BIDDING DOCUMENTS

LAKE NONA SPORTS DISTRICT
SUPPLEMENTAL SIGNING

PROJECT NO. 417-625
CONTRACT NO. 001256

BID DUE DATE: OCTOBER 24, 2016

CENTRAL FLORIDA
EXPRESSWAY AUTHORITY

INVITATION TO BID, INSTRUCTIONS TO BIDDERS,
GENERAL SPECIFICATIONS, TECHNICAL SPECIFICATIONS,
SPECIAL PROVISIONS, PROPOSAL, CONTRACT AND FORMS
CENTRAL FLORIDA EXPRESSWAY AUTHORITY

INVITATION TO BID, INSTRUCTIONS TO BIDDERS, GENERAL SPECIFICATIONS,
TECHNICAL SPECIFICATIONS, SPECIAL PROVISIONS,
PROPOSAL, CONTRACT AND FORMS

FOR

LAKE NONA SPORTS DISTRICT
SUPPLEMENTAL SIGNING

PROJECT NO. 417-625
CONTRACT NO. 001256

OCTOBER 2016
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INVITATION TO BID
THE CENTRAL FLORIDA EXPRESSWAY AUTHORITY
ORLANDO, FLORIDA

Sealed Bids for the work generally described below will be received on October 24, 2016, in the headquarters office of the Central Florida Expressway Authority, 4974 ORL Tower Road, Orlando, Florida 32807 until 1:30 p.m., Orlando local time, as shown on the time/date stamp clock at the receptionist’s desk in the lobby. The clock will serve as the official instrument to determine when a bid is received. A submittal that is received after the date/time specified will be rejected. Rejection of a submittal under those circumstances shall not be the basis of a protest pursuant to the CFX Procedure for Resolution of Protests.

LAKE NONA SPORTS DISTRICT SUPPLEMENTAL SIGNING
PROJECT NO. 417-625; CONTRACT NO. 001256

The work consists of providing all labor, materials, equipment and incidentals necessary to fabricate and install supplemental signage for the Lake Nona Sports District; two signs (one in each direction) would be placed on the S.R. 417 Mainline, and two signs (one at each ramp) at the Lake Nona Boulevard exit in Orange County, Florida.

The Contract time for this project will be 50 calendar days.

At the time of Bid submittal, Bidder as the “prime” contractor must be prequalified by the Florida Department of Transportation under Administrative Rule 14-22, Florida Administrative Code, in Roadway Signing. A copy of the Bidder’s current Certificate of Qualification in the specified class of work shall be submitted with the Bid. Failure to submit the certificate may result in rejection of the Bid. Prequalification is required irrespective of the contract amount.

Bidder shall comply with the applicable provisions of the Fair Labor Standards Act.

The Central Florida Expressway Authority, in accordance with the Provisions of Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e et seq., the Florida Civil Rights Act of 1992, as amended, § 760.10 et seq., Fla. Stat. (1996), and other federal and state discrimination statutes, prohibits discrimination on the basis of race, color, sex, age, national origin, religion, and disability or handicap. CFX notifies all Bidders and individuals it requires and encourages equal employment opportunity for minority and women as employees and subcontractors.
CFX notifies all Bidders it encourages small, minority and women owned businesses to have full opportunity to submit Bids in response to this invitation and Bidders will not be discriminated against on the basis of sex, race, color, national origin, religion or disability, or other protected status. CFX will require efforts be made to encourage participation of local minority and women business enterprises on contracts considered for an award. Bidders requiring assistance or information with regard to DBE/MBE/WBE certification and utilization may contact the CFX Supplier Diversity Department at (407) 690-5000.

From the first date of publication of this invitation, no person may contact any CFX Board Member, Officer or Employee with respect to this invitation or the services to be provided. Reference is made to the lobbying guidelines of CFX for further information regarding this Non-Solicitation Provision.

All work shall be done in accordance with the Bidding Documents of the Central Florida Expressway Authority.

It is CFX’s intent to award the project to the lowest responsive and responsible Bidder. CFX specifically reserves the right to take a Bidder’s past performance with the CFX (and others) into consideration in determining whether the Bidder and Bid are responsive, responsible and qualified and most advantageous to CFX.

By submitting its Bid, the Bidder is signifying its awareness and understanding that the Bid process will be subject in all respects to the provisions of applicable laws, rules and regulations and the policies of CFX (as they may be amended or modified from time to time).

Pursuant to Florida Statutes, Section 119.07(1), upon the earlier to occur of (i) CFX’s Notice of Award of the contract, or (ii) thirty days after Bid opening, all Bids submitted pursuant to this Invitation to Bid (including all components thereof and all other materials submitted in connection therewith) shall become public records. Thereafter (with very limited exceptions) all Bids, proposals, documents, letters, software and other materials submitted to CFX by on behalf of any Bidder (including material that a Bidder may consider confidential or proprietary) may be inspected, examined and copied by any person desiring to do so in accordance with Florida Statutes, Chapter 119. It is not necessary for any person to obtain the consent of CFX, or the Bidder, to exercise its right under Chapter 119.

Any Bidder adversely affected by: (i) Bid specifications, (ii) a notice of an intended decision (including, but not limited to, a Notice of Intent to Award or Notice of Intent to Reject), or (iii) a decision (including, but not limited to a Notice of Award of Contract), who desires to protest must comply with the proper procedures in the Central Florida Expressway Authority’s Procedure for Resolution of Protests, Rule Chapter 3-1, which is available for review upon request at the CFX Office, 4974 ORL Tower Road, Orlando, Florida. Failure to comply with Rule Chapter 3-1 shall constitute a waiver of any right to initiate protest proceedings. A protest bond in the amount of $5,000.00 is required to protest the Bid package or Bid solicitation. A protest bond in the amount of $5,000.00, or 1% of the lowest bid submitted, whichever is greater, will be required to protest a Notice of Award or Notice of Rejection of Bids.
The Bidding Documents for this Project consist of the specifications and the construction plans set which may be downloaded from Doing Business With Us at www.cfxway.com/DoingBusinessWithUs/Procurement/ProcurementAccountLogineProcurementRegistrati.aspx commencing October 10, 2016. Registration is required in order to download.

Each Bid must be submitted in a separate sealed envelope with the name of the Bidder, Bidder’s address, and the project number written on the outside. For information and question submission concerning this project during the Bidding process, email: Constructionproject417-625@cfxway.com

All Bids shall remain open for acceptance by CFX for ninety (90) calendar days after the day of the Bid opening. The right is reserved by CFX to reject any or all Bids.

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Aneth Williams
Director of Procurement
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INSTRUCTIONS TO BIDDERS

1.0 Defined Terms

Terms used in these Instructions to Bidders have the meanings assigned to them in the General Specifications.

Certain additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof and all genders.

1.1 Apparent Successful Bidder - The lowest, responsible and responsive Bidder to whom CFX (on the basis of CFX’s evaluation as hereinafter provided) names in a Notice of Award of Contract.

1.2 Bidder - One who submits a bid directly to CFX as distinct from sub-bidder, who submits a bid to a Bidder.

1.3 Bidding Documents - The Invitation to Bid, Instructions to Bidders, Plans, the bid form, and the proposed Contract Documents (including all addenda issued prior to receipt of bids).

1.4 Successful Bidder - The lowest, responsible and responsive Bidder to whom CFX (on the basis of CFX’s evaluation as hereinafter provided) makes an award.

2.0 Copies of Bidding Documents

2.1 Bid documents, specifications and construction plans may be downloaded from www.cfxway.com/DoingBusinessWithUs/Procurement/ProcurementAccountLogineProcurementRegistrati.aspx commencing October 10, 2016. Bidder registration is required to access bidding documents. Instructions for registration are provided on the website.

2.2 Complete sets of Bidding Documents must be used in preparing bids; CFX assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 CFX, in making copies of Bidding Documents available on the above terms, does so only for the purpose of obtaining bids for the work and does not confer a license or grant for any other use.

2.4 Although the Bidding Documents have been made available to various plans rooms (some of whom may post the same on the internet) for convenience, prospective bidders may only rely on full plan sets, specifications, and addenda obtained directly from CFX and bids will only be accepted from such planholders of record.
3.0 Qualifications of Bidders

At the time of Bid submittal, Bidder as the “prime” contractor must be prequalified by the Florida Department of Transportation under Administrative Rule 14-22, Florida Administrative Code, in Roadway Signing. A copy of the Bidder’s current Certificate of Qualification in the specified class of work shall be submitted with the Bid. Failure to submit the certificate may result in rejection of the Bid. Prequalification is required irrespective of the contract amount.

4.0 Examination of Contract Documents and Site

4.1 It is the responsibility of each Bidder before submitting a bid:

4.1.1 To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents;

4.1.2 To visit the sites to become familiar with and satisfy Bidder as to the general, local and site conditions that may affect cost, progress, performance, or furnishing of the work;

4.1.3 To consider federal, state, and local laws and regulations that may affect cost, progress, performance or furnishing of the work;

4.1.4 To study and carefully correlate Bidder’s knowledge and observations with the Contract Documents and such other related data; and

4.1.5 To promptly notify CFX of all conflicts, errors, ambiguities or discrepancies which Bidder has discovered in or between the Contract Documents and such other related documents.

4.2 Information and data shown or indicated in the Contract Documents with respect to existing underground facilities at or contiguous to the site is based upon information and data furnished to CFX and Engineer of Record by owners of such underground facilities or others, and CFX and Engineer of Record do not assume responsibility for the accuracy or completeness thereof.

4.3 Before submitting a bid each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and underground facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or performing and furnishing the work in accordance with the time, price, and other terms and conditions of the Contact Documents.
4.4 On request, CFX will provide each Bidder access to the sites to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a bid. Bidder must fill all holes and clean up and restore the site to its former conditions upon completion of such explorations, investigations, tests, and studies.

4.5 The submission of a bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4; that without exception, the bid is premised upon performing and furnishing the work required by the Contract Documents and applying the specific means, methods, techniques, sequences, or procedures for construction (if any) that may be shown or indicated or expressly required by the Contract Documents; that Bidder has given CFX written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Contract Documents and the written resolutions thereof by CFX are acceptable to the Bidder; and that the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the work.

4.6 The quotations for the various items of Work are intended to establish a total price for completing the Work in its entirety. Should the Bidder feel that the cost for any item of Work has not been established by the bid sheets or pay items, Bidder shall include the cost for that Work in an applicable pay item so that the Proposal for the Work reflects the total price for completing the Work in its entirety.

5.0 Availability of Lands for Work

The lands upon which the work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by the Contractor in performing the Work are identified in the Contract Documents. All land that Contractor needs outside the limits of the Project and access thereto, required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the work shall be obtained and paid for by the Contractor. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by CFX unless otherwise provided in the Contract Documents.

6.0 Interpretations and Addenda

6.1 All questions relative to interpretation of specifications or the bid process shall be addressed in writing as indicated below. At CFX’s discretion, inquiries received within seven (7) days of the date set for the opening of bids may not be given any consideration. Any interpretation made to prospective bidders will be expressed in the form of an addendum which, if issued, will be made available on the website for download by registered planholders no later than five (5) days before the date set for receipt of the bids. Oral answers will not be authoritative.

It will be the responsibility of the prospective Bidder prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and to
acknowledge receipt of addenda in the space indicated on the Proposal form. All addenda will be posted on CFX’s web site at www.cfxway.com/DoingBusinessWithUs/Procurement/ProcurementAccountLogineProcurementRegistrati.aspx.

Questions may be submitted via e-mail at Constructionproject417-625@cfxway.com. CFX prefers questions to be sent via e-mail. The project number must be referenced in the subject line. All requests or questions should be clearly marked and must be received no later than 4:00 p.m., Orlando Local Time, on October 17, 2016.

Central Florida Expressway Authority
Procurement Department Attn: Manager of Procurement
4974 ORL Tower Road, Orlando FL 32807
407-690-5000 Office
Constructionproject417-625@cfxway.com E-mail

6.2 For those pay items which are to be constructed within authorized plan limits or dimensions, the quantities shown in the plans and in the proposal form are given as the basis of bid and also for final payment as limited by the provisions for the individual items. For those items having variable final pay quantities which are dependent on actual field conditions, use and measurement, the quantities shown in the plans and in the proposal form are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. When items are listed for payment as lump sum units and the plans show estimates of component quantities, CFX’s responsibility for the accuracy of those quantities is limited to the provisions of subarticle 7.3.3 of the General Specifications. Where items are listed for payment as lump sum units and the plans do not show estimates of component quantities, the Contractor shall be solely responsible for estimating such quantities.

6.3 CFX does not assume any responsibility that the final quantities will remain in accordance with estimated quantities, nor shall the Contractor claim misunderstanding or deception because of such estimate of quantities. The estimated quantities of work to be done or materials to be furnished may be increased, decreased, or omitted as hereinafter provided.

7.0 Substitute and “Or-Equal” Items

7.1 The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or “or-equal” items. Whenever it is indicated in the plans or specifications that a substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to CFX, application for such acceptance will not be considered by CFX until after the Contract has been executed.

7.2 The Bidder may be required to furnish a statement of the origin, composition and manufacture of any and all materials to be used in the construction of the work, together
with samples which may be subjected to the tests provided for in the specifications, to
determine their quality and fitness for the work.

8.0 Bid Form

8.1 The Bid Form is included with Bidding Documents. All blanks on the Bid Form must
be completed by printing in ink or by typewriter.

8.2 Bids by corporations must be executed in the corporate name by the president or a vice-
   president (or other corporate officer accompanied by duly attested corporate resolution
   or a letter signed by the president of the corporation) and the corporate seal must be
   affixed and attested by the secretary or an assistant secretary. If the secretary (and
   assistant secretary, if any) is the same person as the officer executing the bid on behalf
   of the corporation, then another officer or person must attest to the executing officer’s
   signature. The corporate address and state of incorporation must be shown below the
   signature.

8.3 Bids by partnerships must be executed in the partnership name and signed by a partner,
   whose title must appear under the signature and the official address of the partnership
   must be shown below the signature. The partner’s signature must be attested to by
   another partner, officer or person. All names must be typed or printed in black ink
   below the signature.

8.4 The bid shall contain an acknowledgment of receipt of all addenda (the numbers of
   which must be filled in on the Bid Form).

8.5 The address and telephone number for communications regarding the bid must be
   shown.

8.6 Evidence of authority to conduct business as an out-of-state corporation in the state
   where the work is to be performed shall be provided as required above. State contractor
   license number, if any, must also be shown.

8.7 Unit and lump sum prices are deemed and assumed to include the Bidder’s overhead,
   profit, and direct and indirect costs required to complete Contract performance.

8.8 Discrepancies between the multiplication of units of work and unit prices will be
   resolved in favor of the unit prices. Discrepancies between the indicated sum of any
   column of figures and the correct sum thereof will be resolved in favor of the correct
   sum.

8.9 Any bid in which CFX’s Bid Form is not used, or any bid that includes a bid form that
   is electronically reproduced by other than CFX, or is improperly executed, may be
   considered non-responsive and the bid will be subject to rejection.
8.10 The Summary of Pay Items sheets shown in the Plan Sheets and the bid line items shown in the Proposal should match. However, if the Bidder discovers a conflict between any item numbers, quantities, units or descriptions in these two documents, or between any item numbers, quantities, units or descriptions in any other document and the Proposal, the item numbers, quantities, units and descriptions in the Proposal shall prevail.

9.0 Submission of Bids

9.1 Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the project title and name and address of Bidder and accompanied by the bid security and other required documents. If the bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

9.2 A bid will be subject to being considered irregular and may be rejected if it shows omissions, alterations of form, additions not called for, conditional or unauthorized alternate bids, or irregularities of any kind. A bid may also be considered irregular and subject to rejection if the unit prices are obviously unbalanced, either in excess of or below the reasonable cost analysis values.

9.3 The responsibility for submitting the Bid to CFX on or before the stated time and date shall be solely and strictly the responsibility of the Bidder. CFX will not be responsible for delays caused by the United States mail delivery, common carrier, messenger service, or by any other occurrence.

10.0 Modification and Withdrawal of Bids

10.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a bid must be executed) and delivered to the place where bids are to be submitted at any time prior to the opening of bids.

10.2 Notwithstanding that a Bid constitutes an irrevocable offer, as set forth in 7.2 above, if, within twenty-four hours after bids are opened, any Bidder files a duly signed, written notice with CFX and promptly thereafter demonstrates to the reasonable satisfaction of CFX that there was a material and substantial mistake in the preparation of its bid, that Bidder may withdraw its bid and bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the work to be provided under the Contract Documents.

11.0 Opening of Bids

Bids will be opened and (unless obviously non-responsive) read aloud publicly at the place where bids are to be submitted.
12.0 Bids to Remain Subject to Acceptance

All bids will remain subject to acceptance for ninety (90) days after the day of the bid opening, but CFX may, in its sole discretion, release any bid and return the bid security prior to that date.

13.0 Award of Contract

13.1 CFX reserves the right to reject any or all bids, including without limitation the rights to reject any or all non-conforming, non-responsive, unbalanced, or conditional bids and CFX also reserves the right to reject the bid of any Bidder if CFX believes that it would not be in the best interest of the project to make an award to that Bidder, whether because the bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by CFX. CFX also reserves the right to waive all informalities not involving price, time, or changes in the work and to negotiate Contract terms with the Successful Bidder.

13.2 In evaluating bids, CFX will consider the qualifications of Bidders, whether or not the bids comply with the prescribed requirements, and such unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award. Any of the following reasons are sufficient cause for disqualification of a Bidder and rejection of the Bidder’s proposal:

(a) The submission of more than one proposal for the same work from an individual, firm, or corporation under the same or a different name.
(b) Evidence that one bidder has a financial interest in the firm of another bidder for the same work.
(c) Evidence of collusion among bidders. CFX will not recognize a participant in such collusion as a bidder for any future work of CFX until CFX reinstates such participant as a qualified bidder.
(d) Non-compliance with the requirements specified under Article 3.0 above.
(e) Non-compliance with the requirements specified under Article 7.0 above.
(f) Uncompleted work on other Authority projects that, in the judgment of CFX, could hinder or prevent the prompt completion of the proposed work.
(g) Failure to pay or satisfactorily settle all bills due for labor and material on other contracts in force at the time of advertisement for bids.
(h) Default under a previous Authority contract.
(i) Employment of unauthorized aliens in violation of Section 274A (e) of the Immigration and Nationality Act.
(j) Falsification on any form required by CFX.
(k) The submission of a proposal that was not issued by CFX.

13.3 CFX may consider the qualifications and experience of subcontractors, suppliers, and other persons and organizations proposed for those portions of the work as to which the identity of subcontractors, suppliers, and other persons and organizations must be submitted as provided in the Bidding Documents. CFX also may consider the operating
costs, maintenance requirements, performance data and guarantees of major items of
material and equipment proposed for incorporation in the work when such data is
required to be submitted prior to the Notice of Award.

13.4 CFX may conduct such investigations as CFX deems necessary to assist in the
evaluation of any bid and to establish the responsibility, qualifications, and financial
ability of Bidders, proposed subcontractors, suppliers, and other persons and
organizations to perform and furnish the work in accordance with the Contract
Documents to CFX’s satisfaction within the prescribed time. Bidder shall cooperate
with Authority in any such investigation.

13.5 If the Contract is to be awarded, it will be awarded to the Bidder (Successful Bidder)
whose evaluation by CFX indicates to CFX that the award will be in the best interests of
the project. If the Contract is to be awarded, CFX will give the Successful Bidder a
Notice of Award within ninety (90) days after the day of the bid opening.

13.6 CFX reserves the right to cancel the award of the Contract at any time before the
execution of the Contract by all parties without any penalty or liability against CFX.

13.7 Prior to the Contract becoming binding on CFX, the Escrow of Bid Records
procedure detailed in the General Specifications shall have been timely implemented
to secure the Successful Bidder's Bid Records.

14.0 Pre-Award Meeting

14.1 The pre-award meeting required by Article 3.4 of the General Specifications will be
held in CFX’s office on a date to be determined by CFX. The Apparent Successful
Bidder will be given 24 hours’ notice for the meeting.

14.2 If, after the meeting, there remains any issue that the parties have failed to resolve, CFX
may elect to give the Apparent Successful Bidder 48 hours’ notice of termination of the
agreement plus $100 and enter into negotiations with another Bidder. If CFX gives 48
hours’ notice of the intent to terminate the agreement, CFX will remain bound to the
agreement if the parties can resolve the remaining issues during the 48-hour notice
period. Failure to reach agreement on the unresolved issues shall not be a valid reason
for the Apparent Successful Bidder to refuse to execute the Contract. The Apparent
Successful Bidder’s sole remedy for unresolved issues that arise during the pre-award
meeting shall be to file a protest in accordance with the proper procedures in the Central
Florida Expressway Authority’s Procedure for Resolution of Protests, Rule Chapter 3-1.

14.3 Notwithstanding that the pre-award meeting is mandatory as to the Apparent Successful
Bidder, and notwithstanding that the items to be agreed upon at the pre-award meeting
shall become terms of the ultimate Contract, the Apparent Successful Bidder expressly
acknowledges and agrees that all of the essential terms of the ultimate Contract are
contained in the Bid and Bidding Documents, and all issues addressed at the pre-award
meeting are deemed non-essential to the existence of the Contract, unless (i) it is
discovered that the Apparent Successful Bidder misrepresented any item of the Bid, or (ii) CFX determines that the Bid does not conform to the specifications of the Bidding Documents.

15.0 Signing of Contract

When CFX gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Contract with all other written Contract Documents attached. Within fifteen (15) days thereafter Contractor shall sign and deliver the required number of counterparts of the Contract and attached documents to CFX. Within fifteen (15) days thereafter CFX shall deliver two fully signed counterparts to Contractor.

16.0 Sales and Use Taxes

Work under the Contract is subject to the provisions of Chapter 212, Florida Statutes, Tax on State, Use and Other Transactions. Other state, local, or federal taxes may be applicable. The Bidder is responsible to remit to the appropriate governmental entity all applicable taxes. Any applicable tax shall be included in the total bid price by the Bidder.

END OF INSTRUCTIONS TO BIDDERS
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SECTION 1 - ABBREVIATIONS AND DEFINITIONS

1.1 General

These General Specifications are intended for use on all construction projects awarded by CFX. However, each Article, subarticle or paragraph of the General Specifications may not be relevant or applicable to every project. It is the responsibility of the Contractor to determine which Articles, subarticles and paragraphs are relevant and applicable to the Work being performed.

1.2 Abbreviations

Whenever in these General Specifications or in other documents pertaining to the Contract the following terms and abbreviations appear, their intent and meaning shall, unless specifically stated otherwise, be interpreted as shown in this Section.

AAN American Association of Nurserymen, Inc.
AASHTO American Association of State Highway and Transportation Officials
ACI American Concrete Institute
AGC The Associated General Contractors of America, Inc.
AIA American Institute of Architects
AISI American Iron and Steel Institute
ANSI American National Standards Institute
AREA American Railway Engineering Association
ASME American Society of Mechanical Engineers
ASTM American Society for Testing and Materials
AWS American Welding Society
AWPA American Wood Preservers Association
AWWA American Water Works Association
CRSI Concrete Reinforcing Steel Institute
FDOT Florida Department of Transportation
FNGA Florida Nursery Growers Association
FSS Federal Specifications and Standards
IEEE Institute of Electrical and Electronics Engineers
IES Illuminating Engineering Society
IPCEA Insulated Power Cable Engineers Association
MUTCD Manual on Uniform Traffic Control Devices
NEC National Electrical Code (as recommended by the National Fire Protection Association)
NEMA National Electrical Manufacturers Association
SAE Society of Automotive Engineers
SSPC Steel Structures Painting Council
When any of the above abbreviations is followed by a number or letter designation, or combination of numbers or letters, it is understood to designate a specification, test method or other code or recommendation of the particular organization so shown.

1.3 Definitions

Wherever used in these General Specifications or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof and all genders:

1.3.1 Article - The prime subdivision of a Section of the General and/or Technical Specifications.

1.3.2 Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.3.3 Bridge - A structure, including supports, erected over a depression or over an obstruction such as water, highway, railway, or for elevated roadway, for carrying traffic or other moving loads and having a length, measured along the center of the roadway, of more than 20 feet between the inside faces of bridge supports. A multi-span box culvert is considered a bridge when the length between the extreme ends of the openings exceeds 20 feet.

1.3.4 Calendar Day - Every day shown on the calendar, ending and beginning at midnight.

1.3.5 CFX - The Central Florida Expressway Authority. To avoid unnecessary repetition of expressions, whenever in the General Specifications, Technical Specifications or Special Provisions the term “CFX” is used, it is understood that “or designated representative” is a part of the term unless specifically indicated otherwise. Such designated representative may be the “Engineer”, the “CEI”, the “Resident Engineer” or other individual or entity identified by CFX and defined herein.

1.3.6 Construction Engineering & Inspection (CEI) Consultant - The firm employed by CFX to observe the progress and quality of the Work being performed by the Contractor.

1.3.7 Consultant - The Professional Engineer or engineering firm, registered in the State of Florida, under contract to CFX to perform professional services for CFX. The Consultant may be the Engineer of Record or may provide services through and be subcontracted to the Engineer of Record.

1.3.8 Contract - The written agreement between CFX and the Contractor setting forth the obligations of the parties thereto including but not limited to, the performance of the Work, the furnishing of labor and materials and the basis of payment.
1.3.9 **Contract Claim (Claim)** - A written demand submitted to CFX by the Contractor in compliance with Article 2.4 of these General Specifications seeking additional monetary compensation, time and/or other adjustments to the Contract, the entitlement or impact of which is disputed by CFX.

1.3.10 **Contract Documents** - The Contract, addenda (which pertain to the Contract Documents), the Memorandum of Agreement, Contractor’s Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award), the Notice to Proceed, these General Specifications, the Technical Specifications, the Standard Specifications, the Contractor’s certification required pursuant to Article 3.4 of these General Specifications, the Special Provisions, the Plans, any supplemental agreements required to complete the construction of the Project and elements incorporated by reference including, but not necessarily limited to, the FDOT Design Standards (current edition at time of bid unless otherwise specified).

1.3.11 **Contract Price** - The money payable by CFX to the Contractor for completion of the Work in accordance with the Contract Documents.

1.3.12 **Contract Time** - The number of calendar days allowed for completion of the Work including authorized time extensions.

1.3.13 **Contractor** - The person, firm or corporation with whom CFX has entered into the Contract.

1.3.14 **Controlling Work Items** – The activity or work item on the critical path having the least amount of total float. The controlling item of work may also be referred to as a Critical Activity.

1.3.15 **Culverts** - Any structure not classified as a bridge, which provides an opening under the roadway.

1.3.16 **Delay** - With the exception of the items listed in Subarticle 6.7.3.1 of these General Specifications, any unanticipated event, action, force or factor which extends the Contractor’s time of performance of any critical path activity under the Contract. The term delay is intended to cover all such events, actions, forces or factors, whether styled “delay”, “disruption”, “interference”, “impedance”, “hindrance” or otherwise, which are beyond the control of and not caused by the Contractor or Contractor’s subcontractors, materialmen, suppliers or other agents. This term does not include Extra Work.

1.3.17 **Director of Construction** - Director of Construction, Central Florida Expressway Authority, acting directly or through an authorized representative.

1.3.18 **Engineer** - The term as may be used in various documents is understood to mean CFX or designated representative.
1.3.19 **Engineer of Record** - The professional engineer or engineering firm, contracted with by CFX and registered in the State of Florida, who develops criteria and concept for the Project, performs the analysis and is responsible for the preparation of the plans and specifications.

1.3.20 **Equipment** - The machinery and equipment, together with the necessary supplies for upkeep and maintenance thereof, the tools and all other apparatus necessary for the construction and acceptable completion of the Work.

1.3.21 **Executive Director** - Executive Director, Central Florida Expressway Authority, acting directly or through an authorized representative.

1.3.22 **Extra Work** - Any Work which is required by CFX to be performed and which is not otherwise covered or included in the project by the existing Contract Documents, whether it be in the nature of additional work, altered work, deleted work, work due to differing site conditions or otherwise. This term does not include a “delay”.

1.3.23 **Holidays** - Martin Luther King, Jr. Day; Memorial Day; the Saturday and Sunday immediately preceding Memorial Day; Independence Day; Labor Day; the Friday, Saturday, and Sunday immediately preceding Labor Day; Veterans Day; Thanksgiving Day; the Friday, Saturday and Sunday immediately following Thanksgiving Day; and December 24 through January 2, inclusive.

1.3.24 **Invitation to Bid** - The invitation by which the Contractor submitted its Bid for the Work.

1.3.25 **Major Item of Work** - Any item of Work having an original Contract value in excess of 5% of the original Contract amount.

1.3.26 **Materials** - Any substances to be incorporated in the Work.

1.3.27 **Median** - The portion of a divided highway or street separating the traveled ways for traffic moving in opposite directions.

1.3.28 **Notice to Proceed** - A written notice given by CFX to the Contractor fixing the latest date on which the Contract Time will commence to run and on which the Contractor shall start to perform the Contractor’s obligations under the Contract Documents.

1.3.29 **Plans** - The drawings which show the scope, extent and character of the Work to be furnished and performed by the Contractor and which are referred to in the Contract Documents.

1.3.30 **Project** - The total construction of which the Work to be provided under the Contract Documents may be the whole or a part as indicated elsewhere in the Contract Documents.
1.3.31 Not Used –

1.3.32 **Resident Project Representative** - The authorized representative of the CEI who may be assigned to the site or any part thereof.

1.3.33 **Right of Way** - The land to which CFX has title or right of use for the road and its structures and appurtenances and for material pits furnished or to be furnished by CFX.

1.3.34 **Roadbed** - That portion of the roadway occupied by the subgrade and shoulders.

1.3.35 **Roadway** - The portion of a highway within the limits of construction.

1.3.36 **Shop Drawings** - All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and submitted by the Contractor to illustrate some portion of the Work.

1.3.37 **Shoulder** - That portion of the roadbed outside the edges of the travel way (or back of curb) and extending to the top of front slopes. The shoulders may be either paved or unpaved.

1.3.38 **Special Provisions** - Specific requirements for the Project not otherwise addressed in the General Specifications, Technical Specifications or Standard Specifications.

1.3.39 **Specialty Engineer** - A Professional Engineer registered in the State of Florida (specifically other than the Engineer of Record or its subcontracted consultant) who undertakes the design and drawing preparation of components, systems or installation methods and equipment for specific portions of the Project Work. The Specialty Engineer may be an employee or officer of the Contractor or a fabricator, an employee or officer of an entity providing components to a fabricator or an independent consultant.

A Specialty Engineer shall be qualified in accordance with the Rules of the Florida Department of Transportation, Chapter 14-75, Florida Administrative Code. Any corporation or partnership, which offers engineering services, must hold a current Certification of Authorization from the Florida State Board of Professional Engineers. Prior approval by CFX is required if the Contractor wishes to use a Specialty Engineer not qualified in accordance with Chapter 14-75. Approval must be received prior to proceeding with the specialty design.

For items of Work not specifically covered by Chapter 14-75, a Specialty Engineer will be considered qualified if he/she has the following qualifications:

1) Registration as a Professional Engineer in the State of Florida
2) Education and experience necessary to perform the submitted design as required by the Florida Department of Professional Regulation.

1.3.41 **Standard Specifications** - The FDOT Standard Specifications for Road and Bridge Construction (current edition at time of bid unless otherwise specified), Divisions II and III, hereby incorporated by reference and as may be amended in the Technical Specifications and Plans. Division I of the FDOT Standard Specifications is not included in this definition and is not a part of the Contract Documents.

1.3.42 **State** - State of Florida

1.3.43 **Subarticle** - Any headed subdivision of an Article of the General Specifications, Technical Specifications, or Standard Specifications.

1.3.44 **Subgrade** - That portion of the roadbed immediately below the base course or pavement (including below the curb and gutter, valley gutter, shoulder and driveway pavement), the limits of which will ordinarily include those portions of the roadway bed shown in the plans to be constructed to a design bearing value or to be otherwise specially treated. Where no limits are shown in the plans, the subgrade section shall be considered to extend to a depth of 12 inches below the bottom of the base or pavement and outward to 6 inches beyond the base, pavement or curb and gutter.

1.3.45 **Subcontractor** - An individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for performance of a part of the Work at the site.

1.3.46 **Substantial Completion** - The completion of all pay item Work in their entirety in conjunction with the performance of the inspection for Substantial Completion. The inspection for Substantial Completion may generate a punch list that will be provided to the Contractor within seven (7) calendar days following the conclusion of the inspection. CFX’s direction to open a bridge or roadway or portion thereof does not constitute an acceptance of the Project or portion or waive any part of the Contract provisions.

1.3.47 **Substructure** - All of that part of a bridge structure below the bridge seats including the parapets, backwalls and wingwalls of abutments.

1.3.48 **Superintendent** - The Contractor’s authorized representative responsible and in charge of the Work.

1.3.49 **Superstructure** - The entire bridge structure above the substructure including anchorage and anchor bolts but excluding the parapets, backwalls, and wingwalls of abutments.

1.3.50 **Supplemental Agreement** - A written agreement between CFX and the Contractor modifying the Contract within the limitations set forth in these specifications.
1.3.51 **Not Used** -

1.3.52 **Supplier** - A manufacturer, fabricator, supplier, distributor, materialmen or vendor having a direct contract with the Contractor or with any subcontractor to furnish materials or equipment to be incorporated in the Work by the Contractor or any subcontractor.

1.3.53 **Technical Specifications** - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work associated with road and bridge construction.

1.3.54 **Travel Way** - The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

1.3.55 **Unilateral Payment** - A payment of money made to the Contractor by CFX for sums CFX determines to be due to the Contractor for work performed on the project, and whereby the Contractor by acceptance of such payment does not waive any rights the Contractor may otherwise have against CFX for payment of any additional sums the Contractor claims are due for the work.

1.3.56 **Work** - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishings and incorporating materials and equipment into the construction and performing or furnishing services and furnishing documents all as required by the Contract Documents.

1.3.57 **Work Order Allowance** - A monetary amount established by CFX and included in the Contract Price to cover the cost of Work, that may or may not be anticipated, but is not otherwise defined by the Drawings or Specifications. No Work paid for under the Work Order Allowance shall be performed until written authorization is given to the Contractor by CFX. Any amount remaining in the Allowance upon completion and acceptance of the project remains the property of CFX.

END OF SECTION 1
SECTION 2 - SCOPE OF WORK

2.1 Intent of Contract

It is the intent of the Contract Documents to provide for the construction and completion of every detail of the Work described in the Contract Documents. Any labor, documentation, services, Materials, or Equipment that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result shall be provided whether or not specifically called for, at no additional cost to CFX.

2.2 Work Not Covered by the General Specifications

Proposed construction and any contractual requirements not covered by these General Specifications may be covered by notes shown on the Plans or by the Technical Specifications or Special Provisions for the Contract.

2.3 Alteration of Plans

2.3.1 General: CFX reserves the right to make, at any time prior to or during the progress of the Work, such increases or decreases in quantities, whether a significant change or not, and such alterations in the details of construction, whether a significant change or not, including but not limited to alteration in the grade or alignment of the road or structure or both, as may be found necessary or desirable by CFX. Such increases, decreases or alterations shall not constitute a breach of Contract and shall not invalidate the Contract. The Contractor agrees to perform the Work, as altered, the same as if it had been part of the original Contract.

The term “significant change” applies only when:

A) CFX determines that the Work as altered differs materially in kind or nature from that involved or included in the original proposed construction or

B) A Major Item of Work, as defined in Section 1, is increased in excess of 125% or decreased below 75% of the original Contract quantity. CFX will apply any price adjustment for an increase in quantity only to that portion in excess of 125% of the original Contract item quantity, or in case of a decrease below 75% to the actual amount of work performed, such allowance to be determined in accordance with 2.3.2, below.

In the instance of A) above, the determination by CFX shall be final and shall not
be subject to challenge by the Contractor except through the claims procedure as described herein.

2.3.2 Increase, Decrease or Alteration in the Work: CFX reserves the right to make alterations in the character of the work which involve a substantial change in the nature of the design or in the type of construction or which materially increases or decreases the cost or time of performance. Such alteration shall not constitute a breach of Contract and shall not invalidate the Contract.

Notwithstanding that the Contractor shall have no formal right whatsoever to any extra compensation or time extension deemed due by the Contractor for any cause unless and until the Contractor follows the procedures set forth in 2.4.2 for preservation, presentation and resolution of the claim, the Contractor may at any time, after having otherwise timely provided a notice of intent to claim or preliminary time extension request pursuant to 2.4.2, submit to CFX a request for equitable adjustment of compensation or time or other dispute resolution proposal. The Contractor shall in any request for equitable adjustment of compensation, time, or other dispute resolution proposal certify under oath and in writing, in accordance with the formalities required by Florida law, that the request is made in good faith, that any supportive data provided are accurate and complete to the Contractor’s best knowledge and belief, and that the amount of the request accurately reflects what the Contractor in good faith believes to be CFX’s responsibility. Such certification must be made by an officer or director of the Contractor with CFX to bind the Contractor. Any such certified statements of entitlement and costs shall be subject to the audit provisions set forth in 2.4.14.

While the submittal or review of a duly certified request for equitable adjustment shall neither create, modify, nor activate any legal rights or obligations as to the Contractor or CFX, CFX will review the content of any duly certified request for equitable adjustment or other dispute resolution proposal, with any further action or inaction by CFX thereafter being in its sole discretion. Any request for equitable adjustment that fails to fully comply with the certification requirements will not be reviewed by CFX.

The monetary compensation provided for below constitutes full and complete payment for such additional work and the Contractor shall have no right to any additional monetary compensation for any direct or indirect costs or profit for any such additional work beyond that expressly provided below. The Contractor shall be entitled to a time extension only to the extent that the performance of any portion of the additional work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. All time related costs for actual performance of such additional work are included in the compensation already provided below and any time extension entitlement hereunder will be without additional monetary compensation. The
Contractor shall have no right to any monetary compensation or damages whatsoever for any direct or indirect delay to a controlling work item arising out of or in any way related to the circumstances leading up to or resulting from additional work (but not relating to the actual performance of the additional work, which is paid for as otherwise provided herein), except only as provided for under 2.4.5.2.1.

2.3.2.1 Allowable Costs for Extra Work: The CEI may direct in writing that extra work be done and, at the CEI’s sole discretion, the Contractor will be paid pursuant to an agreed Supplemental Agreement or in the following manner:

(a) Labor and Burden: The Contractor will receive payment for actual costs of direct labor and burden for the additional or unforeseen work. Labor includes foremen actually engaged in the work; and will not include project supervisory personnel nor necessary on-site clerical staff, except when the additional or unforeseen work is a controlling work item and the performance of such controlling work item actually extends completion of the project due to no fault of the Contractor. Compensation for project supervisory personnel, but in no case higher than a Project Manager’s position, shall only be for the pro-rata time such supervisory personnel spent on the contract. In no case shall an officer or director of the Company, nor those persons who own more than 1% of the Company, be considered as project supervisory personnel, direct labor or foremen hereunder.

Payment for burden shall be limited solely to the following:

<table>
<thead>
<tr>
<th>Item</th>
<th>Rate</th>
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<tbody>
<tr>
<td>FICA</td>
<td>Rate established by Law</td>
</tr>
<tr>
<td>FUTA/SUTA</td>
<td>Rate established by Law</td>
</tr>
<tr>
<td>Medical Insurance</td>
<td>Actual</td>
</tr>
<tr>
<td>Holidays, Sick &amp; Vacation benefits</td>
<td>Actual</td>
</tr>
<tr>
<td>Retirement benefits</td>
<td>Actual</td>
</tr>
<tr>
<td>Workers Compensation</td>
<td>Rates based on the National Council on Compensation Insurance basic rate tables adjusted by Contractor’s actual experience modification factor in effect at the time of the additional work or unforeseen work.</td>
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<tr>
<td>Per Diem</td>
<td>Actual but not to exceed State of Florida’s rate</td>
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*Compensation for Insurance is limited solely to General Liability Coverage and does not include any other insurance coverage (such as, but not limited to, Umbrella Coverage, Automobile Insurance, etc.).

At the pre-construction conference, certify to the CEI the following:

(1) A listing of on-site clerical staff, supervisory personnel and their pro-rated time assigned to the Contract,

(2) Actual Rate for items listed in Table 2.3.2.1,

(3) Existence of employee benefit plan for Holiday, Sick and Vacation benefits and a Retirement Plan, and,

(4) Payment of Per Diem is a company practice for instances when compensation for Per Diem is requested.

Such certification must be made by an officer or director of the Contractor with authority to bind the Contractor. Timely certification is a condition precedent to any right of the Contractor to recover compensations for such costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such costs. Any subsequent changes shall be certified to the CEI as part of the cost proposal or seven calendar days in advance of performing such extra work.

(b) Materials and Supplies: For materials accepted by the CEI and used on the project, the Contractor will receive the actual cost of such materials incorporated into the work, including Contractor paid transportation charges (exclusive of equipment as hereinafter set forth). For supplies reasonably needed for performing the work, the Contractor will receive the actual cost of such supplies.

(c) Equipment: For any machinery or special equipment (other than small tools), including fuel and lubricant, the Contractor will receive 100% of the “Rental Rate Blue Book” for the actual time that such equipment is in operation on the work, and 50% of the “Rental Rate Blue Book” for the time the equipment is directed to standby and remain on the project site, to be calculated as indicated below. The equipment rates will be based on the latest edition (as of the date the work to be performed begins) of the “Rental Rate Blue Book for Construction Equipment” or the “Rental Rate Blue Book for Older Construction Equipment,” whichever is applicable, as published by Machinery Information Division of PRIMEDIA Information,
Allowable Equipment Rates will be established as set out below:

(1) Allowable Hourly Equipment Rate = Monthly Rate/176 x Adjustment Factors x 100%.

(2) Allowable Hourly Operating Cost = Hourly Operating Cost x 100%.

(3) Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost.

(4) Standby Rate = Allowable Hourly Equipment Rate x 50%.

The Monthly Rate is The Basic Machine Rate Plus Any Attachments. Standby rates will apply when equipment is not in operation and is directed by the CEI to standby at the project site when needed again to complete work and the cost of moving the equipment will exceed the accumulated standby cost. Standby rates will not apply on any day the equipment operates for eight or more hours. Standby payment will be limited to only that number of hours which, when added to the operating time for that day equals eight hours. Standby payment will not be made on days that are not normally considered work days on the project.

CFX will allow for the cost of transporting the equipment to and from the location at which it will be used. If the equipment requires assembly or disassembly for transport, CFX will pay for the time to perform this work at the rate for standby equipment.

Equipment may include vehicles utilized only by Labor, as defined above.

(d) Indirect Costs, Expenses, and Profit: Compensation for all indirect costs, expenses, and profit of the Contractor, including but not limited to overhead of any kind, whether jobsite, field office, division office, regional office, home office, or otherwise, is expressly limited to the greater of either (1) or (2) below:

(1) Solely a mark-up on the payments in (a) through (c), above in accordance with the corresponding portions of section 7.4.
(ii) The Contractor will be allowed a markup of 10% on the first $50,000 and a markup of 5% on any amount over $50,000 on any subcontract directly related to the additional or unforeseen work. Any such subcontractor mark-up will be allowed only by the prime Contractor and a first tier subcontractor, and the Contractor must elect the markup for any eligible first tier subcontractor to do so.

(2) Solely the formula set forth below and only as applied solely as to such number of calendar days of entitlement that are in excess of ten cumulative calendar days as defined below.

\[
D = \frac{A \times C}{B}
\]

Where

- \( A \) = Original Contract Amount
- \( B \) = Original Contract Time
- \( C = 8\% \)
- \( D = \) Average Overhead Per Day

Cumulative Calendar Days is defined as the cumulative total number of calendar days granted for time extension due to delay of a controlling work item caused solely by CFX is, or the cumulative total number of calendar days for which entitlement to a time extension due to delay of a controlling work item caused solely by CFX is otherwise ultimately determined in favor of the Contractor to be.

Further, in the event there are concurrent delays to one or more controlling work items, one or more being caused by CFX and one or more being caused by the Contractor, the Contractor shall be entitled to a time extension for each day that a controlling work item is delayed by CFX but shall have no right to nor receive any
monetary compensation for any indirect costs for any days of concurrent delay. No compensation will be paid to the Contractor for any jobsite overhead and other indirect impacts when the total number of calendar days granted for time extension due to delay of a controlling work item is equal to or less than ten calendar days and the Contractor also fully assumes all monetary risk of any and all partial or single calendar day delay periods, due to delay of a controlling work item that when cumulatively totaled together are equal to or less than ten calendar days. All calculations under this provision shall exclude days granted for performing additional work.

2.3.2.2 Subcontracted Work: For work performed by a subcontractor, compensation for the additional or unforeseen work shall be solely limited to as provided for in 2.3.2.1 (a), (b), (c) and (d)(1), with the exception of, in the instance of subcontractor performed work only. The Contractor shall require the subcontractor to provide a certification, in accordance with 2.3.2.1(a), as part of the cost proposal and provide such to the CEI. Such certification must be made by an officer or director of the subcontractor with authority to bind the subcontractor. Timely certification is a condition precedent to any right of the Contractor to recover compensation for such subcontractor costs, and failure to timely submit the certification will constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to recover such subcontractor costs.

2.3.2.3 No Waiver of Contract: Changes made by CFX will not be considered to waive any of the provisions of the Contract, nor may the Contractor make any claim for loss of anticipated profits because of the changes or by reason of any variation between the approximate quantities and the quantities of Work actually performed. All Work shall be performed as directed by CFX and in accordance with the Contract Documents.

2.3.2.4 Suspensions of Work Ordered by CFX: If the performance of all or any portion of the Work is suspended or delayed by CFX, in writing, for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the Contractor believes additional compensation is due as a result of such suspension or delay, the Contractor shall submit to CFX in writing a request for adjustment within 7 calendar days of receipt of the notice to resume Work. The request shall be complete, set forth all the reasons and support for such adjustment.

CFX will evaluate the Contractor’s request. If CFX agrees the cost and/or time required for the performance of the Contract has increased as a result of such
suspension and the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers or subcontractors at any approved tier (and not caused by weather), CFX will make an adjustment (excluding profit) and modify the Contract in writing accordingly. CFX will notify the Contractor whether an adjustment of the Contract is warranted.

No Contract adjustment will be allowed unless the Contractor has submitted the complete request for adjustment within the time prescribed.

No Contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for, excluded under, or effectively precluded by any other term or condition of the Contract.

2.3.2.5 Conditions Requiring Supplemental Agreement: A Supplemental Agreement will be used to clarify the Plans and Specifications of the Contract; to document quantities that deviate from the original Contract amount; to provide for unforeseen Work, grade changes or alterations in Plans which could not reasonably have been contemplated or foreseen in the original Plans and Specifications; to change the limits of construction to meet field conditions; to provide a safe and functional connection to an existing pavement; to make the project functionally operational in accordance with the intent of the original Contract and subsequent amendments thereto; to settle Contract claims.

No Work covered by a Supplemental Agreement shall be performed before written authorization is given by CFX. Such written authorization will set forth the prices and other pertinent information and will be promptly reduced to written Contract document form.

2.3.2.6 Unilateral Payments: Unilateral Payments will be used to pay the Contractor for Work performed on the Project when:

a) The Contractor agrees to perform the Work at an agreed upon cost but refuses to timely execute a Supplemental Agreement so as to allow timely payment for the Work by CFX or,

b) CFX and the Contractor cannot agree on the cost of the Work and the Contractor refuses to execute a Supplemental Agreement or,

c) CFX determines it is in the best interest to make a Unilateral Payment for Work CFX directed to be performed in lieu of pursuing a Supplemental Agreement.
2.3.2.7 Extra Work: Alterations, changes, additional or unforeseen Work of the type already provided by the Contract for which there is a Contract Price will be paid for at such Contract price.

Alterations, changes, additional or unforeseen Work having no quantity or price provided in the Contract will be paid at a negotiated price. Where the cost is negotiated, the Contractor shall submit an estimate to CFX in terms of labor, Materials, Equipment, overhead with a time impact analysis and other expenses incurred solely as a result of the alteration, change, additional or unforeseen Work as stipulated in 2.3.2.

Where a price cannot be negotiated for alterations, changes, additional or unforeseen Work having no quantity or price provided in the Contract, payment will be made in accordance with 2.3.2.

2.3.3 Connections to Existing Pavements, Drives and Walks: Limits of construction at the beginning and end of the Project are detailed in the Plans and will generally be adhered to; however, where in the opinion of CFX it is necessary to extend the construction in order to make suitable connections to existing pavement, such change may be permitted upon written authorization.

For any connections to existing walks and drives which are necessary although not indicated on the Plans, proper connections shall be made at the direction of CFX in accordance with the FDOT’s Design Standards identified in the Contract Documents.

2.3.4 Differing Site Conditions: During the progress of the Work, if subsurface or latent conditions are encountered at the site differing materially from those indicated on the Plans or in the Specifications or if unknown physical conditions of an unusual nature (differing materially from those ordinarily encountered and generally recognized as inherent in the Work) are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected Work is performed.

Upon written notification from the Contractor, CFX will have the conditions investigated and if it is determined that the conditions differ materially and cause an increase or decrease in the cost or time required for the performance of any Work under the Contract, an adjustment (excluding loss of anticipated profits) will be made and the Contract modified in writing accordingly. CFX will notify the Contractor whether an adjustment of the Contract is warranted.
No Contract adjustment that results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

No Contract adjustment will be allowed under this clause for any impacts caused to or by any other projects.

2.3.5 Changes Affecting Utilities: The Contractor shall be responsible for identifying and assessing any potential impacts to a utility that may be caused by the changes proposed by the Contractor and the Contractor shall, at the time of making the request for change, notify CFX in writing of any such potential impacts to utilities.

CFX approval of a Contractor proposed change does not relieve the Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract, design plans (including traffic control plans) or other Contract Documents and which effect a change in utility work different from that shown in the utility plans, joint project agreements or utility relocation schedules.

2.3.6 Cost Savings Initiative Proposal

2.3.6.1 Intent and Objective: This subarticle applies to any Cost Savings Initiative Proposal (CSIP) that the Contractor initiates and develops for the purpose of refining the Contract to increase cost effectiveness or significantly improve the quality of the end result. Any potential CSIPs being considered by the Contractor shall NOT be discussed at the pre-award meeting, as this meeting is for the sole purpose of discussing the Contractor’s bid and the documents on which the bid is based. Subsequent to Contract execution and prior to Contract Time beginning, a mandatory Cost Savings Initiative Workshop will be held for the Contractor and CFX to discuss potential Proposals.

This subarticle does not apply to any CSIP unless the Contractor identifies it at the time of its submission to CFX as a CSIP submitted in accordance with this subarticle.

CFX will consider CSIPs that, in the sole opinion of CFX, will result in net savings to CFX by providing a decrease on the cost of the Contract. Additionally, the CSIP must result in savings without impairing essential functions and characteristics such as safety, service life, reliability, economy of operation, ease of maintenance, aesthetics and necessary standard design features. CFX will not recognize the Contractor’s elimination of work, or correction of plan errors that result in a cost reduction as a CSIP.
CFX reserves the right to reject, at its sole discretion, any CSIP submitted that proposes a change in the design of the pavement system or that would require additional right-of-way. Pending CFX’s execution of a formal supplemental agreement implementing an approved CSIP, the Contractor shall remain obligated to perform the Work in accordance with the terms of the Contract. CFX is under no obligation to grant time extensions to allow for the time required to develop and review a CSIP.

For potential CSIPs not discussed between Contract Execution and Contract Time beginning, a mandatory concept meeting will be held between CFX and the Contractor to discuss the potential CSIP prior to its development.

2.3.6.2 Data Requirements: As a minimum, the Contractor shall submit the following information with each CSIP:

1. a description of the differences between the existing Contract requirements, including any time extension request, and the proposed change, and the comparative advantages and disadvantages.

2. separate detailed (Labor, Equipment, Material and Subcontract) cost estimates for both the existing Contract requirement and the proposed change. Allocate the above detailed cost estimates by pay item numbers indicating quantity increases or decreases and deleted pay items. Identify additional proposed work not covered by pay items within the Contract, by using pay item numbers in the FDOT Basis of Estimates Manual. In preparing the estimates, include overhead, profit within pay items in the Contract. Separate pay item(s) for the cost of overhead and profit will not be allowed.

3. an itemization of the changes, deletions or additions to plan details, plan sheets, design standards and Specifications that are required to implement the CSIP if CFX adopts it. Provide preliminary plan drawings sufficient to describe the proposed changes.

4. engineering or other analysis in sufficient detail to identify and describe specific features of the Contract that must be changed if CFX accepts the CSIP with a proposal as to how the changes can be accomplished and an assessment of their effect on other Project elements. CFX may require that engineering analyses be performed by a Specialty Engineer in the applicable class of work. Support all design changes that result from the CSIP with prints of drawings and computations signed and sealed by the Contractor’s Specialty Engineer. Written documentation or drawings shall be provided that clearly delineate the responsibility of the Contractor’s Specialty Engineer.
5. the date by which CFX must approve the CSIP to obtain the total estimated cost reduction during the remainder of the Contract, noting any effect on the Contract completion time or delivery schedule.

6. a revised Project schedule that would be followed upon approval of the CSIP. The schedule shall include submittal dates and review time for CFX review.

2.3.6.3 Processing Procedures: The Contractor shall submit five (5) copies of the CSIP to CFX. CFX will process the CSIP expeditiously; however, CFX is not liable for any delay in acting upon a CSIP submitted pursuant to this subarticle. The Contractor may withdraw, in whole or in part, a CSIP not accepted by CFX within the period specified in the CSIP. CFX is not liable for any CSIP development cost in the case where CFX rejects, or the Contractor withdraws, a CSIP.

CFX is the sole judge of the acceptability of a CSIP and of the estimated net savings in construction costs from the adoption of all or any part of the CSIP. In determining the estimated net savings, CFX reserves the right to disregard the Contract bid prices if, in the judgment of CFX, such prices do not represent a fair measure of the value of the Work to be performed or to be deleted.

Prior to approval, CFX may modify a CSIP, with the concurrence of the Contractor, to make it acceptable. If any modification increases or decreases the net savings resulting from the CSIP, CFX will determine the Contractor’s fair share upon the basis of the CSIP as modified and upon final quantities. CFX will compute the net savings by subtracting the revised total cost of all bid items affected by the CSIP from the total cost of the same bid items as represented in the Contract, provided that in the sole judgment of CFX that such bid item prices represent fair measure of the value of the associated work.

Prior to approval of the CSIP that initiates the supplemental agreement, provide acceptable Contract-quality plan sheets revised to show all details consistent with the CSIP design.

2.3.6.4 Computation for Change in Contract Cost Performance: If the CSIP is adopted, the Contractor’s share of the net savings as defined hereinafter represents full compensation to the Contractor for the CSIP.

CFX will include its cost to process and implement a CSIP in the estimate.

2.3.6.5 Conditions of Acceptance for Major Design Modifications of Category 2 Bridges: A CSIP that proposes major design modifications of a category 2 bridge, as determined by CFX, shall have the following conditions of acceptance:
1. All bridge plans relating to the CSIP shall undergo an independent peer review conducted by a single independent engineering firm referred to for the purpose of this requirement as the Independent Review Engineer (IRE). The IRE shall not be the originator of the CSIP design and shall be pre-qualified by FDOT in accordance with Rule 14-75, Florida Administrative Code. The independent peer review is intended to be a comprehensive and thorough verification of the original Work, giving assurance that the design is in compliance with all CFX requirements. The IRE’s comments, along with the resolution of each comment, shall be submitted to CFX. The IRE shall sign and seal the submittal cover letter stating that all comments have been adequately addressed and the design is in compliance with CFX’s requirements. If there are any unresolved comments, the IRE shall specifically list all unresolved issues in the signed and sealed cover letter.

2. CFX reserves the right to require the Contractor’s Specialty Engineer to assume responsibility for the design of the entire structure.

3. New designs and independent peer reviews shall be in compliance with all applicable CFX, FDOT and AASHTO criteria requirements including bridge loading ratings.

2.3.6.6 Sharing Arrangements: If CFX approves a CSIP, the Contractor will receive 50% of the net reduction in the cost of performance of the Contract as determined by the final negotiated agreement between the Contractor and CFX. The net reduction will be determined by subtracting from the savings of the construction costs the reasonable documented engineering costs incurred by the Contractor to design and develop a CSIP and CFX’s direct costs for reviewing the CSIP. Contractor’s engineering costs will be based on the Specialty Engineer’s certified invoice and may include the costs of the IRE. The Contractor’s total engineering costs to be subtracted from the savings to determine the net reduction will be limited to 25% of the construction savings and will not include any markup by the Contractor for the costs for engineering services performed by the Contractor.

2.3.6.7 Notice of Intellectual Property Interests and CFX’s Future Rights to a CSIP: The Contractor’s CSIP submittal shall identify with specificity any and all forms of intellectual property rights that either the Contractor or any officer, shareholder, employee, consultant, or affiliate, of the Contractor, or any other entity who contributed in any measure to the substance of the Contractor’s CSIP development, have or may have that are in whole or in part implicated in the CSIP. Such required intellectual property rights notice includes, but is not limited to, disclosure of any: issued patents, copyrights, or licenses; pending patent, copyright or license applications; and any intellectual property right that though not yet issued, applied for or intended to be pursued, could nevertheless otherwise be subsequently the subject
of patent, copyright or license protection by the Contractor or others in the future. The notice requirement does not extend to intellectual property rights as to stand-alone or integral components of the CSIP that are already on the FDOT’s QPL or design standard indexes, or are otherwise generally known in the industry as being subject to patent or copyright protection.

Notwithstanding Article 5.3 of the General Specifications nor any provisions of the Standard Specification, upon acceptance of the CSIP, the Contractor grants to CFX and its contractors (such grant being expressly limited solely to any and all existing or future CFX construction projects and any other CFX projects that are partially or wholly funded by or for CFX) a royalty-free and perpetual license under all forms of intellectual property rights to manufacture, to use, to design, to construct, to disclose, to reproduce, to prepare and fully utilize derivative works, to distribute, display and publish, in whole or in part, and to permit others to do any of the above, and to otherwise in any manner and for any purpose whatsoever do anything reasonably necessary to fully utilize any and all aspects of such CSIP on any and all existing and future construction projects and any other CFX projects.

The Contractor shall hold harmless and indemnify CFX and its contractors and others in privity therewith from and against any and all claims, liabilities, other obligations or losses, and reasonable expenses related thereto (including reasonable attorney’s fees) which are incurred or are suffered by any breach of the foregoing grants, and regardless of whether such intellectual property rights were or were not disclosed by the Contractor pursuant to the language herein, unless CFX has by express written exception in the CSIP acceptance process specifically released the Contractor from such obligation to hold harmless and indemnify as to one or more disclosed intellectual property rights.

2.4 Claims by Contractor

2.4.1 General: When the Contractor deems that extra compensation or a time extension is due beyond that agreed to by CFX, whether due to delay, additional Work, altered Work, differing site conditions, breach of Contract, or for any other cause, the Contractor shall follow the procedures set forth herein for preservation, presentation and resolution of the claim.

2.4.2 Notice of Claim:

2.4.2.1 Claims For Extra Work: Where the Contractor deems that additional compensation or a time extension is due for Work or Materials not expressly
provided for in the Contract or which is by written directive expressly ordered by CFX pursuant to 2.3, the Contractor shall notify CFX in writing, including the words “NOTICE OF CLAIM” in the document heading of the intention to make a claim for additional compensation before beginning the Work on which the claim is based, and if seeking a time extension, the Contractor shall also submit a preliminary request for time extension pursuant to 6.7.3 within ten (10) calendar days after commencement of a delay. If such notification is not given and CFX is not afforded the opportunity for keeping strict account of actual labor, Materials, Equipment, and time, the Contractor waives the claim for additional compensation or a time extension. Such notice by the Contractor, and the fact that CFX has kept account of the labor, Materials and Equipment, and time, shall not in any way be construed as establishing the validity of the claim or method for computing any compensation or time extension for such claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless CFX allows additional time for the Contractor to submit additional or more accurate data in support of the claim) and shall be accompanied by the Contractor’s written statement that the adjustment claimed covers all known amounts to which the Contractor is entitled as a result of said occurrence or event. For any claim or part of a claim that pertains solely to final estimate quantity disputes the Contractor shall submit full and complete claim documentation as described in 2.4.3, as to such final estimate claim dispute issues, within 30 calendar days of the Contractor's receipt of CFX’s Offer of Final Payment. Submission of timely notice of intent to file a claim, preliminary time extension request, time extension request, and the claim, together with full and complete claim documentation, are each a condition precedent to the Contractor bringing any arbitration or other formal claims resolution proceeding against CFX for the items and for the sums or time set forth in the Contractor's written claim, and the failure to provide such notice of intent, preliminary time extension request, time extension request, claim and full and complete claim documentation within the time required shall constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to additional compensation or a time extension for such claim.

2.4.2.2 Claims For Delay: Where the Contractor deems that additional compensation or a time extension is due on account of delay, differing site conditions, breach of Contract, or any other cause other than for Work or Materials not expressly provided for in the Contract (Extra Work) or which is by written directive of CFX expressly ordered by CFX pursuant to 2.3, the Contractor shall submit a written notice of intent to CFX within 48 hours after commencement of a delay to a Work item on the critical path expressly notifying CFX that the Contractor intends to seek additional compensation, and if seeking a time extension, the Contractor shall also submit a preliminary request for time extension pursuant to 6.7.3 within 48 hours after commencement of a delay to a

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Work item on the critical path, as to such delay and providing a reasonably complete description as to the cause and nature of the delay and the possible impacts to the Contractor’s Work by such delay. The timely providing of a written notice of intent or preliminary time extension request to CFX are each a condition precedent to any right on behalf of the Contractor to request additional compensation or an extension of Contract Time for that delay, and the failure of the Contractor to provide such written notice of intent or preliminary time extension request within the time required shall constitute a full, complete, absolute and irrevocable waiver by the Contractor of any right to additional compensation or a time extension for that delay. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless CFX allows additional time for the Contractor to submit additional or more accurate data in support of the claim) and shall be accompanied by the Contractor’s written statement that the adjustment claimed covers all known amounts to which the Contractor is entitled as a result of said occurrence or event. There shall be no Contractor entitlement to any monetary compensation or time extension for any delays or delay impacts, whatsoever, that are not related to a Work item on the critical path, and then as to any such delay to such item entitlement to any monetary compensation or time extension shall only be to the extent such is otherwise provided for expressly under 2.3 or 2.4, except that in the instance of delay to an item of Work not on the critical path the Contractor may be compensated for the direct costs of idle labor or Equipment only, at the rates set forth in 2.3, and then only to the extent the Contractor could not reasonably mitigate such idleness.

2.4.3 Content of Written Claim: As a condition precedent to the Contractor being entitled to additional compensation or a time extension under the Contract for any claim, the Contractor shall submit a written claim to CFX which will include for each individual claim, at a minimum, the following information:

(a) A detailed factual statement of the claim providing all relevant dates, locations, and items of Work affected and included in each claim;
(b) The date or dates on which actions or events resulting in the claim occurred or conditions resulting in the claim became evident;
(c) Identification of all pertinent documents and the substance of any material oral communications relating to such claim and the name of the persons making such material oral communications;
(d) Identification of the provisions of the Contract which support the claim and a statement of the reasons why such provisions support the claim, or alternatively, the provisions of the Contract which allegedly have been breached and the actions constituting such breach;

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(e) A detailed compilation of the amount of additional compensation sought and a breakdown of the amount sought as follows:

1. documented additional job site labor expenses;
2. documented additional cost of Materials and supplies;
3. a list of additional Equipment costs claimed, including each piece of Equipment and the rental rate claimed for each;
4. any other additional direct costs or damages and the documents in support thereof;
5. any additional indirect costs or damages and all documentation in support thereof;

(f) A detailed compilation of the specific dates and the exact number of calendar days sought for a time extension, the basis for entitlement to time for each day, all documentation of the delay, and a breakout of the number of days claimed for each identified event, circumstance or occurrence.

Further, the Contractor shall be prohibited from amending either the bases of entitlement or the amount of any compensation or time stated for any and all issues claimed in the Contractor’s written claim submitted hereunder, and any arbitration or other formal claims resolution proceeding shall be limited solely to the bases of entitlement and the amount of any compensation or time stated for any and all issues claimed in the Contractor’s written claim submitted hereunder. This shall not, however, preclude the Contractor from withdrawing or reducing any of the bases of entitlement and the amount of any compensation or time stated for any and all issues claimed in the Contractor’s written claim submitted hereunder at any time.

2.4.4 Action on Claim: CFX will respond within 30 calendar days of receipt of a complete claim submitted by Contractor in compliance with 2.4.3. Failure by CFX to respond to a claim within 30 calendar days after receipt of a complete claim in compliance with 2.4.3 constitutes a denial of the claim by CFX. If CFX finds the claim or any part thereof to be valid, such partial or whole claim will be allowed and paid for to the extent deemed valid and any time extension granted, if applicable, as provided in the Contract.

2.4.5 Compensation for Extra Work or Delay:

2.4.5.1 Compensation for Extra Work: Notwithstanding anything to the contrary contained in the Contract Documents, the Contractor shall not be entitled to any compensation beyond that provided for in 2.3.2.
2.4.5.2 Compensation for Delay: Notwithstanding anything to the contrary contained in the Contract Documents, the additional compensation set forth in 2.4.5.3 shall be the Contractor’s sole monetary remedy for any delay other than to perform extra work caused by CFX unless the delay shall have been caused by acts constituting willful or intentional interference by CFX with the Contractor’s performance of the work and then only where such acts continue after Contractor’s written notice to CFX of such interference. The parties anticipate that delays may be caused by or arise from any number of events during the term of the Contract, including, but not limited to, work performed, work deleted, change orders, supplemental agreements, disruptions, differing site conditions, utility conflicts, design changes or defects, time extensions, extra work, right-of-way issues, permitting issues, actions of suppliers, subcontractors or other contractors, actions by third parties, suspensions of work by the CEI pursuant to Article 6.6 of the General Specifications, shop drawing approval process delays, expansion of the physical limits of the project to make it functional, weather, weekends, holidays, special events, suspension of Contract time, or other events, forces or factors sometimes experienced in construction work. Such delays or events and their potential impacts on the performance by the Contractor are specifically contemplated and acknowledged by the parties in entering into this Contract, and shall not be deemed to constitute willful or intentional interference with the Contractor’s performance of the work without clear and convincing proof that they were the result of a deliberate act, without reasonable and good-faith basis, and specifically intended to disrupt the Contractor’s performance.

2.4.5.3 Compensation for Direct Costs, Indirect Costs, Expenses, and Profit thereon, of or from Delay: For any delay claim, the Contractor shall only be entitled to monetary compensation for the actual idle labor and equipment, and indirect costs, expenses, and profit thereon, as provided for in 2.3.2.1(d) and solely for costs incurred beyond what reasonable mitigation thereof the Contractor could have undertaken.

2.4.6 Mandatory Claim Records: After giving CFX notice of intent to file a claim for Extra Work or delay, the Contractor must keep daily records of all labor, Materials and Equipment costs incurred for operations affected by the Extra Work or delay. These daily records must identify each operation affected by the Extra Work or delay and the specific locations where Work is affected by the Extra Work or delay, as nearly as possible. CFX may also keep records of all labor, Materials and Equipment used on the operations affected by the Extra Work or delay. The Contractor shall, once a notice of intent to claim has been timely filed, and not less than weekly thereafter as long as appropriate, provide CFX a copy of the Contractor’s daily records and be likewise entitled to receive a copy of CFX’s daily records. The copies of daily records to be provided hereunder shall be provided at no cost to the recipient.
2.4.7 Claims For Acceleration: CFX shall have no liability for any constructive acceleration of the Work, nor shall the Contractor have any right to make any claim for constructive acceleration nor include the same as an element of any claim the Contractor may otherwise submit under this Contract. If CFX gives express written direction for the Contractor to accelerate its efforts, such written direction will set forth the prices and other pertinent information and will be reduced to a written Contract Document promptly. No payment will be made on a Supplemental Agreement for acceleration prior to CFX’s approval of the documents.

2.4.8 Certificate of Claim: When submitting any claim, the Contractor shall certify under oath and in writing, in accordance with the formalities required by Florida law, that the claim is made in good faith, that the supportive data are accurate and complete to the Contractor’s best knowledge and belief, and that the amount of the claim accurately reflects what the Contractor in good faith believes to be CFX’s liability. Such certification must be made by an officer or director of the Contractor with CFX to bind the Contractor.

2.4.9 Non-Recoverable Items: The parties agree that for any claim CFX will not have liability for the following items of damages or expense:

a. Loss of profit, incentives, or bonuses;
b. Any claim for other than Extra Work or delay;
c. Consequential damages including, but not limited to, loss of bonding capacity, loss of bidding opportunities, loss of credit standing, cost of financing, interest paid, loss of other work or insolvency;
d. Acceleration costs and expenses, except where CFX has expressly and specifically directed the Contractor in writing “to accelerate at CFX’s expense”;
e. Attorney fees except in accordance with 3.12, claims preparation expenses and costs of litigation.

2.4.10 Exclusive Remedies: Notwithstanding any other provision of the Contract, the parties agree that CFX shall have no liability to the Contractor for expenses, costs, or items of damages other than those which are specifically identified as payable under 2.4. In the event of any formal claims resolution process for additional compensation, whether on account of delay, acceleration, breach of Contract, or otherwise, the Contractor agrees that CFX’s liability will be limited to those items which are specifically identified as payable in 2.4.

2.4.11 Settlement Discussions: The content of any discussions or meetings held between CFX and the Contractor to settle or resolve any claims submitted by the Contractor against CFX shall be inadmissible in any legal, equitable, arbitration or administrative
proceedings, including the Disputes Review Board, brought by the Contractor against CFX for payment of such claim. Dispute Review Board proceedings are not settlement discussions, for purposes of this provision.

2.4.12 Personal Liability of Public Officials: In carrying out any of the provisions of the Contract or in exercising any power or authority granted to the Central Florida Expressway Authority, its employees, members, officers, agents, consultants and successors, there shall be no liability of any employee, officer, official agent or consultant of CFX either personally or as officials or representatives of CFX. It is understood that in all such matters such individuals act solely as agents and representatives of CFX.

2.4.13 Auditing of Claims: All claims filed against CFX shall be subject to audit at any time following the filing of the claim, whether or not such claim is part of a suit pending in the Courts of the State of Florida. The audit may be performed at CFX’s sole discretion by employees of CFX or by any independent auditor appointed by CFX, or both. The audit may begin after ten days written notice to the Contractor, subcontractor, or supplier. The Contractor, subcontractor, or supplier shall make a good faith effort to cooperate with the auditors. As a condition precedent to recovery on any claim, the Contractor, subcontractor, or supplier must retain sufficient records, and provide full and reasonable access to such records to allow CFX’s auditors to verify the claim. Failure to retain sufficient records of the claim or failure to provide full and reasonable access to such records shall constitute a waiver of that portion of such claim that cannot be verified and shall bar recovery thereunder. Further, and in addition to such audit access, upon the Contractor submitting a written claim, CFX shall have the right to request and receive, and the Contractor shall have the affirmative obligation to provide to CFX, copies of any and all documents in the possession of the Contractor or its subcontractors, materialmen or suppliers as may be deemed relevant by CFX in its review of the basis, validity or value of the Contractor’s claim.

Without limiting the generality of the foregoing, the Contractor shall upon written request of CFX make available to CFX’s auditors, or upon CFX’s written request for copies, provide copies at CFX’s expense, any or all of the following documents:

1. Daily time sheets and superintendent’s daily reports and diaries;
2. Insurance, welfare and benefits records;
3. Payroll registers;
4. Earnings records;
5. Payroll tax returns;
6. Materials invoices, purchase orders, and all Materials and supply acquisition contracts;
7. Materials cost distribution worksheets;
8. Equipment records (list of company owned, rented or other Equipment used)
9. Vendor rental agreements and subcontractor invoices;
10. Subcontractor payment certificates;
11. Canceled checks for the project, including payroll and vendors;
12. Job cost reports;
13. Job payroll ledgers;
14. General ledger, general journal, (if used) and all subsidiary ledgers and journals together with all supporting documentation pertinent to entries made in these ledgers and journals;
15. Cash disbursements journal;
16. Financial statements for all years reflecting the operations on the Project;
17. Income tax returns for all years reflecting the operations on the Project;
18. All documents which reflect the Contractor’s actual profit and overhead during the years the Contract was being performed and for each of the five years prior to the commencement of the Contract;
19. All documents related to the preparation of the Contractor’s bid including the final calculations on which the bid was based;
20. All documents that relate to each and every claim together with all documents which support the amount of damages as to each claim;
21. Worksheets used to prepare the claim establishing the cost components for items of the claim including, but not limited to, labor, benefits and insurance, Materials, Equipment, subcontractors, and all documents that establish which time periods and individuals were involved, and the hours and rates for such individuals.
22. Electronic Payment Transfers and like records

2.5 Unforeseeable Work

When Work is required which is not covered by a price in the Contract and such Work does not constitute a “significant change” as defined in 2.3.1, and such Work is found essential to the satisfactory completion of the Contract within its intended scope, an adjustment will be made to the Contract. The basis of payment for such adjustment will be in an amount as CFX may determine to be fair and equitable.

2.6 Right To and Use of Materials Found at the Site of the Work

2.6.1 Ownership and Disposal of Existing Materials: Except as might be stipulated or implied otherwise on the Plans or in the Specifications, all Materials which are not the property of other parties (in both roadway and structures) found on the right of way and all material in structures removed by the Contractor, shall become the property of the Contractor and shall be properly disposed of by the Contractor. Such Materials shall not include earth or other excavated material required for the construction of the Project. Materials from existing structures required to be removed and which are designated to remain the property of CFX may generally be used by the Contractor during construction. Such material shall not be cut or otherwise damaged during removal unless permission is given and shall subsequently be stored in an accessible location if so directed by CFX.
2.6.2 Ornamental Trees and Shrubs: Any ornamental trees or shrubs existing in the right-of-way (which are required to be removed for the construction operations and which are not specifically designated on the Plans to be reset or to be removed by others prior to the construction operations) shall remain the property of CFX, and shall be relocated by the Contractor as directed. The Contractor shall be fully responsible for maintaining in good condition all grass plots, trees and shrubs outside the limits of construction as shown on the Plans. Tree limbs that interfere with Equipment operation and are approved for pruning shall be neatly trimmed and the tree cut coated with tree paint.

2.7 Restoration of Right of Way

Areas outside the Project limits within CFX right of way used as a plant site be shaped and dressed so as not to present an objectionable appearance and grassed. The Work of grassing will not be paid for separately but will be considered incidental to the other items of Work for which payment is made. Property outside CFX's right of way that is damaged due to the activities of the Contractor shall be immediately restored, at Contractor’s expense, to a condition similar or equal to that existing before such damage or injury was done by the Contractor.

Upon completion of the Work and before final acceptance and final payment will be made, the Contractor shall remove from the right of way and adjacent property all falsework, Equipment, surplus and discarded Materials, rubbish and temporary structures; shall restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the Work, and shall leave the roadway in a neat and presentable condition throughout the entire length of the Work under the Contract. The placing of Materials of any character, rubbish or Equipment, on abutting property, with or without the consent of the property owners, shall not constitute satisfactory disposal. However, the Contractor will be allowed to temporarily store Equipment, surplus Materials, usable forms, etc., on a well-kept site owned or leased by the Contractor, adjacent to the Project, but no discarded Equipment or Materials or rubbish shall be placed on such site.

END OF SECTION 2
SECTION 3 - CONTROL OF WORK

3.1 Plans and Working Drawings

3.1.1 Plans and Contract Documents: The Contractor will be supplied, without charge, one (1) set of compact disks and one (1) hard copy set of “Approved for Construction” documents including the Plans, General Specifications, Technical Specifications and Special Provisions and addenda, if any. Copies of the FDOT Standard Specifications and Design Standards are available from the FDOT.

3.1.2 Authority’s Plans: The Plans furnished by CFX consist of general drawings showing such details as are necessary to give a comprehensive idea of the construction contemplated. Roadway plans will show in general, alignment, profile grades, typical cross sections and general cross sections. Structure plans, in general, will show in detail all dimensions of the Work contemplated. When the structure plans do not show the dimensions in detail, they will show general features and such details as are necessary to give a comprehensive idea of the structure.

Grades shown are finished grades and B.M. Datum is National Geodetic Vertical Datum of 1929 (NGVD-1929), North American Vertical Datum 1988 (NAVD-1988), or other datum as noted in the Plans.

3.1.3 Alterations in the Plans: All authorized alterations affecting the requirements and information given on the approved Plans shall be in writing. No changes shall be made on any plan or drawing after its approval by CFX, except by direction of CFX.

3.1.4 Shop Drawings

3.1.4.1 Definitions:

(a) Shop Drawings include all working, shop and erection drawings, associated trade literature, calculations, schedules, manuals or similar documents submitted by the Contractor to define some portion of the Work. The type of Work includes both permanent and temporary Work.

(b) Permanent Work is the term deemed to include all the permanent structure and parts thereof required of the completed Contract.

(c) Temporary Work is the term deemed to include any temporary construction work necessary for the construction of the permanent Work. (i) Scaffolding is an elevated work platform used to support workmen, Materials and Equipment but not intended to support the structure.
3.1.4.2. Work Items Requiring Shop Drawings: The requirement for submittals for certain items may be waived by other provisions of these specifications. The Contractor shall review the Plans and Specifications to determine the submittals required. The CEI may request a submittal for any item the CEI considers necessary.

3.1.4.3 Schedule of Submittals: When required in the Contract Documents or when requested by the CEI, the Contractor shall prepare and submit to the CEI a schedule of submittals identifying the Work for which Contractor intends to submit shop drawings, the type, approximate number of drawings or other documents and approximate dates of anticipated submittals with due regard to processing requirements herein. When required, the schedule of submittals shall be submitted to the CEI within 15 days of the start of the date of the Notice to Proceed, and prior to the submission of any shop drawings.

Subsequent submittals shall be coordinated with construction schedules to allow sufficient time for review, approval and re-submittal as necessary.

3.1.4.4 Style, Numbering and Material of Submittals:

3.1.4.4.1 Drawings: The Contractor shall furnish such shop drawings as may be required to complete the structure in compliance with the design shown on the Plans. Drawings shall be prepared or reproduced on permanent material made for the purpose hereafter referred to as masters. The size of the sheets shall be no larger than 24 by 36 inches. Each sheet shall be numbered consecutively for the series and the sheet number shall indicate the total number in the series (e.g., 1 of 12, 2 of 12, ...12 of 12). Each shop drawing shall contain the following items as a minimum requirement: CFX Project Number, drawing title and number, a title block showing the names of the fabricator or producer and the Contractor for which the Work is being done, the initials of the person(s) responsible for the drawing, the date on which the Work was performed, the location of the item(s) within the Project, the Contractor’s approval stamp and initials and when applicable, the signature and embossed seal of the Contractor’s Florida registered Specialty Engineer, if applicable to the submittal. The absence of any of this minimum information may be cause for a request for a re-submittal.

3.1.4.4.2 Other Documents: Documents other than drawings, such as trade literature, catalogue information, calculations and manuals shall be original copies or clearly legible photographic or xerographic copies. The size shall be no larger than 11 by 17 inches. Such information shall be clearly labeled and numbered and the sheet numbers shall indicate the total number of sheets in the series (e.g., 1 of 12, 2 of 12, .... 12 of 12).
All documents shall be bound and submitted with a Table of Contents cover sheet. The cover sheet shall list the total number of pages and appendices and shall also include CFX Project Number, a title to reference the item(s) for which it is submitted, the name of the firm and person(s) responsible for the preparation of the document, the Contractor’s approval stamp and initials and, when applicable, the signature and embossed seal of the Contractor’s Florida registered Specialty Engineer, if applicable for the submittal.

The calculations or manuals shall clearly outline the design criteria and shall be appropriately prepared and checked. The internal sheets shall include the complete CFX Project Number and initials of the persons responsible for preparing and checking the document.

Trade literature and catalogue information shall be clearly labeled with the title, CFX Project Number, date and name of the firm and person responsible for that document displayed on the front cover.

Documents other than drawings may be on xerographic paper or glossy paper material as appropriate. For the purpose of this specification, the term “shop drawings” shall be deemed to include these other documents.

3.1.4.5 Submittal Paths and Copies:

The Contractor shall submit one (1) set of prints along with one (1) set of reproducible copies of each series of shop drawings to the CEI with a copy of the letter of transmittal sent to the Consultant. For Work requiring other documentation (e.g. catalog data, material certifications, material tests, procedure manuals, fabrication / welding procedures, and maintenance and operating manuals) a minimum of eight (8) copies of each document shall be submitted with the prints. The mailing address of the Consultant will be furnished by CFX.

For other miscellaneous design and/or structural details furnished by the Contractor in compliance with the contract, the Contractor shall submit to the CEI one (1) set of prints along with one (1) reproducible copy of each series of shop drawings and four (4) copies of applicable calculations. Each print and the cover sheet of each copy of applicable calculations shall be signed and sealed by the Contractor’s Specialty Engineer.

3.1.4.6 Processing of Shop Drawings:

3.1.4.6.1 Contractor Responsibility for Accuracy and Coordination of Shop Drawings: The Contractor shall coordinate, schedule and control all
submittals including those of its various subcontractors, suppliers and engineers to provide for an orderly and balanced distribution of the Work.

All shop drawings prepared by the Contractor or its agents (subcontractor, fabricator, supplier and etc.) shall be coordinated, reviewed, dated, stamped, approved and signed by the Contractor prior to submission to the CEI for review. The Contractor’s signed approval of drawings submitted shall confirm the Contractor has verified the Work requirements, field measurements, construction criteria, sequence of assembly and erection, access and clearances, catalog numbers and other similar data. Each series of drawings shall indicate the specification section and page or drawing number of the Contract plans to which the submission applies. The Contractor shall indicate on the shop drawings all deviations from the Contract drawings and shall itemize all deviations in the letter of transmittal. Likewise, whenever a submittal does not deviate from the Contract plans, the Contractor shall also clearly state so in the transmittal letter.

The Contractor shall schedule the submission of shop drawings to allow for a 15 calendar day review period by the CEI. The review period commences upon receipt of the Contractor’s submittal by the CEI and terminates upon transmittal of the submittal back to the Contractor by the CEI. The Contractor shall adjust its schedules so that a 10 calendar day period is provided for each re-submittal.

It is incumbent upon the Contractor to submit shop drawings to facilitate expeditious review. Voluminous submittals of shop drawings at one time are discouraged and may result in increased review time. The submittal/re-submittal clock will start upon receipt of a valid submittal. A valid submittal shall include all the minimum requirements outlined above. CFX will not be liable to the Contractor for resulting delays, added costs and/or related damages when the actual time required for approval extends beyond the 45 and 30 day review periods shown above.

Only CEI approvals of miscellaneous submittals and “red ink” stamps on shop drawings are valid and any Work performed in advance of approval will be at the Contractor’s risk.

3.1.4.6.2 Scope of Review by CEI: The review of the shop drawings by the CEI shall be for conformity to the Contract requirements and intent of design and not for the adequacy of the means, methods, techniques, sequences and procedures proposed for construction. Review by the CEI does not relieve the Contractor of responsibility for dimensional accuracy to assure field fit and for conformity of the various components and details.
3.2 Coordination of Plans and Specifications

The Plans, Specifications and all supplementary documents are integral parts of the Contract and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete Work. In addition to the Work and Materials specifically identified as being included in any specific pay item, additional incidental Work not specifically mentioned will be included in such pay item when shown in the Plans or if indicated or obvious and apparent as being necessary for proper completion of the Work.

In case of discrepancy, the governing order of the documents shall be as follows:

1. The Contract,
2. The Memorandum of Agreement,
3. The Addenda (if any), modifying the General Specifications, Technical Specifications, Special Provisions, Technical Special Provisions (if any), Plans or other Contract Documents,
4. The Plans,
5. The Special Provisions,
6. The Technical Special Provisions (if any),
7. The Technical Specifications,
8. The General Specifications,
9. The Standard Specifications,
10. The Design Standards, and
11. The Proposal.

Computed dimensions shall govern over scaled dimensions.

3.3 Conformity of Work with Plans

All Work performed and all Materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions and material requirements, including tolerances, shown on the Plans or indicated in the Specifications.

In the event CFX finds that the Materials or the finished product in which the Materials are used are not within reasonable close conformity with the Plans and Specifications but that reasonably acceptable Work has been produced, CFX will make a determination if the Work will be accepted and remain in place. In this event, CFX will document the basis of acceptance by Contract modification which will provide for an appropriate adjustment in the Contract price for such Work or Materials as CFX deems necessary to conform to CFX’s determination based on engineering judgment.

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In the event CFX finds that the Materials or the finished product in which the Materials are used or the Work performed are not in reasonable close conformity with the Plans and Specifications and have resulted in an inferior or unsatisfactory product, the Work or Materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

For base and surface courses, the finished grade may vary as much as 0.1 foot from the grade shown on the Plans, provided that all template and straightedge requirements are met and that suitable transitions are effected.

3.3.1 Record Drawings: During the entire construction operation, the Contractor shall maintain records of all deviations from the plans and specifications including Request for Information (RFI), field directives, sketches, etc., and shall submit those deviations to the CEI. The submittal shall also include cross-sections, prepared by a registered surveyor, of all retention ponds in the Project limits. A minimum submittal would be full-sized blueprints in good condition with all changes in red, accurately plotted. The print shall be in good condition as determined by the CEI. The marked up prints shall be submitted within 15 days of the Project acceptance or termination of Work. Preparation of the record drawings shall be the responsibility of CFX. Retainage will not be released by CFX until the marked up prints and records have been submitted and accepted by CFX.

3.4 Pre-Award Meeting

The Plans and Specifications will be reviewed in a joint pre-award meeting between the Contractor’s key personnel and CFX’s representatives. The purpose of the meeting will be to address all questions or differences in interpretations of the documents and to provide clarifications. The meeting will also provide the opportunity for the Contractor to disclose advantages that may have been gained through a strict and literal interpretation of the bid documents. If the Contractor suspects or believes, based on its prior experience, or on the overall specifications, that a literal interpretation of one or more specifications may not reflect CFX’s intentions or desires, the Contractor shall disclose such belief at this meeting. CFX will make a determination as to whether or not any adjustments to the Plans, Specifications and/or bid price are appropriate and desired and will make such corrections and interpretations as CFX deems necessary to reflect the intent of the Plans and Specifications.

A Memorandum of Agreement will be prepared by CFX summarizing the results of the meeting. Except as noted in the Memorandum of Agreement, the Contractor shall certify there are no known errors or omissions in the Plans, Specifications and other Contract Documents before the Contract is executed. The memorandum will be signed by CFX and a representative of the Contractor authorized to act on behalf of the Contractor and will be made a part of the Contract Documents.
Notwithstanding that the pre-award meeting is mandatory as to the Contractor, and notwithstanding that the items to be agreed upon at the pre-award meeting shall become terms of the ultimate Contract, the Contractor expressly acknowledges and agrees that all of the essential terms of the ultimate Contract are contained in the Bid and Bidding Documents, and all issues addressed at the pre-award meeting are deemed non-essential to the existence of the Contract, unless (i) it is discovered that the Contractor misrepresented any item of the Bid, or (ii) CFX determines that the Bid does not conform to the specifications of the Bidding Documents.

3.5 Orders and Instructions

The supervision of the execution of the Contract is vested wholly in the Contractor. The orders, instructions, directions or requests of CFX may come directly from CFX or may be given through CFX’s designated representative. The Contractor shall designate a representative to receive such instructions, directions or requests and failing to do so, will be held responsible for the execution of them.

CFX will have the right to suspend the Work wholly or in part for such period or periods as may be deemed necessary due to failure on the part of the Contractor to carry out orders given to perform any or all provisions of the Contract. The Contractor shall not suspend the Work and shall not remove any Equipment, tools, lumber or other Materials without the written permission of CFX.

3.5.1 Observation of the Work: CFX will have free access to the Materials and the Work at all times for measuring or observing the same, and the Contractor shall afford either or both all necessary facilities and assistance for so doing.

After written authorization to proceed with the Work, CFX or its designated representative will:

3.5.1.1 Make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine in general if the Work is proceeding in accordance with the Plans and Specifications. CFX will not be required to make exhaustive or continuous on-site observations to check the quality or quantity of the Work, will not be responsible for the construction means, methods, procedures, techniques and will not be responsible for the Contractor’s failure to perform the construction Work in accordance with the Plans and Specifications. CFX will not be responsible for safety precautions and procedures concerning the Work. During such visits and based on on-site observations, CFX may disapprove Work as failing to conform to the Plans and Specifications.
3.5.1.2 Check and approve samples, catalog data, schedules, shop drawings, laboratory, shop and mill tests of Materials and Equipment and other data which the Contractor is required to submit, only for conformance with the design concept of the Project and compliance with the information given by the Plans and Specifications.

3.5.1.3 Conduct, in company with the Contractor, a final inspection of the Project for conformance with the design concept of the Project and compliance with the information given by the Plans and Specifications.

3.5.1.4 Prepare final record drawings.

3.5.2 Examination of the Work: CFX and duties of the CEI, if one is so designated by CFX, are limited to examining the material furnished, observing the Work done and reporting its findings to CFX. Neither CFX nor CEI underwrites, guarantees or ensures the Work done by the Contractor. It is the Contractor’s responsibility to perform the Work in all details in accordance with the Plans and Specifications. Failure by any representative of CFX engaged in on-the-site observation to discover defects or deficiencies in the Work of the Contractor shall never, under any circumstances, relieve the Contractor from the Contractor’s liability therefore.

The CEI will have no authority to permit deviation from or to modify any of the provisions of the Plans or Specifications without the written permission or instruction of CFX or to delay the Contractor by failure to observe the Materials and Work with reasonable promptness.

The CEI will not have authority to supervise, direct, expedite or otherwise control the Contractor’s means, methods, techniques or sequences of construction. The CEI may only advise the Contractor when it appears that the Work and/or Materials do not conform to the requirements of the Contract Documents.

The payment of any compensation, irrespective of its character or form or the giving of any gratuity, or the granting of any valuable favor, directly or indirectly, by the Contractor to any project representative is strictly prohibited, and any such act on the part of the Contractor will constitute a violation of the Contract.

If the Plans, Specifications, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to specifically be inspected, tested or approved by someone other than the Contractor, the Contractor shall give CFX timely notice of readiness therefore. The Contractor shall furnish CFX the required certificates of inspection, testing or approval. All such tests will be in accordance with the methods prescribed by the American Society for Testing and Materials, and/or the American Association of State Highway and Transportation Officials, such other applicable organizations as may be required by law, or the Plans and Specifications. If any such Work required so to be inspected, tested or approved
is covered without written approval of CFX, it must, if requested by CFX, be uncovered for observation at the Contractor’s expense. The cost of all such inspections, tests and approvals shall be borne by the Contractor unless otherwise provided.

3.5.3 Communications: Prior to the start of the Work, CFX will advise the Contractor as to how communications between CFX and Contractor will be handled. Thereafter, whenever reference is made to required communication between the Contractor and CFX, such communication, to be given consideration, must be addressed in accordance with the approved procedure.

3.6 Engineering and Layout

3.6.1 Control Points Furnished by CFX

CFX will provide control points and benchmarks as identified in the Plans along the line of the Project to facilitate the proper layout of the Work. A walk-through of the Project by the Consultant’s surveyor will be provided to the Contractor to facilitate field location of these points. The Contractor shall preserve all reference points and benchmarks furnished by CFX.

As an exception to the above, if the Plans do not show a centerline or other survey control line for construction of the Work (e.g., resurfacing, safety modifications, etc.) CFX will provide only points marking the beginning and ending of the Project and all exceptions.

3.6.2 Furnishing of Stake Material

The Contractor shall furnish all stakes, templates and other Materials necessary to establish and maintain the lines and grades necessary for control and construction of the Work.

3.6.3 Layout of Work

Using the control points furnished by CFX in accordance with 3.6.1 above, the Contractor shall establish all horizontal and vertical controls necessary to construct the Work in conformance with the Plans and Specifications. The horizontal and vertical controls shall include performing all calculations required and setting all stakes needed such as grade stakes, offset stakes, reference point stakes, slope stakes and other reference points or marks necessary to provide lines and grades for construction of all roadway, bridge and miscellaneous items. The Contractor shall also establish all horizontal and vertical controls necessary to perform utility construction required to be performed by the Contractor. The Contractor shall
maintain and protect the required station identification stakes in their correct and appropriate locations. Failure to comply with this provision will result in the withholding of the Contractor’s partial payments.

The Contractor shall provide CFX with survey assistance for subsoil excavation quantities and other Project quantities as required by CFX.

3.6.4 Specific Staking Requirements

In circumstances involving new base construction, the Contractor shall set stakes to establish lines and grades for subgrade base, curb and related items at intervals along the line of Work no greater than 50 feet on tangents and 25 feet on curves. Grade stakes shall be set at locations directed by the CEI to facilitate checking of subgrade, base and pavement elevations in crossovers, intersections and irregular shaped areas.

For bridge construction stakes and other controls, the Contractor shall set references at intervals sufficient to assure that all components of the structure are constructed in accordance with the lines and grades shown on the Plans.

If the Plans do not show a centerline or other survey control line for construction of the Work (e.g., resurfacing, safety modifications, etc.), only such stakes as are necessary for horizontal and vertical control of Work items will be required.

For resurfacing and resurfacing/widening Work, the Contractor shall establish horizontal controls adequate to assure that the asphalt mix added coincides with the existing pavement. In tangent sections, horizontal control points shall be set at 100-foot intervals by an instrument survey. In curve sections, horizontal control points shall be set at 25-foot intervals by locating and referencing the centerline of the existing pavement.

The Contractor shall establish, by an instrument survey, and mark on the surface of the finished pavement at 25-foot intervals, points necessary for striping of the finished roadway. For resurfacing and resurfacing/widening Work these points shall be established in the same manner as for horizontal control of paving operations. Marks shall be made in white paint. If striping is included in the Work to be done by the Contractor an alternate method of layout of striping may be approved by the CEI provided that the alignment achieved is equal to or better than that which would be achieved using an instrument survey.

Where applicable, the Contractor shall reference the beginning and ending of each no passing zone for use during temporary striping operations. For permanent striping, the measurement and analysis in order to establish the location and length of no
passing zones shall be accomplished by approved electronic methods consisting of a minimum of two distance measuring devices and shall be accordance with Sections 3B-04 and 3B-05 of the MUTCD which are incorporated by reference as if fully set forth herein.

A station identification stake shall be set at each right of way line at 100-foot intervals and at all locations where a change in right of way width occurs. Each stake shall be marked with painted numerals of sufficient size to be readable from the roadway and corresponding to the Project station at which it is located. Where Plans do not show right of way lines, station identification stakes shall be set at locations and intervals appropriate to the type of Work being done. For resurfacing and resurfacing/widening Work, station identification stakes shall be set at 200-foot intervals.

### 3.6.5 Personnel, Equipment, and Record Requirements

The Contractor shall employ only competent personnel and use only suitable equipment in performing layout Work. The Contractor shall not engage the services of any person or persons in the employ of CFX for performance of layout Work.

Adequate field notes and records shall be kept as layout Work is accomplished. These field notes and records shall be available for review by the CEI as the Work progresses and copies shall be furnished to the CEI at the time of completion of the Project. Any review of the Contractor’s field notes or layout Work by CFX and the acceptance of all or any part thereof, shall not relieve the Contractor of responsibility to achieve the lines, grades, and dimensions shown in the plans and indicated in the specifications.

Prior to final acceptance of the Project, the Contractor shall mark in a permanent manner on the surface of the completed Work all horizontal control points originally furnished by CFX.

### 3.6.6 Payment

The cost of performing the layout Work as described above shall be included in the Contract unit prices for the various items of Work to which it is incidental.

### 3.7 Contractor’s Supervision

#### 3.7.1 Prosecution of Work

The Contractor shall give the Work the attention necessary to assure the scheduled progress is maintained. The Contractor shall cooperate with CFX and other
contractors at Work in the vicinity of the Project.

3.7.2 Contractor’s Superintendent

The Contractor shall have a competent superintendent on the Project at all times with the ability to speak and understand the English language. The superintendent shall be thoroughly experienced in the type of Work being performed and shall have full authority to execute the orders or directions of the CEI and to promptly supply or have supplied, any Materials, tools, equipment, labor and incidentals which may be required. The superintendent shall be provided regardless of the amount of Work sublet.

Prior to commencement of Work on the Project, the Contractor shall provide CFX with a written list of supervisory personnel that will be assigned to the Project. The Contractor shall not replace any of the listed personnel without written notice to CFX except under extraordinary circumstances. The Contractor shall not assign any supervisory personnel to the Project, whether initially or as a substitute, against whom CFX may have reasonable objection. CFX’s acceptance of any supervisory personnel may be revoked based on reasonable objection after due investigation, in which case the Contractor shall submit an acceptable substitute. No acceptance by CFX of any such supervisory personnel shall constitute a waiver of any right of CFX to reject defective Work. The foregoing requirement shall also extend to Subcontractor’s supervisory personnel.

3.7.3 Supervision for Emergencies

The Contractor shall have a responsible person available at or reasonably near the Work site on a 24-hour basis, 7 days per week. This individual shall be designated as the Contractor’s contact in emergencies and in cases where immediate action must be taken to maintain traffic or to handle any other problem that might arise. The contact person shall have the ability to speak and understand the English language.

The Contractor shall submit by certified mail to the Florida Highway Patrol and other local law enforcement agencies, a description of the Project location and the name(s) and telephone number(s) of individual(s) designated to be contacted in cases of emergencies. A copy of these submittals shall also be provided to the CEI as part of the Contractor’s Maintenance of Traffic Plan. Approval of the Maintenance of Traffic Plan will be withheld until these submittals are provided.

3.7.4 Worksite Traffic Supervisor

The Contractor shall have a Worksite Traffic Supervisor who shall be responsible for initiating, installing and maintaining all traffic control devices required for
maintenance of traffic. The Worksite Traffic Supervisor shall have at least 1 year of experience directly related to worksite traffic control in a supervisory or responsible capacity and shall be certified by the American Traffic Safety Services Association under its Worksite Traffic Supervisor Certification Program, or an equal approved by CFX. Approved alternate Worksite Traffic Supervisors may be used when necessary.

The Worksite Traffic Supervisor shall be available on a 24-hour per day basis and shall be present to direct the initial setup of the traffic control plan. The Worksite Traffic Supervisor shall review the Project daily, be involved in all changes to traffic control and have access to all equipment and Materials needed to maintain traffic control and handle traffic related situations.

The Worksite Traffic Supervisor shall ensure that safety deficiencies are corrected immediately. In no case shall minor deficiencies, which are not immediate safety hazards, remain uncorrected for more than 24 hours. The Worksite Traffic Supervisor shall be available on the site within 45 minutes after notification of an emergency and be prepared to positively respond to repair the Work zone traffic control or to provide alternate traffic arrangements.

Failure by the Contractor to maintain a designated Worksite Traffic Supervisor may result in temporary suspension by CFX of all activities except traffic and erosion control and such other activities deemed necessary for Project maintenance and safety.

3.8 General Inspection Requirements

3.8.1 Cooperation by Contractor

The Contractor shall provide CFX with every reasonable facility for ascertaining whether the Work performed and Materials used are in accordance with the requirements and intent of the Plans and Specifications. If CFX so requests, the Contractor shall, at any time before final acceptance of the Work, remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor shall restore the uncovered portions of the Work to the standard required by the Specifications. If the exposed or examined Work is determined to be unacceptable, the cost of uncovering and/or removal and replacement of the covering or making good of the parts removed, shall be at the Contractor’s expense. The Contractor shall revise and upgrade both construction and testing procedures to prevent a recurrence of the conditions that contributed to the unacceptable Work. If the exposed or examined Work is determined to be acceptable, the cost of uncovering and/or removal and replacement of the covering or making good of the parts removed, shall be paid for as unforeseeable Work.
The Contractor shall give the CEI 24 hours advance notice whenever the Contractor intends to perform Work during other than normal daylight hours. On such occasions, the Contractor’s supervisor and sufficient workmen shall be present to undertake the Work in a satisfactory manner. No additional compensation will be made to the Contractor for Work performed during such off periods.

The Contractor shall notify the CEI in writing prior to beginning pumping in any new location on the project or the resumption of pumping after an interruption in any location. Pumping and discharge activities shall be discussed at each weekly progress meeting.

3.8.2 Failure of CFX to Reject Work During Construction

If CFX should fail to reject defective Work or Materials, whether from lack of discovery of such defect or for any other reason, such failure to reject will not prevent CFX from subsequently rejecting defective Work when such defective Work is discovered or obligate CFX to final acceptance of the defective Work. The Contractor shall make no claim for losses suffered due to any necessary removals or repairs of such defects.

3.8.3 Failure to Remove and Renew Defective Materials and Work

If, within the time frame indicated in writing from CFX, the Contractor fails or refuses to remove and renew any defective Materials used or Work performed or fails or refuses to make necessary repairs in an acceptable manner, CFX shall have the right to repair or replace or have repaired or replaced, the unacceptable or defective Materials or Work. All costs incurred by CFX for repairs or replacements shall be paid for from moneys due, or which may become due, the Contractor.

Continued failure or refusal by the Contractor to make necessary repairs promptly, fully and in an acceptable manner shall be sufficient cause for CFX, at its sole discretion and option, to perform the Work with its own forces or to contract with any individual, firm or corporation to perform the Work. Costs incurred by CFX shall be paid for from moneys due or which may become due the Contractor or may be charged against the Contractor’s Public Construction Bond.

3.9 Final Inspection and Acceptance

3.9.1 Maintenance Until Final Acceptance

Until final acceptance by CFX, the Work shall be under the charge and custody of the Contractor. The Contractor shall take every necessary precaution against injury or damage to the Work by the action of the elements or from any other cause.
whatssoever arising either from the execution or non-execution of the Work and shall rebuild, repair, restore and make good, without additional compensation, all injury or damage to any portion of the Work including extensive or catastrophic damages.

The Contractor shall provide, at Contractor’s expense, all temporary electrical power and lighting necessary for Contractor's operations under the Contract.

On new alignments, the Contractor shall be responsible for all electric bills until Final Acceptance of the project or until such time as CFX takes beneficial use of the alignment or portion thereof, whichever occurs first. Once installed, the roadway lighting shall remain in use and be maintained by the Contractor until Final Acceptance. The Contractor shall be responsible for payment of the electric bills until Final Acceptance at which time payment will be the responsibility of CFX.

3.9.2 Inspection for Substantial Completion

The CEI will make a semi-final inspection within 7 days after written notice from the Contractor of completion of the Project in its entirety. If, at the semi-final inspection, it is determined that all pay item work has been installed, the project will be deemed Substantially Complete. Further, if all construction provided for and contemplated by the Contract is complete and acceptable to the CEI, such inspection shall constitute the final inspection as described below.

If any Work is determined to be unsatisfactory by the CEI, in whole or in part, the CEI will give the Contractor the necessary instructions as to repair and/or replacement of material and the prerequisites to final completion and acceptance. Upon satisfactory completion of repairs and/or replacements, the Contractor shall notify the CEI and request another inspection for Substantial Completion. Such inspection will constitute the final inspection if the required material has been repaired and/or replaced and the Work is acceptable to the CEI.

Prior to the inspection for Substantial Completion, the CEI may provide the Contractor with various deficiency lists. These lists are intended to assist the Contractor in preparing for Substantial Completion and are not to be considered as punch lists.

3.9.3 Final Inspection

When, in the opinion of the Contractor, all Materials have been furnished, all Work has been performed and the construction contemplated by the Contract has been satisfactorily completed, the Contractor shall request that the CEI make the final inspection.

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3.9.4 Final Acceptance

When the entire Work of the Project contemplated by the Contract has been completed acceptably, as determined by the CEI, the Contractor will be given a written notice of final acceptance.

3.9.5 Recovery Rights Subsequent to Final Payment

CFX reserves the right, if it discovers and error in the partial or final estimates, or if it discovers that the Contractor performed defective Work or used defective materials, after the final payment has been made, to claim and recover from the Contractor by process of law, such sums as may be sufficient to correct the error or make good the defects in the Work and materials.

3.10 Audit and Examination of Contract Records and Bid Records

CFX reserves and is granted the right (at any time and from time to time, for any reason whatsoever) to review, audit, copy, examine and investigate in any manner, any Contract Records (as herein defined) or Bid Records (as herein defined) of the Contractor or any subcontractor. By submitting a Bid, the Contractor or any first or second tier subcontractor submits to and agrees to comply with the provisions of this Article. In addition, the Contractor shall be entitled to enter into subcontracts with proper CFX approval provided that all subcontracts shall include the same or similar terms as are in this Contract with respect to subcontractors, providing CFX with equal or greater protections than herein.

If CFX requests access to (or review and copy of) any Contract Records or Bid Records and the Contractor refuses such access or review, the Contractor shall be in default under its Contract with CFX. Such refusal shall, without any other or additional actions, constitute grounds for disqualification of the Contractor. This provision shall not be limited in any manner by the existence of any Contractor claims or pending disputes resolution or arbitration relating to the Contract. Disqualification or suspension of the Contractor for failure to comply with this section shall also preclude the Contractor from acting in the future as a subcontractor of another contractor doing work for CFX during the period of disqualification.

Disqualification shall mean the Contractor is not eligible for and shall be precluded from continuing current Work or doing future work for CFX until reinstated by CFX.

The Contractor shall preserve all Bid Records and Contract Records for the entire term of the Contract and for a period of three years after the later of: (i) final acceptance of the Project by CFX or (ii) until all claims (if any) regarding the Contract are resolved.

Contract Records shall include but not be limited to, all information, letters, communications
and data, whether in writing or stored on a computer, computer disks, microfilm, writings, working papers, drafts, computer printouts, field notes, charts or any other data compilations, books of account, photographs, videotapes and audiotapes, agreements, supporting documents, any other papers or preserved data related to the Contract or the Contractor’s performance of the Contract determined necessary by CFX for any purpose. Bid Records shall include but not be limited to, all information and data, whether in writing or stored on a computer, writings, working papers, computer printouts, charts or other data compilations that contain or reflect information, data or calculations used by the Contractor in determining labor, unit price, or any other component of a bid submitted to CFX. Bid Records shall also include but not be limited to, any material relating to the determination or application of equipment rates, home and field overhead rates, related time schedules, labor rates, efficiency or productivity factors, arithmetic extensions, quotations from subcontractors, truckers or material suppliers, profit contingencies and any manuals standard in the industry that may be used by the Contractor in determining its bid. These manuals shall be included in the Bid Records by reference and shall show the name and date of the publication and the publisher.

As a condition precedent to Contractor initially filing (and thereafter processing) any claim with CFX for additional compensation, damages, costs, time extensions or other matters in the nature of a Supplemental Agreement or which will have monetary consequences to CFX, Contractor shall (before and after filing a claim) fully comply with CFX’s request to audit or examine the Contractor’s Contract Records or Bid Records. Non-compliance shall be the basis for and result in dispute resolution being abated or the claim being dismissed until compliance occurs. Re-filing of the claim (and removal of disqualification) shall not occur unless the Contractor also reimburses CFX for costs and attorney’s fees incurred in connection with the audit request and disqualification.

The purpose of this provision and requirement is to assure CFX has full information with respect to any Contractor claims so as to expedite dispute resolution, processing and satisfying bona fide claims.

3.11 Prevailing Party Attorney’s Fees

If any dispute regarding Contractor claims arising hereunder or relating to the Contract (and the Contractor’s Work hereunder) results in binding arbitration, the prevailing party in such arbitration shall be entitled to recover reasonable attorney’s fees and costs including costs and expenses of expert witnesses.

In order for the Contractor to be the prevailing party, the Contractor must receive an adjusted judgment or adjusted award equal to at least eighty percent (80%) of its contested claims filed with CFX, failing which CFX will be deemed the prevailing party in such arbitration proceedings.

For purposes of determining whether the judgment or award is eighty percent (80%) or more
of the contested claims, “adjusted award” or “adjusted judgment” shall mean the amount designated in the award or final judgment as compensation to the Contractor for its claims (exclusive of interest, cost or expenses), less: (i) any amount awarded to CFX (exclusive of interest, costs or expenses) on claims asserted by CFX against the Contractor in connection with the Contract, and (ii) any amount offered in settlement prior to initiation of Contractor arbitration claims (exclusive of interest, cost or expenses).

The term “contested claim” or “claims” shall mean the initial written claim(s) submitted to CFX by the Contractor (disputed by CFX) which have not otherwise been resolved prior to the initiation of binding arbitration. Contractor claims or portions thereof which CFX agreed to pay or offered to pay, in writing, prior to initiation of arbitration shall not be deemed contested claims for purposes of this provision. If the Contractor submits a modified, amended or substituted claim after its original claim and such modified, amended or substituted claim(s) is for an amount greater than the prior claim(s), the higher amount shall be the claim(s) for purposes of determining whether the award is at least eighty percent (80%) of the Contractor’s claim(s).

Attorney’s fees and costs awarded to the prevailing party shall mean reasonable fees and costs incurred in connection with and measured from the date a claim is initially submitted through and including the arbitration hearing, appeal and collection. In the circumstance where an original claim is subsequently modified, amended or a substituted claim is filed therefore, fees and costs shall accrue from the date of the first written claim submitted, regardless of whether such original claim amount is ultimately used in determining if the judgment or award is at least eighty percent (80%) of the cumulative claims.

The term “costs” shall include any and all costs incurred, including without limitation consultant fees, expert witness fees, court reporter costs, photocopy costs, telephone charges and travel expenses, whether or not such costs are provided by statute or contained in the State-Wide Guidelines.

The purpose of this provision is to discourage frivolous or overstated claims and, as a result thereof, CFX and the Contractor agree that neither party shall avail itself of Section 768.79, Florida Statutes, or any other like statute or rule involving offers of settlement or offers of judgment, it being understood and agreed that the purpose of such statute or rule is being served by this provision.

Should this provision be judged unenforceable or illegal, in whole or in substantial part, by a court of competent jurisdiction, this provision shall be void in its entirety and each party shall bear its own attorney’s fees and costs.

END OF SECTION 3
SECTION 4 - CONTROL OF MATERIALS

4.1 Acceptance Criteria

4.1.1 General: Acceptance of materials is based on the following criteria. All requirements may not apply to all materials. Use only materials in the work that meet the requirements of these Specifications. The CEI may inspect and test any material, at points of production, distribution and use.

4.1.2 Sampling and Testing: Use CFX’s current sample identification and tracking system to provide related information and attach the information to each sample.

Restore immediately any site from which material has been removed for sampling purposes to the pre-sampled condition with materials and construction methods used in the initial construction, at no additional cost to CFX.

Ensure when a material is delivered to the location as described in the Contract Documents, there is enough material delivered to take samples, at no expense to CFX.

4.1.2.1 Pretest by Manufacturers: Submit certified manufacturer’s test results to the CEI for qualification and use on CFX projects. Testing will be as specified in the Contract Documents. CFX may require that manufacturers submit samples of materials for independent verification purposes.

4.1.2.2 Point of Production Test: Test the material during production as specified in the Contract Documents.

4.1.2.3 Point of Distribution Test: Test the material at distribution facilities as specified in the Contract Documents.

4.1.2.4 Point of Use Test: Test the material immediately following placement as specified in the Specifications. After delivery to the project, CFX may require the retesting of materials that have been tested and accepted at the source of supply, or may require the testing of materials that are to be accepted by Producer Certification. CFX may reject all materials that, when retested, do not meet the requirements of these Specifications.

4.1.3 Certification:

4.1.3.1 Qualified Products List: A Qualified Products List (QPL) is published and maintained by the FDOT and may be referenced in the Plans and Specifications. The items on the list have basic approval and are generally acceptable to CFX. However,
the Contractor is advised that products on the QPL are still subject to final approval and acceptance by CFX. The Contractor shall make no claim for additional compensation or extension of Contract time to replace an item on the QPL that is rejected by CFX subsequent to execution of the Contract.

4.1.3.2 Approved Products List: The State Traffic Operations Office maintains the Approved Products List of Traffic Control Signal Devices. Traffic Monitoring Site Equipment and Materials are also included on the Approved Products List. This list provides assurance to maintaining agencies, contractors, consultants, designers, and CFX personnel that the specific items listed are approved for use on CFX facilities. CFX will limit the Contractor’s procurement and use of Traffic Control Signal Devices, and Traffic Monitoring Site equipment and materials to only those items listed on the Approved Products List that is effective at the time of procurement, except as provided in Section 603.

4.1.3.3 Contractor Installation Certification: Provide installation certifications as required by the Contract Documents.

4.1.4 Warranty and Guaranty: CFX may require the Contractor to warrant and guaranty that certain Materials used in the construction of the Project meet all specification requirements for a specified time period. Warranty and guaranty requirements are specified in the appropriate Specifications sections governing the Materials.

4.2 Designation of a Specific Product as a Criterion (“Or Equal” Clause)

Reference in the Plans or Specifications to any proprietary article, device, product, material or fixture or any form or type of construction, by name, make or catalog number, with or without the words “or equal”, shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may use any article, device, product, material or fixture or any form or type of construction, which in the sole opinion of CFX (expressed in writing) is equal, for the purpose intended, to that named and compatible with existing equipment.

4.3 Source of Supply and Quality Requirements

4.3.1 Only Approved Materials to be Used: Only Materials conforming to the requirements of the Specifications, holding a current approval for manufacturing and/or fabrication by the FDOT and approved by CFX shall be used in the Work. Any Materials proposed for use by the Contractor may be inspected or tested by CFX at any time during preparation or use. No material shall be used in the Work that becomes unfit after approval. Materials containing asbestos will not be allowed.
4.3.2 Notification of Placing Order: The Contractor shall notify the CEI at least 15 days prior to ordering Materials to allow CFX time for sampling and testing.

4.3.2.1 Notification of Quality Assurance Inspection Arrangements for Fabrication of Critical Items: To facilitate quality assurance inspection of critical items, the Contractor shall submit a fabrication schedule for all items requiring commercial inspection. The fabrication schedule shall be submitted to the CEI before or at the pre-construction conference. Fabrication of critical items include, but is not limited to, steel bridge components, overhead cantilevered sign supports with cantilevered arms exceeding 45 feet, movable bridge components or any other item identified as a critical item in the Plans or Specifications.

4.3.3 Approval of Source of Supply: The source of supply for material proposed for use shall be submitted by the Contractor to the CEI for approval. Delivery of material shall not begin until approval of the CEI is received.

Representative preliminary samples of the character and quantity prescribed shall be submitted by the Contractor for examination and testing. If, after trial, the source of supply does not furnish a uniform product or if the product from any source proves unacceptable at any time, the Contractor shall furnish material from other approved sources.

The production of mineral aggregates shall be under a Producer Quality Control Program approved by the FDOT. Proof of such approval shall be submitted to the CEI. The program shall be in accordance with FDOT requirements and procedures for obtaining and maintaining FDOT approval of developed and operational mineral aggregate sources (mines and redistribution terminals) and the FDOT Mineral Aggregate Manual. Individual certification shall be furnished with each haul unit load of Materials shipped attesting that those specific Materials were produced under an FDOT-approved Producer Quality Control Program. Any haul unit load of mineral aggregates received by the Contractor without an individual certification being made available to the CEI will be considered defective.

4.4 Inspection and Tests at Source of Supply

4.4.1 General: If the volume, progress of Work and other considerations warrant, CFX may elect to inspect Materials at the source of supply. However, CFX assumes no obligation to inspect Materials at the source of supply. The responsibility for assuring that Materials are satisfactory rests entirely with the Contractor.

4.4.2 Cooperation by Contractor: The Contractor shall ensure that CFX has free entry and access at all times to the areas of the plant engaged in the manufacture or production of the Materials ordered. Contractor shall bear all costs incurred to provide all
reasonable facilities to assist in determining whether the material furnished complies with the requirements of the Specifications.

4.4.3 Retest of Materials: CFX may retest or may require retesting of any Materials which have been tested and accepted at the source of supply after the same have been delivered to the job site. All Materials, which, when retested, do not comply with the requirements of the Specifications, will be rejected; in which case the cost of such retesting shall be at the expense of the Contractor.

4.5 Storage of Materials and Samples

4.5.1 Method of Storage: Store materials in such a manner as to preserve their quality and fitness for the work, to facilitate prompt inspection, and to minimize noise impacts on sensitive receivers. More detailed specifications concerning the storage of specific materials are prescribed under the applicable Specifications. CFX may reject improperly stored materials.

4.5.2 Use of Right-of-Way for Storage: If the Engineer allows, the Contractor may use a portion of the right-of-way for storage purposes and for placing the Contractor’s plant and equipment. Use only the portion of the right-of-way that is outside the clear zone, which is the portion not required for public vehicular or pedestrian travel. When used, restore the right-of-way to pre-construction condition at no additional cost to CFX or as specified in the Contract Documents. Provide any additional space required at no expense to CFX.

4.5.3 Responsibility for Stored Materials: Accept responsibility for the protection of stored materials. CFX is not liable for any loss of materials, by theft or otherwise, or for any damage to the stored materials.

4.5.4 Storage Facilities for Samples: Provide facilities for storage of samples as described in the Contract Documents and warranted by the test methods and Specifications.

4.6 Defective Materials

Materials not meeting the requirements of these Specifications will be considered defective. The CEI will reject all such materials, whether in place or not. Remove all rejected material immediately from the site of the work and from storage areas, at no expense to CFX.

Do not use material that has been rejected and the defects corrected, until the CEI has approved the material’s use. Upon failure to comply promptly with any order of the CEI made under the provisions of this Article, the CEI will remove and replace
defective material and deduct the cost of removal and replacement from any moneys due or to become due the Contractor.

As an exception to the above, the Contractor may submit, upon approval of the CEI, an engineering and/or laboratory analysis to evaluate the effect of defective in place materials. A Specialty Engineer, who is an independent consultant or the Contractor’s Engineer of Record as stated within each individual Section, shall perform any such analysis. The CEI will determine the final disposition of the material after review of the information submitted by the Contractor. No additional monetary compensation or time extension will be granted for the impact of any such analysis or review.
SECTION 5 - LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC

5.1 Laws to be Observed

5.1.1 General: The Contractor shall comply with all Federal, State, county and city laws, by-laws, ordinances and regulations which control the action or operation of those engaged or employed in the Work or which affect Materials used. CFX will acquire environmental permits required by federal, State, county and local regulatory agencies for all final improvements. CFX will not provide permits for construction means and methods (burning, dewatering, etc.). The Contractor shall be responsible for these.

The Contractor shall indemnify, defend and save harmless CFX and all of its officers, agents, consultants and employees, in the amount of the Contract, against any claims or liability arising from or based on the violation of any such laws, by-laws, ordinances, regulations, orders or degrees by the Contractor or its subcontractors and suppliers.

5.1.2 Plant Quarantine Regulations: The Contractor shall contact the local or other available representatives of the U.S. Department of Agriculture Animal and Plant Health Inspection Service and the Florida Department of Agriculture and Consumer Services to ascertain any current restrictions regarding plant pests which may be imposed by those agencies. Contractor shall remain current with regard to the latest quarantine boundary lines during the construction period. Any restrictions imposed by authorized agencies may affect Contractor’s operations involving items such as clearing and grubbing, earthwork, grassing and mulching, sodding, landscaping and other items that may involve the movement of Materials containing plant pests across quarantine lines. Any infringement, damages, remedial activities and/or costs thereof associated with imposed agency restrictions will be borne by the Contractor.

5.1.3 Introduction or Release of Prohibited Aquatic Plants, Plant Pests or Noxious Weeds: The Contractor shall not introduce or release prohibited aquatic plants, plant pests or noxious weeds into the Project limits for any reason. The Contractor shall immediately notify the CEI upon discovery of any prohibited aquatic plants, plant pests or noxious weeds within the Project limits. The Contractor shall not move prohibited aquatic plants, plant pests or noxious weeds and their reproductive parts without a permit from the respective State and/or Federal agency. Prohibited aquatic plants, plant pests and noxious weeds are defined in Rule 16C-52 and Rule 5B-57, Florida Administrative Code. Furnish the CEI, prior to incorporation into the project, with a certification from the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, stating that the sod, hay, straw, and mulch materials are free of noxious weeds, including Tropical Soda Apple.
5.1.4 Compliance with Federal Endangered Species Act: Prior to establishing any off-project activity in conjunction with the Project (e.g., borrow pits, concrete or asphalt plant sites, material or Equipment storage sites), the Contractor shall certify to CFX that the Contractor has made, through the use of a qualified environmental scientist, such investigations as may be necessary to comply with the Federal Endangered Species Act. The Contractor shall immediately notify CFX if the Contractor’s investigation reveals the need for a biological assessment to determine what measures, if any, are necessary to mitigate the impact on endangered species. The cost for any required biological assessment or subsequent measures required to mitigate the impact on endangered species shall be solely at the Contractor’s expense.

No Work shall be performed on site preparation for any off-project activity until CFX receives the Contractor’s certification.

5.1.5 Occupational Safety and Health Requirements: The Contractor shall take precautions necessary for the protection of life, health and general occupational welfare of all persons (including employees of both the Contractor, CFX and all of its officers, agents and consultants) until the Work has been completed and accepted by CFX.

The Contractor and all Subcontractors shall not allow any person employed in performance of the Work to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to health or safety, as determined under the safety and health standards, set forth in Title 29, Code of Federal Regulations, Part 1518 published in the Federal Register on April 17, 1971, as promulgated by the United States Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act, (83 Stat. 96) including any subsequent revisions and updates.

5.1.6 Discovery of Unmarked Human Burial Site: The Contractor shall notify the CEI within two hours of the Contractor’s or subcontractor’s discovery of an unmarked human burial site. All Contractor or subcontractor activity that may disturb the site shall cease immediately upon discovery of the site. The Contractor shall not resume activity at the burial site until written authorization is received from the CEI.

5.1.7 Insecticides and Herbicides: Contractor shall contact the Local County Extension Office for a list of approved Insecticides or Herbicides. Contractor shall: adhere to all labeling instructions; exercise extreme caution to prevent damage to vegetation adjacent to the treated area; and replace any damage as the result of these Materials being applied outside the designated treatment area at no expense to CFX.
5.2 Permits and Licenses

5.2.1 Except as specifically provided for elsewhere in the Specifications, the Contractor shall secure all permits and licenses and give all notices necessary and incidental to the due and lawful prosecution of the Work. The Contractor shall pay all charges and fees for any required licenses and permits.

5.2.2 Whenever the Work under or incidental to the Project requires structures and/or dredge/fill/construction activities within the Project limits in waters of the State, CFX will obtain the necessary permits. Any modifications or revisions to an original permit will also be obtained by CFX provided that it is shown that such modifications or revisions are required to complete the construction operations specifically called for in the Plans or Specifications and within the right-of-way limits.

The Contractor shall be responsible to obtain any permits that may be required for Work performed by the Contractor outside the right-of-way or easements for the Project.

In performing the Work, when under the jurisdiction of any environmental regulatory agency, the Contractor shall comply with all regulations issued by such agencies and with all general, special and particular conditions relating to construction activities of any kind and all permits issued to CFX as though such conditions were issued to the Contractor. The Contractor will be responsible for posting any permit placards in a protected location at the worksite.

In case of any discrepancy between any permit condition and a requirement of the Plans or Specifications, the permit condition shall prevail.

If the permit conditions require Work or the furnishing of Materials not specifically provided for in the basis of payment clause for a pay item, such Work or furnishing of Materials will be considered unforeseeable Work by CFX and the Contractor will be compensated in accordance with Article 2.5 of these General Specifications. Special sequencing or scheduling of operations that may be required by permit conditions will not be considered unforeseeable Work by CFX and no additional compensation will be made to the Contractor.

5.3 Patented Devices, Materials and Processes

Payments to the Contractor are understood to include all royalties and costs arising from patents, trademarks and copyrights in any way involved with the Work. Whenever the Contractor is required or desires to use any design, device, material or process covered by letters of patent, trademark, trade secret or copyright, CFX’s and the Contractor’s right for such use shall be provided by suitable legal agreement with the patentee or owner of
the copyright. A copy of such agreement shall be submitted to CFX; however, whether or not such agreement is made or filed, the Contractor, in all cases, shall indemnify, defend and save harmless CFX and all of its officers, agents, consultants and employees, from any and all claims for infringement by reason of the use of any such patented design, device, material or process, on the Work and shall indemnify CFX and all of its officers, agents, consultants and employees for any costs, expenses and damages which CFX may be obligated to pay by reason of any such infringement, at any time during the Work and for a period of three years after completion and acceptance of the Project by CFX.

5.4 Right-of-Way Furnished by CFX

Except as may be otherwise stipulated in the Specifications or as may be shown on the Plans, all right-of-way necessary for completion of the Project will be furnished by CFX without cost to the Contractor. If borrow material areas furnished by CFX contain limerock, such material shall not be removed from the pit without specific written approval from CFX.

5.5 Sanitary Provisions

The Contractor shall provide and maintain in a neat and sanitary condition such accommodations for the use of Contractor’s employees as are necessary to comply with the requirements and regulations of the State and local boards of health. The Contractor shall not create any public nuisance.

5.6 Control of the Contractor’s Equipment

5.6.1 Traffic Interference: Contractor shall not permit Equipment to unreasonably interfere with traffic while the Equipment is on or traversing a road or street.

5.6.2 Overloaded Equipment: Any hauling unit or Equipment loaded in excess of the maximum weights set out in the Florida Uniform Traffic Control Law (or lower weights that may be legally established for any section of road or bridge by the FDOT or local authorities) shall not be operated on any road or street except as provided in subarticle 5.6.3 below for crossings or as provided by a special permit issued by the governmental unit having jurisdiction over a particular road or bridge. This restriction applies to all roads and bridges inside and outside the Project limits as long as these roads and bridges are open for public use. Roads and bridges, which are to be demolished, may be overloaded after they are permanently closed to the public. All liability for loss or damages resulting from Equipment operated on a structure permanently closed to the public shall be the responsibility of the Contractor.

5.6.3 Crossings: Where it is necessary to cross an existing road, including specifically
the existing travel lanes of a divided highway within the limits of the Project, the Contractor shall obtain the necessary permits from the governmental unit having jurisdiction. The Contractor shall comply with all permit conditions at no additional cost to CFX. The Contractor will be required to provide flagging and watchman service or approved signal devices, for the protection of traffic at all such crossings, in accordance with an approved written plan for that activity.

5.6.4 Protection from Damage by Tractor-Type Equipment: Positive measures shall be taken by the Contractor to assure that tractor-type Equipment does not cause damage to roads. If any such damage occurs, the Contractor shall immediately repair the damage to the satisfaction of the governmental unit having jurisdiction over the road and at no cost to CFX.

5.6.5 Contractor’s Equipment on Bridge Structures: The Contractor, through its Specialty Engineer, shall analyze the effect of imposed loads on bridge structures, within the limits of the Project, resulting from the following operations:

1) Overloaded Equipment as defined in subarticle 5.6.2 above:
   a) Operating on or crossing over completed bridge structures.
   b) Operating on or crossing over partially completed bridge structures.

2) Equipment within legal load limits:
   a) Operating on or crossing over partially completed bridge structures.

3) Construction cranes:
   a) Operating on completed bridge structures.
   b) Operating on partially completed bridge structures.

Any pipe culvert or box culvert qualifying as a bridge, as defined under subarticle 1.3.4 of these General Specifications is excluded from the above requirements.

A completed bridge structure is a structure in which all elemental components comprising the load carrying assembly have been completed, assembled and connected in their final position. The components to be considered shall also include any related mediums transferring load to any bridge structure.

The Contractor shall determine the effect the Equipment loads have on the bridge structure and the procedures by which the loaded Equipment can be used without exceeding the load capacity for which the structure was designed.

The Contractor shall submit to the CEI for approval eight (8) copies of design
calculations, layout drawings and erection drawings showing how the Contractor’s Equipment will be used so that the bridge structure will not be overstressed. One (1) of the eight (8) copies of the drawings and the cover sheet of one (1) of the eight (8) copies of the calculations shall be signed and sealed by the Contractor’s Specialty Engineer as CFX’s record set.

5.6.6 Posting of the Legal Gross Vehicular Weight: The maximum legal gross weight, as set out in the Florida Uniform Traffic Code, shall be displayed in a permanent manner on each side of any dump truck or any dump type tractor-trailer unit hauling embankment material, construction aggregates, road base material or hot bituminous mixture to the Project over any public road. The weight shall be displayed in a location clearly visible to the scale operator, in numbers that contrast in color with the background and are readily visible and readable from a distance of 50 feet.

5.7 Structures Over Navigable Waters

5.7.1 Compliance with Jurisdictional Regulations: Where structures are erected in, adjacent to or over navigable waters, the Contractor shall observe all regulations and instructions of jurisdictions having control over such waters. The Contractor shall not obstruct navigation channels without permission from the proper authority and shall provide and maintain navigation lights and signals in accordance with jurisdictional requirements.

5.8 Use of Explosives

The use of explosives will not be allowed.

5.9 Preservation of Property

5.9.1 General: The Contractor shall preserve from damage all property along the line of Work or which is in the vicinity of or is any way affected by the Work, the removal or destruction of which is not called for by the Plans. This requirement shall apply to public and private property, public and private utilities (except as modified by subarticle 5.9.6 below), trees, shrubs, crops, signs, monuments, fences, guardrail, pipe, underground structures, public highways (except natural wear and tear of highway resulting from legitimate use thereof by the Contractor) and the like. Property damaged due to the activities of the Contractor shall be immediately restored, at Contractor’s expense, to a condition similar or equal to that existing before such damage or injury was done by the Contractor.

The Contractor shall protect existing bridges from damage caused by Contractor’s
operations during the entire construction period. The Contractor will not be required to provide routine repairs or maintenance for such structures but will be required, at Contractor’s expense, to make immediate repairs of any damage caused by the Contractor’s operations.

The Contractor shall protect all geodetic monuments, horizontal or vertical, located within the limits of construction.

5.9.2 Failure to Restore Damaged Property: If the Contractor fails to restore such property, bridge or road CFX may, at its sole option and with 48 hours notice to the Contractor, proceed to repair, rebuild or otherwise restore the damaged property, bridge or road at Contractor's cost or expense. The cost of such repairs will be deducted by CFX from any monies due or which may become due the Contractor.

5.9.3 Contractor’s Use of Streets and Roads

5.9.3.1 On Systems Other than CFX System: Where the Contractor hauls material or Equipment to the Project over roads and bridges on the state park road system, state highway system, county road system or city street system and such hauling causes damage, the Contractor, at Contractor’s cost and expense, shall immediately repair such roads or bridges to as good a condition as existed before the hauling began.

5.9.3.2 On CFX System: The Contractor shall also be responsible for repairing damage caused by hauling Materials to the Project along roads and bridges outside the limits of the Project which are on CFX system (roads under the jurisdiction of CFX) or are specifically designated in the Plans as haul roads from CFX furnished Materials pits.

5.9.3.3 Within the Limits of the Project: The Contractor shall not operate Equipment or hauling units of such weight as to cause damage to previously constructed elements of the Project including but not necessarily limited to, bridges, drainage structures, base course and pavement. Equipment or hauling units loaded in excess of the maximum weights set out in subarticle 5.6.2 above shall not be operated on existing pavements that are to remain in place (including pavement being resurfaced), cement-treated subgrades and bases, concrete pavement, any course of asphalt pavement and bridges. Exceptions to these weight restrictions may be allowed for movement of necessary Equipment to and from its work site, for hauling of offsite fabricated components to be incorporated into the Project and for crossings as detailed in subarticle 5.6.3 above.
5.9.3.4 Whenever the Contractor utilizes any streets or roads, whether on CFX system or otherwise, for cyclical material hauling operations, for example embankment, excavation, etc., the condition of all affected streets or roads will be assessed by the Contractor through an initial video survey with the CEI prior to hauling operations. Throughout the hauling operations or when changes to haul routes occur, the Contractor shall provide updated video surveys performed every two weeks to monitor the current street, road and/or facility conditions. The video survey will be submitted in duplicate to the CEI and narrated to identify the respective street, road or facility, with detail of specific features, condition, etc. Any deterioration, whatsoever, to the condition of the streets or roads from this initial video survey and subsequent two week updates will be viewed as being a result of the Contractor’s operations and shall be repaired to equal or better condition, at the Contractor's expense, within two weeks after notification by the CEI. The Contractor will be responsible to prevent, clean and replace areas of the travel ways and appurtenances (including but not limited to bridge decks, drainage, roadway surface, striping) utilized by the Contractor where tracking and/or spillage of materials have occurred. Cleaning and preventive measures that will not deteriorate the existing facility conditions will be utilized and may include pressure washing, sanding etc.

5.9.4 Traffic Signs, Signal Equipment, Highway Lighting and Guardrail: Contractor shall protect all existing roadside signs, signal equipment, highway lighting and guardrail, for which permanent removal is not indicated, against damage or displacement. Whenever such signs, signal equipment, highway lighting or guardrail lie within the limits of construction, or wherever so directed by the CEI due to urgency of construction operations, take up and properly store the existing roadside signs, signal equipment, highway lighting and guardrail and subsequently reset them at their original locations or, in the case of widened pavement or roadbed, at locations designated by the CEI.

If CFX determines that damage to such existing or permanent installations of traffic signs, signal equipment, highway lighting or guardrail is caused by a third party(ies), and is not otherwise due to any fault or activities of the Contractor, CFX will, with the exception of any damage resulting from vandalism, compensate the Contractor for the costs associated with the repairs. Contractor shall repair damage caused by vandalism at no expense to CFX.

5.9.5 Operations Within Railroad Right Of Way

5.9.5.1 Notification to the Railroad Company: The Contractor shall notify the CEI and the railroad company’s division engineer or superintendent a minimum of 72 hours in advance of beginning any operations within the limits of the railroad right of way, any operations requiring movement of employees, trucks or other Equipment across the tracks of the railroad company at other than established public crossings, and any other Work which may affect railroad operations or
property.

5.9.5.2 Contractor’s Responsibilities: The Contractor shall comply with the requirements that the railroad company’s division engineer or superintendent considers necessary to safeguard the railroad’s property and operations. Any damage, delay or injury and any suits, actions or claims made because of damages or injuries resulting from the Contractor’s operations within or adjacent to railroad right of way shall be the Contractor’s responsibility.

5.9.5.3 Watchman or Flagging Services: When protective services are necessary during certain periods of the Project to provide safety for railroad operations, the railroad company will provide such services (watchman or flagging) and CFX will reimburse the railroad company for the cost thereof. The Contractor shall schedule Work that affects railroad operations to minimize the need for protective services by the railroad company.

5.9.6 Utilities

5.9.6.1 Arrangements for Protection or Adjustment: Work shall not commence at points where the Contractor’s operations adjacent to utility facilities may result in expense, loss or disruption of service to the public or owners of the utilities until the Contractor has made all arrangements necessary for the protection of the utilities. The Contractor shall be solely and directly responsible to the owners and operators of such utilities for any damage, injury, expense, loss, inconvenience or delay caused by the Contractor’s operations.

CFX will make the necessary arrangements with the utilities owners for removal or adjustment of utilities where such removal or adjustment is determined by CFX to be essential to the performance of the Work. Relocations or adjustments requested by the Contractor on the basis of the Contractor’s proposed use of a particular method of construction or type of Equipment will not be considered as being essential to the Work if other commonly used methods and Equipment could be used without the necessity of relocating or adjusting the utility. CFX will determine the responsibility for any such required adjustments of utilities. Relocations or adjustments requested because of delivery to the Project of Materials furnished by the Contractor shall be the responsibility and expense of the Contractor.

Circumstance under which CFX will consider utility relocations or adjustments essential include, but are not necessarily limited to, the following:

1) Utilities lying within the vertical and horizontal construction limits
plus the reasonably required working room necessary for operation of Equipment normally used for the particular type of construction except as provide in subparagraph 4 below. In the case of overhead electrical conductors which carry more than 400 volts, a minimum of 10 feet clearance between the conductor and the nearest possible approach of any part of the Equipment will be required, except where the utility owner effects safeguards approved by the Florida Department of Labor and Employment Security.

2) Utilities lying within the horizontal limits of the Project and within 12 inches below the ground surface or the excavation surface on which the construction Equipment is to be operated or within 12 inches below the bottom of any stabilizing course called for on the Plans.

3) Utilities lying within the normal limits of excavation for underground drainage facilities or other structures (except as provided in subparagraph 4 below). Such normal limits shall extend to side slopes along the angle of repose as established by sound engineering practice, unless the sides of the excavation are required by the Plans or Specifications to be supported by sheeting or the Contractor elects to sheet such excavation for the Contractor’s convenience.

4) Where utilities cross pipe trenches transversely within the excavation area but not within positions from which relocation or removal is necessary, the utility owner will be responsible for providing and effecting all reasonable measures for their support and protection during construction operations. The Contractor shall cooperate with the utility owner in the owner’s effecting such support and protective measures. The Contractor shall be responsible for any damage to the utility that is caused by neglect or failure on the Contractor’s part to cooperate and to use proper precaution in performing the Work.

In the event that a temporary relocation of a utility or a particular sequence of timing in the relocation of a utility is necessary, such relocation shall be done only as directed by CFX. CFX will not be responsible for utility adjustments or temporary relocation work or for the conditions resulting therefrom, where such adjustments are: not necessitated by the construction of the Project; or done solely for the benefit or convenience of the utility owner or its contractor (or the Contractor where Contractor’s construction procedures are considered by CFX to be other than normal); or not shown on the approved Plans for the utilities relocation or the construction.

5.9.6.2 Cooperation with Utility Owners: The Contractor shall cooperate with the
utility owners in the removal and/or rearrangement of utilities. If utility service is interrupted due to construction operations, the Contractor shall immediately notify the owner of the utility and the CEI and cooperate in the prompt restoration of service. If water service is interrupted, the Contractor’s repair work shall be continuous until the service is restored. No Work shall be undertaken around fire hydrants until the local fire authority has approved provisions for continued service.

5.9.6.3 Utility Adjustments: Utility adjustments and reconstruction Work may be underway during the Work. The Contractor shall effectively cooperate, coordinate and schedule utility adjustments with utility construction crews in maintaining utility service. The Contractor shall use caution when working adjacent to utilities that have been relocated. The Contractor shall repair, at Contractor’s expense, damages to relocated utilities resulting from Contractor’s operations.

5.9.6.4 Weekly Meetings: Contractor shall conduct weekly meetings on the job site with all the affected utility companies and the CEI in attendance to coordinate Project construction and utility relocation, and shall submit a list of all attendees one week in advance to the CEI for approval.

Provide the approved Work Progress Schedule and Work Plan for the project to document the schedule and plan for road construction and utility adjustments. When utility relocations no longer affect construction activities, the Contractor may discontinue the meetings with the CEI’s approval.

5.10 Responsibility for Damages, Claims, etc.

5.10.1 Contractor to Provide Defense Against Claims and Suits: To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless CFX (its officers, agents, consultants and employees) from and against claims, damages, losses and expenses (including but not limited to attorneys’ fees), arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom. However, the indemnification herein provided is only to the extent caused in whole or in part by negligent acts, intentional acts, omissions or commissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described herein.
In claims against any person or entity indemnified under this subarticle by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this subarticle shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a subcontractor under workers’ or workmen’s compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this subarticle shall not extend to the liability of the Engineer of Record, the Engineer of Record’s consultants and agents and employees of any of them arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, designs or specification, or (2) the giving of or the failure to give direction or instructions by the Engineer of Record, the Engineer of Record’s consultants and agents and employees of any of them provided such giving or failure to give is the primary cause of the injury or damage.

The Contractor’s obligation to indemnify, defend, and pay for the defense or, at CFX’s option, to participate and associate with CFX in the defense and trial of any damage claim or suit and any related settlement negotiations, shall arise within seven (7) days of receipt by the Contractor of CFX’s notice of claim for indemnification to the Contractor. The notice of claim for indemnification will be served by certified mail. The Contractor’s obligation to defend and indemnify within seven (7) days of receipt of such notice will not be excused because of the Contractor’s inability to evaluate liability or because the Contractor evaluates liability and determines the Contractor is not liable or determines CFX is solely negligent. The Contractor shall pay all costs and fees related to this obligation and its enforcement by CFX.

This Contract shall not create in the public or any member thereof, a third party beneficiary hereunder or to authorize anyone not a party to this Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the Contract.

5.10.2 Guaranty of Payment for Claims: The Contractor guarantees the payment of all just claims for Materials, Equipment, supplies, tools or labor and other just claims against the Contractor or any subcontractor in connection with the Contract. Final acceptance and payment by CFX will not release the Contractor of said guarantees until all such claims are paid or released.

5.11 Insurance
Anything contained herein to the contrary notwithstanding, during the term of the Contract and for such additional time as may be further required, the Contractor shall provide, pay for and maintain in full force and effect insurance outlined in subarticles 5.11.1 through 5.11.9 below for coverage at not less than the prescribed minimum limits of liability, covering the Contractor’s activities and those of any and all subcontractors (including officers, directors, employees or agents of each and their successors). All insurance shall be provided through companies authorized to do business in the State of Florida and considered acceptable by CFX.

Upon execution of the Contract, the Contractor shall furnish to CFX, Certificates of Insurance bearing an original manual signature of the authorized representative of the insurance company. No Work shall commence under the Contract unless and until the required Certificates of Insurance described herein are in effect and have been approved by CFX. The Certificate of Insurance shall be issued to CFX and shall reference the complete and correct Project number, as well as the full and complete name of each insurance company, including city and state of domicile, as listed by A.M. Best Company. Such Certificates shall provide that in the event of cancellation, non-renewal or material reduction in coverage (including any material reduction of limits of Liability), the insurer will provide thirty (30) days prior notice of such cancellation, non-renewal or material reduction by certified mail to CFX. In addition, certified true copies of all policies shall be provided to CFX upon specific written request. Renewal Certificates of Insurance for all policies shall be submitted by the Contractor so that they are received by CFX no later than thirty (30) calendar days prior to the expiration of existing insurance coverage. Failure by the Contractor to meet this required timeframe will result in suspension of partial payments on monthly estimates until the certificates are received and accepted by CFX.

All insurance coverage required of the Contractor shall be primary over any insurance or self-insurance program carried by CFX.

Excluding Professional and Pollution liability insurance, no liability insurance required herein shall be written under a “claims made” form.

Contractor hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation.

Neither approval by CFX of insurance supplied by the Contractor nor disapproval of that insurance, shall release the Contractor of full responsibility for liability, damages and accidents as otherwise provided by the Contract.
5.11.1 Schedule of Required Limits for Workers’ Compensation, General Liability and Automobile Liability:

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Workers’ Comp/ Employer’s Liability</th>
<th>General Liability (per occurrence/ aggregate)</th>
<th>Automobile Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $3 million</td>
<td>Statutory / $500,000</td>
<td>$1,000,000 / $2,000,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>$3 million and Up</td>
<td>Statutory / $1,000,000</td>
<td>$5,000,000 / $10,000,000</td>
<td>$5,000,000</td>
</tr>
</tbody>
</table>

5.11.2 Worker’s Compensation and Employer’s Liability Insurance: The Contractor shall maintain coverage for its employees in accordance with the laws of the State of Florida. The amount of coverage shall not be less than the limits of insurance as required in subarticle 5.11.1.

The Workers’ Compensation policy shall be endorsed with a waiver of subrogation in favor of CFX for all work performed by the Contractor, its employees, agents and subcontractors.

5.11.3 Comprehensive General Liability Insurance: Coverage shall be maintained by the Contractor providing Comprehensive General Liability Insurance as provided on Insurance Services Office form GC 00 01 or an equivalent thereof. Limits of Liability for Bodily Injury Liability and/or Property Damage Liability shall not be less than the limits of insurance as required in Section 5.11.1.

The policy shall contain an endorsement providing for Aggregate Limits of Liability to be on a per Project basis. This endorsement shall state that Aggregate Limits as specified herein apply separately and specifically to this Project.

Products and Completed Operations coverage, evidenced by a Certificate of Insurance, shall be maintained for a period of not less than two (2) years following completion of the Work to which the Contract applies.

If watercrafts are to be used in the performance of any Work under the Contract, watercraft operations shall be covered under the Comprehensive General Liability policy providing limits in accordance with the General Liability requirements.

If the Project involves Work or operations by the Contractor within the limits of the railroad right-of-way, including any encroachments thereon from Work or operations in the vicinity of the railroad right-of-way, the railroad shall be named as an Additional Insured under this policy.

CFX, its employees, members, officers, agents, consultants and successors shall
be named as Additional Insured under this policy. Insurance Services Office endorsement CG 20 10 (11 85 edition date) or both CG 20 10 and CG 20 37 forms (if later edition dates are used), shall be used to meet these requirements and a photocopy of same shall be provided with the Certificate.

5.11.4 Comprehensive Automobile Liability Insurance: The Contractor shall maintain coverage applicable to the ownership, maintenance, use, loading and unloading of any owned, non-owned, leased or hired vehicle issued on Insurance Services Office form CA 00 01 or its equivalent. The amount of coverage shall not be less than the limits of insurance as required in subarticle 5.11.1.

This policy shall include coverage for liability assumed under contract (if not provided for under the Comprehensive General Liability policy). In the event the Contractor does not own automobiles, the Contractor shall maintain coverage for hired and non-owned auto liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or through a separate Business Auto Liability policy.

CFX, its employees, members, officers, agents, consultants and successors shall be named as Additional Insured under this policy.

5.11.5 Umbrella/Excess Liability Insurance: If an Umbrella or Excess Liability Insurance policy is used to attain the required limits of liability, the sum of the limits provided by the Primary insurance and the Umbrella or Excess Liability insurance must at least equal the Limits of Liability as required by subarticle 5.11.1.

The Umbrella/Excess Liability Insurance policy or Excess policy shall afford coverage equivalent to the required coverage as set forth in this Article 5.11. Policy inception date must also be concurrent with the inception dates of the underlying General Liability and Automobile Liability policies.

Umbrella or Excess policy Certificate of Insurance shall stipulate the underlying limits of liability applicable. A photocopy of the endorsement so evidencing shall be attached to the Certificate.

CFX, its employees, members, officers, agents, consultants and successors shall be named as Additional Insured under this policy.

5.11.6 Builder’s Risk: If this Contract includes: (1) construction of a new above-ground structure or structures, (2) any addition, improvement, alteration, or repair to an existing structure or structures, or (3) the installation of machinery or equipment into an existing structure or structures, the Contractor shall maintain builders’ risk
insurance providing coverage to equally protect the interests of CFX, the Contractor and subcontractors of any tier.

Coverage shall be written on a completed value form in an amount at least equal to 100% of the estimated completed value of the project plus any subsequent modifications of that sum. The coverage shall be written on an “all-risk” basis and shall, at a minimum, cover the perils insured under the Insurance Services Office CP 10 30 Special Causes of Loss Form and shall include property in transit and property stored on or off premises that shall become part of the project.

The Contractor agrees not to maintain a wind or flood sub-limit less than 25% of the estimated completed value of the project. The Contractor agrees any flat deductible(s) shall not exceed $25,000, and any windstorm percentage deductible (when applicable) shall not exceed five-percent (5%).

The coverage shall not be subject to automatic termination of coverage in the event the project/building is occupied in whole or in part, or put to its intended use, or partially accepted by CFX. If such restriction exists the Contractor shall request that the carrier endorse the policy to amend the automatic termination clause to only terminate coverage if the policy expires, is cancelled, CFX’s interest in the project ceases, or the project is accepted and insured by CFX.

5.11.7 Railroad Insurance: When the Contractor performs Work on, over or under a railroad, railroad property or railroad right-of-way, the Contractor shall furnish CFX (for transmittal to the railroad company) an insurance certificate with the railroad named as the insured which (with respect to the operations the Contractor or any of its subcontractors perform) will provide for Railroad Protective Liability insurance providing coverage for bodily injury, death and property damage of a combined single limit of Five Million Dollars ($5,000,000.00) per occurrence, with an aggregate limit of Ten Million Dollars ($10,000,000.00) for the term of the policy. The policy shall be written on the ISO/RIMA (CG 00 3S 11 85) with Pollution Exclusions Amendment (CG 28 31 11 85) endorsement deleting Common Policy Conditions (CG 99 01) if Common Policy Conditions are included in the policy and Broad Form Nuclear Exclusion (IC 00 21). CFX, its employees, members, officers, agents, consultants and successors shall be named as Additional Insured under this policy.

5.11.8 Pollution Legal/Environmental Legal Liability Insurance (CPL) - The Contractor agrees to maintain Contractor’s Pollution Legal/Environmental Legal Liability Insurance on a per-project basis. Coverage shall be for pollution losses arising from all services performed to comply with this contract. Coverage shall apply to sudden and gradual pollution conditions including the discharge, dispersal, release
or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, which results in Bodily Injury or Property Damage.

If policy is written on a Claims Made form, a retroactive date prior to or equal to the effective date of the Contract is required, and coverage must be maintained for 3 years after completion of contract or “tail coverage” must be purchased. In the event the policy is canceled, non-renewed, switched to occurrence form, or any other event which triggers the right to purchase a Supplemental Extended Reporting Period (SERP) during the life of this contract the Contractor agrees to purchase the SERP with a minimum reporting period of not less than three years. Purchase of the SERP shall not relieve the Contractor of the obligation to provide replacement coverage.

Coverage should include and be for the at least the minimum limits listed below:

1) Bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death; property damage including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed;

2) Defense including costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensation damages.

3) Cost of Cleanup/Remediation.

Limits
Each Occurrence - $2,000,000
General Aggregate - $4,000,000

For acceptance of Pollution Legal/Environmental Legal Liability coverage included within another policy coverage required herein, a statement notifying the certificate holder must be included on the certificate of insurance and the total amount of said coverage per occurrence must be greater than or equal to the amount of Pollution Legal/Environmental Legal Liability and other coverage combined.

If the CGL and CPL policy is issued by the same issuer, a total pollution exclusion
shall be attached to the contractor’s CGL policy and an appropriate premium credit provided from the issuer to the contractor.

CFX, its employees, members, officers, agents, consultants and successors shall be named as Additional Insured under this policy.

5.11.9 Professional Liability- If the construction method is “design-build” the Contractor agrees to maintain Professional Liability on a per-project basis. The Contractor agrees that the policy shall include a minimum three-year extended reporting period. The Contractor agrees that the Retroactive Date equals or precedes the execution date of this Contract or the performance of services specified hereunder. The Contractor agrees to provide coverage with limits and deductibles as prescribed below.

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Minimum Limit</th>
<th>Maximum Deductible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $1 million</td>
<td>50% of project cost, minimum of $100,000 per occurrence</td>
<td>10% of project cost or $25,000, whichever is smaller</td>
</tr>
<tr>
<td>$1 million and Up</td>
<td>$1,000,000</td>
<td>$100,000</td>
</tr>
</tbody>
</table>

5.12 Not Used
5.13 Contractor’s Responsibility for Work

Until final acceptance by CFX, the Work shall be under the charge and custody of the Contractor. The Contractor shall take every necessary precaution against injury or damage to the Work by the action of the elements or from any other cause whatsoever arising either from the execution or non-execution of the Work and shall rebuild, repair, restore and make good, without additional compensation, all injury or damage to any portion of the Work including extensive or catastrophic damages.

The Contractor will not be held responsible for damage to any landscape items caused by an officially declared hurricane that occurs after the final acceptance of the entire Work but during any remaining portion of the 90 day establishment period.

5.14 Opening Section of Highway to Traffic

When any bridge or section of roadway is, in the opinion of CFX, acceptable for travel, CFX may direct that the bridge or roadway be opened to traffic. Such opening shall not be considered, in any way, to be an acceptance of the bridge or roadway or any part thereof or as a waiver of any provision of the Contract. The Contractor shall make all repairs or renewals due to defective Work or Materials (or for any cause other than ordinary wear and tear) on such opened sections without additional compensation.

5.15 Scales for Weighing Materials

5.15.1 Applicable Regulations: Prior to the use of any scales, the Contractor shall submit to the CEI a copy of a certificate of accuracy for the scales that is not more than 1 year old. All scales which are used for the determination of the weight of Materials upon which compensation will be made by CFX shall conform to the requirements of Chapter 531, Florida Statutes, pertaining to specifications, tolerances and regulations as administered by the Bureau of Weights and Measures of the Florida Department of Agriculture. CFX reserves the right to perform scale checks/inspections at its sole discretion.

5.15.2 Base for Scales: Such scales shall be placed on a substantial horizontal base that will assure proper support, rigidity and maintenance of level of the scales.

5.15.3 Protection and Maintenance: All scale parts shall be in proper condition as to level and vertical alignment and shall be fully protected against contamination by dust, dirt and other matter which might affect operation of the parts.
5.16 Source of Forest Products

As required by Section 255.20, Florida Statutes, all timber, timber piling or other forest products which are used in the construction of the Project shall be produced and manufactured in the State of Florida, price and quality being equal and provided such Materials produced and manufactured in Florida are available.

5.17 Regulations of Air Pollution

5.17.1 General: All Work shall be done in accordance with all Federal, State and local laws and regulations regarding air pollution and burning.

5.17.2 Dust Control: The Contractor shall ensure that excessive dust is not transported beyond the limits of construction in populated areas. Dust control for embankment or other cleared or unsurfaced areas may be by application of water or calcium chloride, as directed by CFX. Any use of calcium chloride shall be in accordance with Section 102 of the Technical Specifications. When included in the Plans, mulch, seed, sod or temporary paving shall be installed as early as practical. Dust control for storage and handling of dusty materials may be made by wetting, covering or other means as approved by the CEI.

5.17.3 Asphalt Material: Any asphalt used shall be emulsified asphalt unless otherwise stated in the Plans and allowed by Chapter 17-2 of the Rules and Regulations of the Florida Department of Environmental Protection. Asphalt materials and components shall be stored and handled to minimize unnecessary release of hydrocarbon vapors.

5.17.4 Asphalt Plants: The operation and maintenance of asphalt plants shall be in accordance with Chapter 17-2 of the Rules and Regulations of the Florida Department of Environmental Protection. A valid permit as required under Chapter 17-2 shall be available at the plant site prior to the start of Work.

5.18 Dredging and Filling

If required by the Work, the Contractor shall comply with Section 370.033, Florida Statutes, regarding obtaining a certificate of registration from the Florida Department of Environmental Protection and keeping accurate records and logs of all dredge and fill activities.

5.19 Erosion Control
This Project will be constructed on properties that may be subject to environmental permits and regulation promulgated by city, county, state, federal, and regional authorities. Requirements for erosion control are included in the Technical Specifications.

5.20 Contractor’s Motor Vehicle Registration

The Contractor shall provide proof to CFX that all motor vehicles operated or caused to be operated by the Contractor are registered in compliance with Chapter 320, Florida Statutes. Such proof of registration shall be submitted in the form of a notarized affidavit to CFX. No payment will be made to the Contractor until the required proof of registration is on file with CFX.

5.21 Internal Revenue Service Form W-9

The Contractor shall complete and return with the executed Contract, Internal Revenue Service Form W-9, Request for Taxpayer Identification Number and Certification.

5.22 Tolls And Access

The Contractor shall pay all tolls incurred from using CFX’s Expressway System to transport personnel, equipment or materials to and from the site of Work. Any costs incurred by the Contractor in payment of tolls shall be considered incidental and included in associated items. The term “equipment” in this context includes loaders, graders and similar self-propelled equipment, operating under their own power, passing through a toll plaza.

Contractor shall access the Project by existing expressway ramps. No access will be allowed through the right-of-way fence.

5.23 Requests for References or Performance Evaluations

In the event CFX at any time receives any direct or third party inquiry or request concerning the Contractor, its employees or sub-contractors, or the performance of the Contractor, its employees or sub-contractors under this Contract, CFX, at any time and in all cases, may, but shall not be obligated to respond to any such inquiry or request, with or without notice to the Contractor, its employees, or subcontractors, as the case may be, but, in all cases, such response shall be limited to: (1) acknowledging that the Contractor has, or in the past has had, a contract with CFX; (2) the date, term and type of such contract; (3) whether a specified employee or subcontractor worked on the Contract, and if so, in what capacity; (4) whether such contract was terminated early for any reason other than the convenience of CFX; (5)
whether such contract was eligible for renewal or extension; and, (6) if such contract was eligible for renewal or extension, whether in fact such contract was renewed or extended. Should the Contractor, its employees, its agents or subcontractors request that any further information be provided in response to such an inquiry or request, such additional information may be provided by CFX, in its sole discretion. Contractor for itself, its employees, its agents and sub-contractors, hereby expressly waives any and all claims of whatever kind or nature that the Contractor, its employees, its agents or sub-contractors may have, or may hereafter acquire, against CFX relating to, or arising out of CFX’s response to any and all requests or inquiries concerning the Contractor, its employees or subcontractors under this Contract, or the performance of the Contractor, its employees or subcontractors under this Contract.

5.24 Unauthorized Aliens

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

5.25 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR’S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (407-690-5000, publicrecords@CFXWay.com, and 4974 ORL Tower Road, Orlando, FL 32807).

CONTRACTOR acknowledges that CFX is a body politic and corporate, an agency of the State of Florida, and is subject to the Public Records Act codified in Chapter 119, Florida Statutes. To the extent that the CONTRACTOR is in the possession of documents fall within the definition of public records subject to the Public Records Act, which public records have not yet been delivered to CFX, CONTRACTOR agrees to comply with Section 119.0701, Florida Statutes, and to:

1. Keep and maintain public records required by the public agency to perform the
2. Upon request from the public agency’s custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the CONTRACTOR does not transfer the records to the public agency.

4. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the CONTRACTOR or keep and maintain public records required by the public agency to perform the service. If the CONTRACTOR transfers all public records to the public agency upon completion of the contract, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the contract, the CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency’s custodian of public records, in a format that is compatible with the information technology systems of the public agency.

Upon receipt of any request by a member of the public for any documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, made or received by CONTRACTOR in conjunction with this Contract (including without limitation CONTRACTOR Records and Proposal Records, if and as applicable), CONTRACTOR shall immediately notify the CFX. In the event the CONTRACTOR has public records in its possession, CONTRACTOR shall comply with the Public Records Act.

5.26 Inspector General

It is the duty of every CONTRACTOR and subcontractor to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing pursuant to section 20.055, Florida Statutes. The corporation, partnership, or person entering into an Agreement with the Central Florida Expressway Authority understands and will comply with subsection. 20.055(5), Florida Statutes.

5.27 Convicted Vendor List

GS-75
A 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, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies 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 s. 287.017 for CATEGORY TWO for a period of 36 months following the date of being placed on the convicted vendor list.

5.28 Discriminatory Vendor List

An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies 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.

END OF SECTION 5
SECTION 6 - PROSECUTION AND PROGRESS OF THE WORK

6.1 Subletting or Assigning of Contract

6.1.1 The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the Contract or any portion thereof or of Contractor’s right, title or interest therein, without written consent of CFX. With CFX’s written consent, the Contractor will be permitted to sublet a portion of the Work but shall perform, with its own organization, Work amounting to not less than 50% of the total Contract amount less the total amount for those Contract items specifically designated as “Specialty Work” below or as otherwise designated as Specialty Work by CFX. The granting or denying of consent under this provision is at CFX’s sole discretion.

The total Contract amount shall include the cost of Materials, manufactured component products and their transportation to the Project site. Off-site commercial production of Materials and manufactured component products purchased by the Contractor and their transportation to the Project will not be considered subcontracted Work.

If a part of a Contract item is sublet, only its proportional cost will be used in determining the percentage of subcontracted normal Work.

All subcontracts entered into by the Contractor shall be in writing and shall contain all pertinent provisions and applicable requirements of the Contract. All subcontracts shall require subcontractor to indemnify and hold harmless CFX on the same terms as contained in the General Specifications and the Contract. The Contractor shall furnish CFX with a copy of any subcontract requested by CFX. Subletting of Work shall not relieve the Contractor their liabilities.

The Contractor shall ensure that all Subcontractors are competent, careful and reliable. The Contractor shall submit the names and qualifications of all first and second tier subcontractors to CFX for approval prior to their beginning Work on the Project. All first and second tier subcontractors shall have the skills and experience necessary to properly perform the Work assigned and as required by the plans and specifications.

If, in the opinion of CFX, any Subcontractor employed by the Contractor is not qualified to perform the Work or is insubordinate, disorderly, disrupts or is detrimental to the progress of the Work, such first or second tier subcontractor shall be immediately removed from the Project by the Contractor upon written direction from CFX. Such subcontractor shall not be employed again on the Project without the written permission of CFX. If the Contractor fails to immediately remove such subcontractor, CFX may, at its sole discretion, withhold payments due or which may become due, or may suspend the Work until the subcontractor is removed. The
Contractor shall protect, defend, indemnify, and hold harmless CFX, its agents, consultants, officials and employees from any and all claims, actions or suits arising from such removal, discharge or suspension of a Subcontractor based on the direction of CFX. All subcontracts shall expressly include an acknowledgment of CFX's right to remove any Subcontractor in accordance with this paragraph.

A Subcontractor shall be recognized only in the capacity of an employee or agent of the Contractor.

If the aggregate total of the dollar amount of Work performed by a subcontractor, including equipment rental agreements, equals or exceeds $20,000, a formal subcontract agreement shall be entered into between the Contractor and the Subcontractor.

6.1.2 Specialty Work: The following Work is designated as Specialty Work:

- Auxiliary Power Unit
- Cleaning, Coating, Injection, Grouting, Grinding, Grooving or Sealing Concrete Surfaces
- Deep Well Installation
- Electrical Work
- Fencing
- Highway Lighting
- Installing Pipe or Pipe Liner by Jacking and Boring
- Installing Structural Plate Pipe Structure
- Landscaping
- Painting
- Plugging Water Wells
- Pressure Grouting
- Pumping Equipment
- Roadway Signing and Pavement Marking
- Riprap
- Removal of Buildings
- Rumble Strips
- Sealing Wells by Injection
- Septic Tank and Disposal System
- Signalization
- Utility Works
- Vehicular Impact Attenuator
- Water and Sewage Treatment Systems
6.2 Work Performed by Equipment Rental Agreement

The limitations set forth in 6.1, regarding the amount of Work that may be subcontracted, do not apply to Work performed by Equipment rental agreements. The Contractor shall notify CFX, in writing, if the Contractor intends to perform any Work through an Equipment rental agreement. The notification shall be submitted to CFX before any rental Equipment is used on the Project. The notification shall include a list of the Equipment being rented, the Work to be performed by the Equipment and whether the rental includes an Equipment operator. Notification to CFX will not be required for Equipment being rented (without operators) from an Equipment dealer or from a firm whose principle business is renting or leasing Equipment.

6.3 Prosecution of Work

6.3.1 Sufficient Labor, Materials and Equipment: The Contractor shall provide sufficient labor, Materials and Equipment to ensure the completion of the Work no later than the Contract completion date.

6.3.2 Impacts by Adjacent Projects: When there is a potential impact between two or more projects due to close proximity or due to logistics in moving labor, Materials, and Equipment between projects, all authorized representatives of the parties performing the projects have a responsibility to communicate and coordinate their work so that impacts to either party are eliminated or mitigated and do not endanger, delay, or create additional work or costs to either party. The Contractor shall not be compensated for any additional costs or delays so incurred by either party.

6.3.3 Submission of Working Schedule: Within 21 calendar days after award of the Contract, or at the preconstruction conference, whichever is earlier, the Contractor shall submit a work progress schedule to CFX. The schedule shall show the various activities of work in sufficient detail to demonstrate that the Contractor has a reasonable and workable plan to complete the project within the Contract time allowed. The schedule shall show the order and interdependence of activities and the sequence in which the work will be accomplished as planned by the Contractor. All activities shall be described so that the work is readily identifiable and the progress on each activity can be readily measured. Each activity shall show a beginning work date, a duration, and a monetary value. Activities shall include procurement time for materials, plant and equipment, and review time for shop drawings where they are appropriate and essential to the timely completion of the project. The list of activities shall include milestones when required by the plans or specifications. If the project has more than 1 phase, each phase and its completion date shall be adequately identified and no activity shall span more than one phase.

A working plan shall be submitted with the schedule. The working plan shall be a concise written description of the Contractor's construction plan.
If, in the opinion of CFX, the schedule submitted by the Contractor is inadequate, it will be returned to the Contractor for revision. The Contractor shall resubmit a revised schedule within 15 calendar days from the date of the transmittal returning the original schedule. The approved schedule will be used as the baseline against which Contractor's progress is measured.

The Contractor shall submit an updated work progress schedule when requested by CFX. If revisions are required to the working schedule, the Contractor shall submit revised charts and analyses within 21 calendar days after being notified by CFX.

Failure to finalize either the initial or a revised schedule in the time specified may result in CFX withholding payments to the Contractor until the schedule is approved.

6.3.4 Beginning Work: See Article 6.7 below.

6.3.5 Provisions for Convenience of the Public: The Contractor shall schedule operations to minimize any inconvenience to adjacent businesses, vehicular or pedestrian traffic or residences. CFX reserves the right to direct the Contractor as to the performance and scheduling of Work in any areas along the Project where restrictions caused by construction operations present significant hazards to the health and safety of the general public.

When working adjacent to or over travel lanes, the Contractor shall ensure that dust, mud and other debris from Contractor’s operation does not interfere with normal traffic operations or adjacent properties. All debris shall be removed from the Work area and clear zone of the Project before Work ends for the day. Trash shall be picked up and removed daily from the job by the Contractor.

6.3.6 Pre-Construction Conference: Prior to Contractor’s commencement of Work on the Project, the CEI will schedule a pre-construction conference with the Contractor, utility companies and other affected parties to review the proposed Work activities and schedule of events.

6.4 Limitations of Operations

6.4.1 Night Work: In all areas where Work is being performed during the hours of dusk or darkness, the Contractor shall furnish, place and maintain lighting facilities capable of providing light of sufficient intensity (5 foot-candles minimum) to permit good workmanship and proper inspection at all times. The lighting shall be arranged so as not to interfere with or impede traffic approaching the Work site(s) from either direction or produce undue glare to property owners and traveling public.
Lighting of Work site(s) may be accomplished by the use of any combination of portable floodlights, standard Equipment lights, existing street lights, temporary street lights, etc., that will provide the proper illumination. The Contractor shall provide a light meter to demonstrate that the minimum light intensity is being maintained. The Contractor shall provide sufficient fuel, spare lamps, generator, etc., to maintain lighting of the Work site.

The Contractor’s lighting plan shall provide for and show the location of all lights necessary for every aspect of Work to be done at night. The plan shall be presented on standard size roadway plan sheets (no larger than 24” x 36”) and on a scale of either 100’ or 50’ to the inch. The Contractor’s lighting plan shall be submitted to the CEI for review and approval at least 10 days prior to beginning any night Work. The CEI may require that modifications be made to the lighting setup in order to fit field conditions.

The Contractor shall furnish and place variable message signs to alert approaching motorists of lighted construction area(s) ahead.

The Contractor’s pickups and automobiles used on the Project shall be provided with amber flashing lights or flashing white strobe lights. These lights shall be in operation at all times while in the Project limits and/or Work area.

The Contractor’s Equipment shall be provided with a minimum of four square feet of reflective sheeting or flashing lights that will be visible to approaching motorists.

The Contractor shall provide its personnel with reflective safety vests. The Contractor shall ensure that all Subcontractors are also provided with reflective safety vests. Vests shall be worn at all times while workers are within the Work area.

The Contractor shall use padding, shielding or locate mechanical and electrical Equipment to minimize noise as directed by the CEI. Noise generated by portable generators shall comply with all applicable Federal, State and local environmental regulations.

The Contractor shall have a superintendent present to control all operations involved during night Work. The superintendent shall maintain contact with the CEI and ensure that all required actions are taken to correct any problem noted.

All required traffic control devices such as signs, stripes, etc., shall be in place before the Contractor commences Work for the night and before the Contractor leaves the Work site the next morning.

Work operations that result in traffic delays in excess of five minutes may be temporarily suspended by the CEI to minimize the impact on the traveling public.
No private vehicles shall be parked within the limited access right of way.

The Contractor’s Worksite Traffic Supervisor shall continually and adequately review traffic control devices to ensure proper installation and working order, including monitoring of lights.

Compensation for lighting for night Work shall be included in the Contract prices for the various items of the Contract. All lighting Equipment for night work shall remain the property of the Contractor.

6.4.2 Sequence of Operations: The Contractor shall not start new Work that will adversely impact Work in progress. Under such circumstances, CFX reserves the right to require the Contractor to finish a section on which Work is in progress before Work is started on any new section.

6.4.3 Interference with Traffic: The Contractor shall at all times conduct the Work in such a manner and such sequence as to ensure the least practicable interference with traffic. The Contractor’s vehicles and other Equipment shall be operated in such a manner that they will not be a hazard or hindrance to the traveling public. Materials stored along the roadway shall be placed to minimize obstruction to the traveling public.

Where existing pavement is to be widened and stabilizing is not required, the Contractor shall schedule operations such that at the end of each workday the full thickness of the base for widening will be in place. Construction of the widening strips will not be permitted simultaneously on both sides of the road except where separated by a distance of at least one-fourth of a mile along the road, where either the Work of excavation has not been started or the base has been completed.

6.4.4 Coordination with Other Contractors: The right is reserved by CFX to have other work performed by other contractors and to permit public utility companies and others to do work during the construction of and within the limits of or adjacent to the Project. The Contractor shall arrange the Work and dispose of Materials so as not to interfere with the operations of other contractors engaged upon adjacent work and shall perform the Work in the proper sequence in relation to that of other contractors and shall join with and connect to the work of others as required by the Plans and Specifications all as may be directed by the CEI.

Contractor shall be responsible for any damage done by Contractor’s operations to the work performed by other contractors. Similarly, other contractors will be held responsible for damage caused their operations to the Contractor’s Work. The Contractor agrees to make no claims against CFX for additional compensation due to delays or other conditions created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working
within the limits of, or adjacent to, the Project, CFX will decide as to the relative priority of all concerned.

6.4.5 Drainage: The Contractor shall conduct operations and maintain the Work in such condition that adequate drainage will be in effect at all times. Existing functioning storm sewers, gutters, ditches and other runoff facilities shall not be obstructed.

6.4.6 Fire Hydrants: Fire hydrants on or adjacent to the roadway shall be kept accessible to fire apparatus at all times and no material or obstruction shall be placed within 15 feet of any such hydrant.

6.4.7 Protection of Structures: Heavy Equipment shall not be operated close enough to pipe headwalls or other structures to cause their displacement.

6.4.8 Fencing: The Contractor shall expedite the installation of fencing at those locations where, in the opinion of the CEI, such installation is necessary for the protection, health, and safety of the public. All fencing shall be maintained by the Contractor at all times. Fence cuts shall be immediately replaced. All fence removed during any one working day shall be replaced during that same day. While the fence is down, continuous security shall be provided by the Contractor to ensure that no pedestrians or vehicles enter or exit the roadway from the temporarily unfenced area. Specific attention shall be given to prevent any persons, animals, or vehicles moving from adjacent private property onto the roadway right-of-way.

6.4.9 Hazardous or Toxic Waste: When the Contractor’s operations encounter or expose any abnormal condition which may indicate the presence of a hazardous substance, toxic waste or pollutants such operations shall be discontinued in the vicinity of the abnormal condition and the CEI shall be notified immediately. The presence of tanks or barrels; discolored earth, metal, wood, groundwater, etc.; visible fumes; abnormal odors; excessively hot earth; smoke; or other conditions which appear abnormal may be indicators of hazardous or toxic wastes or pollutants and shall be treated with extraordinary caution.

Every effort shall be made by the Contractor to minimize the spread of any hazardous substance, toxic waste or pollutant into uncontaminated areas.

The Contractor’s operations in the affected area shall not resume until so directed by the CEI.

Disposition of the hazardous substance, toxic waste or pollutant shall be made in accordance with the laws, requirements and regulations of any local, state, or federal agency having jurisdiction. Where the Contractor performs Work necessary to dispose of hazardous substance, toxic waste or pollutant and the Contract does not
include pay items for disposal, payment will be made, when approved in writing by a Supplemental Agreement, prior to the Work being performed.

6.4.10 Milling: The Contractor shall provide positive drainage of the remaining pavement after milling. This operation shall be done prior to opening to traffic.

The Contractor shall provide suitable transitions between milled areas of varying thickness in order to create a reasonably smooth longitudinal riding surface. In addition, the Contractor shall provide suitable transitions approaching all bridge ends at all times.

Wedges for Longitudinal and Transverse Joints: Asphalt Wedges for longitudinal and traverse joints shall be one foot wide or long, respectively, for each 1/4 inch of depth. The wedge must be installed prior to opening the lane to traffic.

The Contractor shall plan milling operations so that any lane milled will be repaved prior to opening to traffic.

6.5 Qualifications of Contractor’s Personnel

The Contractor shall ensure that all of its employees are competent, careful, and reliable. All workers shall have the skills and experience necessary to properly perform the Work assigned and as required by the Plans and Specifications.

If, in the opinion of CFX, any person employed by the Contractor, or any Subcontractor, is not qualified to perform the Work or is insubordinate, disorderly, disrupts or is detrimental to the progress of the Work, such person shall be immediately removed from the Project by the Contractor upon written direction from CFX. Such person shall not be employed again on the Project without the written permission of CFX. If the Contractor fails to immediately remove such person, CFX may, at its sole discretion, withhold payments due or which may become due, or may suspend the Work until the person is removed. The Contractor shall protect, defend, indemnify, and hold harmless CFX, its agents, consultants, officials and employees from any and all claims, actions or suits arising from such removal, discharge or suspension of a Contractor employee based on the direction of CFX.

6.6 Temporary Suspension of Contractor’s Operations

6.6.1 CFX to Suspend Contractor’s Operations: CFX, at its sole discretion, may suspend the Contractor’s operations, wholly or in part, for such period(s) as CFX deems necessary. These periods of suspension may include adverse weather conditions, catastrophic occurrences and heavy traffic congestion caused by special events. Written notice, giving the particulars of the suspension, will be transmitted to the Contractor by CFX.
6.6.2 Prolonged Suspensions: If the suspension of operations is for an indefinite period of time, the Contractor shall store all Materials in such a manner that they will not become damaged or obstruct or impede the traveling public unnecessarily. The Contractor shall take reasonable precautions to prevent damage to or deterioration of the Work performed, shall provide suitable drainage of the roadway by opening ditches, shoulder drains, etc., and shall provide all temporary structures necessary for public travel and convenience.

6.6.3 Permission to Suspend Operations: The Contractor shall not suspend operations or remove Equipment or Materials necessary for the completion of the Work without the permission of CFX. All requests for suspension of the Contract time shall be in writing to CFX and shall identify specific dates to begin and end.

6.6.4 Suspension of Contractor’s Operations - Holidays: Unless the Contractor submits a written request to work on a holiday at least ten days in advance of the requested date and receives written approval from the CEI, the Contractor shall not work on the following days: Martin Luther King, Jr. Day; Memorial Day; the Saturday and Sunday immediately preceding Memorial Day; Independence Day; Labor Day; the Friday, Saturday, and Sunday immediately preceding Labor Day; Veterans Day; Thanksgiving Day; the Friday, Saturday and Sunday immediately following Thanksgiving Day; and December 24 through January 2, inclusive. Contract Time will be charged during these holiday periods regardless of whether or not the Contractor’s operations have been suspended. The Contractor is not entitled to any additional compensation for suspension of operations during such holiday periods.

During such suspensions, the Contractor shall remove all Equipment and Materials from the clear zone, except those required for the safety of the traveling public and retain sufficient personnel at the job site to properly meet the requirements of Sections 102 and 104 of the Technical Specifications. The Contractor is not entitled to any additional compensation for removal of Equipment from clear zones or for compliance with Section 102 and Section 104 during such holiday periods.

Any special events known to CFX that may impact Contractor operations are shown on the Plans.

6.7 Contract Time

6.7.1 General: The Contractor shall complete the Work in accordance with the Plans and Specifications and within the Contract Time specified in the Special Provisions including approved extensions.

For scheduling purposes, the Contractor shall take into consideration holidays and all weather conditions (except those listed in subarticle 6.7.3) that may be encountered
during the performance of the Work.

The effect on job progress of utility relocations and adjustments and scheduling of construction operations to maintain traffic shall also be considered by the Contractor in the scheduling of Contract time.

6.7.2 Date of Beginning of Contract Time: The date on which Contract time will begin shall be the date of notice to begin Work or as specified in the Notice to Proceed.

6.7.3 Adjusting Contract Time:

6.7.3.1 Contract Time Extension: CFX has established an allowable Contract duration, in terms of calendar days, sufficient to complete the Work covered by the Contract. By execution of the Contract, the Contractor agrees that the calendar days are sufficient to perform the Work and it has priced its bid taking into account the Contract duration. If the Contractor’s Work (which Work is actually on the critical path) is impacted by one or more of the following events, CFX may (but is not obligated to) consider approving an extension of time:

1. War or other act of public enemies.
2. Riot that would endanger the well-being of Contractor’s employees.
3. Earthquake.
4. Unpredictable acts of jurisdictional governmental authorities acting outside the scope of current laws and ordinances.
5. Hurricane (or other weather event) but only if the weather event results in the declaration of an emergency by the Governor of the State of Florida within the geographical area which includes the Work area.
6. Utility relocation and adjustment Work only if all the following criteria are met:
   a. Utility work actually affected progress toward completion of Work on the critical path.
   b. The Contractor took all reasonable measures to minimize the effect of utility work on critical path activities including cooperative scheduling of his operations with the scheduled utility work.

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7. Temperature restrictions that prohibit placement of friction course (FC-5 only) provided all other Work is completed.

8. Epidemics, quarantine restrictions, strikes (unless caused or provoked by actions of the Contractor, or its subcontractors, or its materialmen, or its suppliers or its agents), freight embargoes.

9. Impacts to the critical path caused by other contractors.

Time will not be granted for inclement weather other than as provided for in this section. In submitting a request for time extension, the Contractor shall comply with the following requirements:

1. Notify CFX in writing of the occurrence of a delay event within 48 hours of the beginning of the event.

2. Furnish a detailed written explanation of the impact of the delaying event on the scheduled Work with supporting documentation in the form of job records.

3. Provide proof that the Contractor has taken all necessary steps to protect the Work, the Contractor’s employees, Materials and Equipment from the effects of the event.

CFX will consider the delays in delivery of materials or component equipment that affect progress on a controlling item of work as a basis for granting a time extension if such delays are beyond the control of the Contractor or supplier. Such delays may include an area-wide shortage, an industry-wide strike, or a natural disaster that affects all feasible sources of supply. In such cases, the Contractor shall furnish substantiating letters from a representative number of manufacturers of such materials or equipment clearly confirming that the delays in delivery were the result of an area-wide shortage, an industry-wide strike, etc. No additional compensation will be made for delays caused by delivery of materials or component equipment.

CFX will not consider requests for time extension due to delay in the delivery of custom manufactured equipment such as traffic signal equipment, highway lighting equipment, etc., unless the Contractor furnishes documentation that the Contractor placed the order for such equipment in a timely manner, the delay was caused by factors beyond the manufacturer’s control, and the lack of such equipment caused a delay in progress on a controlling item of work. No additional compensation will be paid for delays caused by delivery of custom manufactured equipment.
6.7.3.2 An extension of time (rather than monetary compensation) will be the Contractor’s sole and exclusive remedy in the event that an extension of time is justified under subarticle 6.7.3.1. The Contractor shall not be entitled to damages when an extension of time is permitted or granted under said subarticle.

6.8 Failure of Contractor to Maintain Satisfactory Progress

6.8.1 General: Time is of the essence of the Contract. Unsatisfactory progress will be deemed to have occurred when:

1. The allowed Contract time for performing the Work has expired and the Contract Work is not complete; or

2. The specified time or date for performing a special milestone stage of the Work (as may be set forth in the Special Provisions) has expired and the Work for that milestone stage is not complete; or

3. The allowed Contract time has not expired and the net dollar value of completed Work (gross earnings less payment for stockpiled Materials) is 15 percentage points or more below the dollar value of Work that should have been completed according to the accepted working schedule for the Project. The dollar value of Work, which should have been completed, is defined as the average between the early start and late start scheduled earnings according to the approved working schedule. After falling 15 percent behind, the delinquency continues until the dollar value of Work is within 5 percentage points of the dollar value of Work that should be completed according to the accepted working schedule for the Project.

In addition to the retainage specified in Article 7.6 of these General Specifications, retainage may also be withheld on partial payments at any time throughout the duration of the Contract due to unsatisfactory progress. The amount of retainage withheld will be one (1) percent of the gross amount earned for the month for every one (1) percent the project is below the dollar value of the Work that should have been completed according to the accepted working schedule for the Project. Retainage held due to unsatisfactory progress will be returned once the delinquency has been cured.

6.9 Default and Termination of Contract

6.9.1 Determination of Default: If the Contractor fails to begin the Work under the Contract within the time specified in the Notice to Proceed; or fails to perform the Work with sufficient workmen and Equipment or with sufficient Materials to assure the prompt completion of the Contract as related to the schedule; or performs the Work unsuitably or neglects or refuses to remove Materials or to perform anew such
Work as may be rejected as unacceptable and unsuitable; or discontinues the prosecution of the Work; or fails to resume Work which has been discontinued within a reasonable time after notice to do so; or fails to pay timely its subcontractors, suppliers or laborers; or submits a false or fraudulent Certificate of Disbursement of Previous Payments form; or becomes insolvent or is declared bankrupt, or files for reorganization under the bankruptcy code, or commits any act of bankruptcy or insolvency, either voluntarily or involuntarily, or allows any final judgment to stand against it unsatisfied for a period of ten calendar days; or makes an assignment for the benefit of creditors; or for any other cause whatsoever, fails to carry on the Work in an acceptable manner, CFX will give notice in writing to the Contractor of such delay, neglect or default. Failure to ensure that M/WBE firms have the maximum opportunity to participate in performance of the Contract shall constitute failing to prosecute the Work in an acceptable manner.

If the Contractor, within a period of 10 calendar days after the notice described above, does not proceed to correct the default, CFX may give notice of default in writing to the Contractor stating the nature of the default and providing the amount of time which will be allowed to correct the default. If the Contractor (within the curative period described in the notice of default) does not correct the default, CFX will have full power and authority to remove the Work from the Contractor and to declare the Contract in default and terminated.

If the Contract is declared in default, CFX may take over the Work covered by the Contract.

CFX shall have no liability for profits related to unfinished Work on a Contract terminated for default.

6.9.2 Public Interest Termination of Contract: CFX may, by written notice, terminate the Contract or a portion thereof after determining that, for reasons beyond either CFX or Contractor control, the Contractor is prevented from proceeding with or completing the Work as originally contracted for, and that termination would therefore be in the public interest. Such reasons for termination may include but need not be necessarily limited to, executive orders of the President relating to prosecution of war or national defense, national emergency which creates a serious shortage of Materials, orders from duly constituted authorities relating to energy conservation and restraining order or injunctions obtained by third-party citizen action resulting from national or local environmental protection laws or where the issuance of such order or injunction is primarily caused by acts or omissions of persons or agencies other than the Contractor.

When the Contract or any portion thereof, is terminated (as aforesaid) before completion of all items of Work in the Contract, payment will be made for the actual number of units or items of Work completed, at the Contract unit price or as mutually
agreed for items of Work partially completed. No claims for loss of anticipated profits will be considered.

Reimbursement for mobilization expenses (when not otherwise included in the Contract), including moving Equipment to the job, will be considered where the volume of Work completed is too small to compensate the Contractor for these expenses under the Contract unit prices; the intent being that an equitable settlement will be made with the Contractor.

Acceptable Materials procured by the Contractor for the Work, that have been inspected, tested and approved by CFX and that are not incorporated in the Work, may be purchased from the Contractor at actual cost, as shown by receipted bills and actual cost records, at such points of delivery as may be designated by CFX.

Termination of the Contract or a portion thereof, under the provisions of this subarticle, shall not relieve the Contractor of Contractor’s responsibilities for the completed portion and concerning any just claims arising out of, the Work performed.

CFX may also, upon seven days written notice to the Contractor, without cause and without prejudice to any other right or remedy of CFX, elect to terminate the Contract. In such case, the Contractor will be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, in accordance with existing pay items;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, Materials or Equipment as required by the Contract Documents in connection with uncompleted Work, plus mutually agreeable sums for overhead and profit on such expenses.

The Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

6.9.3 Completion of Work by CFX: Upon declaration of default and termination of the Contract, CFX will have the right to appropriate or use any or all Materials and Equipment on the sites where Work is or was occurring which are suitable and acceptable and may enter into agreements with others for the completion of the Work under the Contract or may use other methods which in the opinion of CFX are required for Contract completion. All costs and charges incurred by CFX because of or related to the Contractor’s default (including the costs of completing Contract performance) shall be charged against the Contractor. If the expense of Contract completion exceeds the sum which would have been payable under the Contract, the
Contractor shall be liable and shall pay CFX the amount of the excess.

6.10 Liquidated Damages for Failure to Complete the Work

6.10.1 Liquidated Damages for Failure to Complete the Work: The Contractor shall pay to CFX liquidated damages in the amount specified in the Special Provisions per calendar day for failure of the Contractor to complete the Work within the Contract time stipulated or within such additional time as may have been granted by CFX.

6.10.2 Determination of Number of Days of Default: Default days shall be counted in calendar days.

6.10.3 Conditions Under Which Liquidated Damages are Imposed: If the Contractor fails to complete the Work within the Contract time stipulated or within such extra time as may have been granted by CFX, the Contractor shall pay to CFX, not as a penalty but as liquidated damages, the amount due.

6.10.4 Right of Collection: CFX reserves the right, at its sole option, to apply as payment on liquidated damages due any money which is due the Contractor by CFX.

6.10.5 Allowing the Contractor to Finish Work: Allowing the Contractor to continue and to finish the Work or any part of it, after the expiration of the Contract time allowed, including time extensions, shall in no way act as a waiver on the part of CFX of the liquidated damages due under the Contract.

6.10.6 Liability for Liquidated Damages: In the event of default of the Contract and the completion of the Work by CFX, the Contractor shall be liable for the liquidated damages under the Contract. No liquidated damages shall be chargeable for any delay in the final completion of the Work due to any unreasonable action or delay on the part of CFX.

6.11 Release of Contractor’s Responsibility

The Contract will be considered completed when all Work has been finally accepted, in writing, by CFX. The Contractor will then be released from further obligation except as provided in subarticle 3.9.5, Recovery Rights Subsequent to Final Payment.

6.12 Recovery of Damages Suffered by Third Parties

In addition to liquidated damages, CFX may recover from the Contractor amounts paid by CFX for damages suffered by third parties unless the failure to timely complete the Work was caused by CFX’s acts or omissions.

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6.13 Express Warranty

The Contractor warrants and guarantees the Work to the full extent provided for in and required by the Contract Documents. Without limiting the foregoing or any other liability or obligation with respect to the Work, the Contractor shall, at its expense and by reason of its express warranty, make good any faulty, defective, or improper parts of the Work discovered within one (1) year from the date of final acceptance of the Project, expressed in writing, by CFX. The Contractor also warrants that all materials furnished hereunder meet the requirements of the Contract Documents and expressly warrants that they are both merchantable and fit for the purpose for which they are to be used under the Contract Documents.

Should any subcontractor or material supplier of Contractor provide an express warranty for its work or materials to the Contractor which is thereafter assigned to CFX, or provide a warranty for its work or materials directly to CFX, such warranty shall not preclude CFX from the exercise of any alternative means of relief against Contractor, whether contractual, extra-contractual, statutory, legal or equitable.

END OF SECTION 6
7.1 Measurement of Quantities

7.1.1 Measurement Standards: Unless otherwise stipulated, all Work completed under the Contract shall be measured by CFX according to United States Standard Measures.

7.1.2 Method of Measurements: All measurements shall be taken horizontally or vertically unless otherwise stipulated in the Specifications.

7.1.3 Determination of Pay Areas:

7.1.3.1 Final Calculation: In measurement of items paid for on the basis of area of finished Work, where the pay quantity is determined by calculation, the lengths and/or widths used in the calculations shall be either 1) the station to station dimensions shown on the Plans, 2) the station to station dimensions actually constructed within the limits designated by CFX or 3) the final dimensions measured along the surface of the completed Work within the neat lines shown on the Plans or designated by CFX. The method or combination of methods of measurement shall be those that reflect, with reasonable accuracy, the actual plane surface area, irrespective of surface and texture details of the finished Work as determined by CFX.

7.1.3.2 Plan Quantity: In measurement of items paid for on the basis of area of finished Work, where the pay quantity is designated to be the plan quantity, the final pay quantity shall be the plan quantity subject to the provisions of subarticle 7.3.2. In general, the plan quantity shall be calculated using lengths based on station to station dimensions and widths based on neat lines shown on the Plans.

7.1.4 Construction Outside Authorized Limits: Except where such Work is performed upon written instruction of CFX, no payment will be made for surfaces constructed over a greater area than authorized or for material moved from outside of slope stakes and lines shown on the Plans.

7.1.5 Truck Requirements:

The Contractor shall certify that all trucks used have a manufacturer’s certification or permanent decal showing the truck capacity rounded to the nearest tenth of a cubic yard placed on both sides of the truck. The capacity shall include the truck body only and any side boards added shall not be included in the certified truck body capacity.

7.1.6 Ladders and Instrument Stands for Bridge Construction: To facilitate necessary measurements, the Contractor shall provide substantial ladders to the tops of piers and bents and shall place and move ladders as required by the CEI. For bridges
crossing water or marshy areas, the Contractor shall provide fixed stands for instrument mounting and measurements.

7.2 Scope of Payments.

7.2.1 Items Included in Payment:

Accept the compensation as provided in the Contract as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its final acceptance; also for all other costs incurred under the provisions of the General Specifications.

For any item of work contained in the proposal, except as might be specifically provided otherwise in the basis of payment clause for the item, include in the Contract unit price (or lump sum price) for the pay item or items the cost of all labor, equipment, materials, tools and incidentals required for the complete item of work, including all requirements of the Section specifying such item of work, except as specifically excluded from such payments.

7.2.2 Non-Duplication of Payment:

In cases where the basis of payment clause in these Specifications relating to any unit price in the bid schedule requires that the unit price cover and be considered compensation for certain work or material essential to the item, CFX will not measure or pay for this same work or material under any other pay item that may appear elsewhere in these Specifications.

7.3 Compensation for Altered Quantities

7.3.1 General: When a change or combination of changes in the Plans results in an increase or decrease in the original Contract quantities and the Work added or deleted is of the same general character as that shown on the original Plans, the Contractor shall accept payment in full at the original Contract unit prices for the actual quantities of Work done. No allowance will be made for any loss of anticipated profits because of increase or decreases in quantities provided, however, that increased or decreased Work covered by a Supplemental Agreement will be paid for as stipulated in the Supplemental Agreement.

Compensation for alterations in Plans or quantities of Work requiring Supplemental Agreements shall be stipulated in such agreement, except when the Contractor proceeds with the Work without change of price being agreed upon. The Contractor shall be paid for such increased or decreased quantities at the Contract unit prices bid in the Proposal for the items of Work. If no Contract unit price is provided in the
Contract, the Contractor agrees to do the Work in accordance with Subarticle 2.3.2 of these General Specifications.

7.3.2 Payment Based on Plan Quantity:

7.3.2.1 Error in Plan Quantity: When the pay quantity for an item is designated to be the original plan quantity, such quantity will be revised only in the event that the quantity increases or decreases by more than 5% of the original plan quantity or the amount due for the item increases or decreases by more than $5,000, whichever is smaller. In general, such revisions will be determined by final measurement or plan calculations (or both) as additions to or deductions from plan quantities. Changes resulting in pay quantity increase or decrease in excess of 25% will be in accordance with the criteria for significant changes as defined in subarticle 2.3.1 of these General Specifications.

If the Contractor determines that the plan quantity for any item is in error and additional or less compensation is due, the Contractor shall submit evidence of such error to CFX in the form of acceptable and verifiable measurements and calculations. Similarly, if CFX determines an error or errors exist, it will make its measurements and calculations available to the Contractor. The plan quantity will not be revised solely on the basis of the Contractor’s method of construction.

For earthwork items, the claimant must note any differences in the original ground surfaces from that shown in the original plan cross-sections that would result in a substantial error to the plan quantity, and must be properly documented by appropriate verifiable level notes, acceptable to both the Contractor and CFX, and provide sufficient opportunity to verify the data prior to disturbance of the original ground surface by construction operations. The claimant shall support any claim based upon a substantial error for differences in the original ground surface by documentation as provided above.

7.3.2.2 Authorized Changes in Limits of Work: When the pay quantity for an item is designated to be the original plan quantity and a plan change is authorized resulting in an increase or decrease in the quantity of an item, the plan quantity will be revised accordingly provided that such change will increase or decrease the amount due for more than $100. In general, such revisions will be determined by final measurement or plan calculations or both, subject to the provisions of Subarticle 2.3.2 of these General Specifications.

7.3.2.3 Specified Adjustments to Pay Quantities: The limitations detailed in Subarticles 7.3.2.1 and 7.3.2.2 do not apply when 1) the Specifications provide that the pay quantity for an item to be paid for on the basis of area of finished Work is to be adjusted according to the ratio of measured thickness to nominal thickness, 2) the
Specifications provide for a deduction due to test results falling outside of the allowable specification tolerance or 3) paying for extra length fence posts as detailed in the Standard Specifications Section 550, Fencing, subarticle 550-6.2, Payment Rates for Extra-Length Posts.

7.3.3 Lump Sum Quantities:

7.3.3.1 Error in Plan Quantity: When the pay quantity for an item is designated to be a lump sum and the Plans show an estimated quantity, the lump sum compensation will be adjusted only in the event that either the Contractor submits satisfactory evidence or CFX determines and furnishes satisfactory evidence that the plan quantity shown is substantially in error as defined in 7.3.2.1.

7.3.3.2 Authorized Changes in the Work: When the pay quantity for an item is designated to be a lump sum and the Plans show an estimated plan quantity, compensation for that item will be adjusted proportionately when a plan change results in a significant increase or decrease in the quantity from the estimated plan quantity. When the Plans do not show an estimated plan quantity or the Specifications do not provide adjustments for contingencies, any authorized plan changes resulting in a significant increase or decrease in the cost of acceptably completing the item will be compensated for by establishing a new unit price through a Supplemental Agreement as provided in Subarticle 2.3.2.3 of these General Specifications.

7.3.4 Deviation from Plan Dimensions: If the Contractor fails to construct any item to plan or to authorized dimensions within the specified tolerances, the CEI, at his discretion will: require the Contractor to reconstruct the work to acceptable tolerances at no additional cost to CFX; accept the work and provide the Contractor no pay; or accept the work and provide the Contractor a reduced final pay quantity or reduced unit price. CFX will not make reductions to final pay quantities for those items designated to be paid on the basis of original plan quantity or a lump sum quantity under the provisions of this Article unless such reduction results in an aggregate monetary change per item of more than $100, except that for earthwork items, the aggregate change must exceed $5,000 or 5% of the original plan quantity, whichever is smaller. If, in the opinion of the CEI, the Contractor has made a deliberate attempt to take advantage of the construction tolerances as defined in Article 120-12.1 of the Standard Specifications to increase borrow excavation in fill sections or to decrease the required volume of roadway or lateral ditch excavation or embankment, CFX will take appropriate measurements and will apply reductions in pay quantities. CFX will not use the construction tolerance, as defined in Article 120-12.1, as a pay tolerance. The construction tolerance is not to be construed as defining a revised authorized template.
7.4 Force Account Work: Work performed in addition to that set forth in the original Contract and which is paid for on the basis of actual cost of the Materials and labor, plus a fixed percentage of such costs, and at agreed rental rates for major Equipment used.

7.4.1 Method of Payment: All Work done on a force account basis performed by such labor, tools and Equipment as necessary to accomplish the Work, and authorized by CFX, will be paid for in the following manner:

(a) Labor:

Payment for labor and burden shall be based on actual costs of alteration, change, additional or unforeseen Work, plus a markup of 25%, agreed upon in writing before starting such Work, for every hour that the labor is actually engaged in such Work. Such amount shall be considered as full compensation for general supervision and the furnishing and repairing of small tools used on the Work. Agreed wage rates shall not be in excess of the rates paid for comparable Work on the Project.

(b) Materials and Supplies:

Payment for Materials and supplies, directly related to the alteration, change, additional or unforeseen Work, accepted by CFX and used on the Project shall be based on actual costs of such Materials incorporated into the Work, including Contractor paid transportation charges (exclusive of Equipment as hereinafter set forth), plus a markup of 17.5%. Material is defined as any item used in the Work that remains a part of the Project. The cost of supplies may be the pro-rata portion caused by the alteration, change, additional or unforeseen Work.

(c) Equipment:

The use of each piece of such machinery or Equipment and rental rates must be agreed upon in writing before the force account Work is begun.

Payment for Contractor owned machinery or Equipment (other than small tools) shall be determined as described below, plus a markup of 7.5%. Payment for rented Equipment shall be based on invoice cost plus 7.5%.

The portion of the cost for machinery or Equipment shall be based on the lesser of actual cost or “Rental Rate Blue Book for Construction Equipment” (RRBB) or “Rental Rate Blue Book for Older Construction Equipment” (RRBBOCE) as published by Machinery Information Division of PRIMEDIA.
Information, Inc. (version current at time of bid) using all instructions and adjustments contained therein and as modified below.

On all projects, CFX will adjust the rates using regional adjustments and Rate Adjustment Tables according to the instructions in the RRBB and/or RRBBOCE. Allowable Machinery and Equipment Rates will be established as set out below:

1.) Reimbursement for the Equipment being operated shall be at a rate of 100% of the RRBB and/or RRBBCOE ownership cost plus 100% of the RRBB and/or RRBBCOE operating costs.

2.) Reimbursement for Equipment directed to standby and remain on the project site shall be at 50% of the lesser of the actual rental rate or RRBB and/or RRBBCOE ownership cost only. No more than 8 hours of standby will be paid in a single day.

3.) Costs shall be provided on an hourly basis. Hourly rates, for Equipment being operated or on standby, shall be established by dividing the lesser of actual monthly rental rate or the RRBB and/or RRBBCOE monthly rates by 176. The columns, itemizing rates, labeled “Weekly”, “Daily” and “Hourly” shall not be used.

4.) No additional overhead will be allowed on Equipment costs.

Allowable Hourly Equipment Rate = Monthly Rate/176 x Adjustment Factors x 100%

Allowable Hourly Operating Cost = Hourly Operating Cost x 100%

Allowable Rate Per Hour = Allowable Hourly Equipment Rate + Allowable Hourly Operating Cost

Standby Rate = Allowable Hourly Equipment Rate x 50%

The Monthly Rate is the Basic Machine Rate plus any Attachments. Standby rates will apply when machinery or Equipment is not in operation and is directed by CFX to stand by at the Project site when needed again to complete work and the cost of moving the Equipment will exceed the accumulated standby cost. Standby rates will not apply to any day the Equipment operates for eight or more hours. Standby payment will be limited to only the number of hours which, when added to the operating time
for that day, equals eight hours. Standby payment will not be made on days that are not normally considered workdays on the project.

Transportation to and from the location at which the Equipment will be used will be allowed. If the Equipment requires assembly or disassembly for transport, the time for this will be paid at the rate for standby Equipment.

The markups in 1) through 4) above include all direct and indirect costs, including but not limited to increased jobsite support costs, etc., and expenses of the Contractor, including but not limited to overhead of any kind and reasonable profit.

d) Subcontractor Work

The Contractor will be allowed a markup of 10% on the first $50,000 and a markup of 5% on any amount over $50,000 on any subcontract directly related to the alteration, change, additional or unforeseen Work. A subcontractor mark-up will be allowed only by the prime Contractor and a first tier subcontractor.

e) Insurance and Taxes:

A markup of 1.5% will be allowed on the overall total cost of the alteration, change, additional or unforeseen Work for insurance. The markup includes all direct and indirect costs, including but not limited to increased jobsite support costs, etc., and expenses of the Contractor, including but not limited to overhead of any kind and reasonable profit.

Subcontractors who actually perform the alterations, changes, additional or unforeseen Work will be allowed all markups specified herein.

7.4.2 Records: The compensation as herein provided shall be accepted by the Contractor as payment in full for extra Work done on a force account basis. The Contractor and CFX shall compare records of extra Work done on a force account basis at the end of each day. Copies of these records shall be duplicated by CFX and signed by both CFX and the Contractor.

All claims for extra Work done on a force account basis shall be submitted by the Contractor upon certified statements, to which shall be attached original receipted bills covering the costs of the transportation charges on all Materials used in such Work. However, if Materials used on the force account Work are not specifically purchased for such Work but are taken from the Contractor’s stock, then in lieu of the invoices, the Contractor shall furnish an affidavit certifying that such Materials were
taken from Contractor’s stock, that the quantity claimed was actually used and that
the price and transportation claimed represent actual cost to the Contractor.

7.4.3 Preliminary Order-of-Magnitude Estimate: As a condition precedent to
beginning work designated as Force Account, the Engineer in coordination
with the Contractor will prepare a Preliminary Order-of-Magnitude Estimate
of the contemplated work. The purpose of this Preliminary Order-of-
Magnitude Estimate is to establish the scope of work, the approach,
applicable rates, the estimated duration, and the required documentation
necessary to monitor the work for final payment.

7.5 Deleted Work

CFX shall have the right to cancel the portions of the Contract relating to the construction of
any acceptable item therein by payment to the Contractor of a fair and equitable amount
covering all items of cost incurred prior to the date of cancellation or suspension of the Work
by CFX.

7.6 Partial Payments

7.6.1 General: The Contractor will receive partial payments on monthly estimates, based
on the amount of Work done or completed (including delivery of certain Materials as
specified below) and reflected in the Application for Payment. The monthly
payments shall be approximate only and all partial estimates and payments will be
subject to correction in the subsequent estimates and the final estimate and payment.

The amount of such payments shall be the total value of the Work done to the date of
the estimate based on the quantities and the Contract unit prices less an amount
retained and less payments previously made. In addition to other retainage held as
may be described elsewhere, the amount retained shall be determined in accordance
with the following schedule:

<table>
<thead>
<tr>
<th>% Contract Amount Completed</th>
<th>Amount Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 75</td>
<td>None</td>
</tr>
<tr>
<td>75 to 100</td>
<td>10% of value of Work completed exceeding 75% of Contract amount</td>
</tr>
</tbody>
</table>

Contract amount is defined as the original Contract amount as adjusted by approved
Supplemental Agreements.

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Direct deposit of payments to the Contractor is available. If the Contractor elects to receive direct deposit of payments from CFX, CFX will provide the Contractor with the necessary Automatic Deposit Authorization Agreement form.

7.6.2 Unsatisfactory Payment Record: CFX reserves the right to disqualify the Contractor from bidding on future contracts by CFX if the Contractor’s payment record in connection with the Work becomes unsatisfactory.

7.6.3 Withholding Payment for Defective Work: Should any defective Work or Materials be discovered prior to final acceptance or should a reasonable doubt arise prior to final acceptance as to the integrity of any part of the completed Work, payment for such defective or questioned Work will not be allowed until the defect has been remedied and causes of doubt removed.

7.6.4 Partial Payments for Delivery of Certain Materials:

7.6.4.1 General: Partial payments will be allowed for certain Materials stockpiled in approved locations in the vicinity of the Project. For structural steel, precast drainage structures and precast/prestressed concrete elements, where off-site fabrication is required, the term “in the vicinity of the Project” will be interpreted to include a site remote from the Project provided that condition 1) listed below is satisfied.

The following conditions shall apply to all payments for stockpiled Materials:

1) There must be reasonable assurance that the stockpiled material will be incorporated into the specific project on which partial payment is made.

2) The stockpiled material must be approved as meeting applicable specifications.

3) The total quantity for which partial payment is made shall not exceed the estimated total quantity required to complete the project.

4) The Contractor shall furnish the CEI with copies of certified invoices to document the value of the materials received. The amount of the partial payment will be determined from invoices for the material up to the unit price in the Contract.

5) Delivery charges for materials delivered to the jobsite will be included in partial payments if properly documented.

6) Partial payments will not be made for materials which were stockpiled prior to award of the Contract for a project.
7.6.4.2 Partial Payment Amounts: The following partial payment restrictions apply:

1) Partial payments less than $5,000 for any one month will not be processed.

2) Partial payments for structural steel and precast/prestressed items will not exceed 85% of the bid price for the item. Partial payments for all other items will not exceed 75% of the bid price of the item in which the material is to be used.

3) Partial payment will not be made for aggregate and base course material received after paving or base construction operations begin except when a construction sequence designated by the CEI requires suspension of paving and base construction after the initial paving operations, partial payments will be reinstated until the paving and base construction resumes.

7.6.4.3 Off Site Storage: If the conditions of subarticle 7.6.4.1 are satisfied, partial payments will be allowed for materials stockpiled in approved in-state locations. Additionally, partial payments for materials stockpiled in approved out-of-state locations will be allowed if the conditions of subarticle 7.6.4.1 and the following conditions are met:

1) Furnish CFX a Materials Bond stating the supplier guarantees to furnish the material described in the Contract to the Contractor and CFX. Under this bond, the Obligor shall be the material supplier and the Obligees shall be the Contractor and the Central Florida Expressway Authority. The bond shall be in the full dollar amount of the bid price for the materials described in the Contract Documents.

2) The following clauses shall be added to the contract between the Contractor and the supplier of the stockpiled materials:

   “Notwithstanding anything to the contrary, <supplier> will be liable to the Contractor and the Central Florida Expressway Authority should <supplier> default in the performance of this agreement.”

   “Notwithstanding anything to the contrary, this agreement, does not alter, modify, or otherwise change the Contractor’s obligation to furnish the materials described in this agreement to the Central Florida Expressway Authority.”

3) The agreement between the Contractor and the supplier of the stockpiled materials shall include provisions that the supplier will store the materials and that such materials are the property of the Contractor.
7.6.5 Certification of Payment to Subcontractors: Prior to receipt of any progress (partial) payment, the Contractor shall certify that all subcontractors having an interest in the Contract have received their pro rata share of previous progress payments from the Contractor for all work completed and Materials furnished the previous period. This certification shall be in the form designated by CFX. The term “subcontractor”, as used herein, shall also include persons or firms furnishing Materials or Equipment incorporated into the Work or stockpiled in the vicinity of the Project for which partial payment has been made by CFX and Work done under Equipment-rental agreements.

On initial payment, the Contractor shall assure that all subcontractors and Materials suppliers having an interest in the Contract receive their share of the payments due. CFX will not make any progress payments after the initial partial payment until the Contractor certifies pro rata shares of the payment out of previous progress payments received by the Contractor have been disbursed to all subcontractors and suppliers having an interest in the Contract, unless the Contractor demonstrates good cause for not making any required payment and furnishes written notification of any such good cause to both CFX and the affected subcontractors and suppliers. Contractor shall execute and submit a Certification of Disbursement of Previous Payments form, supplied by CFX, with each payment request after the initial request. Submitting a false or fraudulent certification will result in a determination of default by the Contractor in accordance with Article 6.9.1 of these General Specifications.

7.6.6 Reduction of Payment for Unsatisfactory Services or Products

If any defined action, duty or service, part or product required by the Contract is not performed by the Contractor, the value of such action, duty or service or part thereof will be determined by CFX and deducted from any invoice or monthly billing period claiming such items for payment.

If the action, duty or service, part or product thereof has been completed and is determined to be unsatisfactory by CFX, the Contractor will be notified and given the opportunity to correct any deficiencies within a time certain. Payment (for the unsatisfactory Work) will be withheld by CFX from any invoice or monthly billing period until such time as the Work is determined to be acceptable.
7.7 Record of Construction Materials

7.7.1 General: For all construction Materials used in the construction of the Project (except Materials exempted by Subarticle 7.7.2), the Contractor shall preserve for inspection by CFX all invoices and records of the Materials for a period of 3 years from the date of completion of the Project. This requirement shall also apply to Materials purchased by subcontractors. The Contractor shall obtain the invoices and other Materials records from the subcontractors.

Not later than 30 days after the date of final completion of the Project, the Contractor shall furnish to CFX a certification of construction Materials procured for the Project by the Contractor and all subcontractors. The certification shall consist of an affidavit completed on a form furnished by CFX.

7.7.2 Non-Commercial Materials: The requirement to preserve invoices and records of Materials shall not apply to Materials generally classed as non-commercial such as fill Materials local sand, sand-clay or local Materials used as stabilizer.

7.8 Disputed Amounts Due Contractor

CFX reserves the right to withhold from the final estimate any disputed amounts between the Contractor and CFX. Release of all other amounts due shall be made as provided in Article 7.9.

7.9 Acceptance and Final Payment

When the Work of the Contract has been completed by the Contractor and the final inspection and final acceptance have been given by CFX, a tentative final estimate showing the value of the Work will be prepared by CFX as soon as the necessary measurements and computations can be made, usually within 30 days of final acceptance. All prior estimates and payments will be subject to correction in the final estimate and payment. The Contractor and CFX will have 30 days from the date of the tentative final estimate to resolve any outstanding issues. At the end of the 30 days, CFX will make a written Offer of Final Payment. Provided that the requirements of A) through J) of this Article have been met, the amount of the Offer of Final Payment, less any sums that may have been deducted or retained under the provisions of the Contract will be paid to the Contractor as soon as practicable.

A) The Contractor has submitted written acceptance of the balance due, as determined by CFX, as full settlement of the Contractor's account under the Contract and of all claims in connection therewith.

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Or, the Contractor shall accept the balance due with the stipulation that acceptance of such payment will not constitute any bar, admission or estoppel or have any effect as to those payments in dispute or the subject of a pending claim between the Contractor and CFX. The Contractor shall define the dispute or pending claim in writing in the form of a qualified acceptance letter with full particulars of all items/issues in dispute including itemized amounts claimed. Failure by the Contractor to provide either a written acceptance letter or qualified acceptance letter within 60 calendar days of the Offer of Final Payment shall constitute full acceptance of the balance due without qualification.

If the Contractor provides a qualified acceptance letter, then the Contractor agrees that a complete claim package in accordance with Article 2.4 of the General Specifications, and limited to the particulars in the qualified acceptance letter, will be provided within 120 calendar days of the Offer of Final Payment. Additionally, the contractor agrees that any pending or future arbitration must be limited to the particulars in the qualified acceptance letter and must begin within 210 calendar days from the date of the Offer of Final Payment.

B) The Contractor has properly maintained the Project as specified hereinbefore.

C) The Contractor has furnished a sworn affidavit to the effect that all bills are paid and no suits are pending (other than those exceptions listed if any) in connection with the Work of the Contract and that the Contractor has not offered or made any gift or gratuity to or made any financial transaction of any nature with, any employee of CFX. Tort liability exceptions, if any, shall be accompanied by evidence of adequate insurance as required in Article 5.11 of these General Specifications.

D) Not Used

E) The Contractor has submitted all mill tests and analysis reports to CFX.

F) The Contractor has submitted insurance certificates for extended coverage required by Article 5.11 of these General Specifications.

G) The Contractor has previously submitted Record Drawings as required by GS-105
Article 3.3.1 of these General Specifications.

H) The Contractor has submitted the completed density log book as required by Article 120-10.4.2 of the Technical Specifications.

I) The Contractor has submitted the final material testing certification as required by Article 105-3 of the Technical Specifications.

J) The Contractor has submitted all warranties and operation and maintenance manuals required by various Articles and Subarticles of Specifications.

If the Contractor fails to furnish all required Contract Documents listed in B) through J) of this Article within 90 calendar days of the Offer of Final Payment, CFX may deduct from the retainage due the Contractor, $1,000 for each calendar day beyond the 90 calendar days that the Contractor fails to provide the required Contract Documents.

7.10 Offsetting Payments

If payment of any amount due CFX after settlement or arbitration is not made by the Contractor within 60 days, CFX may, at its sole discretion, offset such amount from payments due the Contractor for Work performed under any other contract with CFX, excluding amounts owed to subcontractors, suppliers and laborers. Offsetting any amount in this manner shall not be considered a breach of the Contract by CFX.

END OF SECTION 7
CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Lake Nona Sports District Supplemental Signing
CFX Project 417-625

TECHNICAL SPECIFICATIONS

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ATTACHED SPECIFICATION SECTIONS

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</tbody>
</table>
SECTION 1 - GENERAL

Division II, Construction Details, and Division III, Materials, of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, 2016 edition (only as revised and as amended herein and as might be amended on the Plans) are incorporated by reference and made a part of these Technical Specifications. Division I of the FDOT Standard Specifications is not incorporated and is replaced by the General Specifications. The Florida Department of Transportation (FDOT) Design Standards, January 2016, and FHWA’s MUTCD Part 6, Traffic Control for Highway Construction, Maintenance, and Utility Operations, are also incorporated by reference and made a part of these Technical Specifications. In case of conflict between the Design Standards and the MUTCD, the more stringent requirement(s) will prevail.

In Division III, all references to subarticle 6.3.3 in Division I of the FDOT Standard Specifications for Road and Bridge Construction are hereby changed to subarticle 4.3.3, Approval of Source of Supply, in the General Specifications.

The Florida Department of Transportation Accident Prevention Procedures Manual, latest revision, is incorporated by reference and made a part of these Technical Specifications and shall be a part of each subcontract entered into by the Contractor pursuant to the Contract. In case of conflict between the Procedures Handbook and the Federal Safety and Health Standards (when referenced in the Contract Documents), the more restrictive requirements will apply.

The Florida Department of Transportation Minimum Specifications for Traffic Control Signal Devices, latest edition, is incorporated by reference and made a part of these Technical Specifications and shall be a part of each subcontract entered into by the Contractor pursuant to the Contract.

Whenever the FDOT-incorporated documents refer to the FDOT (the “Department”) or any FDOT offices or personnel (e.g., “Engineer”, “Estimates Engineer”, “Project Engineer”, “Inspector”), such words shall be taken to mean the Central Florida Expressway Authority’s (CFX) Executive Director, or duly authorized representative specifically authorized to act on behalf of the Executive Director.

Whenever the FDOT-incorporated documents indicate a mailing address for a State of Florida office or agency, the office or agency and the address shown shall be replaced by the following:

Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, Florida 32807
SECTION 2 - AMENDMENTS TO FDOT STANDARD SPECIFICATIONS

2.1 Delete Section 101, Mobilization, in the Standard Specifications and insert new Section 101 attached at the end of these Technical Specifications.

2.2 Delete Section 102, Maintenance of Traffic, in the Standard Specifications and insert new Section 102 attached at the end of these Technical Specifications.

2.3 Delete Section 104, Prevention, Control, and Abatement of Erosion and Water Pollution, in the Standard Specifications and insert new Section 104 attached at the end of these Technical Specifications.

2.4 Quality Control: In section 105, Contractor Quality Control General Requirements, make the following changes:

2.4.1 Delete the language in subarticle 105-1.1.2, Database(s), in its entirety and insert the following new language in its place:

“105-1.1.2 Maintaining Test Results: The Contractor shall timely provide all required specified documentation and test results to the CEI.”

2.4.2 Delete subarticle 105-1.1.3, Worksheets in its entirety.

2.5 Insert new Section 631, Existing Fiber Optic Network System, attached at the end of these Technical Specifications.

2.6 Delete Section 700, Highway Signing, in the Standard Specifications and insert new Section 700 attached at the end of these Technical Specifications.

2.7 Delete Section 994, Retroreflective and Nonreflective Sheeting for Traffic Control Devices, in the Standard Specifications and insert new Section 994 attached at the end of these Technical Specifications.

END OF AMENDMENTS
SECTION 101
MOBILIZATION

101-1 Description.
Perform preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.

Include any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials.

101-2 Basis of Payment.

101-2.1 When a Separate Item is Included in the Proposal: When the proposal includes a separate item of payment for this work, the work and incidental costs specified as being covered under this Section will be paid for at the Contract lump sum price for the item of Mobilization as shown on the bid form.

101-2.2 Partial Payments: When the proposal includes a separate pay item for Mobilization, partial payments will be made therefore in accordance with the following:

<table>
<thead>
<tr>
<th>Percent of Original Contract Amount Earned</th>
<th>Allowable Percent of the Lump Sum Price for the Item*</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>25</td>
<td>75</td>
</tr>
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<td>50</td>
<td>100</td>
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</tbody>
</table>

*Partial payments for any project will be limited to 10% of the original Contract amount for that project. Any remaining amount will be paid upon completion of all work on the project.

The standard retainage, as specified in Article 7.6 of the General Specifications, will be applied to these allowances. Partial payments made on this item will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

When more than one project or job (separate job number) is included in the Contract, the above percentages shall apply separately to each job which has a separate pay item for Mobilization.
For the purposes of calculating the percent complete for mobilization payments, the following formula will be used:

\[
\% \text{ Complete} = \frac{(\text{GETD} - \text{MTD})}{(\text{CCV} - \text{OMV})}
\]

Where:
- GETD = Gross earning to date
- MTD = Mobilization payment to date
- CCV = Current contract value
- OMV = Original mobilization value

101-2.3 When No Separate Item is Included in the Proposal: When the proposal does not include a separate item for Mobilization, all work and incidental costs specified as being covered under this Section will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.

END OF SECTION 101
SECTION 102
MAINTENANCE OF TRAFFIC

102-1 General Provisions.

102-1.1 Description: Maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the Work. Construct and maintain any necessary detour facilities. Provide necessary facilities for access to residences, businesses, etc., along the project. Furnish, install, and maintain traffic control and safety devices during construction. Furnish and install work zone pavement markings for maintenance of traffic in construction areas. Furnish and apply calcium chloride on the subgrade, unsurfaced base, or other unsurfaced traveled ways in order to control dust during construction operations. Provide any other special requirements for safe and expeditious movement of traffic as may be specified on the plans. The term, Maintenance of Traffic, includes all of such facilities, devices, and operations required for the safety and convenience of the public as well as for minimizing public nuisance.

102-1.2 Sections Not Requiring Traffic Maintenance: In general, do not maintain traffic over those portions of the Project where no work is to be accomplished or where construction operations will not affect existing roads. However, do not obstruct or create a hazard to any traffic during the performance of the Work, and repair any damage to existing pavement or facilities caused during the Work.

102-1.3 Detours Over Existing Roads and Streets: When the Central Florida Expressway Authority (CFX) specifies that traffic be detoured over roads or streets outside the project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.

102-1.4 Contractor's Responsibility: Maintain traffic starting the day Work begins on the Project or on the first day Contract Time is charged, whichever is earlier. Continually and adequately review traffic control devices to ensure proper installation and working order, including monitoring of lights. Provide an individual responsible for this review who is certified as an American Traffic Safety Services Association Certified Worksite Supervisor.

The Contractor shall remove all equipment and portable signs from the shoulder during non-construction operations. Such signs and equipment can be placed behind guardrail if available. Post-mounted signs shall be covered

102-2 Specific Requirements.

102-2.1 Maintenance of Roadway Surfaces: Maintain all lanes that are being used for the maintenance of traffic, including those on detours and temporary facilities on asphalt. Keep the lanes reasonably free of dust, and, when necessary to accomplish this, sprinkle them with water, or apply some other dust palliative. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.
102-2.2 Number of Traffic Lanes: See the Traffic Control Plan.

102-2.3 Crossings and Intersections: Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any road or street crossing the project unless approved by the CEI. Maintain all existing actuated or traffic responsive mode signal operations for main and side street movements for the duration of the Contract. Restore any loss of detection within 12 hours. Use only detection technology listed in the FDOT’s Approved Products List (APL) and approved by the CEI to restore detection capabilities.

Prior to interruption of traffic flow that will cause a temporary interruption to the local traffic flow, the Contractor shall submit to the CEI at least two (2) weeks prior to anticipated stoppage, a schedule of the proposed stoppages. Upon approval, the Contractor shall notify all emergency services (police, rescue and fire) of the stoppages five (5) days in advance.

102-2.4 Law Enforcement Services: The Contractor shall determine when uniformed off-duty law enforcement officers, including marked law enforcement vehicles, are necessary to protect personnel and equipment and to assist in controlling and directing traffic in the work zone.

Payment for off-duty law enforcement officers, if used, will be included in the lump sum price for Maintenance of Traffic and shall constitute full compensation for the services of the off-duty law enforcement officer, including a marked law enforcement vehicle and all other direct and indirect costs.

102-3 Traffic Control.

102-3.1 Standards: FHWA's MUTCD Part 6 is the minimum standard for Traffic Control for Highway Construction, Maintenance, and Utility Operations. Follow the basic principles and minimum standards contained in this manual for the design, application, installation, maintenance, and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workers from hazards within the project limits. Understand that the standards established in the aforementioned manual constitute the minimum requirements for normal conditions. The CEI will require additional traffic control devices, warning devices, barriers, or other safety devices where unusual, complex, or particularly hazardous conditions exist. In case of conflict between MUTCD and Design Standards Index 600, the more stringent requirement shall prevail.

Reflectorize traffic cones used at night with cone collars meeting the following requirements:

(a) Use collars designed to properly fit the taper of the cone when installed. Place the upper 6 inch collar a uniform 3 1/2 inch distance from the top of the cone and the lower 4 inch collar a uniform 2 inch distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide white sheeting having a smooth outer surface and that essentially has the property of a retroreflector over its entire surface.
(b) For the retroreflective sheeting for the collars, meet the requirements of ASTM D 4956 Table 4, Type VI; excluding 0.1 degree observation angle and -4 degree, +30 degree entrance angles.

Provide three certified copies of test reports and certification from the manufacturer that the material furnished meets all requirements of (b) above. Use reflective collars for cones included on the Qualified Products List.

Reflective sheeting material for work zone barricades shall be Type III or IV (3M sheeting only or CFX approved equal), meeting requirements of Section 994. Reflective sheeting material for all work zone signs, both on and off the CFX system, shall be fluorescent orange Type VII (3M Diamond Grade DG3 or CFX approved equal) meeting requirements of Section 994. Mesh signs shall not be used for work zone signs. Rollup sheeting (Type VI, 3M Diamond Grade Fluorescent Rollup Sign Sheeting RS24 or CFX approved equal) may be used in day or night operations not to exceed 24 hours and approval is given by the CEI.

102-3.2 Traffic Control Devices, Warning Devices and Barriers:

102-3.2.1 Installation: Install and maintain adequate traffic control devices, warning devices and barriers to protect the traveling public and workers, and to safeguard the work area. Erect the required traffic control devices, warning devices and barriers to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing. Use only those devices that are included on the Qualified Products List (QPL). Use construction signs meeting the requirements of Section 700-2.5 and 700-5.5. Specific requirements for Maintenance of Traffic devices, additional to the requirements of this Section, are contained in the 600 series of the FDOT Design Standards. Immediately remove, turn or cover any devices or barriers which do not apply to existing conditions. All QPL approved safety devices must meet the requirements of National Cooperative Highway Research Report 350 (NCHRP 350) and current FHWA directives. Manufacturers seeking evaluation must furnish certified test reports showing that their product meets all test requirements set forth by NCHRP 350.

Notify the CEI of any scheduled operation which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of traffic control devices, warning devices or barriers. Assign an employee the responsibility of maintaining the position and condition of all traffic control devices, warning devices and barriers throughout the duration of the Contract. Keep the CEI advised at all times of the identification and means of contacting this employee on a 24-hour basis.

102-3.2.2 Maintenance of Devices and Barriers: Keep traffic control devices, warning devices, and barriers in the correct position, properly directed, clearly visible and clean, at all times. Immediately repair, replace or clean damaged, defaced or dirty devices or barriers and have the CEI approve them.
for use.

**102-3.2.3 Temporary Impact Attenuators:** Furnish, install, maintain and subsequently remove temporary vehicular impact attenuators in accordance with the details and notes shown in the plans, and the FDOT Design Standards. Maintain the attenuators until their authorized removal. Repair all attachment scars to permanent structures and pavements after attenuator removal. The Contractor will be reimbursed by the CFX for the cost to repair attenuators damaged through no fault of the Contractor or its forces or subcontractors at the actual cost of materials (documented by cost breakdown acceptable to the CEI) plus a 20% markup.

**102-3.2.4 Flagger:** Provide trained flaggers to direct traffic where one-way operation in a single lane is in effect and in other situations as required in 102-3.1. The Worksite Traffic Supervisor or others as approved by the CFX will provide training for flaggers using FDOT-approved training materials.

**102-3.2.5 Existing Pavement Markings:** Where a detour changes the lane use or where normal vehicle paths are altered during construction, remove all existing pavement markings that will conflict with the adjusted vehicle paths. Do not overpaint. Remove existing pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions. Grinding will not be permitted. Remove all pavement markings that will be in conflict with "next phase of operation" vehicle paths as described above, prior to opening to traffic.

**102-3.2.6 No Waiver of Liability:** Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies described herein in no way acts as a waiver of any terms of the liability of the Contractor or its surety.

**102-3.2.7 Portable Arrow Boards:**

**102-3.2.7.1 Scope:** These Specifications expand the basic requirements that all portable arrow boards must meet the physical display and operational requirements as described in the MUTCD. Manufacturers seeking approval of their arrow board shall provide the CFX with a prototype unit to be evaluated in accordance with these Specifications and certify that the furnished unit meets all requirements specified herein.

**102-3.2.7.2 Display Panel and Housing:**

(a) The display housing assembly shall be weather-tight to protect the panel from the elements.

(b) All nuts, bolts, washers and other fasteners shall be of corrosion resistant material.

(c) The display assembly shall be equipped with an automatic dimming operational mode capable of a minimum of 50% dimming and a separate manual dimmer switch.
(d) The display panel background and frame for the display assembly shall be painted flat black and must meet Federal Specification TT-E-489.

(e) Display panel and housing shall be designed and constructed to allow the unit to be operated in the displayed position at speeds of 30 mph. In the down position it shall be designed for speeds of 65 mph.

(f) The display panel, when raised in the upright position, will have a minimum height of 7 feet from the bottom of the panel to the ground, in accordance with the MUTCD.

(g) The unit shall have an accessible mechanism to easily raise and lower the display assembly. A locking device shall also be provided to ensure the display panel will remain in the raised or lowered position.

102-3.2.7.3 Arrow Board Matrix:

(a) The minimum legibility distance for various traffic conditions are based on the decision-sight distance concept. The minimum legibility distance is the distance at which the arrow panel message can be comprehended by a driver on a sunny day or a clear night. The arrow panel size that is needed to meet the legibility distance is listed as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Minimum Size</th>
<th>Number of Panel Lamps</th>
<th>Minimum Legibility Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>30 by 60 inches</td>
<td>13</td>
<td>3/4 mile</td>
</tr>
<tr>
<td>C</td>
<td>48 by 96 inches</td>
<td>15</td>
<td>1 mile</td>
</tr>
</tbody>
</table>

For use on the state highway system, the Types "B" or "C" advance warning arrow boards may be used for low to intermediate (0 to 50 mph) facilities and for maintenance or moving operations on high-speed roadways. Type "C" arrow boards shall be used on high-speed (50 mph and up).

(b) Devices shall meet all arrow board displays identified in the MUTCD.

(c) The lamp lens should be 5 3/4 inches in diameter. Smaller lamp lens diameters are permissible only if they provide an equivalent or greater brightness indication and meet the legibility criteria in Section (a) of this Specification.

(d) The color of the light emitted shall be in accordance with the MUTCD.

(e) There shall be a 360 degree hood for close-up glare reduction.
For solar powered arrow boards the bulbs shall provide 350 candle power intensity for day use and an automatic reduction or dimming capacity for night use. The dimmed night operation shall provide adequate indication without excessive glare.

The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute as required in the MUTCD.

The minimum lamp "on time" shall be 50% for the flashing arrow and 25% for the sequential chevron.

102-3.2.7.4 Electrical System: For diesel engines the following shall apply:

(a) The power supply and electrical system shall be self-contained within the unit.

(b) The engine shall have an electrical starting system.

(c) The power source furnished shall be of sufficient size so as to provide the required maximum load energy plus 25%.

(d) The electrical system shall meet the National Electrical Code where applicable.

(e) A backup power system that shall operate the unit for a minimum of three hours automatically when the motor driven generator fails to operate.

(f) The starting batteries and back-up power supply system batteries shall be automatically charged when the generator is operating.

(g) The engine shall be supplied with an amp meter and the generator shall be supplied with a volt meter showing voltage to the sign assembly.

For solar powered units the following shall apply:

(a) The unit shall provide automatic recharging of power supply batteries to normal operating levels.

(b) Solar array recovery time shall be accomplished in a maximum of three hours.

102-3.2.7.5 Battery Life Test: The following shall apply to batteries:

(a) The photovoltaic unit shall be able to operate from a full battery charge without sunlight for a period of not less than 21 days.

(b) The battery shall be equipped with a controller to prevent overcharging and over-discharging. An external battery level indicator shall also be provided.
(c) The battery, controller, and power panel shall be designed to be protected from the elements and vandalism.

102-3.2.7.6 Controller:

(a) Controller and control panel shall be housed in a weather, dust, and vandal resistant lockable cabinet.

(b) The controller shall be solid-state in design and function.

102-3.2.7.7 Support Chassis: The following shall apply:

(a) The support chassis shall be self-contained and self-supporting without the use of additional equipment or tools.

(b) Both trailer and truck mounted units are allowed.

(1) Trailer mounted unit:

(a) The sign, power supply unit and all support systems shall be mounted on a steel, wheeled trailer with a minimum capacity of 2,600 pounds.

(b) The trailer shall be equipped with class-A lights, using a plug adaptor.

(c) The trailer shall be equipped with adjustable outrigger leveling pads (screw-type), one on each of the four frame corners.

(d) The trailer shall be designed to be set up at the site with its own chassis and outriggers, without being hitched to a vehicle.

(e) The trailer shall be equipped with fenders over the tires and shall be made from heavy duty metal sufficient to allow a person to stand and operate or perform maintenance on the unit.

(f) The trailer shall meet all equipment specifications set forth in Chapter 316 of the Florida Statutes, and by such rule, regulation or code that may be adopted by the Department of Highway Safety and Motor Vehicles.

(2) Truck mounted unit:

(a) The truck-mounted assembly shall be designed to fit on a 2 ton or greater duty truck.
(b) The unit shall be self-contained with its own power supply, controls, raising and lowering device and shall be capable of being operated by one person.

(c) The unit shall be secured in the vehicle for normal operation.

**102-3.2.7.8 Other Requirements:**

(a) The portable arrow board assembly shall be designed to function in dry, wet, hot or cold weather (ambient temperature ranges from -30 to 165 degrees F).

(b) The controller shall not be affected by mobile radio, or any other radio transmissions.

(c) An operator's manual shall be furnished with each unit.

(d) The manufacturer's name and FDOT approval number shall be affixed on the equipment.

(e) The arrow board shall be listed on the Qualified Products List (QPL).

**102-3.2.8 Portable Changeable Message Signs:**

**102-3.2.8.1 Scope.** These Specifications expand the basic requirement that all Portable Changeable Message Signs (PCMS's) must meet the physical display and operational requirements as described in the MUTCD.

Manufacturers seeking approval for their PCMS shall provide the CFX with a prototype unit to be evaluated in accordance with these Specifications and certify that the unit meets all requirements specified herein.

Permanent installations can be used but will be evaluated for each specific project or installation. These standards shall include but not be limited to the following:

**102-3.2.8.2 Display Panel and Housing:**

(a) The display housing assembly shall be weather-tight to protect the panel from the elements.

(b) All nuts, bolts, washers and other fasteners shall be of a corrosive resistant material.

(c) The message matrix panel background and frame for the changeable message assembly shall be painted flat black (must meet Federal Specification TT-E-489).

(d) Servicing of all message matrix panel components shall be accomplished from the front.
of the message matrix panel.

(e) Each message matrix panel shall provide a glare screen for each message line to aid against sun glare for non-reflecting type signs.

(f) The display panel, when raised in the upright position, will have a minimum height of 7 feet from the bottom of the panel to the ground.

(g) The unit shall have an accessible mechanism to easily raise and lower the display assembly. A locking device shall also be provided to ensure the display panel will remain in the raised or lowered position.

102-3.2.8.3 Message Matrix:

(a) The overall dimensions of the message matrix panel shall be a maximum height of 7 feet by a width of 10 feet.

(b) The message matrix panel shall contain three separate lines. Each line shall consist of eight characters, equally spaced a minimum of 3 inches. Each character shall contain 35 pixels in a five by seven horizontal to vertical grid arrangement.

(c) Each message line shall provide for a nominal 18 inch character height.

(d) For flip disk matrix signs, the disk elements shall be coated on the display side with a highly reflective florescent yellow Mylar material, and on the back with a flat black to blend in with the flat black background.

(e) Similar components shall be interchangeable.

102-3.2.8.4 Electrical System: For diesel engines the following shall apply:

(a) The power supply and electrical system shall be self contained within the unit.

(b) The power source furnished shall be of sufficient size so as to provide the required maximum load energy plus 25%.

(c) The electrical system shall meet the National Electrical Code where applicable.

(d) A lightning protection device shall be provided for stationary equipment.

(e) The engine shall have an electrical starting system.

(f) A backup power system shall be provided that will operate the unit for a minimum of
three hours automatically when the motor driven generator fails to operate.

(g) An automatic charging system to recharge the starting and backup power supply batteries, when the generator is operating.

(h) The engine shall be supplied with an ammeter and the generator shall be supplied with a volt meter showing voltage to the sign assembly.

For solar powered units the following shall apply:

(a) The photovoltaic unit shall be designed to provide 21 days of continuous operation without sunlight with a minimum of on site maintenance.

(b) Automatic recharging of power supply batteries shall be provided.

102-3.2.8.5 Battery Life Test:

(a) The battery shall be equipped with a battery controller to prevent overcharging and over-discharging. An external battery level indicator shall be provided.

(b) The battery, controller, and power panel shall be designed to be protected from the elements and vandalism.

102-3.2.8.6 Controller:

(a) Controller and control panel shall be housed in a weather, dust, and vandal proof lockable cabinet.

(b) The keyboard shall be equipped with a security lockout feature to prevent unauthorized use of the controller.

(c) The controller shall be solid state in design and function.

(d) The control panel shall display a representative message that will be displayed on the sign panel.

(e) The flash rate shall be adjustable in the sign controller from one to ten seconds.

102-3.2.8.7 Operation and Performance:

(a) The message shall be displayed in upper case except when lower case is project specific and is allowed by the MUTCD.

(b) The message matrix panel shall be visible from 2 mile and legible from a distance of 900 feet under both day and night conditions. Under variable light level conditions the sign shall automatically adjust its light source so as to meet the 900 feet visibility requirement.
(c) The control panel shall have the capability to store a minimum 50 pre-programmed messages.

(d) The controller in the control panel shall be able to remember messages during non-powered conditions.

(e) The controller shall allow the operator to generate additional messages on site via the keyboard.

(f) For a PCMS using Flip-Disk technology, the controller shall have the capability to provide a stipulated default message upon loss of controller function.

(g) All messages shall be flashed or sequenced. In the sequence mode, the controller shall have the capability to sequence three line messages during one cycle.

102-3.2.8.8 Use of Orange Vests: Contractor shall provide its personnel with orange vests and require that these vests be worn whenever the workers are within 15 feet of the edge of the travelway. Workers operating machinery or equipment in which loose clothing could become entangled during operation are exempt from this requirement. Such exempt workers will be required to wear orange shirts or jackets. Contractor personnel shall wear reflective orange vest during nighttime operations. Replace faded vests.

102-3.3 Work Zone Pavement Markings:

102-3.3.1 Description: Furnish and install Work Zone Pavement Markings for maintenance of traffic in construction areas and in close conformity with the lines and details shown on the plans. Measure the reflectivity of white and yellow stripes using a Mirolux 12 retroreflectometer, Delta LTL-X or LTL 2000, Advanced Retro Technology AR Stripemaster, or equal approved by the State Materials Office. Reflectivity shall be at least 250 mcd/lx*m² for yellow and 300 mcd/lx*m² for white when installed. Re-stripe anytime the reflectivity falls below 150 mcd/lx*m². Compensation for re-striping will be at the Contract unit price for the appropriate material when the material used appears on the Qualified Products List (QPL) and is properly installed. The pavement marking materials shall not contain any lead or chromium compounds. Manufacturers seeking product approval shall furnish certified test reports showing the Work Zone Pavement Marking material meets the requirements of this Section.

Centerlines, lane lines, edge lines, stop bars and turn arrows in work zones will be required in accordance with Section 6D of the MUTCD with the following additions:

(a) Install edge lines when a paved shoulder 4 feet or greater in width exists along the edge of a lane.
(b) Place edge lines on all detours where vehicle paths are altered from normal operations and where a lane is narrowed from its normal width for any reason.
(c) Apply Work Zone Pavement Markings, including arrows and messages determined by the CEI to be required for safe operation of the facility, prior to the end of the day if the highway is open to traffic. Channelizing devices may be used to direct traffic during the day prior to placing the Work Zone Pavement Markings.

(d) Work Zone Pavement Markings will be designated in the plans or by the CEI as removable or non-removable.

Work Zone Raised Pavement Markers (WZRPMs) may be used in lieu of Temporary Tape in accordance with 102-3.3.2.3.

Removable Work Zone Pavement Markings consists of materials that can be taken up by hand. An example of this category of markings is plastic film (Tape), or Work Zone Raised Pavement Markers (WZRPM's).

Non-Removable Work Zone Pavement Markings consists of markings that are not classified as removable.

Use of Removable or Non-Removable Work Zone Pavement Markings shall be as follows:

<table>
<thead>
<tr>
<th>Application</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish Pavement*</td>
<td></td>
</tr>
<tr>
<td>All stripes representing final pavement markings</td>
<td>Non-Removable</td>
</tr>
<tr>
<td>All stripes in an area where the traffic pattern will be altered prior to project acceptance</td>
<td>Removable</td>
</tr>
<tr>
<td>Intermediate Pavement Course</td>
<td></td>
</tr>
<tr>
<td>All stripes in pavement areas that will be covered with a subsequent course of pavement prior to altering of the traffic pattern within such area.</td>
<td>Non-Removable</td>
</tr>
<tr>
<td>All stripes where the traffic pattern will be altered prior to placing of the subsequent paving course within such area.</td>
<td>Removable</td>
</tr>
<tr>
<td>Existing Pavement</td>
<td></td>
</tr>
<tr>
<td>All stripes that will be removed or overlaid with new pavement prior to altering the traffic pattern within such area.</td>
<td>Non-Removable</td>
</tr>
<tr>
<td>All stripes where the traffic pattern will be altered prior to removal or overlaying of such area.</td>
<td>Removable</td>
</tr>
</tbody>
</table>
Removable Pavement Markings may be substituted for Non-Removable Pavement Markings. When substitution is made, payment will be made under the Bid Item, Non-Removable Pavement Marking.

102-3.3.2 Materials:

102-3.3.2.1 Paint and Glass Beads: Meet the application requirements of Section 710, and the material requirements of Section 971.

102-3.3.2.2 Preformed Non-Removable Pavement Marking Film (Tape): Conform to the application requirements of the Plans and the material requirements of Section 971.

102-3.3.2.3 Work Zone Raised Pavement Markers: Work Zone Raised Pavement Markers (WZRPMs) are RPMs intended for use in work zones as an alternate to other line markings. Use tape in all transition areas in addition to the RPMs. WZRPMs shall be referred to as class "D" or class "E" Markers. Apply all markers in accordance with FDOT Design Standards, Index No. 600.

Class A, B, and flexible E markers may be used in lieu of Class D Markers. Class E markers will only be allowed for use in areas for five continuous days or less.

Use colorless reflectors to replace white lines and amber reflectors to replace yellow lines. Space markers at 30 inch centers for lane lines and 5 foot centers for edge lines.

To provide contrast, place five black Work Zone Raised Pavement Markers (WZRPMs) immediately after the five colorless reflective markers on asphalt pavement five years or older and all concrete pavement. Black Work Zone Raised Pavement Markers (WZRPMs) will not be required with amber markers.

Ensure that Work Zone Raised Pavement Markers (WZRPMs) are certified as meeting the following except for Class E markers as noted below:

(1) Composition: Use markers made of plastic, ceramic or other durable materials. Markers with studs or mechanical attachments will not be allowed.

(2) Dimensions: Marker minimum and maximum surface dimensions is based on an x and y axis where the y dimension is the axis parallel to the centerline and the x axis is 90 degrees to y. Class E markers shall be 4 inch (W) by 2 inch (H) by 1 inch (D).

The x and y dimension of Class D markers shall be a maximum of 5 inches. The x dimension shall be a minimum of 4 inches and the minimum y dimension will be 2.25 inches.
Ensure that the maximum installed height of Class D markers is 1 inch. Ensure that the maximum installed height of Class E markers is 2 inches. Use Class D markers having a minimum reflective face surface of 0.35 in². Use Class E markers having a minimum reflective surface area of 1 in².

Ensure that after installation, the marker's reflective face is completely visible and above the pavement surface measured from a line even with the pavement perpendicular to the face of the marker.

(3) Optical Performance: Ensure that the specific intensity of each white reflecting surface at 0.2 degrees observation angle is at least the following when the incident light is parallel to the base of the marker:

<table>
<thead>
<tr>
<th>Horizontal Entrance Angle</th>
<th>Specific Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 degrees</td>
<td>3</td>
</tr>
<tr>
<td>20 degrees</td>
<td>1.2</td>
</tr>
</tbody>
</table>

For yellow reflectors, the specific intensity shall be 60% of the value for white. For red reflectors, the specific intensity shall be 25% of the value for white. Reflectivity of all (WZRPMs) shall not be less than 1.0 Specific Intensity (SI) any time after installation.

(4) Strength requirements: Markers shall support a load of 5,000 pounds. Three markers per lot or shipment will be randomly selected for a test.

Position the marker base down between the flat parallel platens of a compression testing machine. Place on top of the marker a flat piece of 65 durometer rubber 6 by 6 by 0.375 inch centered on the marker. Apply the compressive load through the rubber to the top of the marker at a rate of 0.2 in/s.

Either cracking or significant deformation of the marker at any load less than 5,000 pounds will constitute failure.

(5) Adhesion: Use bituminous or other adhesive materials recommended by the marker manufacturer for bonding the markers to the pavement. The adhesive used shall be one of the products included on the Qualified Products List.

(6) Removability: Ensure that the pavement marker is removable from asphalt pavement and portland cement concrete pavement intact or in substantially large pieces, either manually or by mechanical devices at temperatures above 40 degrees F, and without the use of heat, grinding or blasting.

(7) Replacement Requirements: Replace markers any time after installation when more than two markers in a skip, or more than three consecutive markers on an edge line are missing at no expense to the CFX. Replace all failed markers in a timely manner as directed by the CEI.
102-3.3.2.4 Preformed Wet Retroreflective Removable Pavement Markings:

The preformed markings shall consist of white or yellow retroreflective film on a conformable backing.

The quality of the material shall be such that the performance requirements for the marking shall be met.

The markings shall be precoated with a pressure sensitive adhesive and shall be capable of being adhered to asphalt concrete or Portland cement concrete at temperatures as low as 50 degrees F in accordance with the manufacturer's recommendations. A surface preparation adhesive shall be used for all applications to improve initial and long term adhesion.

When stored in a cool dry area indoors, the materials shall be suitable for use for one year after the date of purchase.

The removable retroreflective striping tape shall be designed and constructed in such a manner that it can be readily removed when the markings are no longer applicable. The tape shall be capable of performing for the duration of a normal construction season and shall then be capable of being removed intact or in large pieces.

The removable, preformed, retroreflective pavement markings shall consist of a highly reflective, enclosed lens white or yellow film with a thin, flexible, conformable backing which is precoated with a pressure sensitive adhesive.

The enclosed lens white and yellow films shall have the following initial minimum reflectance values under dry and wet conditions at 1.05° observation angle and 88.76° entrance angle. These angles represent a simulated driver viewing geometry at 30 meters distance. The photometric quantity to be measured shall be the coefficient of retroreflected luminance (RL), and shall be expressed as millicandelas per square foot per foot candle [(mcd/ft²)/fc⁻¹]. Values measured under dry conditions will be in accordance with the testing procedure of ASTM D 4061. Values measured under wet conditions will be in accordance with the testing procedure of ASTM E 1710 using a portable retroreflectometer capable of measuring at 30 meters geometry. As per CEN Standard EN 1436 Annex B.6, the wet test condition is created using clean water poured from a bucket of approximately 10 liters capacity from a height of approximately 0.5 m above the surface. Water is poured evenly along the test surface so that the measuring field and its surrounding area are momentarily flooded by a crest of water. The coefficient of retroreflected luminance (RL) in condition of wetness shall be measured under the test condition one (1) minute after the water has been poured.

Visually, the reflective performance shall be similar whether the material is dry or wet.
The angular aperture of both the photoreceptor and light projector shall be 6 minutes of arc. The reference center shall be the geometric center of the sample and the reference axis shall be taken perpendicular to the test sample.

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance Angle</td>
<td>88.76°</td>
<td>88.76°</td>
</tr>
<tr>
<td>Observation Angle</td>
<td>1.05°</td>
<td>1.05°</td>
</tr>
<tr>
<td>Retroreflected Luminance</td>
<td>750</td>
<td>450</td>
</tr>
<tr>
<td>( R_L ) ((\text{mcd/ft}^{-2})/\text{fc}^{-1})</td>
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</tbody>
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The manufacturer shall be required to demonstrate that the properly applied pavement marking adheres to the roadway under climatic and traffic conditions normally encountered in the construction work zone.

The marking film shall be removable from asphalt concrete and Portland cement concrete intact or in large pieces, at temperatures above freezing without the use of heat, solvents, grinding or blasting without permanently scarring the roadway surface.

The surface of the markings when new provides an average skid resistance value of 50 BPN when tested according to ASTM E 303.

Pavement markings in construction work zones shall be placed in accordance with the following provisions:

At the end of each day's work, pavement markings shall be in place on each paving lift that is open to normal traffic flow. Materials requiring removal shall be specified above, and marking configurations shall be in accordance with the Manual on Uniform Traffic Control Devices.

The pavement markings shall be maintained and replaced by the Contractor without additional compensation until they have served their purpose, at which time the Contractor shall remove them.

Pavement markings shall be applied to clean, dry surfaces in accordance with the manufacturer's installation instructions or a method approved by the CEI.

**102-3.3.3 Certification:** Furnish the CEI certified test reports showing the work zone pavement marking material and adhesive supplied meets the applicable specification. Each certification shall cover only one type. Due to the wide range of application of the products within some types, the certification shall state that the product is recommended for that specific project location, and specific use.
102-3.4 Temporary Glare Screen:

102-3.4.1 General: Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the Plans.

102-3.4.2 Design and Installation: Meet the following requirements:

(a) Glare screen units shall be manufactured in lengths such that when installed the joint between barrier sections will not be spanned by any one modular unit. Color shall be green, similar to Federal Color Standard 595-34227.

(b) Blades, rails and/or posts shall be manufactured from polyethylene, fiberglass, plastic, polyester or polystyrene, and be ultraviolet stabilized and inert to all normal atmospheric conditions and temperature ranges found in Florida.

(c) For paddle type designs, the blade width shall not be less than 6 inches, nor more than 9 inches. Blades or screen for individual or modular systems shall be 24 to 30 inches high and capable of being locked down at an angle and spacing to provide a cut-off angle not less than 20 degrees.

(d) For glare screen mounted on temporary barrier wall, a strip (6 by 12 inches) of reflective sheeting as specified in 994-2 shall be placed on a panel, centered in each barrier section (at a spacing not to exceed 15 feet and positioned in such a manner as to permit total right angle observation by parallel traffic. When glare screen is utilized on temporary concrete barriers, warning lights will not be required.

(e) Anchorage of the glare screen to the concrete barrier shall be capable of safely resisting an equivalent tensile load of 600 lb/ft of glare screen, with a requirement to use a minimum of three fasteners per barrier section.

(f) Prior to approval an impact test shall be performed by the manufacturer to verify the safety performance of the proposed system. The minimum impact strength of the posts, blades, rail and the barrier attachment design shall be sufficient to prevent the unit from separating from the barrier when impacted by a 3 inch outside diameter steel pipe traveling at 30 mph and impacting mid-height on the glare screen assembly.

(g) All hardware shall be galvanized in accordance with ASTM A 123 or stainless steel in accordance with AISI 302/305.

102-3.4.3 Certification: Furnish certified test reports including all applicable test methods stating that the materials comply with the requirements of this specification.

102-3.4.4 Qualified Products List (QPL): Manufactured glare screen systems may be modular or individual units listed on the Qualified Products List. A field impact test may be required by the
Manufacturer to verify continual compliance with these Specifications.

102-3.5 Work Zone Signs: Work Zone Sign Panels include all Warning and Temporary Regulatory Signs, as identified in the MUTCD and the FDOT Design Standards, Index 600. Obtain manufacturer certification that the Work Zone signs meet the requirements of the FDOT Design Standards, MUTCD, and this Section. Provide signing in accordance with the FDOT Design Standards, unless otherwise shown in the plans.

102-3.5.1 Temporary Regulatory Signs: Provide signs with dimensions of 4 foot by 4 foot. For all other facilities, provide signs having minimum dimensions of 2 foot by 2.5 foot.

102-3.6 Truck Mounted Attenuators: Use Truck Mounted Attenuators (TMA), when called for in the Design Standards. Use truck mounted attenuator systems designed and constructed to slow impacting vehicles, and dissipate the vehicle's kinetic energy and bring the errant vehicle to a safe and controlled stop. Use systems designed and constructed for installation at the rear of trucks with a Gross Vehicular Weight of 15,000 pounds (actual weight) or more meeting the requirements of the manufacturer of the TMA. If adding supplemental weight to the vehicles as ballast is necessary, use only dry loose sand.

The TMA will provide a safety device between approaching vehicular traffic and the work zone when properly attached. Use like new units that are in current production, or updates of existing models as approved by the CFX.

Use truck mounted attenuators rated at 45 mph or 60 mph design speeds. Base utilization of TMAs on the posted speed limit. Restrict a TMA rated for 45 mph to use on roadways with posted speed limits of 45 mph or less and prohibit from use on freeways. A TMA rated for 60 mph may be utilized on all freeways or roadways with posted speed limits greater than 45 mph.

Equip the TMA cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.

Ensure that the complete unit is painted DOT yellow (Fed. Std. 595 b, No. 13538). Stripe the rear facing of the cartridge in the operating position with the alternating 6 inch white and 6 inch safety orange 45 degree striping to form an inverted "V" at the center of the unit and slope down and toward the outside of the unit, in both directions from the center. The bottom of the cartridge shall have the same pattern, covering the entire bottom, with 6 inch white and 6 inch safety orange stripes. Use Type III reflectorized sheeting for striping.

Obtain certified test reports from the TMA manufacturer showing the attenuator meets all requirements set by the National Cooperative Highway Research Program, Report 350. Certification shall include drawings and calculations signed and sealed by a Professional Engineer registered in the State of Florida for each model. Limit TMAs to those items listed on the Qualified Products List.

102-18
The trucks and truck mounted impact attenuators will not be paid for separately, but will be included in the cost of Maintenance of Traffic. Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

102-4 Detours.

102-4.1 General: Construct and maintain detour facilities wherever it becomes necessary to divert traffic from any existing roadway or bridge, or wherever construction operations block the flow of traffic.

102-4.2 Standards of Construction: Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement.

Where the Plans call for the CFX to furnish detour bridge components, construct the pile bents in accordance with the FDOT Structures Design Office Standard Drawings, Index No. 300 and 301, unless otherwise authorized by the CEI.

Submit a letter with the following: company name, phone number, office address, project contact person, project number, detour bridge type, bridge length, span length, location and usage time frames, to the CEI at least 30 calendar days prior to the intended pick-up date, to obtain the storage facility location and list of components for the project. Upon receipt of letter, the CEI will, within ten calendar days provide an approved material list to the Contractor and the appropriate CFX storage site. Provide a letter with an original company seal, identifying the representative with CFX to pick up components, to the CEI at least ten calendar days prior to the proposed pick-up date. The CFX is not obligated to load the bridge components without this notice. At the time of issuance the Contractor's representative shall sign for each item loaded.

Provide timber dunnage, and transport the bridge components from the designated storage facility to the job site. Unload, erect, and maintain the bridge, then dismantle the bridge and load and return the components to the designated storage facility.

Notify the CEI in writing at least ten calendar days prior to returning the components. Include in this notice the name of the Contractor's representative authorized to sign for return of the bridge components.

The Contractor shall provide a crane and an operator at the storage facility to load and unload the bridge components and furnish all other labor and equipment required for loading and unloading the components.

The CEI will record all bridge components issued or returned on the Detour Bridge Issue and Credit Ticket. The Tickets must be signed by the CEI and Contractor representative, after loading or
unloading each truck to document the quantity and type of bridging issued or returned.

Bind together all bridge components to be returned in accordance with the instructions given by the storage facility. Repack components that are not packed in compliance with these instructions.

Assume responsibility for any shortage or damage to the bridge components.

The skid resistance of open steel grid decking on the detour bridge may decrease gradually after opening the bridge to traffic. The Contractor shall furnish a pneumatic floor scabbler machine for roughening the roadway surface of the detour bridge decking. Provide an air compressor at the job site with 200 ft³/minute capacity, 90 psi air pressure for the power supply of the machine, and an operator. Perform scabbling when determined necessary by the CEI. The CFX will pay for the cost of scabbling as Unforeseeable Work.

Return the bridge components to the designated storage facility beginning no later than ten calendar days after the date the detour bridge is no longer needed, the date the new bridge is placed in service, or the date Contract Time expires, whichever is earliest. Return the detour bridging at an average of not less than 200 feet per week.

102-4.3 Materials: Provide all materials for the construction and maintenance of all detours, except that, where the plans call for the CFX to provide borrow or other material pits, the CEI will allow the Contractor to obtain material from these pits for the detour. The CFX will make no separate payment for materials used from these pits to construct detours.

102-4.4 Construction Methods: Do not apply the requirements of the Standard Specifications pertaining to construction and material details to detour construction. Select and use construction methods and materials that shall provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.

102-4.5 Removal of Detours: Remove temporary detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for materials which might be on loan from the CFX with the stipulation that they be returned.

102-5 Calcium Chloride for Dust Control.

102-5.1 General: The CEI will direct the locations and the time of using calcium chloride for dust control. Regardless of the quantities which may be shown in the proposal, consider this work as being entirely contingent.

102-5.2 Equipment: Apply the calcium chloride using any spreader capable of such adjustment and control that the quantity of calcium chloride applied in any 25 foot length of road does not vary more than 10% from the quantity intended for that length. Do not use rotary-type spreaders, as they are not
considered capable of proper control. Use equipment to apply water that is capable of applying the water uniformly within the limitations of moisture required.

102-5.3 Application:

102-5.3.1 Weather Limitations: Even if previously ordered by the CEI, do not treat surfaces when raining or when the moisture condition exceeds that for proper application of the calcium chloride as determined by the CEI.

102-5.3.2 Preparation for Treatment: Level the subgrade, base materials, or other surface to be treated to a smooth grade and crown or shape the surface to affect adequate drainage. When so directed, moisten the surface prior to application of the material.

102-5.3.3 Rate of Application: The CEI will specify the actual rate at which to uniformly spread the material. Apply the flakes at a rate between 1.0 and 1.25 lbs/sq.yd. of surface, and pellets at a rate between 0.80 and 1.0 lb/sq. yd.

102-5.3.4 Subsequent Applications: If subsequent applications are required over a previously treated area which has previously been treated, make such applications at a rate of approximately 0.75 lb/sq. yd. for flakes and 0.6 lb/sq. yd. for pellets.

102-5.3.5 Protection from Traffic: Do not allow traffic on the treated surface until two hours after application.

102-6 Materials for Driveway Maintenance.

102-6.1 General: Place material in driveways to residences and businesses to provide safe, stable, and reasonable access.

102-6.2 Materials: Provide material of the type typically used for base and having stability and drainage properties that will provide a firm surface under wet conditions.

102-6.3 Construction Methods: Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use.

As permanent driveway construction is accomplished at a particular location, the Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

102-7 Method of Measurement.

102-7.1 Maintenance of Traffic: When an item for this Work is included in the proposal, the quantity to be paid for will be at the Contract lump sum price for Maintenance of Traffic.
102-8 Basis of Payment.

102-8.1 Maintenance of Traffic: When an item of Maintenance of Traffic is included in the proposal, price and payment will be full compensation for all work and costs specified under this Section except as may be specifically covered for payment under other items.

102-8.2 Payment Items: Payment will be made under the items shown on the bid sheets.

102-8.3 Variable Message Sign.

The number of Variable Message Signs in place on the project, as authorized by the CEI, on any calendar day or portion thereof within the original Contract Time including any approved extensions, will be paid for at the Contract unit price for Variable Message Signs. Each Variable Message Sign shall have a matrix of electrostatic elements, a portable, plug-in keyboard and a power generator system. Each Variable Message Sign shall be permanently mounted on a towable trailer. This item will remain the property of the Contractor upon completion of the project. Payment will be made only for Variable Message Signs that either have been certified or one for which a temporary permit has been issued by the FDOT. In either case, the Variable Message Signs must have been properly maintained since its approval by FDOT. Price and payment will constitute full compensation for furnishing, installing, operating, relocating, maintaining and removing Variable Message Signs. Payment will be made under the pay items shown in the bid form.

END OF SECTION 102
104-1 Description

The Project will be constructed on properties which may be subject to environmental permits and regulation promulgated by city, county, state, federal, and regional authorities. Any permits which have been acquired by the Central Florida Expressway Authority (CFX) will be made available to the Contractor.

104-2 Contractor Responsibilities

The Contractor shall be well-versed in the prevention, control and abatement of erosion and water pollution and will be exclusively responsible for abiding by such laws, regulations and permit conditions which relate to the Project with respect to erosion and water pollution. Any such devices and/or materials shown on the Plans are shown exclusively for permitting purposes and do not represent a design or method by which the Contractor can ensure compliance with such regulations and permits.

In the prosecution of the Work, the Contractor shall implement, maintain and replace as necessary all erosion and sediment control features required to retain sediment on site and prevent violations of water quality criteria. The Contractor may use any legal methods for temporary erosion and water pollution control. Temporary erosion and water pollution control features shall consist of, but not be limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, flocculation, permanent grassing, permanent sodding, aggregate filters, sediment checks, artificial coverings, berms, baled hay or straw, floating turbidity barrier, staked turbidity barrier and silt fence.

104-3 Erosion Control Plan

The Contractor shall prepare and provide the CFX, at the prework conference, a special plan for the prevention, control and abatement of erosion and water pollution. No construction activities shall commence until the erosion control plan has been reviewed and written acceptance received from the CFX.

This plan shall be prepared in accordance with the general requirements and/or any special conditions of all permits which authorize the construction of the project. The Project erosion control plan shall be governed by the General Specifications and the Environmental Protection Agency Final National Pollutant Discharge Elimination System (NPDES) general permits for stormwater discharge from construction sites and FDEP Environmental Resource Permits.

The erosion control plan shall be prepared in accordance with the Contractor’s proposed sequence of
operations and shall describe, but not be limited to, the following items or activities:

1. For each phase of construction operations or activities, supply the following information:
   
a. Locations of all erosion control devices.
   b. Types of all erosion control devices.
   c. Estimated length of time erosion control devices will be in operation.
   d. Monitoring schedules for maintenance of erosion control devices.
   e. Methods of maintaining erosion control devices.
   f. Methods of containment or removal of pollutants or hazardous wastes.

2. The name and telephone number of the person who will be responsible for monitoring and maintaining the erosion control devices.

The cost of all items necessary, as described above, shall be considered incidental to the other items for which payment is made.

END OF SECTION 104
SECTION 631

EXISTING FIBER OPTIC NETWORK SYSTEM

631-1 GENERAL

This Section establishes the general requirements for the protection and locating of the Central Florida Expressway Authority's (CFX) existing fiber optic network (FON) system throughout the project duration. This Section also establishes general requirements for creating inventories of existing fiber optic circuits.

631-1.1 Description of Work

The Work includes initial proofing of the unoccupied (spare) high-density polyethylene (HDPE) communication conduits, checking the Radiodetection™ Line Management System (LMS) readings for tone wire continuity, and locating the FON within the project limits within fifteen (15) days of the notice to proceed (NTP). The Contractor shall submit a written report to the CFX documenting the results of the conduit proofing and the readings for LMS continuity testing within five (5) days of the completion of testing.

Additionally, the Work includes final proofing of the unoccupied (spare) high-density polyethylene (HDPE) communication conduits and checking the Radiodetection™ Line Management System (LMS) readings for tone wire continuity within the project limits within five (5) days of the semi-final inspection. The Contractor shall submit a written report to the CFX documenting the results of the conduit proofing and the readings for LMS continuity testing within five (5) days of the completion of testing.

Any damage to the FON system found during the initial proofing shall be the responsibility of the CFX.

Any damage to the FON system found after the initial proofing will be the responsibility of the Contractor to repair. If occupied conduits are damaged during construction, the CFX shall be notified immediately for inspection and/or repair and the Contractor shall be responsible for the costs of repair. Additionally, if the Contractor does not complete conduit proofing and tone wire continuity testing within fifteen (15) days of the NTP, the Contractor will take full responsibility for the FON and any damage found during construction will be the responsibility of the Contractor.

If the CFX suspects any damage has occurred to the FON at any time during the project, the Contractor and an CFX representative shall immediately inspect the suspect area via conduit proofing, tone wire testing, fiber optic cable testing or excavation of the conduit system via hand digging as directed by the CFX. At the discretion of the CFX, the Contractor shall either repair any damage found within ten (10) days of the inspection or the Contractor shall be responsible for the costs of repair. After the Contractor completes the requested repairs, the Contractor shall proof test and/or check tone wire continuity in all problem
areas. The Contractor shall retain responsibility for the integrity of the FON system throughout the project duration whether or not Contractor is used to repair damage to the FON system.

Any damage to the system found as part of final proofing and tone wire continuity testing shall be repaired within ten (10) days of the final inspection.

The work also includes the preservation of existing FON tubular route markers along the fiber optic system.

The Contractor shall be responsible for all FON system locates and shoring as required by Contractor's work for the duration of the project.

Work performed by the Contractor shall not interrupt or disrupt the CFX's Electronic Toll Collection System. This type of work includes, but is not limited to, fiber optic splicing and disconnecting or reconnecting of optical fiber connections located at fiber optic patch panels.

631-1.2 Description of the Fiber Optic Network System
The FON backbone conduit system includes nine 1-inch HDPE conduits with tone wire and fiber optic warning tape placed generally along both sides of the roadway mainline under the outside paved shoulder or near the right-of-way line in dirt. The backbone conduit system is generally not placed on the median side of the roadway. The conduit system is accessible via manholes generally spaced approximately 1500 to 4000 feet apart. Nine one-inch conduits have also been placed between the two sides of the road at various locations throughout the CFX's system. These translateral conduits are normally found near the mainline toll plazas.

The lateral conduit system consists of four, 1-inch HDPE conduits with tone wire and fiber optic warning tape placed at intervals along the backbone to connect the main backbone conduit system to the toll plaza facilities. The device drop conduit system consists of two, 1-inch HDPE conduits with tone wire and fiber optic warning tape placed at intervals along the backbone to connect the main backbone conduit system to various roadside devices.

Occupied conduits within the backbone, translateral, lateral, and device drop conduit systems contain one or more fiber optic cables or tone wires.

The tone wire system consists of a #12 AWG insulated stranded or solid copper wire and is typically installed 0 or 3 inches above the centerline of the backbone and lateral conduit systems. In some locations, the tone wire is installed in an extra 1" conduit that accompanies the fiber optic duct bank.

The fiber optic warning tape consists of a 3-inch wide orange tape with the words "CAUTION CFX FIBER OPTIC CABLE BURIED BELOW" and is typically installed 18 inches below grade.
631-2 PRODUCTS AND INSTALLATION REQUIREMENTS
This sub-section establishes the products and installation requirements necessary for restoration of the existing Fiber Optic Network System.

631-2.1 Standards
The material used by and workmanship completed by the Contractor shall be in accordance with best industry standards. All material, equipment and supplies used shall comply with the latest applicable standards and regulations of the following:

- Underwriters Laboratories, Inc. (UL),
- National Board of Fire Underwriters,
- National Fire Protection Association (NFPA),
- National Electrical Manufacturers Association (NEMA),
- American National Standards Institute (ANSI),
- American Society of Testing & Materials (ASTM),
- Institute of Electrical and Electronics Engineers (IEEE) and
- Any requirements as they apply to the State of Florida.

All materials, fixtures, equipment, appliances, accessories and components that are not in accordance with the specific standards and requirements shall require approval by the CFX.

All conduit systems shall be repaired in accordance with the FDOT Utilities Accommodation Manual. Such methods, specifications and instructions are intended as minimum specifications since each installation will be influenced by local project conditions. Any changes to these methods, specifications and instructions shall be submitted to the CFX for approval prior to their implementation. The CFX retains the right to approve or disapprove any changes at its sole discretion. Before beginning any construction, all personnel shall be thoroughly familiar with and shall comply with Occupational Safety and Hazard Act (OSHA) regulations and CFX safety practices and policies.

All trenching and backfilling operations shall be completed in accordance with the Specifications, FDOT Utilities Accommodation Manual, the Occupational Safety and Hazard Act (OSHA) regulations and CFX safety practices and policies.

631-2.3 Conduit Dimensions
The conduit dimensions used here shall represent the nominal trade sizes. The inside diameter shall be no less than the conduit dimension specified.

631-2.3 Useful Life
All products used for the fiber optic network system shall be designed, manufactured and installed to facilitate a minimum useful life of 20 years.
631-2.4 Material and Installation Requirements

631-2.4.1 High-Density Polyethylene (HDPE) Conduit and Appurtenances

631-2.4.1.1 Conduit: The Contractor shall provide High-Density Polyethylene (HDPE) conduit where necessary to restore damaged conduit. The Contractor shall provide nominal 1-inch, SDR 11 HDPE conduit manufactured by CSR/Polypipe, or CFX approved equivalent to match existing system. This conduit shall be manufactured in accordance with the ASTM specifications F2160 and meet the allowable ASTM 3350 Cell Classification as called out in Section 638: Communications Conduit Systems and shall have smooth walls inside and outside. HDPE conduits will be direct buried or encased in an outer duct (i.e., PVC, Black Steel Pipe, or Bullet Resistant Fiberglass), based on the original conduit installation. Conduit field cuts shall be made square and the Contractor shall remove all burred edges.

631-2.4.1.2 Conduit Color Code System: All HDPE conduit systems are color-coded. The Contractor must match the conduit color during restoration. The color code format shall be orange, blue, brown, green, white, red/gray, black and yellow. The color code format for lateral conduit shall be orange, blue, brown, and green. The conduit shall retain its original color throughout the useful life of the conduit system. The conduit color shall be uniform throughout the conduit material. The conduit color shall be stable and colorfast so as not to fade, bleed, smear, run or otherwise react or blend with other materials which may come in contact with the HDPE conduit.

631-2.4.1.3 Conduit Couplers: HDPE: The Contractor shall provide 1-inch Electrofusion Couplers manufactured by Central Plastics Company, or CFX approved equivalent, for the connecting of two HDPE conduits together at restoration locations. HDPE butt fusing shall not be allowed. Conduit couplings may be placed side by side horizontally, but staggered at least 6 inches longitudinally.

631-2.4.2 Tone Wire for Location of Underground Ducts and Conduits
The Contractor shall install the tone wire in a manner to facilitate the complete and proper use of the Radiodetection™ LMS. The Contractor shall install the tone wire buried directly above the centerline of the backbone and lateral conduit system to provide for future locating without damage to its insulated sheath. The tone wire shall be run continuously through or spliced inside the manholes. When tone wire installed in a conduit is damaged, the Contractor shall replace the damaged tone wire with a new tone wire that runs between the nearest upstream and downstream manholes.
The Contractor shall provide a #12 AWG, stranded or solid copper core, single conductor 45 mil high-density polyethylene insulated underground tone wire, manufactured by Burton Wire and Cable, description "12 AWG soft annealed bare copper, 0.045 nominal high density polyethylene, weather resistant polyolefin" or CFX approved equivalent for tone wire restoration areas. The tone wire high-density polyethylene sheath shall be yellow or orange in color and UV stabilized. The tone wire shall be manufactured in accordance with ASTM B-3 Soft or Annealed Copper Wire and ASTM D1248 Type III, Class A, Category 4, Grades E8 and E9 Specifications for Weather Resistant Polyethylene Covered Wire Cable. If splicing of the tone wire is necessary, splices shall be environmentally protected in accordance with the manufacturer's recommendations with a 3M Electrical Products Division DBR-6 or DBY-6 encapsulated splice enclosure, or CFX approved equal. The DBR-6 splice enclosures are necessary when connecting 3 tone wires and the DBY-6 splice enclosures are necessary when connecting 2 tone wires.

631-2.4.3 Fiber Optic Warning Tape
The Contractor shall provide and install fiber optic warning tape, as specified herein, placed 18 inches below the finished grade where necessary. Damaged fiber optic warning tape shall be repaired prior to backfill of the damaged area.

The Contractor shall provide 3" wide orange fiber optic warning tape manufactured by Carlon Telecom Systems, Part Number MAT3051 or CFX approved equivalent for restoration areas. The warning tape shall have the words "CAUTION CFX FIBER OPTIC CABLE BURIED BELOW" permanently printed on the tape media at regular intervals not to exceed 1 foot. This warning tape shall be manufactured in accordance with AWPA color code specification.

631-2.4.4 Fiber Optic Cable and Appurtenances
The Contractor shall replace in kind any damaged fiber optic cable with Coming® 12 count Single-Mode Altos® stranded loose tube fiber optic cable (PN: 012EU4-64101D20), Coming® 24 count Single-Mode Altos® stranded loose tube fiber optic cable (PN: 024EU4-T4101D20), Coming® 72 count Single-Mode Altos® stranded loose tube fiber optic cable (PN: 072EU4-T4101D20) or Coming® 144 count Single-Mode Altos® stranded loose tube fiber optic cable (PN: 144EU4-T4101D20). The replacement fiber cable shall match the strand count of the damaged fiber optic cable. The fiber optic cable's jacket or sheath shall be labeled with the manufacturer's name, the words "CFX 12 SM", "CFX 24 SM", "CFX 72 SM" or "CFX 144 SM" accordingly, date of manufacture, type of cable, fiber count and sequential measurement markings every 2 feet. Coming 12 count fiber optic cables shall consist of two (2) buffer tubes with six (6) fibers per buffer tube, all other outside plant fiber optic cables shall be manufactured with twelve (12) fibers per buffer tube. The number of buffer tubes varies depending on the total number of fibers present in the cable.
Coming splice closures (Coming PN: SCF-6C22-01, SCF-6C28-01, or SCF-6C28-02) shall be used to house all field splices. Only fusion type splices shall be permitted. The splices shall be protected using heat shrinks, Coming PN 2806031-01 or CFX approved equivalent, and stored in a Coming 12-position splice organizer/tray specifically designed for the protection of the device. Coming splice trays (Coming PN: SCF-ST-099 or SCF-ST-112) shall be used with the splice closures. The Contractor shall be required to furnish all accessories associated with the splice closures. All accessories shall be manufactured by Coming.

631-2.4.5 Tubular Route Marker
The Contractor shall be responsible for replacing any U-channel posts or tubular route markers that are damaged during construction, removal, storage or reinstallation. Route markers that cannot be reinstalled due to new surface conditions shall be delivered to an CFX storage facility. The Contractor shall coordinate with the designated CFX representative when deciding if a route marker should not be reinstalled.

The Contractor shall provide Vulcan H-41-RF tubular route markers manufactured by Vulcan Utility Signs and Products, or CFX approved equivalent to replace any damaged route markers. The tubular route markers shall consist of a 3-3/4 inch (outside diameter) white HDPE post, 6-foot length with a minimum wall thickness of 0.125 inches. The marker post shall have an orange HDPE cap and an orange wrap decal with the words "CAUTION CFX FIBER OPTIC CABLE BURIED BELOW" and shall also have the logos of the CFX and Sunshine State One Call of Florida with contact numbers permanently printed on it in black polyvinyl film (Avery™ XL1000 Series S-652/78B). Each marker shall be installed over an 8-foot long #2 green channel post.

The Contractor shall provide additional labeling on all route markers located at FON manholes. The labeling shall consist of a pre-printed label with one (1) inch characters permanently printed with the manhole identification number as provided by a CFX representative. The labels shall have a self-adhesive backing, be suitable for outdoor applications including UV stabilization, and have a twenty-year life. The Contractor shall submit proposed products for review and approval by the CFX.

631-3 TESTING REQUIREMENTS

631-3.1 HDPE Conduits
The Contractor shall complete an initial proofing test of the spare HDPE conduit system within the project construction limits within fifteen (15) days of the NTP. This includes the conduit system to the nearest manhole beyond the construction limits. The Contractor shall submit a written report to the CFX documenting the results of the conduit proofing test within five (5) days of the completion of the proofing test. Any damage within the system found before construction will be addressed by the CFX and, if necessary, retested with the Contractor.
The Contractor will then take responsibility for the conduit system to ensure that no damage occurs during the construction phase. If damage does occur, the contractor shall repair the system at no additional cost to the CFX using the methods and materials described in this specification. If the Contractor does not complete proofing within fifteen (15) days of the NTP, the Contractor will take responsibility for the conduit system and any damage found during construction will be the responsibility of the Contractor.

Within five (5) days of the semi-final inspection, the Contractor shall complete a final proofing test of the spare HDPE conduit system within the project construction limits to ensure that the conduit still makes an airtight seal so that a future cable can be installed using the Cable Blowing installation Method. The Contractor shall submit a written report to the CFX documenting the results of the conduit proofing within five (5) days of the completion of the proofing test. Any problems with the system found during the final proofing shall be repaired by the Contractor at no additional cost to the CFX. After the repairs have been completed, the Contractor shall re-proof test all problem areas. The Contractor shall submit a written report to the CFX documenting the results of the conduit proofing of all problem areas within five (5) days of the completion of repairs.

The proof test method to be applied throughout the project shall consist of blowing a proofing dart through the conduit system in both directions. The proofing dart shall be an Innerduct Cup Projectile for 1" Nominal Tube Size, Part Number 2120-010, manufactured by Cal Am Manufacturing. The proofing dart shall be furnished with rope tie loop nuts on both ends. The proofing dart shall have a minimum length of 3". The ability to successfully blow the proofing dart through the conduit shall satisfy the requirement for testing an airtight seal. The Contractor will not be permitted to blow ball bearings in empty conduits. The Contractor shall coordinate with the CFX's designated representative to witness the proof test of the entire HDPE conduit system for final acceptance after the completion of all (guard rail, fencing, etc.) work. The Contractor shall provide a minimum of 48 hours advance notification prior to the proof testing activity.

The Contractor shall protect the inner walls of the manhole, personnel, and all contents of the manhole from impact damage caused by the proofing dart emerging from the conduit at high speed.

631-3.2 Tone Wire System and Radiodetection™ LMS

The Contractor shall coordinate with an CFX representative to test the tone wire system and document the Radiodetection™ LMS voltage and current (milliamps) readings within fifteen (15) days from the NTP. The Contractor shall submit a written report to the CFX documenting the voltage and current (milliamps) readings from the LMS system test within five (5) days of the completion of LMS testing.

This test shall include a meeting with an CFX representative and visit to the Radiodetection™ LMS site(s) that cover the fiber optic network system within the project.
construction limits to document the voltage and current (milliamps) readings of the device(s). The next step will be to accompany the CFX representative to the end of each Radiodetection™ LMS leg within the project limits to obtain a current (milliamps) reading.

Within five (5) days of the semi-final inspection, the Contractor shall revisit the above locations with an CFX representative to recheck the voltage and current (milliamps) readings of the Radiodetection™ LMS. The Contractor shall submit a written report to the CFX documenting the voltage and current (milliamps) readings from the LMS system test within five (5) days of the completion of LMS testing. If the readings are not within 10% of the original readings, the Contractor shall be responsible for all costs associated with locating and repairing damage to the tone wire system. After the repairs have been completed, the Contractor shall again accompany an CFX representative during retesting of the system. The Contractor shall submit a written report to the CFX documenting the voltage and current (milliamps) readings from the retesting of the LMS system within five (5) days of the completion of LMS retesting.

In addition to checking the Radiodetection™ LMS readings, manual checks of lateral and device drop tone wire runs may be necessary. This will be conducted and verified in the presence of an CFX representative.

The Contractor shall notify the CFX a minimum of 48 hours in advance of any testing to schedule an CFX representative to be present.

631-3.3 Tubular Route Markers
Within fifteen (15) days of the notice to proceed, the Contractor shall verify the condition of all route markers in the project limits and report any deficiencies. The Contractor shall remove all tubular route markers and U-channel posts within the project limits that will be affected by construction. The Contractor shall be responsible for storing this material for the duration of the project.

Within five (5) days of the semi-final inspection, the Contractor shall reinstall the U-channel posts and route markers in their original locations. The tubular route markers shall be installed in accordance with the manufacturer's recommendations and shall be installed at locations and at depths so as not to damage any part of the conduit system including, but not limited to, the conduits and tone wire system.

631-4 EXECUTION OF RESTORATION AND REPAIR
This sub-section shall only apply if damage occurs to the existing FON system during construction.

If the Contractor damages any portion of the FON including the tone wire, any conduit, or fiber optic cable, the Contractor shall notify the CEI. The Contractor shall stop all work in the
vicinity of the fiber optic network on both sides of the roadway until the damage can be assessed by the CEI.

The maintenance of the CFX's FON is performed under a separate maintenance agreement with a FON maintenance contractor. The CFX's FON maintenance contractor monitors the CFX's FON for interruptions to the communication system. In the event an alarm is detected, the FON maintenance contractor notifies the CFX. The Contractor shall coordinate with the FON maintenance contractor as necessary to isolate the cause of an alarm suspected to be due the Contractor's damage to the FON. The following two scenarios describe the required procedure depending upon the type of damage:

631-4.1 Un-occupied conduit or tone wire is damaged
The Contractor may resume work after the CEI verifies that no occupied conduits were damaged and that no alarms were detected by the FON maintenance contractor. The Contractor shall submit a plan to repair the damaged tone wire/conduit to the CEI for approval. Once the repair plan is approved, the Contractor shall perform the repair at its expense within 48 hours of receiving approval. Upon completion of any tone wire repair, the Contractor shall test and document the Line Management System (LMS) circuit(s) in the presence of the CEI to ensure the same or better readings are observed in accordance with Section 631-3.2 (Tone Wire System and Radio detection LMS) of the FON Preservation Specification.

631-4.2 Occupied conduit is damaged
This sub-section shall apply only when an occupied conduit in the existing FON system is damaged as part of Contractor's work. Should the Contractor damage a conduit occupied by a third party leasing an CFX conduit, the Contractor may be required to provide for additional reimbursement costs to the third party.

631-4.2.1 If there is a suspected fiber cable cut within the construction limits of a roadway project, the CEI will investigate the damage and check with the FON maintenance contractor for any network alarms. The FON maintenance contractor will troubleshoot suspected fiber damage and determine whether the issue is related to maintenance or due to the Contractor. If the issue is due to the Contractor, the Contractor will be responsible for the FON maintenance contractor's troubleshooting costs in addition to the repair costs.

631-4.2.2 The Contractor shall stop all excavation in the vicinity of the fiber optic network on both sides of the roadway until the damaged fiber optic cable is repaired and the CEI has verified that all alarms have cleared. The CEI will coordinate with adjacent projects to stop any excavation near the FON until the restoration is complete.

631-4.2.3 If the active fiber is suspected to be damaged, the Contractor will have the Service Restoration is intended to provide a temporary repair that restores damaged fiber opportunity to repair the damage. The Contractor shall provide a qualified fiber optic
splice technician on-site within 4 hours to begin a Primary Service Restoration. Primary optic cable with minimal time impacts to the CFX’s communication system. A Primary Service Restoration may include (without limitation) optical fiber, conduit and encasement, and other appurtenances required for the repair. Primary Service Restoration repairs generally use a buried fiber optic splice enclosure to repair a cut fiber optic cable. The Contractor will be required to test the fiber optic cable at test points upstream and downstream of the Primary Service Restoration repair area as designated by the CFX. The test points will be determined based upon the nearest available testing locations (typically mainline toll plazas), which may fall outside of the construction project limits. The Contractor shall perform bi-directional, end-to-end Optical Time Domain Reflectometer (OTDR) tests on every fiber of the installed single mode fiber optic cable in accordance with Section 633-3 (Testing Requirements) of the Fiber Optic Cable Specification.

631-4.2.4 If the Contractor cannot provide a qualified technician within the 4 hour response window, the CFX’s FON maintenance contractor will investigate the site as an emergency call out and will conduct a Primary Service Restoration if the fiber cable is damaged. The FON maintenance contractor is contractually bound to repair the damage or at least be on-site conducting the repair within 4 hours notification that there is a potential fiber cut. As such, the Contractor shall provide complete cooperation to allow the FON maintenance contractor to conduct the repair without delay. If the CFX’s FON maintenance contractor performs a Primary Service Restoration repair, the Contractor shall be responsible for reimbursing the CFX for these repair costs. The FON maintenance contractor performs Primary Service Restoration repair for a lump sum value of $3,500 per repair.

631-4.2.5 The CEI will inspect the Primary Service Restoration repair work and verify all alarms detected by the FON maintenance contractor have cleared. If the CFX determines that the Primary Service Restoration performed by the Contractor did not repair the damage, the Contractor shall perform the Primary Service Restoration again or the CFX may elect to have the FON maintenance contractor perform the repair. If the CFX’s FON maintenance contractor performs a Primary Service Restoration repair, the Contractor shall be responsible for reimbursing the CFX for these repair costs.

631-4.2.6 Fiber Optic Cable strands that have been damaged require additional splicing to be introduced as part of Primary Service Restoration repairs. The splicing of all fiber optic cable strands in one cable to all strands in another cable is defined as a Butt-End-Splice (BES). With each splice, additional attenuation is introduced that impedes the performance of the fiber optic cable. Also, each BES requires the opening of the fiber optic cable jacket, thereby providing additional exposure to the integrity of the fiber optic cable. Primary Service Restoration repairs that include a buried splice closure also prevent the restoration the conduit system. Further, Primary Service Restoration repairs typically require the use of slack fiber optic cable in adjacent manholes.
631-4.2.7 The CFX and Contractor recognize that attenuation impacts the performance of the FON system and that the CFX will suffer financial loss if the FON system performance is degraded. As such, the CFX will determine if Secondary Restoration repairs are required. Secondary Restoration repairs will be required when fiber optic cable is damaged and will not be replaced as part of the Contractor's work. Secondary Restoration repairs are those follow-up repairs intended to provide long-term restoration to the Fiber Optic Network where previous Primary Service Restoration repairs have been made for an interim period. Secondary Restoration Repairs are intended to restore the fiber optic network to an acceptable condition, as defined by the CFX, with the addition of at most one new BES in the originally installed fiber optic cable reel length. The Contractor will not be allowed to introduce a new BES if a BES was previously added to the original fiber optic cable reel length. The additional BES shall be located in a fiber optic manhole or mainline toll plaza.

631-4.2.8 The Contractor will have the opportunity to perform the Secondary Restoration repairs. If the Contractor cannot provide qualified technicians to provide the Secondary Restoration repairs within a timeframe determined by the CFX, the CFX's FON maintenance contractor will provide these repairs. The Contractor shall be responsible for reimbursing the CFX for Secondary Restoration repairs performed by the FON maintenance contractor. The Contractor will be responsible for Secondary Restoration repair costs up to $50,000 per each instance of damage to a fiber optic cable.

631-4.2.9 If the CFX authorizes Secondary Restoration repairs, the Contractor shall stop all excavation in the vicinity of the fiber optic conduits on both sides of the roadway until the repair is complete. The Contractor shall provide complete cooperation to allow the FON maintenance contractor to conduct the repair without delay. The CEI will coordinate with adjacent projects to stop any excavation near the FON until Secondary Restoration repairs are complete.

631-4.2.10 If the Contractor performs the Secondary Restoration repairs, all work is subject to the CFX's inspection and approval. The Contractor shall perform pre-installation on-site on-the-reel Optical Time Domain Reflectometer (OTDR) tests as well as post-installation OTDR tests of each fiber optic cable strand in accordance with Section 633-3 (Testing Requirements) of the Fiber Optic Cable Specification. The Contractor will be required to test the installed fiber optic cable at test points upstream and downstream of the Secondary Restoration repair area as designated by the CFX. The test points will be determined based upon the nearest available testing locations (typically mainline toll plazas), which may fall outside of the construction project limits.
631-5 EXECUTION OF FON LOCATES

This sub-section establishes FON system locates required in connection with Contractor's work.

631-5.1 FON Locate Responsibility

The CFX's FON system is a registered utility with Sunshine State One-Call for construction utility locate requests. Sunshine State One-Call generates locate tickets to utility owners upon receipt of notice of construction activity in the vicinity of the owner's utility. For purposes of this project, the Contractor will be responsible for responding to locate tickets for the CFX's FON system in the project limits generated as a result of Contractor's work.

631-5.2 Contractor's FON Locates

Prior to construction near the FON system, the Contractor will notify Sunshine State One-Call as required per relevant Florida statues. Sunshine State One-Call will generate a locate ticket request to the CFX. An CFX representative screens all locate ticket requests to determine if FON locates are required. The Contractor will be responsible for all Sunshine State One-Call locate requests generated by the Contractor. The Contractor will be responsible for maintaining all locate flags, paint or other locate indicators within the project limits.

631-5.3 FON Locate System

As part of the initial tone wire continuity testing, an CFX representative will provide information on accessing the Radiodetection™ Line Management System and tone wire circuits. The Contractor shall provide, at Contractor's own cost, all equipment required to locate the FON system in conjunction with the CFX's Radiodetection™ Line Management System. The Contractor will not be permitted to cut the tone wire for FON system locates. Use of portable tone wire transmitters will be required where the Radiodetection™ Line Management System cannot be used for locating tone wire runs, generally along device drop conduit runs.

631-6 FIBER OPTIC SPLICED  AND CABLE INVENTORY

In locations specified in the plans, the Contractor shall provide a written inventory of all existing fiber optic splices and cables in existing fiber optic manholes, pull boxes, and patch panel assignments in cabinets and toll plazas.

631-6.1 Definitions

The term "location" shall refer to a pull box, manhole, device cabinet, or toll plaza. The term "splice housing" shall refer to a splice enclosure, fiber optic patch panel, closet connector housing, or any other housing that contains spliced or terminated fibers.
631-6.2 Execution of Work

The Contractor shall conduct each inventory and submit the required documentation to the CFX prior to conducting splice work at each location. The Contractor shall not conduct splice housing or cable inventories at a location earlier than 45 calendar days in advance of the splice work scheduled to be performed at that location. Splice housing and cable inventories shall be completed and submitted to the CFX for approval two weeks prior to scheduled splice work at a location. CFX-approved splice housing and cable inventories shall be required prior to the Contractor beginning splice work.

For splice housing inventories, the Contractor shall open existing splice housings and document all existing fiber optic splices inside. The Contractor shall provide 48 hours notice to the CFX prior to performing each splice housing inventory and open a ticket with the CFX's FON maintenance contractor following the procedure noted in the plans. The Contractor shall document each fiber optic cable entering and exiting the location, even if those cables are not shown on the plans.

The technician performing the splice housing inventory shall have all equipment on-hand to perform an immediate splice repair in the event fiber optic cable, splices, connectors, patch panel bulk heads, or other components are damaged during the inventory.

631-6.2 Documentation Requirements
For each inventory, the documentation requirements shall consist of the following.

631-6.2.1 Fiber Optic Cable Inventory
- Redlined splice detail sheets for the location showing:
  - Every existing fiber optic cable present at the location.
  - All deviations between the cables and quantity of splice enclosures shown on the splice detail sheet and what is physically observed at the location.
- Digital photographs of the front of any patch panels showing usage of jumpers and ports on the front of the panel.
- Digital photograph of the interior of the location showing the placement of any enclosures and any cables entering the location. The photographs shall be taken such that the color of occupied and unoccupied conduits can be easily identified.
- Digital photograph of the location exterior.
- The documentation shall include the date and time of the inventory, location identification number, and the name, company, and contact information of the technician performing each inventory.

631-6.2.2 Fiber Optic Splice Housing Inventory
- Redlined splice detail sheets for the splice housing showing:
• Every existing splice or termination present in the splice housing.
• Every existing fiber optic cable and buffer tube present in the splice housing, whether terminated or unterminated.
• All deviations between the cables and splices shown on the splice detail sheet and what is physically observed in the splice housing.
  - Digital photographs of each splice housing showing its exterior.
  - Digital photographs of each splice housing showing its interior and any splice trays inside.
  - Digital photographs of the patch panel showing which fibers are terminated on the patch panel or in the splice housing.

• The documentation shall include the date and time of the inventory, location identification number, splice housing identification number, and the name, company, and contact information of the technician performing each inventory.

All digital photos shall be clear, properly exposed, and in focus. Identification tags and labels shown in each photo shall be legible. Each digital photo shall be printed in color on 8Y\textquotedbl{}x11\textquotedbl{} paper, scaled to fill the paper, one photo per page.

Upon completion of each inventory, the Contractor shall provide copies of the documentation to the CFX.

631-7 MEASUREMENT OF PAYMENT

The unit bid prices for the fiber optic splice housing and cable inventories shall include the cost for furnishing all labor, materials, tools, equipment, and testing equipment necessary to complete the work at each location.

631-100 Fiber Optic Cable Inventory (EA)
631-101 Fiber Optic Splice Housing Inventory (EA)

All other work required by this Section will not be measured separately for payment but will be considered incidental to Item No. 101-1, Mobilization.

Payment will be made as described in the Measurement and Payment specifications for this Contract.
SECTION 700  
HIGHWAY  
SIGNING  

700-1 Description.

Furnish and erect roadway signs, at the locations shown in the Plans, in accordance with the details shown in the Plans. All overhead cantilever and truss mounted signs are to be lighted and retroreflective unless otherwise noted in the Plans.

The Central Florida Expressway Authority (CFX) designates ground traffic signs as signs erected on the shoulders, slopes, or medians, but not extending over the traveled roadway.

The CFX designates signs erected partially or completely over the traveled roadway or mounted on bridges as overhead traffic signs, and may further classify some of these signs as overhead cantilever or span traffic signs.

The CFX designates signs that include certain electronic display components as Electronic Display Signs (EDS) and may further classify them as Electronic Warning Signs (EWS), Electronic Regulatory Signs (ERS), Electronic Speed Feedback Signs (ESFS), or Blank Out Signs (BOS). EDS may be erected on the shoulders, slopes, or in the medians, or installed on mast arms, monotube assemblies, or span wires.

Obtain multi-post and overhead sign structures from a fabrication facility that is listed on the FDOT's list of metal producers with an accepted quality control program, meeting the requirements of 105-3.

700-2 Sign Assembly Design Requirements.

700-2.1 General: Sign assemblies as specified in the Plans fall into three general categories: ground sign assemblies, overhead sign assemblies, and electronic display signs.

700-2.2 Sign Panels: All sign panels shall be aluminum. Fabricate standard sign panel messages in accordance with details included in the Standard Highway Signs Manual published by the U.S. Department of Transportation. The CEI will not require the submittal of shop drawings for these signs or for non-standard sign panels and messages fabricated in accordance with details shown in the Plans. Submit seven copies of shop drawings indicating detailed layout of the sign legend, spacing, and border for all other signs to the CEI prior to fabrication.

If the size of a sign is not specified in the Plans, provide the size sign for conventional roadways as shown in the MUTCD.

700-2.3 Breakaway Support Mechanisms for Ground Traffic Signs:

700-2.3.1 Frangible Supports: Provide posts for all frangible sign assemblies consisting of aluminum tubes up to 3 1/2 inches outside diameter with 3/16 inch wall thickness in accordance with the requirements in the Design Standards.
700-2.3.2 Slip Bases: For posts with slip base assemblies, use galvanized steel in accordance with the requirements in the Design Standards.

700-2.4 Overhead Sign Structures:

700-2.4.1 Shop Drawings: Submit shop drawings to the CEI for approval as specified in Section 3 of the General Specifications. Prior to the submittal of the shop drawings, determine the actual length of support columns for all sign structures on the basis of existing field conditions and include these lengths on the shop drawings.

700-2.4.2 Installation: Install nuts on anchor bolts in accordance with 649-5 and 649-6. Use ASTM A325 bolt, nut and washer assemblies for all installations other than anchor bolts as follows. Use bolt, nut and washer assemblies that are free of rust and corrosion and that are lubricated properly as demonstrated by being able to easily hand turn the nut on the bolt thread for its entire length. Tighten nuts to the full effort of an ironworker using an ordinary spud wrench to bring the faying surfaces of the assembly into full contact which is referred to as snug tight condition. After bringing the faying surfaces of the assembly into full contact and to a snug tight condition, tighten nuts to achieve the minimum torque as specified in Table 700-1 unless the connection is an alternate splice connection of a span sign structure, in which case, tighten nuts in accordance with the turn-of-nut method of Table 460-7 of Section 460. Maintain uniform contact pressure on the faying surfaces during snugging and the subsequent final tightening process, by using a bolt tightening pattern that balances the clamping force of each bolt, as closely as possible, with the equal clamping force of a companion bolt. Within 24 hours after final tightening, the CEI will witness a check of the minimum torque using a calibrated torque wrench for 3 bolts or a minimum of 10% of the bolts, whichever is greater, for each connection; however, do not perform this check on alternate splice connections of span sign structures.

Table 700-1

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<th>Bolt Diameter (in.)</th>
<th>Minimum Torque (ft.-lbs)</th>
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<td>525</td>
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700-2.5 Sign Retroreflective Sheeting: Meet the requirements of Section 994. Use Type III, VII or XI sheeting for background sheeting, white legends, borders and shields on all signs with the following exceptions:
a. Use Type VII sheeting for STOP, DO NOT ENTER and WRONG WAY signs.

b. Use Type III or greater prismatic material for white sheeting for overhead signs.

Use Type III, VII or XI yellow-green fluorescent sheeting for S1-1 school advance signs and supplemental panels used with S1-1, S3-1 and S4-5 school signs. Do not mix signs having fluorescent yellow-green sheeting with signs having yellow retroreflective sheeting. Use fluorescent orange Type VI or VII for all orange work zone signs. Mesh signs shall meet the color, daytime luminance and nonreflective property requirements of Section 994, Type VI.

700-2.6 Breakaway Support Mechanisms for Electronic Display Signs: Provide posts or posts with slip bases as shown in the Plans.

700-3 Materials.

700-3.1 General: Meet the materials requirements shown below and any additional requirements which the Plans might show.

700-3.2 Concrete: Use concrete meeting the requirements of Section 346.

700-3.3 Reinforcing Steel: For reinforcing steel in footings, meet the requirements of Section 415.

700-3.4 Aluminum Materials:

700-3.4.1 General: For aluminum materials, meet the general provisions of 965-1.

700-3.4.2 Sheets and Plates: For aluminum sheets and plates for sign panels, meet the requirements of ASTM B 209, Aluminum Association Alloy 6061-T6, 5154-H38 or 5052-H38 and those shown in the Plans.

700-3.4.3 Extruded Tubing: For extruded aluminum tubing, meet the requirements shown in the Plans.

700-3.4.4 Castings: Provide aluminum castings of the alloys shown in the Plans. For aluminum alternates the CEI will allow a cast base, provided the Contractor submits test reports giving evidence that the base to be used for each pole size is as strong as the pole with which it is to be used. Perform physical tests and submit certified reports for one base to be used with each pole size. Use Alloy A 356-T6 for the castings. Use aluminum bolts for connecting parts of the cast base.

700-3.4.5 Channels: For aluminum channels, meet the requirements of ASTM B 308 for the alloys shown in the Plans.
700-3.4.6 Bolts, Nuts, and Lockwashers: For aluminum bolts, nuts, and lockwashers, meet the requirements shown in the Plans. Ensure that finished bolts and washers are given an anodic coating of at least 0.0002 inch in thickness and are chromate-sealed.

700-3.5 Steel:

700-3.5.1 General: Only use structural steel, including bolts, nuts, and washers, that have been hot dip galvanized or metalized after fabrication. Perform hot dip galvanizing in accordance with ASTM A 123 or ASTM A 153 and metalizing in accordance with Section 562.

For galvanized steel members meet the general requirements of Section 962 and the specific requirements of 962-9.

700-3.5.2 Specific Uses of Aluminum and Galvanized Steel: Use aluminum bolts, nuts, and hardware to connect parts of the cast base.

Use galvanized steel anchor bolts for anchoring base plates to concrete bases and for the nuts and washers.

For all other metal parts of the cast base, the CEI will allow galvanized steel as an alternate to aluminum.

700-3.6 Bearing Pads: For bearing pads, meet the requirements of 932-2.

700-3.7 Retroreflective Sheeting: All retroreflective sheeting must be listed on the QPL and meet the retroreflective sheeting requirements of Section 994.

700-3.8 Process Colors: Use transparent and black opaque process colors listed on the QPL meeting the requirements of 994-4 on retroreflective and nonreflective sheeting.

700-3.9 Electronic Display Signs: Use electronic display signs and mounting hardware that meet the requirements of the MSTCSD and are listed on the Approved Products List.

Use only new signs and mounting hardware.

Provide signs marked in accordance with Section 603 and ensure the markings are visible after installation.

Provide installation guides and operator's manuals for each EDS. Ensure the manuals include functional block diagrams and wiring diagrams; with information required to operate, maintain, troubleshoot, and repair the EDS; and with recommended maintenance and calibration procedures.

Ensure signs have a manufacturer's warranty covering defects in assembly, fabrication, and materials for a minimum of three years from the date of final acceptance. Ensure Guaranties on EDS comply with Section 608.
700-4 Preparation of Sign Blanks.

700-4.1 De-greasing and Etching for Aluminum Sign Blanks:

700-4.1.1 General: Prior to the application of retroreflective sheeting, use any of the methods shown below to de-grease and etch the aluminum sign blanks.

700-4.1.2 Hand Method: Under this method, de-grease and etch the blanks in one operation, using steel wool (medium grade) with any of the following combinations of materials:

(1) An abrasive cleanser of a commercial grade kitchen scouring powder.
(2) Acid and a suitable detergent solution.
(3) An alkaline solution.

Thoroughly rinse the blanks with clean water following all hand degreasing operations.

700-4.1.3 Power-Washer Method: Under this method, de-grease the blanks with an inhibited alkaline cleanser, by spraying for 90 seconds with the solution between 135 and 249°F, the exact temperature to be as recommended by the manufacturer of the cleanser. After the spraying, rinse the blanks with clean water. Then etch the blanks by immersing them in a 6 to 8% solution of phosphoric acid at a temperature of 100 to 180°F for 60 seconds. After immersion, rinse the blanks in clean water.

700-4.1.4 Immersion Method: Under this method, de-grease the blanks by immersing them in a solution of inhibited alkaline cleanser at a temperature between 160 and 180°F for three to five minutes, and then rinsing with clean water. Then etch blanks by immersing them in a 6 to 8% solution of phosphoric acid at a temperature of 100°F for three minutes. After immersion, rinse the blanks in clean water.

700-4.1.5 Vapor De-greasing Method: Under this method, de-grease the blanks by totally immersing them in a saturated vapor of trichloroethylene. Remove trademark printing with lacquer thinner or a controlled alkaline cleaning system.

700-4.1.6 Alkaline De-greasing Method: De-grease the blanks by totally immersing them in a tank containing an alkaline solution, controlled and titrated in accordance with the solution manufacturer's directions. Adapt immersion time to the amount of soil present and the thickness of the metal. After immersion, thoroughly rinse the blanks with running water.

700-4.1.7 Etching Method when De-greasing is Separate Operation: If using either of the degreasing methods described under 700-4.1.5 and 700-4.1.6, accomplish etching by one of the following alternate methods:

(1) Acid Etch: Etch well in a 6 to 8% phosphoric acid solution at 100°F, or in a proprietary acid etching solution. Rinse thoroughly with running cold water, which may be followed by a hot water rinse.
(2) Alkaline Etch: Etch aluminum surfaces in an alkaline etching material that is controlled by titration. Meet the time, temperature, and concentration requirements specified by the solution manufacturer. After completing etching is complete, rinse the panel thoroughly.

700-4.2 Drying: Dry the panels using a forced-air drier. Use a device or clean canvas gloves, to handle the material between all cleaning and etching operations and the application of retroreflective sheeting. Do not allow the metal to come in contact with greases, oils or other contaminants prior to the application of retroreflective sheeting.

700-4.3 Fabrication of Sign Blanks: Fabricate all metal parts to ensure a proper fit of all sign components. Complete all fabrication, with the exception of cutting and punching of holes, prior to metal de-greasing and applying the retroreflective sheeting. Cut metal panels to size and shape and keep free of buckles, warp, dents, burrs, and defects resulting from fabrication. Provide all sign panels with a flat surface.

700-5 Fabrication of Retroreflectorized Sign Faces.

700-5.1 Application of Sheeting: Apply retroreflective sheeting to the base panels with mechanical equipment in a manner specified for the manufacture of traffic control signs by the sheeting manufacturer. Ensure that sheeting applied to extruded aluminum sections adheres over and around the side legs of all panels to a minimum distance of 11/16 inch beyond the radius of top edge.

Match sign faces comprising two or more pieces of retroreflective sheeting for color and retroreflectivity at the time of sign fabrication. Reverse and apply consecutively alternate successive width sections of either sheeting or panels to ensure that corresponding edges of sheeting lie adjacent on the finished sign. The CEI will not accept nonconformance that may result in non-uniform shading and an undesirable contrast between adjacent widths of applied sheeting.

700-5.2 Finish: Seal retroreflective sheeting splices and sign edges with materials the sheeting manufacturer supplies in a manner the sheeting manufacturer specifies for traffic control signs.

700-5.3 Screening-on Message: Screen message and borders on retroreflective sheeting in accordance with the recommendations of the ink or overlay manufacturer. Process either before or after applying the sheeting to the base panels.

700-5.4 Finished Sign Face: Provide finished signs with clean cut and sharp messages and borders. Ensure that finished background panels are essentially a plane surface.

700-5.5 Stenciling: For permanent roadway signs, mark the back of all finished panels at the bottom edge with "CFX", the date of fabrication, the date of installation, and the fabricator's initials. Make the markings unobtrusive, but legible enough to be easily read by an observer on the ground when the sign is in its final position. Apply the markings in a manner that is at least as durable as the sign face.
700-6 Acceptance of Signs.

700-6.1 Manufacturer's Certification and Recommendations: Ensure that the sign manufacturer certifies that the delivered signs conform to this Section and provides recommendations for storing and repairing signs.

700-6.2 Packaging and Shipping: Have the manufacturer package and ship the signs in a manner which will minimize possible damage.

700-6.3 Storage of Signs: If signs are stored prior to installation, store them in accordance with the manufacturer's recommendations.

700-6.4 Sign Inspection: Do not install signs until the CEI inspects them for conformance with this Section. Provide all manufacturer certifications and recommendations prior to the CEI's inspection. The CEI will inspect the signs upon delivery to the storage or project site and again at the final construction inspection. Repair and replace signs deemed unacceptable by the CEI at no expense to the CFX.

700-6.5 Imperfections and Repairs: Repair and replace signs containing imperfections or damage regardless of the kind, type, or cause of the imperfections or damage. Make repairs according to the manufacturer's recommendations and to the satisfaction of the CEI. Ensure that completed repairs provide a level of quality necessary to maintain the service life warranty of the sign and are satisfactory in appearance to the CEI.

700-6.6 Electronic Display Signs: In addition to the requirements of this Section, meet the requirements of Section 611.

700-7 Foundations.

700-7.1 Footings:

700-7.1.1 Excavation and Backfilling: Perform excavation and backfilling for the footings in accordance with Section 125, with the exceptions that no specific density is required and that the backfill may be tamped in 4 inches maximum layers. Use material that is at near optimum moisture and neither dry or saturated, and tamp to the extent directed by the CEI.

The CFX may require that the backfilling be done with poured concrete. Install spread footings which support sign structures overhanging the roadway as required in 455-25 through 455-37.
700-7.1.2 Mixing and Placing Concrete: For hatching and mixing of concrete for footings, meet the requirements of Section 346, except that the CEI will allow hand mixing by approved methods where the quantity to be mixed does not exceed 1/2 yd3. Use cast-in-place or precast concrete for the footings. Obtain precast concrete footings from a plant that is currently on the list of Producers with Accepted Quality Control Programs. Producers seeking inclusion on the list shall meet the requirements of 105-3.

700-7.1.3 Forms: The CEI will not require forms when the ground is sufficiently firm, in which case, sufficiently moisten the adjacent earth to prevent it from absorbing the moisture from the concrete. Where forms are required and the soil is not moist, place sufficient water, as directed by the CEI, in the hole, and pour the concrete as soon as the water has been absorbed. Place at least 4 inches of loose earth, free from clods or gravel, over the top of the footing to effect curing.

700-7.1.4 Finishing Concrete: Trowel the top of the concrete to a smooth finish.

700-7.2 Drilled Shafts: Meet the requirements of Section 455.

700-8 Erection of Signs and Sign Supports.

Do not erect overhead sign supports until the concrete strength in the support footing is at least 2,500 psi. Determine concrete strength from tests on a minimum of two test cylinders sampled and tested in accordance with ASTM C 31 and ASTM C 39 and verifying test results have been provided to the CEI.

Erect the signs and sign structures in accordance with the details shown in the Plans. The Contractor may fabricate the structural steel sign trusses in sections that will fit into available galvanizing vats. Prior to galvanizing, weld the joints as specified in 460-6 and in accordance with the details shown in the Plans. Re-galvanize damaged parts as specified in Section 562. Weld aluminum structures in accordance with 965-3.

Attach electronic display signs to the supporting structure in accordance with the manufacturer's recommendations using the mounting hardware provided by the manufacturer.

700-9 Removal or Relocation of Signs.

Relocation of signs shall consist of removing the existing sign assembly and installing the sign on a new foundation.

When the Plans call for existing ground-mounted signs to be relocated or removed, immediately remove supports and footings that project more than 6 inches above the ground surface after removing the sign panel from the assembly. Remove existing footings to a depth at least 12 inches below the ground surface. Restore the area of the sign removal or relocation to the condition of the adjacent area. The costs will be included in the Contract unit price of the item to which it is incidental.
Notify the CEI a minimum of 30 days prior to removal of existing Logo sign structures.

700-10 Overlay Existing Sign Panels.

Use 0.040 inch thick aluminum sheeting for overlays larger than 3 square feet placed on a sign panel. Replace hex head bolts on the sign surface using stainless steel flat head machine screws with nuts and lock washers to give a flat surface for the overlay panel. Install the overlay panels starting at the edge away from traffic. Place each panel against the sign using a clamp at the top to hold the panel in place. Drill 1/8 inch holes 1 inch inside the panel edge every 6 inches to 8 inches and install 1/4-inch to 3/8 inch length pop rivets. Install additional rivets along the outer edge 6 inches to 8 inches. Place the remaining panels using the same procedure with the overlap in the direction away from the traffic and with rivets along the overlap on 12 inch centers.

700-11 Method of Measurement.

The quantities to be paid for will be:

(1) The number of ground traffic signs of each designated class of assembly, complete.

(2) The number of lighted overhead traffic signs of each designated class of assembly, complete.

(3) The number of existing signs removed, relocated, modified of each designated class of assembly, complete.

(4) The number of overhead signs span wire mounted, bridge mounted, and lighted sequential, of each designated class of assembly, complete.

(5) The number of electronic display signs, of each designated class of assembly, complete.

(6) The number of flashing beacon signs, of each designated class of assembly, complete.

For the purpose of payment, a sign assembly consists of all the signs mounted on a single structure (one, two or three posts, or overhead structure) or all the signs on a bridge mounted sign structure and the sign structure.

700-12 Basis of Payment.

Price and payment will be full compensation for furnishing and installation of all materials necessary to complete the signs in accordance with the details shown in the Plans; including sign panels complete with sheeting, painting, and message; sign posts and supports, foundations, excavation, etc.; for lighted signs, include all costs of the electrical installation for lighting, up to the point of connection by others; for flashing beacon signs, include all costs of beacons, controllers, and electrical installation, up to the point of connection by others; and all other work specified in this Section, including all incidentals necessary for the complete item.

END OF SECTION
SECTION 994
RETROREFLECTIVE AND NONREFLECTIVE SIGN SHEETING

994-1 Description.

994-1.1 General:

This Section specifies the requirements for retroreflective and nonreflective sheeting materials, transparent and opaque process inks for retroreflective sheeting materials, and film overlays for traffic control devices. The sheeting materials used shall be one of the products included on the Qualified Products List (QPL).

994-1.2 Classification:

Retroreflective sheeting materials shall be classified in accordance with ASTM D4956. In addition, a Type VII reflective sheeting is added for a super high retroreflective sheeting with high performance angularity properties.

994-2 Materials.

Retroreflective sign sheeting, screen processing inks, and film overlay materials used for any of the applications described herein shall be one of the products included on the QPL. The retroreflective sheeting shall meet the requirements of Types III, IV, V, VI in ASTM D4956 or VII listed below in accordance with their approved usage. Samples shall be taken in accordance with the FDOT's Sampling, Testing and Reporting Guide Schedule and on a random basis at the discretion of the CEI.

994-3 Physical Requirements.

994-3.1 Testing: The retroreflective sheeting shall be tested in accordance with ASTM D4956 and the Florida Test Method for retroreflective and nonreflective sheeting, FM 5-571. For retroreflectivity, the sheeting materials shall meet the minimum requirements as stated for 0.2 degree and 0.5 degree observation angles in ASTM D4956. Evaluation of test samples shall be field tested in accordance with FM 5-571 for each color.

994-3.2 Retroreflective Intensity: The retroreflective sheeting shall meet the requirements in ASTM D4956 for the overall performance of each property listed. In addition to minimum coefficients of retroreflection listed in ASTM D4956, fluorescent yellow-green sheeting shall have a minimum coefficient of retroreflection of 200 at 0.2 /-4, 100 at 0.2 /30, 80 at 0.5 /-4 and 45 at 0.5 /30 (observation angle/entrance angle) for ASTM D4956 Tables 4, 6, 7 and 8. Type VII requirements are listed in Table 13 below.

994-3.3 Color: The retroreflective and nonreflective sheeting or film shall have the same daytime and nighttime color when viewed by reflective light regardless of type classification. The diffused color of the retroreflective sheeting, through instrumental color testing, shall
conform to the requirements of ASTM D4956. In addition to ASTM D4956 Table 13, the fluorescent orange, fluorescent yellow-green and fluorescent pink colors shall meet the following x, y chromaticity coordinates:

<table>
<thead>
<tr>
<th>Fluorescent</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>Yellow/Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>x</td>
<td>.387</td>
<td>.368</td>
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<td>y</td>
<td>.610</td>
<td>.539</td>
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<td>.540</td>
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<tr>
<td>Orange</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>.583</td>
<td>.535</td>
<td>.595</td>
<td>.645</td>
</tr>
<tr>
<td>y</td>
<td>.416</td>
<td>.400</td>
<td>.351</td>
<td>.355</td>
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</table>

<table>
<thead>
<tr>
<th>Fluorescent Pink</th>
<th>1</th>
<th>2</th>
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<th>4</th>
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</tr>
<tr>
<td>X</td>
<td>.450</td>
<td>.590</td>
<td>.644</td>
<td>.536</td>
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<tr>
<td>Y</td>
<td>.270</td>
<td>.350</td>
<td>.290</td>
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</table>

The daytime luminance for fluorescent orange, fluorescent yellow-green and fluorescent pink sheeting shall have a luminance factor of 25 minimum, 60 minimum and 25 minimum respectively, in addition to ASTM D4956 Table 9.

994-3.3.1 Accelerated Outdoor Test: The retroreflective and nonreflective materials shall meet the ASTM D4956 weathering requirements for performance. Retroreflective materials shall meet the minimum coefficient of retroreflection as listed in Table 11 in accordance with FM 5-571.

994-3.4 Adhesive Backing:

994-3.4.1 General: The adhesive backing of the retroreflective and nonreflective sheeting or film shall be either Class 1, Class 2 or Class 5 per ASTM D956, Section 4.3. The retroreflective and nonreflective sheeting or film, after application, shall tightly adhere to the application surface and show no discoloration, cracking, crazing, blistering or dimensional change.

994-3.4.2 Protective Liner: The protective liner over the adhesive backing shall be removable from the adhesive backing by peeling without soaking in water or other solvents and without breaking, tearing or removing any adhesive from the adhesive backing in accordance with ASTM D4956, Section 7.10.

994-3.5 Film: The exterior film of the sheeting shall be a flexible, smooth-surfaced, moisture resisting material and shall have sufficient strength and flexibility to be easily handled, cut to shape, processed and applied without stretching, tearing, or other damage. In addition, retroreflective sheeting shall have a transparent exterior film.
994-3.6 **Tensile Strength:** The retroreflective and nonreflective sheeting or film shall have a minimum tensile strength of five pounds-force so that the sheeting can be handled, processed and applied without damage to sheeting. The tensile strength shall be tested in accordance with ASTM D882.

994-3.7 **Physical Properties:** The retroreflective and nonreflective sheeting or film material shall meet the ASTM D956 minimum requirements for specular gloss, shrinkage and flexibility.

994-3.8 **Workability:** The retroreflective and nonreflective sheeting or film shall permit preapplication handling, positioning, cutting by hand or die machine and oven drying. In addition, retroreflective sheeting shall permit color processing.

994-3.9 **Chemical Resistance:** The retroreflective and nonreflective sheeting or film shall be chemically resistant so as to permit cleaning with naphtha and mineral spirits, turpentine, mild soaps, detergents and alcohol.

994-3.10 **Color Processibility:** The retroreflective sheeting shall permit color processing with compatible transparent and opaque process inks as approved by the sheeting manufacturer and listed on the QPL.

<table>
<thead>
<tr>
<th>Table 13</th>
<th>Type VII Sheetings</th>
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<tbody>
<tr>
<td><strong>Minimum Coefficient of Retroreflection (cd/(Foot-candle ft^2))</strong></td>
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<tr>
<td>Observation/Entrance Angle (degree)</td>
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<tr>
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<td>380</td>
</tr>
<tr>
<td>0.5/-4</td>
<td>250</td>
</tr>
<tr>
<td>0.2/30</td>
<td>220</td>
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<tr>
<td>0.5/30</td>
<td>135</td>
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Note: Tables 1-12 are found in ASTM D4956

<table>
<thead>
<tr>
<th>Table 14</th>
<th>Type VI Sheetings</th>
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<tbody>
<tr>
<td><strong>Minimum Coefficient of Retroreflection (cd/(Foot-candle ft^2))</strong></td>
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</tr>
<tr>
<td>Observation/Entrance Angle (degree)</td>
<td>Fluorescent Pink</td>
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<tr>
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<td>160</td>
</tr>
<tr>
<td>0.5/-4</td>
<td>100</td>
</tr>
<tr>
<td>0.2/30</td>
<td>100</td>
</tr>
<tr>
<td>0.5/30</td>
<td>40</td>
</tr>
</tbody>
</table>
994-3 Direct and Reverse Screen Processing.

994-3.1 General:

The transparent and opaque process inks furnished for direct and reverse screen processing shall be of a type and quality formulated for retroreflective sheeting materials as listed on the QPL and applied in accordance with the manufacturer's instruction. Screen processing in accordance with the techniques and procedures recommended by the manufacturer shall produce a uniform legend of continuous stroke width of either transparent or opaque ink, with sharply defined edges and without blemishes on the sign background that will affect the intended sign use. The process inks shall be one of the products listed on the QPL.

994-4.2 Retroreflective Intensity:

Finished signs produced by the reverse screening process using transparent ink with retroreflective sheeting shall meet the minimums as specified in 994-3.2.

994-4.3 Color:

The diffused daytime color of the finished transparent process inks shall conform to the requirements as specified in 994-3.3.

994-5 In-Service Minimum Requirements.

The retroreflective sheeting and screen processed retroreflective sheeting shall have the minimum coefficient of retroreflection as shown in ASTM D4956, Table 11 for minimum coefficient of retroreflection using an observation angle of 0.2 degrees and an entrance angle of -4 degrees. In addition, Type VII sheeting materials shall have a minimum coefficient of retroreflection of 80% of the values listed in Table 13. The satisfactory predicted performance life for overlay films, black process inks and lettering shall equal the number of predicted performance life years of the retroreflective sheeting to which it is applied. Type III, IV, V and VII sheeting materials shall have a minimum performance life of at least ten years for each color except orange and fluorescent orange which shall have a minimum performance of at least three years and all other fluorescent colors which shall have a minimum performance of at least seven years. Performance life shall be based on the performance requirements of ASTM D4956 and FM 5-571.

994-6 Packaging and Labeling.

Shipment shall be made in containers which are acceptable to common carriers and packaged in such a manner as to ensure delivery is in perfect condition. Each package shall be clearly marked as to the name of the manufacturer, type, color, quantity enclosed and date of manufacture. Show the type designation of the sheeting in accordance with ASTM D4956 and this specification.
994-7 Certification.

For permanently installed signs, the Contractor shall be required to furnish to the CEI one certified test report from the sheeting manufacturer documenting that the retroreflective sheeting meets the requirements of this Section. The certified test report shall include test results for retroreflectivity, color, adhesive backing properties, film description, tensile strength, specular gloss, shrinkage, flexibility and chemical resistivity. The certified test report shall affirm the product meets all the requirements specified. If test results indicate significant inconsistencies in material properties, new qualification tests and/or comparison with original infrared spectroscopic values may be required. Each certification shall cover only one type of retroreflective or non-reflective sheeting or film. The certification shall meet the requirements in Section 4 of the General Specifications. Due to the wide range of applications of the products within some types, the certification shall additionally state that this product is recommended for use on this specified project.

Certification shall not be required for signs used in the work zone.

994-8 Qualified Products List.

994-8.3 General:

All reflective and nonreflective sheeting materials and process sinks shall be one of the products listed on the QPL. Products may only be used for applications recommended by the manufacturer. A notation of the sheeting materials approved for the inks may be placed on the QPL.

994-8.4 Other Requirements:

Manufacturers seeking approval of sheeting material products shall submit an application, Material Safety Data Sheet (MSDS), and certification. Non-sheeting materials may be submitted under this Section with reference to specific equivalency of performance requirements of overall end product. Final acceptance will be based on tests and verification in accordance with this specification, FMN 5-571 and 6-1.

994-9 Samples

Field samples will be obtained in accordance with the FDOT's Sampling, Testing and Reporting Guide Schedule.

END OF SECTION 994
# CFX PROJECT NO. 417-625

Lake Nona Sports District Supplemental Signing

## SPECIAL PROVISIONS

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<td>Escrow of Bid Records</td>
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</table>
SP-1 CONTRACT TIME, SUBSTANTIAL COMPLETION AND LIQUIDATED DAMAGES

After the charging of Contract Time begins, the Work shall reach Substantial Completion within 40 calendar days (or within such additional time as may have been granted by the Central Florida Expressway Authority). The Work shall be completed and ready for Final Acceptance by the Central Florida Expressway Authority (CFX) within 50 calendar days (or within such additional time as may have been granted by CFX) after the charging of Contract Time begins.

CFX and the Contractor recognize that time is of the essence of the Contract and that CFX will suffer financial loss if the Work is not completed within the times specified above or within such additional time as may have been granted by CFX. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by CFX if the Work is not completed on time. Accordingly, instead of requiring such proof, CFX and the Contractor agree that as liquidated damages for delay (but not as a penalty) the Contractor shall pay CFX Two Hundred Dollars ($200) for each calendar day that expires after the time specified above for Substantial Completion until the Work achieves Substantial Completion or until the scheduled Final Completion date, whichever occurs first.

If the Contractor shall neglect, refuse, or fail to complete the Work within the time specified above for Final Completion, CFX and the Contractor agree that as liquidated damages for delay (but not as a penalty), the Contractor shall pay the CFX Five Hundred Dollars ($500) for each calendar day that expires after the time specified above for Final Completion.

SP-2 LANE AND RAMP CLOSURE RESTRICTIONS

The number, type and frequency of lane and ramp closure restrictions on the Central Florida Expressway Authority’s system are detailed in the Plans. Nevertheless, no more than one (1) lane and/or ramp will be closed at one time.

Delay costs to the public will result if all lanes and ramps are not open to traffic during the times shown on the Plans. The Contractor shall plan its operations such that all equipment and materials, except those required for the safety of the traveling public, are removed from the clear zone and lanes/ramps are reopened for traffic by the times noted. For lane/ramp closures that occur outside the allowable time periods shown in the Plans, a lane rental fee will be assessed on the Contractor in the amount of $1,000 per lane/ramp for each minute that any lane/ramp is not open to traffic.
Lane rental fees will be assessed and will continue to accrue until subject lanes/ramps are open and traffic flow is restored as recorded by the CFX Construction Engineer Inspector (CEI). CFX shall have the right to apply as payment on such fees any money that is due to the Contractor by CFX. At the discretion of the CEI, lane rental fees will not be charged for failure to open traffic lanes/ramps if such cause is beyond the control of the Contractor i.e., catastrophic events, accidents not related or caused by the Contractor's operations.

Lane closures on all local roads shall be coordinated by the Contractor with and approved by appropriate local agency (Orange County, City of Orlando, Florida Turnpike, FDOT etc.).

**SP-3  CCTV AND HIGHWAY LIGHTING LOCATES AND PROTECTION**

The Contractor shall request a location of facilities for the Central Florida Expressway Authority (CFX) Fiber Optic Network (FON), Closed Circuit Television (CCTV) and highway lighting. This notification shall be accomplished through the use of a Locate Ticket. The Locate Ticket will detail the Contractor’s Information (contact, address, phone number etc.) and Work Information. CFX will have 14 calendar days (not including recognized holidays) to locate the facilities within the Project limits and transfer such information to the Contractor. The Contractor shall plan the submission of the Locate Ticket wherein the 14 calendar days (not including recognized holidays) will not impact the Project schedule. Claims will be not considered by the CFX due to insufficient time allowed by the Contractor for the locate process. Work scheduling problems are not considered an emergency.

The Contractor shall maintain a minimum horizontal clearance of two (2) feet between the cutting edge or point of mechanized excavating or earth moving equipment and a marked, unexposed facility. A tolerance zone is the area two (2) feet from the outer edge of either side of the exterior surface of a marked facility. When working within the tolerance zone the Contractor shall use increased caution to protect the facility. Hand digging, pot holing, soft digging, vacuum excavation or similar procedures shall be used within the tolerance zone to identify the facility. The use of mechanized equipment within the tolerance zone will require prior approval by the CEI.

CFX will schedule the location of the facilities with the Contractor through an on-site meeting at the Project site prior to the start of construction wherein the Contractor will accompany the CFX and record and document the location of the respective facilities. CFX will provide the location of the facilities on a single occasion. The Contractor will be responsible to preserve, maintain, protect and reestablish the location of the facility to verify that damage to the facilities will not occur. Subsequent requests for location of the facilities will be performed at a cost of $2,000 per request.

The facilities will be marked in accordance with the guidelines for uniform temporary marking of underground facilities as approved by the Utility Location and Coordinating

SP-2
Council of the American Public Works Association (APWA) when marking the horizontal route of any facility. CFX will mark only the horizontal location of the facilities as the depths may vary due to installation practices, changes in the grade, soil erosion and other variables.

Should the Contractor come in contact with the facility during the performance of the Work, even if there is no noticeable damage, CFX shall be notified. If any contact with or damage to any pipe, cable or its protective covering or any other underground facilities occurs, the Contractor shall immediately notify the CFX. Within 24 hours of the contact or damage, the Contractor shall complete a permanent repair. The Contractor will be assessed a penalty of $250 per hour for each hour or fraction thereof that the contact or damage is not repaired in excess of the first 24 hours. Until such time as the contact or damage has been repaired, the Contractor shall cease activities that may cause further damage to the facility.

"Damage" means any impact upon or contact with, including, without limitation, penetrating, striking, scraping, displacing or denting, however slight, the protective coating, housing or other protective devices of any underground facility or the removal or weakening of any lateral or vertical support from any underground facility or the severance, partial or complete, of any underground facility.

(SEE ALSO SECTION 631 OF THE TECHNICAL SPECIFICATIONS – EXISTING FIBER OPTIC SYSTEM)

SP-4  REVISIONS TO DESIGN STANDARDS 11200 AND 11300

On Design Standard Index Drawing Nos. 11200 and 11300 make the following revisions:

A.  Delete the following note on each drawing:

“Note: If the sign panels are deeper than 10’, a Horizontal Panel Splice is allowed at an interior Z bar support, shop drawings shall be required. Minimum panel section width = 2’-6”."

B.  Insert the following new note on each drawing:

“Horizontal splices shall be allowed in panel fabrication when necessary, as determined by the fabricator, with the following constraints:

1.  No more than one horizontal splice per panel shall be allowed.

2.  The horizontal splice shall be at the centerline of an interior wind beam (Z-bar). The interior wind beam size, spacing and connections shall be per the appropriate FDOT indices.
3. The minimum depth allowed for any horizontal panel section shall be 2'-6".

4. The horizontal splice shall be located between lines of copy on the panel face. An additional Z bar support may be required as determined by the panel fabricator.

**SP-5 CLAIMS BY THIRD PARTIES**

The Contractor shall maintain during the term of this Contract, and for as long as reasonably is necessary after the expiration of the Contract, procedures for addressing third party claims arising out of Contractor’s work or conduct on this Contract, which procedures shall include the following:

Within one (1) business day of the Contractor’s receipt of written or oral notification of a third party claim alleging damage as a result of Contractor’s work or conduct, Contractor shall provide the Central Florida Expressway Authority (CFX) with written acknowledgment of receipt of the claim and as many details as are available to Contractor at the time. Within two (2) business days after its receipt of a claim, Contractor shall advise the CFX of its proposed course of action to investigate and resolve the claim along with a timeline for such course of action. In no event shall the timeline exceed thirty (30) days unless the Contractor has requested, and CFX has granted, additional time due to the nature or complexity of the claim.

The Contractor shall, at its sole expense, conduct such investigation of each claim as a reasonable and prudent person would be expected to conduct in similar circumstances. If the original claim was made orally, the Contractor shall obtain a written statement of the claim from the claimant. The Contractor shall also reasonably return claimant’s telephone calls and reasonably keep the claimant apprised of the status of the claim. The Contractor shall at all times act in good faith.

On or before the deadline for resolving a claim, the Contractor shall notify the CFX of its resolution. The Contractor’s resolution may involve, but not necessarily be limited to, the following: (1) repair or replacement of damaged property at the Contractor’s expense; (2) payment by the Contractor of monetary compensation for damaged property; or, (3) notification to the third party claimant that the Contractor’s investigation has determined that the claim is not a valid claim against Contractor or that it is a valid claim but of less value than that demanded by the claimant. In the event that Contractor determines that the claim is not valid, or is of less value than that demanded by the claimant, then Contractor shall provide a detailed written statement of its reasons for such finding to the CFX.

Upon expiration of the resolution period, including any extension thereof, in the event that either: (1) Contractor fails to timely resolve a third party claim; or, (2) Contractor has determined a claim is either invalid or of less value than demanded by the claimant and the claimant has demonstrated to the CFX a reasonable basis to contest such
determination, then, in either such event, the CFX may, but shall not be required to, retain a properly qualified independent public adjustor or other expert such as a licensed engineer (hereafter simply referred to as the “Adjustor”) to evaluate the claim. The Adjustor shall investigate the claim and recommend a fair and appropriate resolution to the CFX. The Adjustor’s determination as to the validity and value of a claim shall be binding on Contractor and CFX.

The costs of the Adjustor shall be paid as follows:

1. In all cases where the Adjustor has been employed due to Contractor’s failure to timely resolve a claim, Contractor shall bear the expense of the Adjustor.

2. In the event that the Adjustor has been employed to investigate a disputed determination of the validity of a claim and the Adjustor finds the claim valid, the Contractor shall bear the expense of the Adjustor.

3. In the event the Adjustor has been employed to investigate a disputed determination of the validity of a claim and the Adjustor concurs with Contractor’s determination that a claim is not valid, then the CFX shall bear the expense of the Adjustor.

4. In the event that the Adjustor has been employed to investigate the value of an admittedly valid claim and the Adjustor finds the actual value is 110% or more of the value ascribed by Contractor then the Contractor shall bear the expense of the Adjustor.

5. In the event that the Adjustor has been employed to investigate the value of an admittedly valid claim and the Adjustor finds the value is less than 110% of the value ascribed by Contractor then the CFX shall bear the expense of the Adjustor.

The CFX may withhold such costs for which Contractor is liable under this provision from future payments to Contractor.

Any settlement agreement or satisfaction of claim entered into with third party claimants shall provide (i) that such settlement or satisfaction is made expressly subject to CFX’s approval, and (ii) a general release from claimant in favor of the CFX.

To the fullest extent allowed by Florida law, Contractor shall indemnify and hold harmless the CFX for all costs, expenses, attorneys’ fees, and other fees or charges that the CFX incurs as a result of third party claims against Contractor or arising out of Contractor’s work or conduct under this Contract. Except as specifically provided above, such costs, expenses, attorneys’ fees and other fees include but are not limited to investigation fees, expert fees, expert witness fees, costs and expenses of litigation in all proceedings and at all levels, attorneys’ fees whether for consultation or litigation, and any other expenses incurred by CFX as a result of such third party claims.
SP-6  COLOR MATCHING BOLTS/RIVETS/SCREWS ON ALL NEW SIGN FACES

The Contractor shall patch all countersunk screws on all new sign faces (ground mount or overhead) with sheeting material matching the sign face type and color. The patch material shall be oriented in the same direction as the sign face material and shall be of sufficient diameter to secure the patch to the sign face around the bolt or rivet. Rivets for overlays and demounts shall be painted with color to match background sheeting.

SP-7  SIGN INSTALLATIONS

In addition to the requirements of Section 700 of the Standard Specifications, installation and handling of all signs shall conform to the “Reflectorized Sign Installation and Handling Guide” prepared by the 3M Traffic Control Materials Division. A copy and/or email with a link to the 3M Company website of these guidelines will be furnished to the Contractor with the Notice to Proceed.

SP-8  SIGN SHEETING REPLACEMENT OBLIGATIONS

The Contractor shall supply to the Central Florida Expressway Authority (CFX) the sign sheeting manufacturer’s performance warranty to meet the following conditions:

**3M Company Diamond Grade Cubed (DG3) Reflective Sheeting (or CFX Approved Equal)**

A. During the first seven years, the sheeting manufacturer shall, at its expense, restore the sign surface to its original effectiveness.

B. During the eighth through twelfth years, the sheeting manufacturer shall, at its expense, furnish the sheeting required to restore the sign surface to its original effectiveness.

**3M Company Diamond Grade Cubed (DG3) Reflective Fluorescent Sheeting (or CFX Approved Equal)**

A. During the first five years, the sheeting manufacturer shall, at its expense, restore the sign surface to its original effectiveness.

B. During the sixth and seventh years, the sheeting manufacturer shall, at its expense, furnish the sheeting required to restore the sign surface to its original effectiveness.

The use of the ATSM EC Film #1170 in lieu of the 3M Company EC Film #1170-13 for all purple applications on signing is no longer permitted by the CFX. All purple
applications on signing (the E-PASS logo and CFX logo) shall use the 3M Company DG3 Retroreflective Sheeting Matching EC Film #1170-13 Violet EC Film product (or CFX approved equal).”

**SP-9 SUPER-HIGH EFFICIENCY FULL CUBE RETROREFLECTIVE SHEETING**

1.0 Scope

This specification covers flexible white or colored, Super-High Efficiency Full Cube Retroreflective Sheeting (hereinafter called sheeting), tape and related processing materials designed to enhance nighttime visibility of traffic control signs and objects. The sheeting shall consist of full cube prismatic lens elements with a distinctive interlocking diamond seal pattern visible from the face of a smooth surface. The sheeting shall have a precoated adhesive protected by an easily removable liner.

The sheeting shall be part of a family of matched component products required for the manufacture and imaging of traffic control signs as described in section 4. Only section 2.0, section 6.2.5, section 6.4, and section 7.2 cover printed colored areas of signs.

2.0 Prequalification

Materials (sheeting, process colors, overlay films) shall be considered for use only when, in the opinion of CFX, sufficient evidence exists to ensure that the materials and services offered can reliably conform to this specification.

3.0 Classification and Conformance

3.1 The sheeting shall conform to ASTM D 4956 as modified by this specification.

4.0 Items to be Included in Bids

4.1 Process Colors

4.1.1 The manufacturer of the sheeting shall manufacture and offer process colors in standard traffic colors, clears and thinners recommended for the sheeting to meet the performance requirements of this specification.

4.1.2 The process colors shall be a single line of traffic colors which may be applied before and after sheeting is applied to a substrate, require no component premixing, and will air dry for packing with proper ventilation in 3 hours or less and require no clear coating.
4.2 Overlay Films

The sheeting manufacturer shall also manufacture colored acrylic imaging films and clear protective overlays, which are compatible with the sheetings, and when used in accordance with the sheeting manufacturer’s instructions, shall not lessen the warranty term as described in section 7.2.

5.0 Test Panels and Test Conditions

Unless otherwise specified herein, sheeting shall be applied to test panels in accordance with ASTM D4956-13, section 7.2 and test conditions shall conform to ASTM D4956-13, section 7.1.

6.0 Requirements

6.1 Color Requirements

6.1.1 Colors

Color shall be as specified and shall conform to the Daytime and Nighttime Color Specification Limits of ASTM D4956. Daytime luminance factors shall conform to ASTM D4956-13 Table 2.

6.1.1.1 Ordinary Colors

Conformance to standard chromaticity (x, y) and luminance factor (Y%) requirements shall be determined by instrumental method in accordance with ASTM E 1164 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.*

6.1.1.2 Fluorescent Colors

Conformance to standard chromaticity (x,y) and luminance factor (Y%) requirements shall be determined by instrumental method in accordance with ASTM E 991 on sheeting applied to smooth aluminum test panels cut from Alloy 6061-T6 or 5052-H38. The values shall be determined on a HunterLab ColorFlex 45/0 spectrophotometer. Computations shall be done for CIE Illuminant D65 and the 2° standard observer.*

* The instrumentally determined color values of ordinary and fluorescent colored retroreflective sheeting can vary significantly depending on the make and model of colorimetric spectrophotometer as well as the color and retroreflective optics of the sheeting (David M. Burns and Timothy J. Donahue, Measurement Issues in the Color Specification of Fluorescent-
6.2 Coefficient of Retroreflection

6.2.1 Conformance to minimum requirements for Retroreflectance is determined as follows:

6.2.2 Three 8 in. x 8 in. samples spaced evenly across and down a representative piece of sheeting shall be taken. The Coefficient of Retroreflection ($R_A$) shall be determined for each of the three samples per ASTM E810. The average of the three values shall comply with the stated minimum table value and no single sample shall be less than 80% of the table value.

6.2.3 The observation angles shall be 0.2°, 0.5°, 1.0°.

6.2.4 The entrance angles shall be -4° and 30°.

6.2.5 For screen printed transparent colored areas or transparent colored overlay films on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for corresponding color in Table I of this specification.

6.3 Fractional Retroreflectance

The optical design of the sheeting shall be such that when measured at an entrance angle of –4° the fractional retroreflectance within a 2° observation angle cone, as defined in ASTM E808 as $R_T$ with $\alpha_{\text{max}} = 2°$, is at least 55%.
6.4 Color Processing

The retroreflective sheeting shall be designed to work in concert with recommended imaging systems. Color processing with compatible transparent and opaque process colors shall be possible in accordance with the sheeting manufacturer’s recommendation at temperatures of 60°F to 100°F (16°C to 38°C) and relative humidity of 20% to 80%. The sheeting shall be heat resistant and permit force curing without staining of applied or unapplied sheeting at temperatures recommended by the sheeting manufacturer.

6.5 Shrinkage

The retroreflective sheeting shall comply with the shrinkage requirements contained in ASTM D4956-13 section 6.6.
6.6 Adhesive

The retroreflective sheeting shall comply with the liner removal and adhesion requirements contained in ASTM D4956-13 sections 6.8 and 6.9 respectively.

6.7 Optical Stability

Three samples of retroreflective sheeting applied to test panels and conditioned as in Section 5.0 shall each first have their photometric properties characterized by measuring the coefficients of retroreflection in accordance with ASTM E 810 at all test geometries shown in Table I. These panels shall then be exposed in an air circulating oven at 160 ± 5°F (71± 3°C) for a period of 24 hours. After exposure the panels shall be allowed to condition according to the provisions of Section 5.0. These panels will again be characterized for photometric properties by measuring the coefficients of retroreflection at all test geometries measured before exposure.

The coefficients of retroreflection measured after exposure shall be between 85% and 115% of the values measured before exposure for each of the three samples.

6.8 Fungus resistance

The retroreflective sheeting shall comply with the supplementary requirements contained in section S1 of ASTM D4956-13.

6.9 General Characteristics and Packaging

The retroreflective sheeting as supplied shall be of good appearance, free from ragged edges, cracks and extraneous materials and shall be furnished in either rolls or sheets.

When furnished in continuous rolls, the number of splices shall not be more than two per 50 yards (45.7 m) of material, with a maximum of three pieces in any 50-yard (45.7 m) length. Splices shall be butted and shall be suitable for continuous application as furnished.

The sheeting shall be packaged in accordance with commercially accepted standards. Each carton shall clearly stipulate the brand, quantity, size, lot or run number, and color. Stored under normal conditions the retroreflective sheeting as furnished shall be suitable for use for a minimum period of one year.
7.0 Performance Requirements and Obligations

7.1 Certification

The sheeting manufacturer shall submit with each lot or shipment, a certification that states the material supplied will meet all the requirements listed herein.

7.2 Field Performance Requirements

7.2.1 For Permanent Signing – Ordinary Colors:
Sheeting manufactured of ordinary colors and processed and applied to sign blank materials in accordance with sheeting manufacturer’s recommendations, shall perform effectively for at least 12 years. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroreflection is less than the minimum specified for that sheeting during that period listed.

80% of values listed in Table I up to 7 years and
70% of values listed in Table I up to 12 years

Failure of process colors or overlay films provided and/or sold for use on recommended sheeting shall constitute a failure of the sign and shall be replaced under the manufacturer’s replacement obligations (7.3).

For screen printed transparent colored areas or transparent colored overlay films on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding integral color.

All measurements shall be made after sign cleaning according to the sheeting manufacturer’s recommendations.

7.2.2 For Permanent Signing – Fluorescent Colors:
Sheeting manufactured of fluorescent colors and processed and applied to sign blank materials in accordance with sheeting manufacturer’s recommendations shall perform effectively for the number of years stated in this specification. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under
normal day and night driving conditions; or (2) the coefficient of retroreflection is less than the minimum specified for that sheeting during that period listed.

80% of values listed in Table I up to 5 years and
70% of values listed in Table I up to 7 years

Failure of process colors or overlay films provided and/or sold for use on recommended sheeting shall constitute a failure of the entire sign and shall be replaced under the manufacturer’s replacement obligations.

All measurements shall be made after sign cleaning according to sheeting the manufacturer’s recommendations.

7.3 Sheeting Manufacturer’s Replacement Obligation

7.3.1 For ordinary colors where it can be shown that retroreflective signs, supplied and used according to the sheeting manufacturer’s recommendations, have not met the performance requirements of Section 7.2, the sheeting manufacturer shall cover restoration costs as follows for sheetings shown to be unsatisfactory during:

7.3.1.1 For the entire 12 years, the sheeting manufacturer will replace the sheeting required to restore the sign surface to its original effectiveness.

7.3.1.2 In addition, during the first seven years the sheeting manufacturer will cover the cost of restoration of the sign surface to its original effectiveness at no cost to CFX for materials and labor.

7.3.2 For fluorescent colors where it can be shown that retroreflective signs, supplied and used according to the sheeting manufacturer’s recommendations, have not met the performance requirements of Section 7.2, the sheeting manufacturer shall cover restoration costs as follows for sheetings shown to be unsatisfactory:

7.3.2.1 For those states with a 7 year warranty, if the failure occurs within the first 5 years from the date of fabrication, the manufacturer will, at its expense, restore the sign surface to its original effectiveness.

7.3.2.2 If the failure occurs within the 6th or 7th year from the date of fabrication, the manufacturer will furnish the
necessary amount of sheeting necessary to restore the sign surface to its original effectiveness.

7.3.2.3 Replacement sheeting shall carry the unexpired warranty of the sheeting it replaces.

8.0 Applicable Documents

The following documents, of the issues in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

8.1 ASTM Standards


SP-10 EXAMINATION OF SIGN PANELS

All sign panels shall be examined and approved by the CEI before installation by the Contractor. The Contractor shall provide the CEI with color photographs (minimum 4" x 6") of completed sign panels at least 48 hours prior to scheduled installation.

SP-11 GROUND MOUNT SIGNS - ATTACHMENT DETAILS

All ground mount signs, except where noted on the plans, shall utilize 3M VHB (Very High Bond) Acrylic Foam Tape Number 4950, or Central Florida Expressway Authority (CFX) approved equal in combination with mechanical fasteners to fasten the sign panel to wind beams/brackets and also to fasten sign panels together at vertical splice joints. One mechanical fastener shall be installed at each end of each wind beam on multi-post sign panels and at each end of each horizontal bracket on single post signs. One mechanical fastener shall be installed one inch (1") from the edge of each vertical splice at each wind beam. In addition, one mechanical fastener shall be used at the top and bottom of the vertical splice to attach the backing strips (Index Nos. 11200 and 11860) to the panel. See attached Typical Three Panel Sign sketch. Other mechanical fasteners per Index Nos. 11200 and 11860 shall remain.

A. The following procedure shall be used to determine the minimum amount of tape necessary for each sign for the attachment of the panel to the wind beams (z-bars):
1. Sign Surface Area: Multiply the dimensions of the sign face, in feet, to determine the sign's surface area.

\[
\text{length}\ \text{ft.} \times \text{width}\ \text{ft.} = \text{________ ft}\^2 \text{ of sign surface area. (a)}
\]

2. Sign Weight: Multiply the surface area (a) by the appropriate weight per square foot (from Table below) for the particular thickness of aluminum being used to determine the static load of the sign face.

<table>
<thead>
<tr>
<th>Thickness (in.)</th>
<th>Weight (lb/ft(^2))</th>
</tr>
</thead>
<tbody>
<tr>
<td>.080</td>
<td>1.15</td>
</tr>
<tr>
<td>.100</td>
<td>1.44</td>
</tr>
<tr>
<td>.125</td>
<td>1.80</td>
</tr>
</tbody>
</table>

From Table 7.4 of the ASTM Chart for sheet and plate weights

\[
\frac{\text{________ ft}\^2 \times \text{________ lb/ft}\^2}{\text{from Table (a)} \times \text{b)} = \text{________ lbs. of static load.}}
\]

3. Square Inches of Tape: Multiply pounds of load (b) by 4 in\(^2\) of tape per pound to determine amount of tape required to support the load.

\[
\frac{\text{________ lbs.} \times \text{4 in}\^2/\text{lb.}}{\text{b)} = \text{________ in}\^2 \text{ of tape. (c)}}
\]

4. Lineal Feet of Tape: To convert the required square inches of tape into lineal feet of 1-inch wide tape to be applied to stiffeners, divide the required square inches (c) by 12 in./lineal foot.

\[
\frac{\text{________ in}\^2 \text{ ) 12 in./ft.}}{\text{c)} = \text{________ lineal foot of 1-inch wide tape required to support the weight of the sign face)}
\]

5. Area of Tape Per Z-Bar: Divide the lineal feet of 1-inch tape (d) by the number of z-bars.

Additional, or larger, z-bars in excess of the standard number or size per Index 11200, may be required to achieve the square area of tape required per the above calculations. Payment shall be included in the unit price for the sign as bid.

The above calculations identify the minimum tape required. However, the entire length of all z-bars in all signs shall be covered with tape.

More tape may be necessary to fully cover all the stiffeners used to
prevent wind deflection for a particular sign design. The Contractor shall submit calculations to the CEI for review by the manufacturer.

B. For connection of sign panel pieces at butt joints, the following procedure shall be used to determine the amount of VHB tape necessary. Backing strips 22 inches to 3 inches wide shall be used along the length of all sign panel butt joints. A 1 inch strip of VHB tape shall be placed along each edge of the backing strip (i.e., two 1 inch strips along the length). The center of the backing strip shall be placed at the center of the butt joint.

C. Installation Procedures

Required Surface Preparation for All Applications

1. Application Temperature: The tape application temperature range shall be 70 degrees Fahrenheit to 100 degrees Fahrenheit.

2. Cleaning: All surfaces to be bonded shall be cleaned with a solvent such as a 50:50 mixture of isopropyl alcohol (rubbing alcohol) and water, then wipe the surface with a clean, dry cloth to remove solvent. Oil based solvents that inhibit adhesion, such as turpentine, shall not be used. Contractor shall follow solvent manufacturer's directions and precautions for handling solvent.

3. Abrading: Metal surfaces shall be lightly abraded with isopropyl alcohol saturated abrasive pad prior to applying tape. Metal with corrosion or other surface debris on any reclaimed metal shall be abraded before taping. Surface shall be re-cleaned with solvent after abrading. Conversion coated aluminum that is free of surface debris will not require abrading.

4. Rub Down Pressure: Firm application pressure shall be applied to ensure bond strength through adequate adhesive-to-surface contact.

5. Dwell Time: After proper application, the bond strength should increase as the adhesive flows onto the surface. At room temperature, approximately 50% of the ultimate strength should be achieved after 20 minutes, 90% after 24 hours, and 100% after 72 hours. In some cases, bond strength can be increased and ultimate bond strength can be achieved more quickly by exposing the bond to elevated temperatures e.g., 150 degrees Fahrenheit for 1 hour.

Assembly Steps for Bonding Stiffeners

1. Determine the amount of tape to be used from the procedures detailed above.
2. All surfaces to be bonded shall be cleaned with a 50:50 mixture of isopropyl alcohol and water. Metal surfaces shall be lightly abraded to improve initial bond strength. Re-cleaning shall be performed after abrading (see Required Surface Preparation for All Applications).

3. VHB tape shall be applied to a clean, dry, well unified surface of the stiffener with a hand held roller or tape applicator.

4. Laminated panels shall be aligned in the desired position and the stiffeners placed in the proper location for bonding to the panel.

5. The sign surface where the stiffener is to be bonded shall be clean and dry.

6. The stiffener shall be aligned in position and the release liner shall be removed. The stiffener shall be pressed in place on the panel and a hand held roller used to aid in laminating the stiffeners to the panel. A flat firm surface shall be used to support the sign panels while pressure is being applied. Repeat steps 2-6 until all the stiffeners are bonded to the panels.

**Bonding Backing Strips on Multi-Panel Signs**

1. All surfaces to be bonded shall be cleaned with a 50:50 mixture of isopropyl alcohol and water (see Required Surface Preparation for All Applications).

2. A strip of VHB tape shall be applied along both longitudinal edges of the backing strip.

3. The backing strip shall be aligned on the panel seam so that both edges of the two panels are covered with tape.

4. The release liner shall be removed and the backing strip applied to panel seams. A hand roller shall be used to aid in laminating the batten strip to the panels.

Technical assistance and pricing information for this product may be obtained from 3M Industrial Tape and Specialties at 800-362-3550.
NOTE 1:

4" (TYP.) ON WIND BEAMS
2" MIN. (TYP.) ON BRACKETS

TYPICAL MULTI-PANEL SIGN
N.T.S.
SP-12 ESCROW OF BID RECORDS

Prior to the Contract becoming binding on the Authority, the following procedure shall have been timely implemented to secure the Contractor’s Bid Records to the satisfaction of the Authority:

1. The Contractor, in the company of the CEI, shall rent a safe deposit box, at a bank in Orange or Seminole County, of adequate size to hold the original or a legible copy of the Bid Records used by the Contractor and all subcontractors to prepare its bid. The Bid Records, enclosed in a separate sealed container or containers, shall be deposited in the box at that time. The container(s) shall be clearly marked “Bid Records” with the face of the container(s) showing the Contractor's name, address, date of submittal and Project number.

2. Only the Contractor’s representative(s) shall sign the signature card required by the bank to allow subsequent access to the box. The Contractor shall request a maximum of two keys to the box which shall be given to the CEI. The CEI will tag the keys, in the presence of the Contractor, with the name of the Contractor, the Project number, the name and location of the bank and the box number.

3. At the time the Bid Records are secured in the safe deposit box, the Contractor shall submit to the CEI an affidavit, signed under oath by the Contractor, listing each Bid Record submitted by author, date, nature and subject matter. By executing this affidavit, the Contractor waives the right to use, directly or indirectly, any Bid Record, other than the Bid Records placed in escrow in the sealed container(s), in any dispute arising out of the Contract. Failure by the Contractor to provide the affidavit will be sufficient cause for the Authority to nullify the award of the Contract to the Contractor.

4. The CEI will transport the keys to the Authority’s office where the Director of Construction or his authorized representative will sign a receipt acknowledging acceptance of the keys on behalf of the Authority. A copy of the receipt will be transmitted to the Contractor.

The keys will be stored in a secure location in the Authority’s office until such time as any of the following occurs: (i) the Contractor requests that the Bid Records be released to the Authority in support of a claim by the Contractor for an adjustment in time or money under Article 2.4 of the General Specifications; (ii) the Contractor requests that the Bid Records be released to the Authority as a result of the Contractor initiating arbitration against the Authority; (iii) the Contractor requests that the Bid Records be released to the Authority for any other reason; or (iv) the Contract has been satisfactorily completed and the Project accepted by the Authority, in writing, and the Contractor has executed a binding release of all claims and potential causes of action related to the
Contract. Under any of these circumstances, the CEI will obtain the keys from the Authority office and, in the company of the Contractor’s representative authorized by the bank signature card to access the safe deposit box, retrieve the Bid Records. The records will be transmitted by the CEI to the party requesting the release.

If the records are being returned as a result of acceptance of the Project by the Authority, the Contractor shall sign a receipt acknowledging that the sealed container(s) has/have been returned to the Contractor unopened.

If the Bid Records are opened for any reason, the Authority reserves the right to reveal the contents of the records to consultants, experts and legal counsel retained by the Authority to assist with claims evaluation and arbitration preparation. Confidentiality of the Bid Records will be protected by the Authority insofar as such protection does not conflict with the requirements of the Florida Public Records Act and Florida Sunshine laws.

All costs and fees associated with the rental and maintenance of the safe deposit box shall be paid by the Contractor.
CENTRAL FLORIDA EXPRESSWAY AUTHORITY
LAKE NONA SPORTS DISTRICT SUPPLEMENTAL SIGNING
PROJECT NO. 417-625; CONTRACT NO. 001256

PROPOSAL OF

________________________________________
(NAME)

________________________________________
(ADDRESS)                     (TELEPHONE NO.)

Submitted _________________

Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, FL 32807

We, the undersigned, hereby declare that no person or persons, firm or corporation, other than the undersigned, are interested in this Proposal as principals, and that this Proposal is made without collusion with any person, firm or corporation. We have carefully and to our full satisfaction examined the approved project plans, General Specifications, Technical Specifications, Special Provisions, and the form of Contract. We have made a full examination of the location of the proposed work and the sources of supply of materials. We hereby agree to furnish all necessary labor, equipment, and materials, fully understanding that the quantities shown herewith are approximate only, and that we will fully complete all necessary work in accordance with the Plans, General Specifications, Technical Specifications, Special Provisions, Standard Specifications and addenda, if any; and the requirements under them for the prices shown on the Bid Form.

We, the undersigned, further understand and shall comply with subsection 20.055(5), Florida Statutes.

I (we) hereby acknowledge receipt of the following Addenda issued during the bidding period:

Addendum No. ________ Dated ________ Bidder and/or Representative Initial ________

Addendum No. ________ Dated ________ Bidder and/or Representative Initial ________

Addendum No. ________ Dated ________ Bidder and/or Representative Initial ________

Addendum No. ________ Dated ________ Bidder and/or Representative Initial ________
Name of Bidder and/or Representative

If awarded the Contract, the undersigned further agrees to: perform all necessary force account work, as provided for in the General Specifications; execute the Contract within 15 calendar days after the date on which the notice of award has been given; and fully complete all work within 50 calendar days (plus such additional time as may have been granted by CFX).

The undersigned states that it is prequalified by the Florida Department of Transportation under Administrative Rule 14-22, Florida Administrative Code, in Roadway Signing.

Copies of all required current Certificates of Qualification in the specified classes of work are attached to the Bid. The undersigned acknowledges that failure to submit the certificates may result in rejection of the Bid and that prequalification is required irrespective of the contract amount.

The undersigned acknowledges that the Central Florida Expressway Authority officials and employees are prohibited from soliciting and accepting funds or gifts from any person who has, maintains, or seeks business relations with the CFX.

* *
* *
* *
* *
* *
* *
Name of Bidder and/or Representative

I (We), the undersigned, hereby certify that I (we) have carefully examined this proposal after the same was completed, and have verified each item placed thereon; and I (we) agree to indemnify, defend, and hold harmless CFX against any cost, damage, or expense which it may incur or be caused by any error or omission in my (our) preparation of same.

CORPORATION:                      JOINT VENTURE:

Principal (Bidder)                Principal (Bidder)

By: ____________________________  ____________________________
President or Vice President        Principal (Bidder)

Attest: _________________________  By: ________________________
Secretary (or Assistant Secretary)  Attorney-in-Fact

(Affix Corporate Seal)

INDIVIDUAL OR FIRM TRADING AS:   PARTNERSHIP:

Principal (Bidder)                Principal (Bidder)

Signature: ______________________  Signature: (1) __________________
Individual or Owner                Co-Partner or General Partner

Signature: (2) __________________  Signature: ____________________
Individual or Owner                Co-Partner or General Partner

Witness: _________________________  Witness: (1) __________________
Witness: _________________________  Witness: (1) __________________
Witness: _________________________  Witness: (2) __________________
Witness: _________________________  Witness: (2) __________________

(If Partnership, list names and address of each partner on a separate sheet)

BIDDER MUST EXECUTE THE ATTACHED AFFIDAVIT
CENTRAL FLORIDA EXPRESSWAY AUTHORITY
LAKE NONA SPORTS DISTRICT SUPPLEMENTAL SIGNING
PROJECT NO. 417-625; CONTRACT NO. 001256

AFFIDAVIT

This Affidavit, executed by, or on behalf of the person, firm, association, corporation or joint venture submitting the Proposal, shall be sworn to before a person who is authorized by law to administer oaths.

STATE OF ___________________ COUNTY OF ___________________

Before me, the undersigned authority, personally appeared __________________, who being duly sworn, deposes and says he is ________________________________

of ______________________ of ________________________________
(Firm) (City and State)

the bidder submitting the attached Proposal for the work covered by CFX Project No. 417-625 in Orange County, Florida.

The affiant further states that no more than one proposal for the above referenced project will be submitted from the individual, his firm, corporation, or joint venture under the same or different name, and that such bidder has no financial interest in the firm of another bidder for the same work. That he, his firm, association, corporation, or joint venture has neither directly, nor indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this firm's bid on the above-named project. Furthermore, neither he, his firm, corporation, joint venture, nor any officers are debarred from participating in public contract lettings in any other state.

Corporation Must
affix Seal

P - 4
STATE OF ________________
COUNTY OF ________________

The foregoing instrument was acknowledged before me this ___________________, (Date)
by ____________________________________________
(Name of Officer or agent, title of officer or agent)
of ____________________________________________.
(Name of Corporation acknowledging)

a __________________________ corporation, on behalf of the corporation. He/she is
(State or place of incorporation)
personally known to me or has produced ____________________________
(Type of identification)
as identification and did (did not) take an oath.

__________________________ Notary Public, Commission No. ____________

__________________________ (Name of Notary typed, printed or stamped)

Title or Type of Document ____________________________ (Optional)

Number of Pages ___ Date of Document ______________ (Optional)

Signer(s) Other than Named Above ______________________ (Optional)
(SEAL ABOVE)

NOTICE: Any evidence of collusion among participating bidders will preclude their recognition
as bidders on such job and subjects them to penalties under applicable State and Federal Law,
both civil and criminal. CFX will also disqualify such bidders on any work of CFX until such
participant shall have been reinstated as a qualified bidder.

****************************************
THE ABOVE FORM OF AFFIDAVIT IS REQUIRED TO BE EXECUTED AND ATTACHED
TO EACH BID PROPOSAL FOR THE PROPOSAL TO BE CONSIDERED.
****************************************
CENTRAL FLORIDA EXPRESSWAY AUTHORITY
ACKNOWLEDGMENT OF STANDARD OF CONDUCT AND
CODE OF ETHICS

If awarded the Contract, the undersigned covenants and agrees that it and its employees shall be bound by the standards of conduct provided in Florida Statutes 112.313 and Sections 348.753, and 104.31, as it relates to work performed under the Contract, which standards will by reference be made a part of the Contract as though set forth in full. The undersigned agrees to incorporate the provisions of this requirement in any subcontract into which it might enter with reference to the work performed or services provided.

The undersigned further acknowledges that it has read the CFX Code of Ethics, a copy of which is available on the CFX web site at www.CFXway.com and, to the extent applicable to the undersigned, agrees to abide with such policy.

Company Name

By:_________________________________________

Title:_________________________________________

(Note: Failure to execute and submit this form may be cause for rejection of the bid as non-responsive.)
## BID FORM

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**

**LAKE NONA SPORTS DISTRICT SUPPLEMENTAL SIGNING**

CFX PROJECT NO. 417-625, CONTRACT001256

<table>
<thead>
<tr>
<th>Pay Item Number</th>
<th>Quantity</th>
<th>Unit</th>
<th>Pay Item Description</th>
<th>Unit Price</th>
<th>Total Cost</th>
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<tr>
<td>101 - 1</td>
<td>1</td>
<td>LS</td>
<td>Mobilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>102 - 1</td>
<td>1</td>
<td>LS</td>
<td>Maintenance for Traffic</td>
<td></td>
<td></td>
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<tr>
<td>700 - 2 - 15</td>
<td>1</td>
<td>AS</td>
<td>Furnish &amp; Install Multi-Post Ground Mount Assembly (51-100 Sq. FT) w W6x12 I-Beams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700 - 2 - 15A</td>
<td>1</td>
<td>AS</td>
<td>Furnish &amp; Install Multi-Post Ground Mount Assembly (51-100 Sq. FT) with W8x18 I-Beams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700 - 2 - 17</td>
<td>2</td>
<td>AS</td>
<td>Furnish &amp; Install Multi-Post Ground Mount Assembly (201-300 Sq. FT) with W10x33 I-Beams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700 - 2 - 60</td>
<td>2</td>
<td>AS</td>
<td>Remove Existing Multi-Post Sign Ground Mount Assembly</td>
<td>--- NA ---</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>999 - 2</td>
<td>--- NA ---</td>
<td>NA</td>
<td>Work Order Allowance</td>
<td>--- NA ---</td>
<td>$5,000.00</td>
</tr>
</tbody>
</table>

Bidders
Name: ____________________________

Total Bid ($)
Any person who is adversely affected by: (i) bid specifications, (ii) a notice of an intended decision, (iii) a notice of decision or decisions by CFX, or (iv) CFX Board’s selection determination and who wants to protest the specifications, the intended decision or decisions, or selection decision must comply with the proper procedures in the Central Florida Expressway Authority’s Procedure for Resolution of Protests, Rule Chapter 3-1, which is available for review upon request at the CFX Office, 4974 ORL Tower Road, Orlando, Florida. Failure to comply with Rule Chapter 3-1 shall constitute a waiver of any protest proceedings. A protest bond in the amount of $5,000.00 will be required to protest the Bid package or Bid solicitation. A protest bond in the amount of $5,000.00, or 1% of the lowest bid submitted, whichever is greater, will be required to protest a Notice of Intent to Award, Notice of Intent to Reject, or the CFX Board’s selection determination.
Prior to the Contract becoming binding on CFX, the Successful Bidder shall submit this sworn statement in the following form, executed by, or on behalf of the Successful Bidder, and sworn to before a person who is authorized by law to administer oaths.

STATE OF ____________________ COUNTY OF ________________________

Before me, the undersigned authority, personally appeared ____________________, who being duly sworn, deposes and says he is ______________________________________

of ______________________________________ of ____________________________

(Firm) (City and State)

who is the Successful Bidder for the work covered by CFX Project Number 417-625 in Orange County, Florida.

The affiant further states that, in accordance with Article 3.11, Escrow of Bid Records, of the General Specifications for the CFX project identified above, affiant has (i) personally examined the bid records (as defined in the aforementioned Article 3.11), (ii) listed all of the records relied upon by affiant in preparing the bid for the CFX project identified above, and (iii) included such bid records in the sealed container attached to this affidavit.

*  
*  
*  
*  
*  
*  
*  

BR-1
BID RECORDS INCLUDED IN SEALED CONTAINER
(Identify Bid Records by type listing each document by author, date, nature and subject matter as detailed in Article 3.11)

Corporation Must affix Seal

By: ____________________________ (Successful Bidder)

By: ____________________________ (Signature)

Title: ____________________________
STATE OF ____________

COUNTY OF ____________

The foregoing instrument was acknowledged before me this ________________ by

__________________________________________,

(Name of Officer or agent, title of officer or agent)

of  ____________________________________________, a

(Name of Corporation acknowledging)

__________________________________________ corporation, on behalf of the corporation. He/she is

(State or place of incorporation)

personally known to me or has produced ____________________________

(Type of identification)

as identification and did (did not) take an oath.

__________________________________________ Notary Public, Commission No. ____________

__________________________________________ (Name of Notary typed, printed or stamped)

Title or Type of Document _____________________ (Optional)

Number of Pages ___ Date of Document ________ (Optional)

Signer(s) Other than Named Above ____________ (Optional)

(SEAL ABOVE)

Failure by the Successful Bidder to execute this affidavit will be sufficient cause for CFX
to nullify the award of the Contract to the Successful Bidder. The Successful Bidder’s
Proposal Bond shall be forfeited and the full amount of the bond shall be paid to CFX as
stipulated for liquidated damages.

THE ABOVE FORM OF AFFIDAVIT IS REQUIRED TO BE EXECUTED AND
ATTACHED TO THE SEALED CONTAINER CONTAINING THE BID RECORDS
CONTRACT

This Contract No. 001256 (the “Contract”), made this __________ day of __________, 2016, between the CENTRAL FLORIDA EXPRESSWAY AUTHORITY, hereinafter called CFX and ________________________________, of __________________________, hereinafter the CONTRACTOR:

WITNESSETH: The CONTRACTOR shall, for the consideration herein mentioned and at its cost and expense, do all the work and furnish all the materials, equipment, supplies and labor necessary to perform this Contract in the manner and to the full extent as set forth in the Contract Documents which are hereby adopted and made part of this Contract as completely as if incorporated herein. The Contract shall be performed to the satisfaction of the duly authorized representatives of CFX, who shall have at all times full opportunity to inspect the materials furnished and the work done under this Contract.

The work to be done under this Contract includes construction of all items associated with Project No. 417-625, Lake Nona Sports District Supplemental Signing, as detailed in the Contract Documents and any addenda or modifications thereto. Contract time for this project shall be 50 calendar days. The Contract Amount is $____________. This Contract was awarded by the CFX Board of Directors at its meeting on _______ , 2016.

The Contract Documents consist of:

1. The Contract,
2. The Memorandum of Agreement,
3. The Addenda (if any), modifying the General Specifications, Technical Specifications, Special Provisions, Plans or other Contract Documents,
4. The Plans,
5. The Special Provisions,
6. The Technical Specifications,
7. The General Specifications,
8. The Standard Specifications,
9. The Design Standards, and
10. The Proposal.

In consideration of the foregoing premises, CFX agrees to pay the CONTRACTOR for work performed and materials furnished at the unit and lump sum prices, and under the conditions set forth, in the Proposal.
IN WITNESS WHEREOF, the authorized signatures named below have executed this Contract on behalf of the parties on the date set forth below.

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

By: ____________________________________________
    Director of Procurement

DATE: __________________________________________

CONTRACTOR

By: ____________________________________________
    Signature

______________________________________________
    Print Name

______________________________________________
    Title

ATTEST: ________________________________(Seal)

DATE: _______________________________________

Approved as to form and execution, only.

General Counsel for CFX

______________________________________________
MAINTENANCE OF TRAFFIC NOTES

1. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CFX FOR APPROVAL WHICH CONSISTS OF UNMODIFIED FOOT DESIGN STANDARDS (60 SERIES) OTHERWISE THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN WHICH IS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. ONCE APPROVED BY THE AUTHORITY, THE TRAFFIC CONTROL PLAN MUST BE IN PLACE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES. ALL COSTS ASSOCIATED WITH THE MAINTENANCE OF TRAFFIC SHALL BE INCLUDED IN PAY ITEM 52-1. MAINTENANCE OF TRAFFIC ITEMS.

2. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH FOOT DESIGN STANDARDS, INDEX 60 SERIES.

3. LANE WISHES SHALL NOT BE LESS THAN 11 FEET. LANES SHALL BE PROPERLY DELINATED DURING ALL PHASES OF CONSTRUCTION.

4. THE FOLLOWING REGULATORY SPEED LIMITS SHALL BE MAINTAINED DURING CONSTRUCTION:
   0-10 CENTRAL FLORIDA GREENWAY TO WYN
   20-30 CENTRAL FLORIDA GREENWAY TO WYN

5. FOR ADDITIONAL SIGN INFORMATION, INCLUDING SIZES, REFER TO STANDARD HIGHWAY SIGNS MANUAL SPECIFIED IN THE RFD.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A LAW ENFORCEMENT OFFICER DURING ALL LANE CLOSURE OPERATIONS AND DURING ALL NIGHT TIME OPERATIONS.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL UNNEEDED BARRIERS, SIGNS AND OR MARKING DEVICES TO THE APPROPRIATE STORAGE FACILITY UPON COMPLETION OF THEIR USE FOR THE DESIGNED TRAFFIC CONTROL OPERATION, DURING RESTRICTED HOURS OF OPERATION, UNNEEDED SIGNS MAY REMAIN IN PLACE, BUT SHALL NOT FACE TRAFFIC AND SHALL BE COMPLETED COVERED SO AS NOT TO BE READABLE.

8. THE CONTRACTOR IS ADVISED THAT MAINLINE LANE CLOSURES ARE NOT PERMITTED FROM 6:00 A.M. TO 10:00 P.M. MONDAY THROUGH SATURDAY, OR CENTRAL FLORIDA GREENWAY. THE CONTRACTOR IS ADVISED THAT RAMPS CLOSURES ARE NOT PERMITTED FROM 6:00 AM TO 10:00 AM OR CENTRAL FLORIDA GREENWAY. SECTION PLAN IS REQUIRED AND IS TO BE SUBMITTED TO CFX FOR APPROVAL. ALL REQUIRED RAMPS CLOSURES ARE TO BE DETERMINED BY THE DIRECTOR OF CONSTRUCTION OR HIS DESIGNEE, OR THE DIRECTOR OF CONSTRUCTION OR HIS DESIGNEE MAY DIRECT THE CONTRACTOR TO OPEN THE LANE CLOSURE UNTIL TRAFFIC RETURNS TO AN ACCEPTABLE FLOW. EITHER THE DIRECTOR OF CONSTRUCTION OR HIS DESIGNEE WILL DETERMINE WHEN TRAFFIC FLOW IS ACCEPTABLE.

9. DELAY COSTS TO THE CONTRACTOR WILL RESULT IF ALL TRAVEL LANES AND RAMPS ARE NOT OPEN TO TRAFFIC DURING THE TIMES OUTSIDE OF THE PERMITTED LANE CLOSURE HOURS. THE CONTRACTOR SHALL OPERATE SUCH THAT ALL CONSTRUCTION AND MATERIALS INSTALLED BY THE CONTRACTOR FOR LANE CLOSURES ARE REMOVED FROM THE CLEAR ZONE AND TRAVEL LANES ARE REOPENED TO TRAFFIC. FOR MAINLINE AND RAMPS CLOSURES THAT OCCUR OUTSIDE OF THE PERMITTED LANE CLOSURE HOURS, A LANE RENTAL FEE WILL BE ASSESSED TO THE CONTRACTOR IN THE AMOUNT OF $200 PER LANE/RAMP FOR EACH HOURS THAT ANY LANE/RAMP IS NOT OPEN TO TRAFFIC.

10. LANE RENTAL FEES WILL BE ASSESSED AND WILL CONTINUE TO ACCRUE UNTIL SUBMIT LANE/RAMP IS OPEN TO A TRAFFIC FLOW AS REQUIRED BY THE CFX. CFX SHALL HAVE THE RIGHT TO APPLY AS PENALTY ON SUCH FEES IF DUE TO THE CONTRACTOR OR CFX. AT THE DISCRETION OF THE DIRECTOR OF CONSTRUCTION OR HIS DESIGNEE, LANE RENTAL FEES WILL NOT BE CHARGED FOR FAILURE TO OPEN TRAFFIC LANE/RAMPS IF SUCH CAUSE IS BEYOND THE CONTROL OF THE CONTRACTOR, I.E. CATASTROPHIC EVENTS, AND ACCIDENTS NOT RELATED OR CAUSED BY THE CONTRACTOR'S OPERATIONS.

SUMMARY OF PAY ITEMS

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>700-2-15</td>
<td>MULTI-POST SIGN (F301) (51 - 100) SIGNS SD-2 &amp; 3</td>
<td>AS</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>700-2-17</td>
<td>MULTI-POST SIGN (F301) (201 - 300) SIGN SD-1</td>
<td>AS</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>700-2-60</td>
<td>REMOVE EXISTING MULTI-POST</td>
<td>AS</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
INCREASE AMOUNT OF PROGRESS
100 FT FROM EXISTING MEDICAL CITY SIGN IN FRONT OF EXISTING LIGHT POLE (A2-93)

GM-3
100-2-15
SIGN SD-3

GM-2
100-2-17
SIGN SD-1

REMOVE EXISTING ASSEMBLY
100-2-60

GM-4
100-2-15
SIGN SD-2

NOTE:
75XXX, 75XXX, 75XXX, 75XXX DENOTES STRUCTURE NUMBERS ASSIGNED BY FDOT.

LAKE NONA
SPORTS DISTRICT
SUPPLEMENTAL SIGNING

PROJECT SHEET NO.
417-625 S-5
<table>
<thead>
<tr>
<th>Copy Spacing</th>
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<th>Size/Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit 19</td>
<td>63.4</td>
<td>10/15 CYMN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copy Spacing</th>
<th>Length</th>
<th>Size/Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports District</td>
<td>105</td>
<td>13.3 CYMN</td>
</tr>
</tbody>
</table>

<table>
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<tr>
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<th>Size/Serial</th>
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</thead>
<tbody>
<tr>
<td>USTA National Campus</td>
<td>906.4</td>
<td>10.7 CYMN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Size/Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exit 2</td>
<td>63.4</td>
<td>10/15 CYMN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copy Spacing</th>
<th>Length</th>
<th>Size/Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical City</td>
<td>106.2</td>
<td>8 CYMN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copy Spacing</th>
<th>Length</th>
<th>Size/Serial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports District</td>
<td>121</td>
<td>8 CYMN</td>
</tr>
</tbody>
</table>

**NOTES:**
- WIDTH - HORIZONTAL SPACING DIMENSIONS ARE IN INCHES.
- END DIMENSIONS INCLUDE BORDER WIDTH, MARGIN AND BORDER RECESS.

**SIGN:**
- SD-1
- Exit 19
- Quantity: 2
- Width: 12'-0"
- Height: 9'-0"
- Border Width: 2" x 2"
- Border Radii: 1" x 1"
- Border Inset: 0" x 0"
- Background Color: Green
- Legend/Border Color: White
- Sheet: 003
- Arrow Size (Angle): 0' x 0'
- Station/Structure

**SIGN:**
- SD-2
- Quantity: 1
- Width: 12'-0"
- Height: 9'-0"
- Border Width: 2" x 2"
- Border Radii: 1" x 1"
- Border Inset: 0" x 0"
- Background Color: Green
- Legend/Border Color: White
- Sheet: 003
- Arrow Size (Angle): 0' x 0'
- Station/Structure

**SIGN:**
- SD-3
- Quantity: 1
- Width: 12'-0"
- Height: 9'-0"
- Border Width: 2" x 2"
- Border Radii: 1" x 1"
- Border Inset: 0" x 0"
- Background Color: Green
- Legend/Border Color: White
- Sheet: 003
- Arrow Size (Angle): 0' x 0'
- Station/Structure

**GUIDE SIGN WORKSHEET**
- SPORTS DISTRICT SIGNS

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**
**PROJECT**
**SHEET**

**REVIEWS**
- Date: [ ]
- Description: [ ]

**DATE**
- Description: [ ]

**SHEET NO.**
- Description: [ ]
### Multi-Post Sign Data

<table>
<thead>
<tr>
<th>Station</th>
<th>Sign No.</th>
<th>Sign Size</th>
<th>Side Slope</th>
<th>No. of Posts</th>
<th>Average Length of Posts</th>
<th>Steel Posts</th>
<th>Aluminium I-Beams</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDT2+50</td>
<td>SD-1</td>
<td>6&quot; x 6&quot; x 6&quot;</td>
<td>1.5</td>
<td>2</td>
<td>20.6</td>
<td>WD=33</td>
<td>1-8 x 5K.992</td>
</tr>
<tr>
<td>40' From EOT</td>
<td>IDT5+00</td>
<td>SD-1</td>
<td>6&quot; x 6&quot; x 6&quot;</td>
<td>4.5</td>
<td>33.6</td>
<td>WD=33</td>
<td>-N/A-</td>
</tr>
<tr>
<td>18' From EOT</td>
<td>390+00</td>
<td>SD-2</td>
<td>6&quot; x 6&quot; x 6&quot;</td>
<td>4.5</td>
<td>35.1</td>
<td>WD=32</td>
<td>1-9 x 8.364</td>
</tr>
<tr>
<td>18' From EOT</td>
<td>390+00</td>
<td>SD-3</td>
<td>6&quot; x 6&quot; x 6&quot;</td>
<td>4.5</td>
<td>35.1</td>
<td>WD=38</td>
<td>1-9 x 8.364</td>
</tr>
</tbody>
</table>

* EOT = Edge of Travel

---

**Notes:**

1. For additional details and notes see Foot Standard Index No. 12000 and 17382.
2. Auxiliary sign panels are attached in accordance with Foot Standard Index No. 13417. These auxiliary panels can be centered, left or right justified per plans.
3. Average length of posts column is applicable to steel posts and aluminum beams.
4. Sign assemblies are designed for 130 MPH wind speed and shall conform to AASHTO standard specifications for structural supports for highway signs, luminaires and traffic signals 2001 edition.

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**Typical Section for Placement of Multi-Post Signs**