source (if required).

4. The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use. Compensate for any change in aggregate gradation caused by handling and processing as necessary.

5. A single percentage of the combined mineral aggregate passing each specified sieve. Degradation of the aggregate due to processing (particularly material passing the No. 200 sieve) should be accounted for and identified.

6. The bulk specific gravity (G_{sb}) value for each individual aggregate and RAP component.

7. A single percentage of asphalt binder by weight of total mix intended to be incorporated in the completed mixture, shown to the nearest 0.1%.

8. A target temperature for the mixture at the plant (mixing temperature) and a target temperature for the mixture at the roadway (compaction temperature). Do not exceed a target temperature of 330°F for PG 76-22 (PMA) and PG 76-22 (ARB) asphalt binders, and 315°F for unmodified asphalt binders.

9. Provide the physical properties achieved at four different asphalt binder contents. One shall be at the optimum asphalt content, and must conform to all specified physical requirements.

10. The name of the mix designer.

11. The ignition oven calibration factor.

12. The warm mix technology, if used.

334-4 Process Control.

Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and roadway to control the process.

334-5 General Construction Requirements.

334-5.1 Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the paving operations.

334-5.2 Limitations of Paving Operations:

334-5.2.1 General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, dry, clean, and the tack, with acceptable spread rate, is properly broken. Ensure all granular base materials are properly primed and all asphalt base materials are properly tacked, prior to paving.

334-5.2.2 Air Temperature: Place the mixture only when the air temperature in the shade and away from the artificial heat meets the requirements of Table 334-4. The minimum ambient temperature requirement may be reduced by 5°F when using a warm mix technology, if mutually agreed to by both the Engineer and the Contractor. Table 334-4 Ambient Air Temperature Requirements for Paving	
Layer Thickness or Asphalt Binder Type	Minimum Temperature (°F)
≤1 inch	50
Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation ≥ 76°C	45

Any mixture > 1 inch containing a PG asphalt binder with a high temperature designation < 76°C	40
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334-5.3 Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of plus or minus 30°F from the target temperature as shown on the mix design. Reject all loads outside of this range. For warm mix asphalt, the Contractor may produce the first five loads of the production day and at other times when approved by the Engineer, at a hot mix asphalt temperature not to exceed 330°F for purposes of heating the asphalt paver. For these situations, the upper tolerance of +30°F does not apply.

334-5.4 Transportation of the Mixture: Transport the mix in trucks of tight construction, which prevents the loss of material and the excessive loss of heat and previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use a release agent that will contaminate, degrade, or alter the characteristics of the asphalt mix or is hazardous or detrimental to the environment. Petroleum derivatives (such as diesel fuel), solvents, and any product that dissolves asphalt are prohibited. Provide each truck with a tarpaulin or other waterproof cover mounted in such a manner that it can cover the entire load when required. When in place, overlap the waterproof cover on all sides so it can be tied down. Cover each load during cool and cloudy weather and at any time it appears rain is likely during transit with a tarpaulin or waterproof cover. Cover and tie down all loads of friction course mixtures.

334-5.5 Preparation of Surfaces Prior to Paving:

334-5.5.1 Cleaning: Clean the surface of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

334-5.5.2 Patching and Leveling Courses: As shown in the plans, bring the existing surface to proper grade and cross-section by the application of patching or leveling courses.

334-5.5.3 Application over Surface Treatment: Where an asphalt mix is to be placed over a surface treatment, sweep and dispose of all loose material from the paving area.

334-5.5.4 Tack Coat: Use a rate of application as defined in Table 334-5. Control the rate of application to be within plus or minus 0.01 gallon per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine the rate of application as needed to control the operation. When using PG 52-28, multiply the target rate of application by 0.6.

Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd ²)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.03 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Concrete Pavement	0.08

334-5.6 Placing Mixture:

334-5.6.1 Alignment of Edges: With the exception of pavements placed adjacent to curb and gutter or other true edges, place all pavements by the stringline method to obtain an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than plus or minus 1.5 inches from the stringline.

334-5.6.2 Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in 334-5.3, the Contractor may then place the mixture caught in transit.

334-5.6.3 Checking Depth of Layer: Check the depth of each layer at frequent intervals to ensure a uniform spread rate that will meet the requirements of the Contract.

334-5.6.4 Hand Work: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

334-5.6.5 Spreading and Finishing: Upon arrival, dump the mixture in the approved paver, and immediately spread and strike-off the mixture to the full width required, and to such loose depth for each course that, when the work is completed, the required weight of mixture per square yard, or the specified thickness, is secured. Carry a uniform amount of mixture ahead of the screed at all times.

334-5.6.6 Thickness Control: Ensure the spread rate is within 10% of the target spread rate, as indicated in the Contract. When calculating the spread rate, use, at a minimum, an average of five truckloads of mix. When the average spread rate is beyond plus or minus 10% of the target spread rate, monitor the thickness of the pavement layer closely and adjust the construction operations.

If the Contractor fails to maintain an average spread rate within plus or minus 10% of the target spread rate for two consecutive days, the Engineer may elect to stop the construction operation at any time until the issue is resolved.

When the average spread rate for the total structural or friction course pavement thickness exceeds the target spread rate by plus or minus 50 pounds per square yard for layers greater than or equal to 2.5 inches or exceeds the target spread rate by plus or minus 25 pounds per square yard for layers less than 2.5 inches, address the unacceptable pavement in accordance with 334-5.10.4, unless an alternative approach is agreed upon by the Engineer.

334-5.7 Leveling Courses:

334-5.7.1 Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface as shown in the plans.

334-5.7.2 Spreading Leveling Courses: Place all courses of leveling with an asphalt paver or by the use of two motor graders, one being equipped with a spreader box. Other types of leveling devices may be used upon approval by the Engineer.

334-5.7.3 Rate of Application: When using Type SP-9.5 for leveling, do not allow the average spread of a layer to be less than 50 pounds per square yard or more than 75 pounds per square yard. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application

throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

334-5.8 Compaction: For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

When density testing for acceptance is required, select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

When density testing for acceptance is not required, use a rolling pattern approved by the Engineer.

Use hand tamps or other satisfactory means to compact areas which are inaccessible to a roller, such as areas adjacent to curbs, headers, gutters, bridges, manholes, etc.

334-5.9 Joints.

334-5.9.1 Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge meeting the requirements of FDOT Test Method FM 5-509. These requirements are waived for transverse joints at the beginning and end of the project and at the beginning and end of bridge structures, if the deficiencies are caused by factors beyond the control of the Contractor such as no milling requirement, as determined by the Engineer. When smoothness requirements are waived, construct a reasonably smooth transitional joint.

334-5.9.2 Longitudinal Joints: For all layers of pavement except the leveling course, place each layer so that longitudinal construction joints are offset 6 to 12 inches laterally between successive layers. Do not construct longitudinal joints in the wheel paths. The Engineer may waive these requirements where offsetting is not feasible due to the sequence of construction.

334-5.10 Surface Requirements: Construct a smooth pavement with good surface texture and the proper cross slope.

334-5.10.1 Texture of the Finished Surface of Paving Layers: Produce a finished surface of uniform texture and compaction with no pulled, torn, raveled, crushed or loosened portions and free of segregation, bleeding, flushing, sand streaks, sand spots, or ripples. Correct any area of the surface that does not meet the foregoing requirements in accordance with 334-5.10.4.

In areas not defined to be a density testing exception per 334-6.4.1, obtain for the Engineer, three 6 inch diameter roadway cores at locations visually identified by the Engineer to be segregated. The Engineer will determine the density of each core in accordance with FDOT Test Method FM 1-T 166 and calculate the percent G_{mm} of the segregated area using the average G_{mb} of the roadway cores and the representative PC G_{mm} for the questionable material. If the average percent G_{mm} is less than 90.0, address the segregated area in accordance with 334-5.10.4.

334-5.10.2 Cross Slope: Construct a pavement surface with cross slopes in compliance with the requirements of the Contract Documents.

334-5.10.3 Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FDOT Test Method FM 5-509.

334-5.10.3.1 Straightedge Testing:

334-5.10.3.1.1 Acceptance Testing: Perform straightedge testing in the outside wheel path of each lane for the final (top) layer of the pavement. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing.

334-5.10.3.1.2 Final (Top) Pavement Layer: At the completion of all paving operations, straightedge the final (top) layer either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with 334-5.10.4, unless waived by the Engineer. Retest all corrected areas.

334-5.10.3.1.3 Straightedge Exceptions: Straightedge testing will not be required in the following areas: shoulders, intersections, tapers, crossovers, sidewalks, shared use paths, parking lots and similar areas, or in the following areas when they are less than 250 feet in length: turn lanes, acceleration/deceleration lanes and side streets. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. In the event the Engineer identifies a surface irregularity in the above areas that is determined to be objectionable, straightedge and address all deficiencies in excess of 3/8 inch in accordance with 334-5.10.4.

334-5.10.4 Correcting Unacceptable Pavement: Correct deficiencies in the pavement layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides (where possible) of the defective area for the full width of the paving lane, at no additional cost.

334-6 Acceptance of the Mixture.

334-6.1 General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

1. Asphalt Work Category 1 – Certification by the Contractor as defined in 334-6.2.
2. Asphalt Work Category 2 – Certification and process control testing by the Contractor as defined in 334-6.3.
3. Asphalt Work Category 3 – Process control testing by the Contractor and acceptance testing by the Engineer as defined in 334-6.4.

334-6.2 Certification by the Contractor: On Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. Submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications. The Engineer may run independent tests to determine the acceptability of the material.

334-6.3 Certification and Process Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project meets the requirements of the Specifications, along with supporting test data documenting all process control testing as described in 334-6.3.1. If required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the process control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable

material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.3.1 Process Control Sampling and Testing Requirements: Perform process control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1-T 168. Test the mixture at the plant for gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). Measure the roadway density with 6 inch diameter roadway cores at a minimum frequency of once per 1,500 feet of pavement with a minimum of three cores per day.

Determine the asphalt binder content of the mixture in accordance with FDOT Method FM 5-563. Determine the gradation of the recovered aggregate in accordance with FDOT Method FM 1-T 030. Determine the roadway density in accordance with FDOT Method FM 1-T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. If the Contractor or Engineer suspects that the mix design G_{mm} is no longer representative of the asphalt mixture being produced, then a new G_{mm} value will be determined from plant-produced mix, in accordance with FDOT Method FM 1-T 209, with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in 334-6.4.1. Assure that the asphalt binder content, gradation and density test results meet the criteria in Table 334-4.

Table 334-4 Process Control and Acceptance Values	
Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (daily average)	Minimum 90.0% of G _{mm}

334-6.4 Process Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform process control testing as described in 334-6.3.1. In addition, the Engineer will accept the mixture at the plant with respect to gradation (P₈ and P₂₀₀) and asphalt binder content (P_b). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in 334-6.3.1. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 334-4. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer such as but not limited to acceptance at reduced pay, delineation testing to determine the limits of the questionable material, removal and replacement at no cost to the agency, or performing an Engineering analysis to determine the final disposition of the material.

334-6.4.1 Acceptance Testing Exceptions: When the total quantity of any mix type in the project is less than 500 tons, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, any asphalt layer placed on subgrade (regardless of type), miscellaneous asphalt pavement, shared use paths, crossovers, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 pounds per square yard. Density testing for acceptance will

not be performed on asphalt courses placed on bridge decks or approach slabs; compact these courses in static mode only. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet continuous in length: turning lanes, acceleration lanes, deceleration lanes, shoulders, parallel parking lanes, or ramps. Density testing for acceptance will not be performed in intersections. The limits of the intersection will be from stop bar to stop bar for both the mainline and side streets. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

334-7 Method of Measurement.

For the work specified under this Section, the quantity to be paid for will be the weight of the mixture, in tons.

The bid price for the asphalt mix will include the cost of the liquid asphalt and the tack coat application as specified in 334-5.5.4. There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix.

334-8 Basis of Payment.

334-8.1 General: Price and payment will be full compensation for all the work specified under this Section.

CONCRETE FOR LAP (OFF-SYSTEM).

(REV 12-20-11) (FA 2-27-12)

SECTION 344 CONCRETE FOR LAP (OFF-SYSTEM)

344-1 Description.

344-1 General: Construct concrete based on the type of work as described in the Contract and the concrete work categories as defined below.

344-1.2 Work Categories: Construction will fall into one of the following concrete work categories:

344-1.2.1 Concrete Work Category 1: Includes the construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in-place elements.

344-1.2.2 Concrete Work Category 2: Includes the construction of precast concrete including concrete barriers, traffic railing barriers, parapets, sound barriers, inlets, manholes, junction boxes, pipe culverts, storm sewers, box culverts, prestressed concrete poles, concrete bases for light poles, highway sign foundations, retaining wall systems, traffic separators or other structural precast elements.

344-1.2.3 Concrete Work Category 3: Includes the work associated with the placement and/or construction of structural cast-in-place concrete meeting the requirements of this section.

344-2 Materials.

344-2.1 General: Use concrete composed of a mixture of Portland cement, aggregates, and water, with or without chemical or mineral admixtures that meet the following requirements:

344-2.1.1 Portland Cement: Portland cements meeting the requirements of AASHTO M-85 or ASTM C-150 is required. Different brands of cement, cement of the same brand from different facilities or different types of cement shall be stored separately and shall not be mixed.

344-2.1.2 Coarse and Fine Aggregates: Aggregates shall meet ASTM C 33. Source approval by the FDOT is not required.

344-2.1.3 Water: Water shall meet the requirements of ASTM C 1602.

344-2.1.4 Chemical Admixtures: Chemical admixtures shall be listed on the FDOT Qualified Products List. Admixtures may be added at the dosage rates recommended by the manufacturer.

344-2.1.5 Pozzolans and Slag: Pozzolans and Slag shall meet the requirements of Table 344-1. Fly ash shall not include the residue resulting from the burning of municipal garbage or any other refuse with coal, or the burning of industrial or municipal garbage in incinerators.

Table 344-1		
Type or Class	Test Method	Exceptions
Class C Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Class F Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.
Petroleum Coke Class F	ASTM C 618	Not to be used with Types IP or IS cements.
Bark Ash Class F	ASTM C 618	Not to be used with Types IP or IS cements.
Silica Fume	ASTM C 1240	
Metakaolin	ASTM C 618	
Slag	ASTM C 989	Use only ground granulated blast-furnace slag grade 100 or 120.
Ultra Fine Fly Ash	ASTM C 618	Not to be used with Types IP or IS cements.

344-3 Production, Mixing and Delivery of Concrete.

344-3.1 Concrete Production Requirements:

344-3.1.1 Category 1: Use a concrete production facility that is certified by the National Ready Mixed Concrete Association (NRMCA) or listed on the FDOT list of non-structural concrete producers. Concrete production facilities listed on the FDOT Producers with Accepted QC Programs list for structural concrete may also be used for Category 1.

344-3.1.2 Category 2: Use a prestressed and or precast facility listed on the FDOT Producers with Accepted QC Programs for precast or prestressed concrete.

344-3.1.3 Category 3: Use a structural concrete facility listed on the FDOT Producers with Accepted QC Programs for structural concrete.

344-3.2 Classes of Concrete: Meet the requirements of Table 344-2.

Table 344-2						
Class	Minimum Strength (28 day) (psi)	Target Slump (inches)	Target Range (inches)	Air Content Range (%)	Minimum Total Cementitious Materials Content (lb/yd ³)	Maximum Water to Cementitious Material Ratio (lb/lb)
Category 1						

Class NS	2,500	N/A	N/A	N/A	N/A	N/A
Category 3						
I	3,000	3	± 1.5	1.0 to 6.0	470	0.53
I (Pavement)	3,000	2	± 1.5	1.0 to 6.0	470	0.50
II	3,400	3	± 1.5	1.0 to 6.0	470	0.53
II (Bridge Deck)	4,500	3	± 1.5	1.0 to 6.0	611	0.44
III	5,000	3	± 1.5	1.0 to 6.0	611	0.44
III (Seal)	3,000	8	± 1.5	1.0 to 6.0	611	0.53
IV	5,500	3	± 1.5	1.0 to 6.0	658	0.41
IV (Drilled Shaft)	4,000	8.5	± 1.5	0.0 to 6.0	658	0.41
V (Special)	6,000	3	± 1.5	1.0 to 6.0	752	0.37
V	6,500	3	± 1.5	1.0 to 6.0	752	0.37
VI	8,500	3	± 1.5	1.0 to 6.0	752	0.37

344-3.3 Contractors Quality Control: For Categories 1 and 2, assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times.

For Category 3, furnish a Quality Control (QC) plan to identify to the Engineer how quality will be ensured at the project site. During random inspections, the Engineer will use this document to verify that the construction of the project is in agreement with the QC plan.

344-3.4 Concrete Mix Design: Before producing any Category 1 or Category 2, submit the proposed mix designs to the Engineer on a form provided by the Engineer. For Category 3, submit to the Engineer for approval, FDOT approved mix designs. Do not use concrete mix designs without prior approval of the Engineer.

Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments on an Engineer approved concrete delivery ticket.

344-3.5 Delivery: For Category 3, the maximum allowable transit time of concrete is 90 minutes.

Furnish a delivery ticket on a form approved by the Engineer with each batch of concrete before unloading at the placement site. Record material quantities incorporated into the mix on the delivery ticket. Ensure that the Batcher responsible for producing the concrete signs the delivery ticket certifying that the batch was produced and delivered in accordance with these requirements. Sign the delivery ticket certifying that the concrete was placed in accordance with these requirements.

344-3.6 Placing Concrete:

344-3.6.1 Concreting in Cold Weather: Do not mix or place concrete when the air temperature at placement is below 45°F.

During the curing period, if NOAA predicts the ambient temperature to fall below 35°F for 12 hours or more or to fall below 30°F for more than 4 hours, enclose the structure in such a way that the air temperature within the enclosure can be kept above 50°F for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi.

Assume all risks connected with the placing and curing of concrete. Although the Engineer may give permission to place concrete, the Contractor is responsible for

satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the Agency.

344-3.6.2 Concreting in Hot Weather: For Category 3, hot weather concreting is defined as the production, placing and curing of concrete when the concrete temperature at placing exceeds 86°F but is less than 100°F.

Unless the specified hot weather concreting measures are in effect, reject concrete exceeding 86°F at the time of placement. Regardless of special measures taken, reject concrete exceeding 100°F. Predict the concrete temperatures at placement time and implement hot weather measures to avoid production shutdown.

344-3.7 Mixers: For Category 3 concrete, do not place concrete from a truck mixer that does not have a current FDOT mixer identification card.

344-3.8 Small Quantities of Concrete: With approval of the Engineer, small quantities of concrete, less than 3 cubic yards placed in one day and less than 0.5 cubic yards placed in a single placement may be accepted using a pre-bagged mixture. The Engineer may verify that the pre-bagged mixture is prepared in accordance with the manufacturer's recommendations and will meet the requirements of this Specification.

344-3.9 Sampling and Testing:

344-3.9.1 Category 1: The Engineer may sample and test the concrete to verify its quality. The minimum 28 day compressive strength requirement for this concrete is 2,500 psi.

344-3.9.2: Category 2: No sampling and testing is required for category 2.

344-3.9.3 Category 3: The Engineer will randomly select a sample from each 200 cubic yards or one day's production to determine plastic properties and to make three 4 x 8 inch cylinders for testing by the Engineer at 28 days to ensure that the design compressive strength has been met for the class of concrete as specified in Table 344-2.

344-3.10 Records: Ensure the following records are available for review for at least 3 years after final acceptance of the project:

1. Approved concrete mix designs.
2. Materials source (delivery tickets, certifications, certified mill test reports).
3. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.
4. A copy of the documentation certifying the admixture weighing/measuring devices.

344-4 Acceptance of the Work.

344-4.1 Category 1 Work: Category 1 work will be accepted based on certification by the batcher and contractor on the delivery ticket.

344-4.2 Category 2 Work: Certify that the precast elements were produced by a production facility on the FDOT's list of Producers with Accepted QC Programs for precast or prestressed concrete. In addition, the producer's logo shall be stamped on the element. The producer shall not use the Florida Department of Transportation QC stamp on elements used on this project. Provide a statement of certification from the manufacturer of the precast element that the element meets the requirements of this Specification.

344-4.3 Category 3 Work: Category 3 concrete will be accepted based on the Engineer's test results for plastic properties and compressive strength requirements for the class of concrete as defined in Table 344-2. In addition, a Delivery Ticket as described in 344-3.5 will be required for acceptance of the material at the project site.

344-4.4 Small Quantities of Concrete: Category 3 concrete meeting the definition of 344-3.8 will be accepted in accordance with 344-4.3 based on test results for plastic properties and compressive strength.

344-5 Method of Measurement.

The quantities to be paid for will be the items shown in the plans, completed and accepted.

344-6 Basis of Payment.

Prices and payments will be full compensation for all work and materials specified in this Section.

**THIS COMPLETES
THIS
SPECIFICATIONS
PACKAGE**