CONTRACT DOCUMENTS

ITB #17-013
BUS APRONS – LOWER KEYS

PROJECT # TS1102

March 2017

MAYOR: CRAIG CATES

COMMISSIONERS:

RICHARD PAYNE

BILLY WARDLOW

JIMMY WEEKLEY

CLAYTON LOPEZ

SAMUEL KAUFMAN

MARGARET ROMERO

PREPARED BY:
City Of Key West
Engineering Services

CITY OF KEY WEST

KEY WEST, FLORIDA

CONTRACT DOCUMENTS

for

BUS APRONS – LOWER KEYS

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CONSISTING OF:
BID REQUIREMENTS
CONTRACT FORMS
CONDITIONS OF THE CONTRACT
SCOPE OF WORK
SPECIFICATIONS
DRAWINGS

****

KEY WEST, FLORIDA

Project No. TS1102

INFORMATION TO BIDDERS

SUBJECT:	INVITATION TO BID NO. 17-013 BUS APRONS – LOWER KEYS
ISSUE DATE:	SUNDAY, JANUARY 15, 2017
MAIL OR SPECIAL DELIVERY REPONSES TO:	CITY CLERK CITY OF KEY WEST 1300 WHITE STREET KEY WEST, FL 33040
DELIVER BIDS TO:	SAME AS ABOVE
BIDS MUST BE RECEIVED:	WEDNESDAY, MARCH 8, 2017
NOT LATER THAN:	3:00 P.M. LOCAL TIME

SUE SNIDER
PURCHASING AGENT
CITY OF KEY WEST

ses

Enclosures

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PART 1

BIDDING REQUIREMENTS

INVITATION TO BID

Sealed bids for the City of Key West ITB #17-013, addressed to the City of Key West, will be received at the Office of the City Clerk, 1300 White St., Key West, Florida, 33040 until **3:00 pm on March 8, 2017** and then will be publicly opened and read. Any bids received after the time and date specified will not be considered.

Please submit (2) two original bid packages and (2) two USB flash drives with one single PDF file of the entire bid package on each USB flash drive. Bid package is to be enclosed in a sealed envelope, clearly marked on the outside "BID FOR BUS APRONS – LOWER KEYS TS1102" addressed and delivered to the City Clerk at the address noted above.

The project consists of constructing 16 Asphalt Surface Bus Aprons with related grading, markings, and signage from Big Coppitt Key to Marathon.

Drawings and Specifications may be obtained from Demand Star by Onvia or City of Key West website http://www.cityofkeywest-fl.gov. For bid package access on Demand Star, please contact Onvia at www.demandstar.com or call 1-800-711-1712.

A **pre-bid meeting** will be held in the Room 113 Community Conference Room at 1300 White Street, Key West, Florida on **Wednesday, February 1, 2017 at 9:30 a.m.**

The successful Bidder may be required to furnish the necessary additional bond(s) for the faithful performance of the Contract, as prescribed in the Bidding Documents. The Bidder will be required to furnish documentation showing that he is in compliance with the licensing requirements of the State and County. Compliance with these provisions is required before the Contractor can enter into the agreement contained in the Contract Documents. Specifically, Bidder shall demonstrate that he holds, as a minimum, the following licenses and certificates required by State Statute and local codes.

EACH BID MUST BE SUBMITTED ON THE PRESCRIBED FORM AND ACCOMPANIED BY BID SECURITY AS PRESCRIBED IN THE INSTRUCTIONS TO BIDDERS, PAYABLE TO THE CITY OF KEY WEST, FLORIDA, IN AN AMOUNT NOT LESS THAN FIVE (5) PERCENT OF THE AMOUNT BID.

THE BIDDER MUST BE A LICENSED CONTRACTOR BY THE STATE OF FLORIDA AND SUBMIT PROOF OF SUCH WITH THE BID.

THE BIDDER MUST ALSO BE FDOT PREQUALIFIED IN ADEQUATE WORK CLASSES TO PEFORM THE WORK AND SUBMIT A CURRENT FDOT QUALIFICATION LETTER WITH THE BID.

All bid bonds, contract bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or Insurance Company having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or Insurance Company shall be duly licensed and qualified to do business in the State of Florida.

Before a Contract will be awarded for the work contemplated herein, the CITY will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Bidder

to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such information as deemed necessary by the CITY to evaluate the Bidder's qualifications.

For information concerning the proposed work or for appointment to visit the site of the proposed work, please contact Devon Steckly, Project Manager, Engineering Services Department for the City of Key West by email at dsteckly@cityofkeywest-fl.gov. Verbal communications, per the City of Key West Cone of Silence Ordinance Section 2-773 are not allowed.

As stated above at the time of the bid submittal the Bidder must provide satisfactory documentation of State Licenses. The Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of County and Municipalities as would be required within ten days of the award. The successful Bidder must also be able to satisfy the City Attorney as to such insurance coverage and legal requirements as may be demanded by the Bid in question. The City may reject bids for any of the following reasons: (1) for budgetary reasons, (2) if the bidder misstates or conceals a material fact in its bid, (3) if the bid does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the bid is conditional, (5) if a change of circumstances occurs making the purpose of the bid unnecessary to the City, or (6) if such rejection is in the best interest of the City. The City may also waive any minor formalities or irregularities in any bid.

* * * * * *

INSTRUCTIONS TO BIDDERS

1. CONTRACT DOCUMENTS

A. FORMAT

The Contract Documents are divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the sections into work performed by the various building trades, work by separate subcontractors, or work required for separate facilities in the project.

B. DOCUMENT INTERPRETATION

The separate sections contained within these Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed work.

Should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of Devon Steckly, Project Manager, by email at dsteckly@cityofkeywest-fl.gov, only in writing (at least 10 working days prior to bid opening) an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing in the form of Addenda to the documents which will become available to all holders of Contract Documents. Bidders shall submit with their Proposals, or indicate receipt of, all Addenda. The CITY will not be responsible for any other explanation or interpretations of said Documents.

2. GENERAL DESCRIPTION OF THE PROJECT

A general description of the work to be done is contained in the Invitation to Bid. The scope is specified in applicable parts of these Contract Documents.

3. QUALIFICATION OF CONTRACTORS

The prospective Bidders must meet the statutorily prescribed requirements before award of Contract by the CITY. Bidders must hold or obtain all licenses and/or certificates as required by the State and Local Statutes in order to bid and perform the work specified herein.

Additionally, Contractors are required to hold appropriate FDOT Work Class Qualifications applicable to the types of work performed in this Contract and Contractor shall provide current FDOT Qualifications letter with bid submittal.

4. BIDDER'S UNDERSTANDING

Each Bidder must inform himself of the conditions relating to the execution of the work, and it is assumed that he will inspect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents. It shall be the Bidder's obligation to verify for himself and to his complete

satisfaction all information concerning site and subsurface conditions.

The CITY will make available to prospective Bidders upon request and at the office of the Engineer, prior to bid opening, any information that he may have as to subsurface conditions and surface topography at the worksite.

Each Bidder shall inform himself of, and the Bidder awarded a Contract shall comply with, federal, state, and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees, and similar subjects.

5. TYPE OF PROPOSAL

A. LUMP SUM

The Proposal for the work is to be submitted on a lump sum basis. Lump sum prices shall be submitted for all items of work set forth in the Proposal. All items required to complete the work specified but not included in the Proposal shall be considered incidental to those set forth in the Proposal.
The Bidder shall submit a Schedule of Values with the Proposal. Schedule of Values shall be broken down by Base Bid Bus Apron Location and associated Technical Specification Section Numbers within each Bus Apron Location. Schedule of Values are subject to Owner acceptance. Payment to the Contractor will be made on the percentage of completed work by the Contractor as specified in the Contract Documents.

6. PREPARATION OF BIDS

A. GENERAL

All blank spaces in the BID form must be filled in, as required, preferably in BLACK ink. All price information shall be shown in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and extended totals, unit prices shall prevail.

Any BID shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Invitation to Bid.

Only one BID from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the CITY that any Bidder is interested in more than one Proposal for work contemplated; all Proposals in which such Bidder is interested will be rejected.

The most stringent contract provisions or stipulations shall apply wherever conflicts exist between local, state, and federal agency contracting requirements.

B. SIGNATURE

The Bidder shall sign his BID in the blank space provided therefore. If Bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the CITY prior to opening of Proposals or submitted with the Proposal, otherwise the Proposal will be regarded as not properly authorized.

C. SPECIAL BIDDING REQUIREMENTS

The Bidder shall submit with bid an experience record showing expertise in State and County Highway construction and related work. Such experience record shall provide at least five current or recent projects of similar work, within the State of Florida and preferably Monroe County. For each project the following information shall be provided:

1. Description and location of work.
2. Contract amount.
3. Dates work was performed.
4. Owner.
5. Name of Owner's contact person and phone number.
6. Engineer.
7. Name of Engineer's contact person and phone number.

The bidder shall submit with his bid a list of items to be performed by his own labor and that performed by subcontractors or others.

D. ATTACHMENTS

Bidder shall complete and submit the following forms with his bid:

Anti-Kickback Affidavit
Public Entity Crimes Form
Indemnification Form
Domestic Partnership Affidavit
Cone of Silence Affidavit
DBE Affirmative Action Program Plan
Certification Regarding Debarment
Disclosure of Lobbying Activities
Prohibited Interests Notice
Bidder’s Checklist

E. PUBLIC ENTITY CRIMES FORM

Pursuant to the requirements of Chapter 287.133, Laws of Florida, pertaining to the sworn statement on Public Entity Crimes and the Convicted Vendor List, all Bidders shall submit a signed and notarized statement with their Bid on the form provided herein.

7. STATE AND LOCAL SALES AND USE TAXES

Unless the Supplementary Conditions contains a statement that the CITY is exempt from state sales tax on materials incorporated into the work due to the qualification of the work under this Contract, the Contractor, as required by the laws and statutes of the state and its political subdivisions, shall pay all state and local sales and use taxes. Prices quoted in the Proposal shall include all nonexempt sales and use taxes, unless provision is made in the Proposal form to separately itemize the tax.

8. SUBMISSION OF BIDS

All BIDS must be submitted not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. BIDS must be made on the BID forms provided herewith, **submit two (2) ORIGINAL bid packages and two (2) USB flash drives containing a single PDF file of the entire bid package on each USB flash drive.**

Each BID must be submitted in a sealed envelope, so marked as to indicate the Bidder's name and its contents (project name and number) without being opened, and addressed in conformance with the instructions in the Invitation to Bid.

9. MODIFICATION OR WITHDRAWAL OF BIDS

Prior to the time and date designated for receipt of BIDS, any BID submitted may be withdrawn by notice to the party receiving BIDS at the place designated for receipt of BIDS. Such notice shall be in writing over the signature of the Bidder or by telegram. If by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of BID. No BID may be withdrawn after the time scheduled for opening of BIDS, unless the time specified in paragraph AWARD OF CONTRACT of these Instructions to Bidders shall have elapsed.

10. BID SECURITY

BIDS must be accompanied by cash, a certified check, or cashier's check drawn on a bank in good standing, or a bid bond issued by a Surety authorized to issue such bonds in the state where the work is located, in the amount of five (5) percent of the total amount of the Proposal submitted. This bid security shall be given as a guarantee that the Bidder will not withdraw his BID for a period of ninety (90) days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, each in the full amount of the Contract price within the time specified. Agent and Surety phone numbers must be provided.

The Attorney-in-Fact who executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of

execution of the bond. Where State Statute requires, certification by a resident agent shall also be provided.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form bound herewith, or one conforming substantially thereto in form and content.

11. RETURN OF BID SECURITY

Within 15 days after the award of the Contract, the CITY will return the bid securities to all Bidders who's BIDS are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and any guarantees, which have been forfeited, will be returned to the respective Bidders whose Proposals they accompanied.

12. AWARD OF CONTRACT

Within sixty (60) calendar days after the opening of Proposals, the CITY will accept one of the Proposals or will act in accordance with the following paragraphs. The acceptance of the Proposal will be by written notice of award, mailed to the office designated in the Proposal, or delivered to the Bidder's representative. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract and provide an acceptable Performance Bond, Payment Bond, insurance certificate(s) and evidence of holding required licenses and certificates, the Owner may award the Contract to the next lowest responsive, responsible Bidder. Such award, if made, will be made within one hundred five (105) days after the opening of Proposals.

The CITY reserves the right to accept or reject any or all Proposals, and to waive any informalities and irregularities in said Proposals.

13. BASIS OF AWARD

The award will be made by the Owner on the basis of the BASE BID from the lowest, responsive, responsible BIDDER which, in the Owner's sole and absolute judgment will best serve the interest of the Owner.

14. EXECUTION OF CONTRACT

The successful Bidder shall, within ten (10) working days after receiving Notice of Award, sign and deliver to the CITY an original Contract and two (2) copies in the form hereto attached, together with the insurance certificate, bonds, and evidence of holding required licenses as required in the Contract Documents. Within 10 working days after receiving the signed Contract from the successful Bidder, the City's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

15. CONTRACT BONDS

A. PERFORMANCE AND PAYMENT BONDS

The successful Bidder shall file with the CITY, at the time of delivery of the signed Contract, a Performance Bond and Payment Bond on the form bound herewith, each in the full amount of the Contract price in accordance with the requirements of Florida

Statutes Section 255.05 or 713.23, as applicable, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and to cover all guarantees against defective workmanship or materials, or both, during the warranty period following the date of final acceptance of the work by the CITY. The Surety furnishing this bond shall have a sound financial standing and a record of service satisfactory to the CITY, shall be authorized to do business in the State of Florida, and shall be listed on the current U.S. Department of Treasury Circular Number 570, or amendments thereto in the Federal Register, of acceptable Sureties for federal projects. The CONTRACTOR shall supply the OWNER with phone numbers, addresses, and contacts for the Surety and their agents. Pursuant to Section 255.05(7), Florida Statutes, in lieu of the bond required by law, the contractor may file with the city an alternative form of security in the form of cash, a money order, a certified check, a cashier's check or an irrevocable letter of credit.

B. POWER-OF-ATTORNEY

The Attorney-in-Fact (Resident Agent) who executes this Performance and Payment Bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.
All Contracts, Performance and Payment Bonds, and respective powers-of-attorney will have the same date.

16. FAILURE TO EXECUTE CONTRACT AND FURNISH BOND

The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract or furnish the required Bonds shall forfeit the bid security that accompanied his bid, and the bid security shall be retained as liquidated damages by the CITY, and it is agreed that this said sum is a fair estimate of the amount of damages the CITY will sustain in case the Bidder fails to enter into a Contract or furnish the required Bonds. Bid security deposited in the form of cash, a certified check, or cashier's check shall be subject to the same requirement as a Bid Bond.

17. PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on the site and with his own organization, labor equivalent to at least forty (40) percent of the total amount of the work to be performed under this Contract. If, during the progress of the work hereunder, the Contractor requests a reduction of such percentage, and the Engineer determines that it would be to the client's advantage, the percentage of the labor required to be performed by the Contractor's own organization may be reduced; PROVIDED prior written approval of such reduction is obtained by the contractor from the Engineer.

Each Bidder must furnish with his Proposal a list of the items that he will perform with his own forces and the estimated total cost of these items.

18. TIME OF COMPLETION

The time of completion of the work to be performed under this Contract is the essence of the Contract. Delays and extensions of time may be allowed in accordance with the provisions stated in the General Conditions.

When the Contractor receives a Notice to Proceed, he shall commence work as soon as possible and shall complete all work within the number of calendar days stipulated in this Proposal.

The term of this contract will be **365** days.

* * * * * *

NOTE TO BIDDER: Use preferably BLACK ink for completing this Proposal form.

PROPOSAL

To: The City of Key West

Address: 1300 White Street, Key West, Florida 33040

Project Title: Bus Aprons – Lower Keys

Bidder's contact person for additional information on this Proposal:

Company Name: _____

Contact Name & Telephone #: _____

Email Address: _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents for the construction of the project, that he has personally inspected the site, that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this Proposal is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Proposal.

CONTRACT EXECUTION AND BONDS

The Bidder agrees that if this Proposal is accepted, he will, within 10 days, not including Sundays and legal holidays, after Notice of Award, sign the Contract in the form annexed hereto, and will at that time, deliver to the Owner examples of the Performance Bond and Payment Bond required herein, and evidence of holding required licenses and certificates, and will, to the extent of his Proposal, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete all work as specified or indicated in the Contract Documents.

CERTIFICATES OF INSURANCE

Bidder agrees to furnish the Owner, before commencing the work under this Contract, the certificates of insurance as specified in these Documents.

All contractors and subcontractors wishing to perform work for the City of Key West, Florida, will be required to comply with the following minimum insurance requirements:

Commercial General Liability Limits:	$2,000,000 Aggregate $1,000,000 Each Occurrence $2,000,000 Products-Comp / Op Aggregate $1,000,000 Personal Injury $300,000 Fire Damage / Legal

Coverage must include the following:

- Contractual Liability
- CG2010 (1185) or Equivalent
- No exclusion for XCU
- Products / Completed Operations
- Personal Injury
- Commercial Form
- Broad Form Property Damage
- Premises / Operations
- Independent Contractors (if any part of the work is to be subcontracted out)

Automobile Liability:	$1,000,000 Combined Single Limit (Include Hired & Non-Owned Liability)
Additional Umbrella Liability:	$2,000,000 Occurrence / Aggregate
Worker's Compensation:	Statutory
Employer's Liability:	$1,000,000 Each Accident $1,000,000 Disease-Policy Limit $1,000,000 Disease-Each Employee

The above reflects the minimum requirements for working with the City of Key West. Any requirements found in a particular job's contract that are of a higher standard will prevail.

The City of Key West must be named as an additional insured under all policies other than worker's compensation. Contractor's or subcontractor's general liability shall be written on a primary and non-contributory basis. Certificates of insurance must be accompanied by a copy of the additional insured endorsement (CG 20101185 or combination of CG20100704 and CG20370704 will be accepted).

Contractors and subcontractors must obtain an endorsement from their carrier that waives and relinquishes any right of subrogation against the City of Key West and its agents, representatives, employees, and affiliates they might possess for any policy of insurance provided under this requirement or under any state or federal worker's compensation or employer's liability act.

Contractor's policies must be endorsed to give no less than thirty (30) day notice to the City in the event of material change or cancellation.

The City of Key West must be given a certificate of insurance showing that the above requirements have been met. The certificate of insurance must remain current and must include copies of the requested endorsements (additional insured, cancellation notice, and waiver of subrogation) in order for the City to issue payments to the contractor or subcontractor.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

The Bidder further agrees to begin work within 14 calendar days after the date of the Notice to proceed and to complete the project, in all respects within 365 calendar days after the date of the Notice to Proceed.

LIQUIDATED DAMAGES

In the event the Bidder is awarded the Contract and shall fail to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid to the Owner at the rate of $1,000.00 per day for all work awarded until the work has been satisfactorily completed as provided by the Contract Documents. Sundays and legal holidays shall be excluded in determining days in default.

ADDENDA

The Bidder hereby acknowledges that he has received Addenda No's. _____, _____, ____, _____, ____, ____, _____, _____, _____, _____, _____, _____, (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that his Proposal includes all impacts resulting from said addenda.

SALES AND USE TAXES

The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated bid prices for the work.

LUMP SUM ITEMS

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following lump sum amounts. The Bidder agrees that the lump sum represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type and unit of work called for in these Contract Documents.

BASE BID

Item lump sum price shall include all Mobilization and Demobilization, Maintenance of Traffic, Earthwork, Rock Base, Asphalt, Striping and Lettering, Signage, and Sodding for a complete Bus Apron installation at each location.

1.	Big Coppitt Key – Bobalu's	SB # 32	$ _____	LS
2.	Big Coppitt Key – Across from FKAA Pump Sta.	SB # 31	$ _____	LS
3.	Saddlebunch Key - Baby's Coffee (Shelter)	NB # 16	$ _____	LS
4.	Saddlebunch Key – Opposite Baby's Coffee	SB # 28	$ _____	LS
5.	Sugarloaf Key (Upper) - Opposite Mangrove Mama's	NB # 19	$ _____	LS
6.	Sugarloaf Key (Upper) - Mangrove Mama's	SB # 25	$ _____	LS
7.	Cudjoe Key – Trailer Park / Coco's Cantina	SB # 23	$ _____	LS
8.	Cudjoe Key – Opposite Coco's Cantina	NB # 21	$ _____	LS
9.	Summerland Key – Mote Marine Lab	NB # 23	$ _____	LS
10.	Ramrod Key – Opposite Looe Key Tiki Bar	SB # 18	$ _____	LS
11.	Big Pine Key - Lobstertail Road	NB # 29	$ _____	LS
12.	Big Pine Key – CVS (Shelter) MM30	SB # 14	$ _____	LS
13.	Big Pine Key - NAPA (Shelter)	NB # 30	$ _____	LS
14.	Big Pine Key - Industrial Rd. (Shelter)	NB # 31	$ _____	LS
15.	Big Pine Key – Bistro (Shelter)	SB # 13	$ _____	LS
16.	Marathon - 42nd Street at Hobbs County Park	SB # 6	$ _____	LS
	Total Base Bid Items 1 through 16		**_____**	**LS**

_____Dollars and _____ Cents

(amount written in words)

The Bidder shall submit a Schedule of Values with the Proposal. Schedule of Values shall be broken down by Base Bid Item Number (Bus Apron Location) and associated Technical Specification Section Numbers within each Bus Apron Location. The Bidder may be considered non-responsive, if a Schedule of Values is not included in Bid package.

Payment for materials and equipment authorized by the Owner in a written Change Order but not listed in the above Proposal will be provided at the suppliers invoice plus 10 %.

List items to be performed by CONTRACTOR's own forces and the estimated total cost of these items. (Use additional sheets if necessary.)

SUBCONTRACTORS

The Bidder further proposes that the following subcontracting firms or businesses will be awarded subcontracts for the following portions of the work in the event that the Bidder is awarded the Contract:

_____
Name

_____, _____, _____, _____
Street City State Zip

_____
Name

_____, _____, _____ ,_____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

_____
Name

_____, _____, _____,_____
Street City State Zip

SURETY

_____ whose address is

_____, _____, _____, _____
Street City State Zip

BIDDER

The name of the Bidder submitting this Proposal is

_____ doing business at

_____, _____, _____, _____
Street City State Zip

which is the address to which all communications concerned with this Proposal and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Proposal, or of the partnership, or of all persons interested in this Proposal as principals are as follows:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____ 2017.

_____
Signature of Bidder

_____
Title

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____ 2017.

(SEAL)

_____
Name of Corporation

By _____

Title _____

Attest_____

EXPERIENCE OF BIDDER

The Bidder states that he is an experienced CONTRACTOR and has completed similar projects within the last 5 years.

(List similar projects, with types, names of OWNERs, construction costs, ENGINEERs, and references with phone numbers. Use additional sheets if necessary.)

****

FLORIDA BID BOND

BOND NO. _____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

hereinafter called the PRINCIPAL, and _____

_____

a corporation duly organized under the laws of the State of _____

having its principal place of business at _____

_____in the State of _____,

and authorized to do business in the State of Florida, as SURETY, are held and firmly bound unto

_____

hereinafter CITY OF KEY WEST called the OBLIGEE, in the sum of_____

_____ _____ DOLLARS ($_____)

for the payment for which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid Proposal for Cemetery Mausoleums, said Bid Proposal, by reference thereto, being hereby made a part hereof.

WHEREAS, the PRINCIPAL contemplates submitting or has submitted a bid to the OBLIGEE for

the furnishing of all labor, materials (except those to be specifically furnished by the CITY), equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Proposal and the detailed Specifications, entitled:

Bus Aprons – Lower Keys TS1102

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the base bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the CITY for the performance of said Contract, within 10 working days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the PRINCIPAL within 10 consecutive calendar days after written notice of such acceptance, enters into a written Contract with the OBLIGEE and furnishes the Performance and Payment Bonds, each in an amount equal to 100 percent of the base bid, satisfactory to the CITY, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the OBLIGEE and the Surety herein agrees to pay said sum immediately upon demand of the OBLIGEE in good and lawful money of the United States of America, as liquidated damages for failure thereof of said PRINCIPAL.

Signed and sealed this _____ day of _____, 2017.

PRINCIPAL

By_____

_____
SURETY

By _____
Attorney-In-Fact

STATE OF _____)
: SS
COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____

Sworn and subscribed before me this _____day of _____, 2017.

NOTARY PUBLIC, State of _____at Large

My Commission Expires:

* * * * * *

ANTI – KICKBACK AFFIDAVIT

STATE OF _____)
: SS
COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____

Sworn and subscribed before me this _____day of _____, 2017.

NOTARY PUBLIC, State of _____ at Large

My Commission Expires:

* * * * * *

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

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

1. This sworn statement is submitted with Bid or Proposal for _____

   _____

2. This sworn statement is submitted by _____
   (name of entity submitting sworn statement)

   whose business address is _____

   _____

   and (if applicable) its Federal Employer Identification Number (FEIN) is _____

   _____

   (If the entity has no FEIN, include the Social Security Number of the individual

   signing this sworn statement _____

3. My name is _____
   (please print name of individual signing)

   and my relationship to the entity named above is _____

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means

a. A predecessor or successor of a person convicted of a public entity crime; or

b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies).

____Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

_____There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of

Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

_____The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

_____
(signature)

_____
(date)

STATE OF_____

COUNTY OF_____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____who, after first being sworn by me, affixed his/her
(name of individual signing)

signature in the space provided above on this_____day of _____ , 2017.

My commission expires:

_____
NOTARY PUBLIC

INDEMNIFICATION

To the fullest extent permitted by law, the CONTRACTOR expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents, and employees (herein called the "indemnitees") from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR, its Subcontractors or persons employed or utilized by them in the performance of the Contract. Claims by indemnitees for indemnification shall be limited to the amount of CONTRACTOR's insurance or $1 million per occurrence, whichever is greater. The parties acknowledge that the amount of the indemnity required hereunder bears a reasonable commercial relationship to the Contract and it is part of the project specifications or the bid documents, if any.

The indemnification obligations under the Contract shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR under workers' compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the CONTRACTOR or of any third party to whom CONTRACTOR may subcontract a part or all of the Work. This indemnification shall continue beyond the date of completion of the work.

CONTRACTOR: _____ SEAL:

_____
Address

_____
Signature

_____
Print Name

_____
Title

_____
Date

Sec. 2-799. - Requirements for city contractors to provide equal benefits for domestic partners.

(a) *Definitions.* For purposes of this section only, the following definitions shall apply:

(1) *Benefits* means the following plan, program or policy provided or offered by a contractor to its employees as part of the employer's total compensation package: sick leave, bereavement leave, family medical leave, and health benefits.

(2) *Bid* shall mean a competitive bid procedure established by the city through the issuance of an invitation to bid, request for proposals, request for qualifications, or request for letters of interest.

(3) *Cash equivalent* means the amount of money paid to an employee with a domestic partner in lieu of providing benefits to the employee's domestic partner. The cash equivalent is equal to the employer's direct expense of providing benefits to an employee for his or her spouse.

The cash equivalent of the following benefits apply:

a. For bereavement leave, cash payment for the number of days that would be allowed as paid time off for the death of a spouse. Cash payment would be in the form of the wages of the domestic partner employee for the number of days allowed.

b. For health benefits, the cost to the contractor of the contractor's share of the single monthly premiums that are being paid for the domestic partner employee, to be paid on a regular basis while the domestic partner employee maintains such insurance in force for himself or herself.

c. For family medical leave, cash payment for the number of days that would be allowed as time off for an employee to care for a spouse who has a serious health condition. Cash payment would be in the form of the wages of the domestic partner employee for the number of days allowed.

(4) *Contract* means any written agreement, purchase order, standing order or similar instrument entered into pursuant to the award of a bid whereby the city is committed to expend or does expend funds in return for work, labor, professional services, consulting services, supplies, equipment, materials, construction, construction-related services or any combination of the foregoing.

(5) *Contractor* means any person or persons, sole proprietorship, partnership, joint venture, corporation, or other form of doing business, that is awarded a bid and enters into a covered contract with the city, and which maintains five or more full-time employees.

(6) *Covered contract* means a contract between the city and a contractor awarded subsequent to the date when this section becomes effective valued at over $20,000.00.

(7) *Domestic partner* shall mean any two adults of the same or different sex, who have registered as domestic partners with a governmental body pursuant to state or local law authorizing such registration, or with an internal registry maintained by the employer of at least one of the domestic partners. A contractor may institute an internal registry to allow for the provision of equal benefits to employees with domestic partners who do not register their partnerships pursuant to a governmental body authorizing such registration, or who are located in a jurisdiction where no such governmental domestic partnership registry exists. A contractor that institutes such registry shall not impose criteria for registration that are more stringent than

those required for domestic partnership registration by the City of Key West pursuant to chapter 38, article V, of the Key West Code of Ordinances.

(8) *Equal benefits* means the equality of benefits between employees with spouses and employees with domestic partners, and/or between spouses of employees and domestic partners of employees.

(b) *Equal benefits requirements.*

(1) Except where otherwise exempt or prohibited by law, a contractor awarded a covered contract pursuant to a bid process shall provide benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses.

(2) All bid requests for covered contracts which are issued on or after the effective date of this section shall include the requirement to provide equal benefits in the procurement specifications in accordance with this section.

(3) The city shall not enter into any covered contract unless the contractor certifies that such contractor does not discriminate in the provision of benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees.

(4) Such certification shall be in writing and shall be signed by an authorized officer of the contractor and delivered, along with a description of the contractor's employee benefits plan, to the city's procurement director prior to entering into such covered contract.

(5) The city manager or his/her designee shall reject a contractor's certification of compliance if he/she determines that such contractor discriminates in the provision of benefits or if the city manager or designee determines that the certification was created, or is being used for the purpose of evading the requirements of this section.

(6) The contractor shall provide the city manager or his/her designee, access to its records for the purpose of audits and/or investigations to ascertain compliance with the provisions of this section, and upon request shall provide evidence that the contractor is in compliance with the provisions of this section upon each new bid, contract renewal, or when the city manager has received a complaint or has reason to believe the contractor may not be in compliance with the provisions of this section. This shall include, but not be limited to, providing the city manager or his/her designee with certified copies of all of the contractor's records pertaining to its benefits policies and its employment policies and practices.

(7) The contractor may not set up or use its contracting entity for the purpose of evading the requirements imposed by this section.

(c) *Mandatory contract provisions pertaining to equal benefits.* Unless otherwise exempt, every covered contract shall contain language that obligates the contractor to comply with the applicable provisions of this section. The language shall include provisions for the following:

(1) During the performance of the covered contract, the contractor certifies and represents that it will comply with this section.

(2) The failure of the contractor to comply with this section will be deemed to be a material breach of the covered contract.

(3) If the contractor fails to comply with this section, the city may terminate the covered contract and all monies due or to become due under the covered contract may be retained by the city. The city may also pursue any and all other remedies at law or in equity for any breach.

(4) If the city manager or his designee determines that a contractor has set up or used its contracting entity for the purpose of evading the requirements of this section, the city may terminate the covered contract.

(d) *Enforcement.* If the contractor fails to comply with the provisions of this section:

(1) The failure to comply may be deemed to be a material breach of the covered contract; or

(2) The city may terminate the covered contract; or

(3) Monies due or to become due under the covered contract may be retained by the city until compliance is achieved; or

(4) The city may also pursue any and all other remedies at law or in equity for any breach.

(5) Failure to comply with this section may also subject the contractor to the procedures set forth in division 5 [sic] of this article, entitled "Debarment of contractors from city work."

(e) *Exceptions and waivers.* The provisions of this section shall not apply where:

(1) The contractor does not provide benefits to employees' spouses.

(2) The contractor is a religious organization, association, society or any nonprofit charitable or educational institution or organization operated, supervised or controlled by or in conjunction with a religious organization, association or society.

(3) The contractor is a governmental entity.

(4) The sale or lease of city property.

(5) The provision of this section would violate grant requirement, the laws, rules or regulations of federal or state law (for example, the acquisition services procured pursuant to F.S. § 287.055 known as the "Consultants' Competitive Negotiation Act").

(6) Provided that the contractor does not discriminate in the provision of benefits, a contractor may also comply with this section by providing an employee with the cash equivalent of such benefits, if the city manager or his/her designee determines that either:

a. The contractor has made a reasonable yet unsuccessful effort to provide equal benefits. The contractor shall provide the city manager or his/her designee with sufficient proof of such inability to provide such benefit or benefits which shall include the measures taken to provide such benefit or benefits and the cash equivalent proposed, along with its certificate of compliance, as is required under this section.

(7) The city commission waives compliance of this section in the best interest of the city, including, but not limited to, the following circumstances:

a. The covered contract is necessary to respond to an emergency.

b. Where only one bid response is received.

c. Where more than one bid response is received, but the bids demonstrate that none of the bidders can comply with the requirements of this section.

(f) *City's authority to cancel contract.* Nothing in this section shall be construed to limit the city's authority to cancel or terminate a contract, deny or withdraw approval to perform a subcontract or provide supplies, issue a nonresponsibility finding, issue a nonresponsiveness finding, deny a person or entity prequalification, or otherwise deny a person or entity city business.

(g) *Timing of application.* This section shall be applicable only to covered contracts awarded pursuant to bids which are after the date when this section becomes effective.

(Ord. No. 12-05, § 1, 2-22-2012)

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF _____)
: SS
COUNTY OF _____)

I, the undersigned hereby duly sworn, depose and say that the firm of _____ provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses per City of Key West Ordinance Sec. 2-799.

By: _____

Sworn and subscribed before me this

_____ day of _____, 2017.

_____
NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

Sec. 2-773. - Cone of Silence.

(a) *Definitions.* For purposes of this section, reference to one gender shall include the other, use of the plural shall include the singular, and use of the singular shall include the plural. The following definitions apply unless the context in which the word or phrase is used requires a different definition:

(1) *Competitive solicitation* means a formal process by the City of Key West relating to the acquisition of goods or services, which process is intended to provide an equal and open opportunity to qualified persons and entities to be selected to provide the goods or services. Completive solicitation shall include request for proposals ("RFP"), request for qualifications ("RFQ"), request for letters of interest ("RFLI"), invitation to bid ("ITB") or any other advertised solicitation.

(2) *Cone of silence* means a period of time during which there is a prohibition on communication regarding a particular competitive solicitation.

(3) *Evaluation or selection committee* means a group of persons appointed or designated by the city to evaluate, rank, select, or make a recommendation regarding a vendor or the vendor's response to the competitive solicitation. A member of such a committee shall be deemed a city official for the purposes of subsection (c) below.

(4) *Vendor* means a person or entity that has entered into or that desires to enter into a contract with the City of Key West or that seeks an award from the city to provide goods, perform a service, render an opinion or advice, or make a recommendation related to a competitive solicitation for compensation or other consideration.

(5) *Vendor's representative* means an owner, individual, employee, partner, officer, or member of the board of directors of a vendor, or a consultant, lobbyist, or actual or potential subcontractor or sub-consultant who acts at the behest of a vendor in communicating regarding a competitive solicitation.

(b) *Prohibited communications.* A cone of silence shall be in effect during the course of a competitive solicitation and prohibit:

(1) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the city's administrative staff including, but not limited to, the city manager and his or her staff;

(2) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the mayor, city commissioners, or their respective staff;

(3) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and any member of a city evaluation and/or selection committee therefore; and

(4) Any communication regarding a particular competitive solicitation between the mayor, city commissioners, or their respective staff, and a member of a city evaluation and/or selection committee therefore.

(c) *Permitted communications.* Notwithstanding the foregoing, nothing contained herein shall prohibit:

(1) Communication between members of the public who are not vendors or a vendor's representative and any city employee, official or member of the city commission;

(2) Communications in writing at any time with any city employee, official or member of the city commission, unless specifically prohibited by the applicable competitive solicitation.

(A) However, any written communication must be filed with the city clerk. Any city employee, official or member of the city commission receiving or making any written communication must immediately file it with the city clerk.

(B) The city clerk shall include all written communication as part of the agenda item when publishing information related to a particular competitive solicitation;

(3) Oral communications at duly noticed pre-bid conferences;

(4) Oral presentations before publically noticed evaluation and/or selection committees;

(5) Contract discussions during any duly noticed public meeting;

(6) Public presentations made to the city commission or advisory body thereof during any duly noticed public meeting;

(7) Contract negotiations with city staff following the award of a competitive solicitation by the city commission; or

(8) Purchases exempt from the competitive process pursuant to section 2-797 of these Code of Ordinances;

(d) *Procedure.*

(1) The cone of silence shall be imposed upon each competitive solicitation at the time of public notice of such solicitation as provided by section 2-826 of this Code. Public notice of the cone of silence shall be included in the notice of the competitive solicitation. The city manager shall issue a written notice of the release of each competitive solicitation to the affected departments, with a copy thereof to each commission member, and shall include in any public solicitation for goods and services a statement disclosing the requirements of this ordinance.

(2) The cone of silence shall terminate at the time the city commission or other authorized body makes final award or gives final approval of a contract, rejects all bids or responses to the competitive solicitation, or takes other action which ends the competitive solicitation.

(3) Any city employee, official or member of the city commission that is approached concerning a competitive solicitation while the cone of silence is in effect shall notify such individual of the prohibitions contained in this section. While the cone of silence is in effect, any city employee, official or member of the city commission who is the recipient of any oral communication by a potential vendor or vendor's representative in violation of this section shall create a written record of the event. The record shall indicate the date of such communication, the persons with whom such communication occurred, and a general summation of the communication.

(e) *Violations/penalties and procedures.*

(1) A sworn complaint alleging a violation of this ordinance may be filed with the city attorney's office. In each such instance, an initial investigation shall be performed to determine the existence of a violation. If a violation is found to exist, the penalties and process shall be as provided in section 1-15 of this Code.

(2) In addition to the penalties described herein and otherwise provided by law, a violation of this ordinance shall render the competitive solicitation void at the discretion of the city commission.

(3) Any person who violates a provision of this section shall be prohibited from serving on a City of Key West advisory board, evaluation and/or selection committee.

(4) In addition to any other penalty provided by law, violation of any provision of this ordinance by a City of Key West employee shall subject said employee to disciplinary action up to and including dismissal.

(5) If a vendor is determined to have violated the provisions of this section on two more occasions it shall constitute evidence under City Code section 2-834 that the vendor is not properly qualified to carry out the obligations or to complete the work contemplated by any new competitive solicitation. The city's purchasing agent shall also commence any available debarment from city work proceeding that may be available upon a finding of two or more violations by a vendor of this section.

(Ord. No. 13-11, § 1, 6-18-2013)

CONE OF SILENCE AFFIDAVIT

STATE OF _____)
: SS
COUNTY OF _____)

I the undersigned hereby duly sworn depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of _____ have read and understand the limitations and procedures regarding communications concerning City of Key West issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence (attached).

_____
(Signature)

_____
(Date)

Sworn and subscribed before me this

_____ Day of _____, 2017.

_____
NOTARY PUBLIC, State of _____ at Large

My Commission Expires: _____

DBE SPECIAL PROVISIONS DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

(REV 6-6-02) (FA 7-17-02) (1-03)

Disadvantaged Business Enterprise Program.

General: Prior to award of the Contract, have an approved DBE Affirmative Action Program Plan filed with the Equal Opportunity Office. Update and resubmit the plan every three years. No Contract will be awarded until the Department approves the Plan. The DBE Affirmative Action Program Plan and commitment to carry out the Plan shall be incorporated into and become a part of the awarded Contract. Failure to keep these commitments will be deemed noncompliance with these Specifications and a breach of the Contract. Take all necessary and reasonable steps to ensure that FDOT Certified Disadvantaged Business Enterprises, as defined in 49 CFR Part 26 and DOT Rule Chapter 14-78, have the opportunity to participate in, compete for and perform subcontracts. Do not discriminate on the basis of age, race, color, religion, national origin, sex or disability in the award and performance of DOT assisted Contracts.

Plan Requirements: Include the following in the DBE Affirmative Action Program Plan:

(a) A policy statement, expressing a commitment to use DBEs in all aspects of contracting to the maximum extent feasible. The policy making body shall issue a policy statement signed by the chairperson, which expresses its commitment to utilize DBEs, outlines the various levels of responsibility, and states the objectives of the program. Circulate the policy statement throughout the Contractor's organization.

(b) The designation of a Liaison Officer within the Contractor's organization, as well as support staff, necessary and proper to administer the program, and a description of the authority, responsibility, and duties of the Liaison Officer and support staff. The Liaison Officer and staff are responsible for developing, managing, and implementing the program on a day-to-day basis for carrying out technical assistance activities for DBEs and for disseminating information on available business opportunities so that DBEs are provided an equitable opportunity to participate in Contracts let by the Department.

Use techniques to facilitate DBE participation in contracting activities, which include, but are not limited to:

1. Soliciting price quotations and arranging a time for the review of plans, quantities, specifications, and delivery schedules, and for the preparation and presentation of quotations.
2. Providing assistance to DBEs in overcoming barriers such as the inability to obtain bonding, financing, or technical assistance.
3. Carrying out information and communication programs or workshops on contracting procedures and specific contracting opportunities in a timely manner, with such programs being bilingual where appropriate.
4. Encouraging eligible DBEs to apply for certification with the Department.
5. Contacting Minority Contractor Associations and city and county agencies with programs for disadvantaged individuals for assistance in recruiting and encouraging eligible DBE contractors to apply for certification with the Department.

DBE Records and Reports: Submit the Anticipated DBE Participation Statement at or before the Pre-Construction Conference. Report monthly, through the Equal Opportunity Reporting System on the Department's Website, actual payments, retainage, minority status, and work type

of all subcontractors and major suppliers. The Equal Opportunity Office will provide instructions on accessing this system. Develop a record keeping system to monitor DBE affirmative action efforts, which include the following:

(a.) The procedures adopted to comply with these Specifications;
(b.) The number of subordinated Contracts on Department projects awarded to DBEs;
(c.) The dollar value of the Contracts awarded to DBEs;
(d.) The percentage of the dollar value of all subordinated Contracts awarded to DBEs as a percentage of the total Contract amount;
(e.) A description of the general categories of Contracts awarded to DBEs; and
(f.) The specific efforts employed to identify and award Contracts to DBEs.

Upon request, provide the records to the Department for review.

All such records are required to be maintained for a period of five years following acceptance of final payment and have them available for inspection by the Department and the Federal Highway Administration.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION

49 CFR Part 29 - Appendix B
CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION--LOWER TIER COVERED TRANSACTIONS

Instructions For Certification

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.

4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled ``Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AN VOLUNTARY EXCLUSION--LOWER TIER COVERED TRANSACTIONS

(1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Signature/Authorized Certifying Official	Typed Name and Title
Applicant/Organization	Date Signed

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. **Type of Federal Action:** ☐ a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	2. **Status of Federal Action:** ☐ a. bid/offer/application b. initial award c. post-award	3. **Report Type:** ☐ a. initial filing b. material change **For Material Change Only:** year _____ quarter _____ date of last report _____

4. **Name and Address of Reporting Entity:** ☐ Prime ☐ Subawardee Tier _____, *if known:* **Congressional District,** *if known:*	5. **If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:** **Congressional District,** *if known:*
6. **Federal Department/Agency:**	7. **Federal Program Name/Description:** CFDA Number, *if applicable:* _____
8. **Federal Action Number,** *if known:*	9. **Award Amount,** *if known:* **$**
10. **a. Name and Address of Lobbying Entity** *(if individual, last name, first name, MI):*	**b. Individuals Performing Services** *(including address if different from No. 10a) (last name, first name, MI):*
(attach Continuation Sheet(s) SF-LLLA, if necessary)	
11. **Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.**	**Signature:** _____ **Print Name:** _____ **Title:** _____ **Telephone No.:** _____ **Date:** _____
Federal Use Only:	Authorized for Local Reproduction Standard Form – LLL (Rev 7 – 97)

Form DEP 55-221 (01/01)

INSTRUCTIONS FOR COMPLETION OF SELF-DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by the reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks “Subawardee”, then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the

application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

    (b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

Form DEP 55-221 (01/01)

PROHIBITED INTERESTS FORM AND NOTICE

I, _____, _____, certify that neither
(Printed Name) (Title)

_____, _____
(Company Name) (Company Address)

nor any of its subcontractors shall enter into any contract, subcontract or arrangement in connection with the project or any property included or planned to be included in the project in which any member, officer or employee of the agency or the locality during tenure or for 2 years thereafter has any interest, direct or indirect. If any such present or former member, officer or employee involuntarily acquires or had acquired prior to the beginning of tenure any such interest, and if such interests is immediately disclosed to the City of Key West, the City of Key West with prior approval of the Department of Transportation, may waive the prohibition contained in this paragraph provided that any such present member, officer or employee shall not participate in any action by the City of Key West or the locality relating to such contract, subcontract or arrangement

NOTICE: The FDOT requires the City of Key West to insert in all contracts entered into in connection with the project or any property included or planned to be included in any project, and shall require its contractors to insert in each of their subcontracts, the following provision:

> "No member, officer or employee of the Agency or of the locality during this tenure or for 2 years thereafter shall have any interest, direct or indirect, in this contract or the proceeds thereof."

The provisions of this paragraph shall not be applicable to any agreement between the Agency and its fiscal depositories or to any agreement for utility services the rates for which are fixed or controlled by a government agency.

_____
Signature

BIDDER'S CHECKLIST

(Note: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and is not intended to be all inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Contract Documents and proper completion and submission of his bid.)

1.	All Contract Documents thoroughly read and understood.	[ ]
2.	All blank spaces in Proposal filled in, using black ink.	[ ]
3.	Total and unit prices added correctly and attached Schedule of Values	[ ]
4.	Addenda acknowledged.	[ ]
5.	Subcontractors are named as indicated in the Proposal.	[ ]
6.	Experience record included.	[ ]
7.	Proposal signed by authorized officer.	[ ]
8.	Bid Bond completed and executed, including power-of-attorney dated the same date as Bid Bond.	[ ]
9.	Bidder familiar with federal, state, and local laws, ordinances, rules and regulations affecting performance of the work.	[ ]
10.	Proof of current FDOT applicable Work Classes Qualifications.	[ ]
11.	Bidder, if successful, able to obtain and/or demonstrate possession of required licenses and certificates within (10) ten calendar days after receiving a Notice of Award.	[ ]
12.	BID submitted intact with the volume entitled “Bidding Requirements” in the format of two (2) original bid packages and two (2) USB flash drives as stated in the Invitation to Bid.	[ ]
13.	Bid Documents submitted in sealed envelope and addressed and labeled in conformance with the instructions in the Invitation to Bid.	[ ]

PART 2

CONTRACT FORMS

CONTRACT

This Contract made and entered into this _____ day of _____ 2017,

by and between the City of Key West, hereinafter called the "Owner", and_____

_____

hereinafter called the "Contractor";

WITNESSETH:

The Contractor, in consideration of the sum to be paid him by the Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for **ITB #__-___ BUS APRONS – LOWER KEYS**, Key West, Florida to the extent of the Proposal made by the Contractor, dated the _____ day of_____ 2017, all in full compliance with the Contract Documents referred to herein.

The CONTRACT DOCUMENTS, including the signed copy of the RESOLUTION, BIDDING REQUIREMENTS, CONTRACT AND BONDS, CONDITIONS OF THE CONTRACT, SCOPE OF WORK, TECHNICAL SPECIFICATIONS, AND DRAWINGS.

In consideration of the performance of the work as set forth in these Contract Documents, the Owner agrees to pay to the Contractor the amount bid in the Proposal as adjusted in accordance with the Contract Documents, or as otherwise herein provided, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within three hundred sixty-five (365) days and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said BID.

The Contractor agrees to remedy all defects appearing in the work or developing in the materials furnished and the workmanship performed under this Contract during the warranty period after the date of final acceptance of the work by the Owner, and further agrees to indemnify and save the Owner harmless from any costs encountered in remedying such defects.

It is agreed that the Contract, based upon the BID, shall be fully complete within the stated number of consecutive calendar days from the date the Notice to Proceed is issued.

In the event the Contractor fails to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid at a rate of $1,000.00 per day. Sundays and legal holidays shall be included in determining days in default.

This contract will automatically expire upon completion of the project. Contractors warranty obligations remain in effect.

The most stringent contract provisions or stipulations shall apply wherever conflicts exist between local, state, and federal agency contracting requirements.

Article 1. Federal Transit Administration Third Party Contract Clauses

1.1. Fly America Requirements

The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

1.2. Buy America Requirements

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below) with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

Remainder of Page Intentionally Left Blank

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 C.F.R. Part 661.5.

Date

Signature

Company Name

Title

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date

Signature

Company Name

Title

1.3. Cargo Preference Requirements - Use of United States-Flag Vessels

The contractor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of -lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

1.4. Energy Conservation Requirements

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

1.5. Clean Water Requirements

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

1.6. Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. § 1601, et seq.]

Contractors who apply or bid for an award of $100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

Remainder of Page Intentionally Left Blank

APPENDIX A, 49 CFR PART 20--CERTIFICATION REGARDING LOBBYING
Certification for Contracts, Grants, Loans, and Cooperative Agreements
(To be submitted with each bid or offer exceeding $100,000)
The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq.*)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]
The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.
_____ Signature of Contractor's Authorized Official
_____ Name and Title of Contractor's Authorized Official
_____ Date

1.7. Access to Records and Reports

The following access to records requirements apply to this Contract:

1. Where the Purchaser is not a State but a local government and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 18.36(i), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C.F.R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.

2. Where the Purchaser is a State and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 633.17, Contractor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at $100,000.

3. Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions.

4. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) through other than competitive bidding, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

5. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

6. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

7. FTA does not require the inclusion of these requirements in subcontracts.

Requirements for Access to Records and Reports by Types of Contract

Contract Characteristics		Operational Service Contract	Turnkey	Construction	Architectural Engineering	Acquisition of Rolling Stock	Professional Services
I State Grantees a. Contracts below SAT ($100,000) b. Contracts above $100,000/Capital Projects		None None unless[1] non-competitive award	Those imposed on state pass thru to Contractor	None Yes, if non-competitive award or if funded thru[2] 5307/5309/5311	None None unless non-competitive award	None None unless non-competitive award	None None unless non-competitive award
II Non State Grantees a. Contracts below SAT ($100,000) b. Contracts above $100,000/Capital Projects		Yes[3] Yes[3]	Those imposed on non-state Grantee pass thru to Contractor	Yes Yes	Yes Yes	Yes Yes	Yes Yes

Sources of Authority:
[1] 49 USC 5325 (a)
[2] 49 CFR 633.17
[3] 18 CFR 18.36 (i)

1.8. Federal Changes

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

1.9. Bonding Requirements

Bid Bond Requirements (Construction)

(a) Bid Security

A Bid Bond must be issued by a fully qualified surety company acceptable to CITY and listed as a company currently authorized under 31 CFR, Part 223 as possessing a Certificate of Authority as described thereunder.

(b) Rights Reserved

In submitting this Bid, it is understood and agreed by bidder that the right is reserved by CITY to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of ninety (90) days subsequent to the opening of bids, without the written consent of CITY.

It is also understood and agreed that if the undersigned bidder should withdraw any part or all of his bid within ninety (90) days after the bid opening without the written consent of CITY, shall refuse or be unable to enter into this Contract, as provided above, or refuse or be unable to furnish adequate and acceptable Performance Bonds and Labor and Material Payments Bonds, as provided above, or refuse or be unable to furnish adequate and acceptable insurance, as provided above, he shall forfeit his bid security to the extent of CITY's) damages occasioned by such withdrawal, or refusal, or inability to enter into an agreement, or provide adequate security therefor.

It is further understood and agreed that to the extent the defaulting bidder's Bid Bond, Certified Check, Cashier's Check, Treasurer's Check, and/or Official Bank Check (excluding any income generated thereby which has been retained by CITY as provided in "Bid Security" of the Instructions to Bidders) shall prove inadequate to fully recompense CITY for the damages occasioned by default, then the undersigned bidder agrees to indemnify CITY and pay over to CITY the difference between the bid security and CITY's total damages,
so as to make CITY whole.

The undersigned understands that any material alteration of any of the above or any of the material contained on this form, other than that requested, will render the bid unresponsive.

Performance and Payment Bonding Requirements (Construction)

The Contractor shall be required to obtain performance and payment bonds as follows:

(a) Performance bonds

1. The penal amount of performance bonds shall be 100 percent of the original contract price, unless the CITY determines that a lesser amount would be adequate for the protection of the CITY.

2. The CITY may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The CITY may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(b) Payment bonds

1. The penal amount of the payment bonds shall equal:

(i) Fifty percent of the contract price if the contract price is not more than $1 million.

(ii) Forty percent of the contract price if the contract price is more than $1 million but not more than $5 million; or

(iii) Two and one half million if the contract price is more than $5 million.

2. If the original contract price is $5 million or less, the CITY may require additional protection as required by subparagraph 1 if the contract price is increased.

Performance and Payment Bonding Requirements (Non-Construction)

The Contractor may be required to obtain performance and payment bonds when necessary to protect the CITY's interest.

(a) The following situations may warrant a performance bond:

1. CITY property or funds are to be provided to the contractor for use in performing the contract or as partial compensation (as in retention of salvaged material).

2. A contractor sells assets to or merges with another concern, and the CITY, after recognizing the latter concern as the successor in interest, desires assurance that it is financially capable.

3. Substantial progress payments are made before delivery of end items starts.

4. Contracts are for dismantling, demolition, or removal of improvements.

(b) When it is determined that a performance bond is required, the Contractor shall be required to obtain performance bonds as follows:

1. The penal amount of performance bonds shall be 100 percent of the original contract price, unless the CITY determines that a lesser amount would be adequate for the protection of the CITY.

2. The CITY may require additional performance bond protection when a contract price is increased. The increase in protection shall generally equal 100 percent of the increase in contract price. The CITY may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(c) A payment bond is required only when a performance bond is required, and if the use of payment bond is in the CITY's interest.

(d) When it is determined that a payment bond is required, the Contractor shall be required to obtain payment bonds as follows:

1. The penal amount of payment bonds shall equal:

(i) Fifty percent of the contract price if the contract price is not more than $1 million;

(ii) Forty percent of the contract price if the contract price is more than $1 million but not more than $5 million; or

(iii) Two and one half million if the contract price is increased.

Advance Payment Bonding Requirements

The Contractor may be required to obtain an advance payment bond if the contract contains an advance payment provision and a performance bond is not furnished. The CITY shall determine the amount of the advance payment bond necessary to protect the CITY.

Patent Infringement Bonding Requirements (Patent Indemnity)

The Contractor may be required to obtain a patent indemnity bond if a performance bond is not furnished and the financial responsibility of the Contractor is unknown or doubtful. The CITY shall determine the amount of the patent indemnity to protect the CITY.

Warranty of the Work and Maintenance Bonds

1. The Contractor warrants to CITY, the Architect and/or Engineer that all materials and equipment furnished under this Contract will be of highest quality and new unless otherwise specified by CITY, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards shall be considered defective. If required by the CITY, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

2. The Work furnished must be of first quality and the workmanship must be the best obtainable in the various trades. The Work must be of safe, substantial and durable construction in all respects. The Contractor hereby guarantees the Work against defective materials or faulty workmanship for a minimum period of one (1) year after Final Payment by CITY and shall replace or repair any defective materials or equipment or faulty workmanship during the period of the guarantee at no cost to CITY. As additional security for these guarantees, the Contractor shall, prior to the release of Final Payment, furnish separate Maintenance (or Guarantee) Bonds in form acceptable to CITY written by the same corporate surety that provides the Performance Bond and Labor and Material Payment Bond for this Contract. These bonds shall secure the Contractor's obligation to replace or repair defective materials and faulty workmanship for a minimum period of one (1) year after Final Payment and shall be written in an amount equal to ONE HUNDRED PERCENT (100%) of the CONTRACT SUM, as adjusted (if at all).

1.10. Clean Air

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

1.11. Recycled Products

The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

1.12. Davis-Bacon and Copeland Anti-Kickback Acts

(1) **Minimum wages** - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(v) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(2) **Withholding** - The CITY shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the CITY may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records** - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security

number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the CONSULTANT for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of

this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) **Apprentices and trainees** - (i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program.

If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements** - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment** - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements** - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards** - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility** - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

1.13. Contract Work Hours and Safety Standards Act

(1) **Overtime requirements -** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) **Violation; liability for unpaid wages; liquidated damages** - In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) **Withholding for unpaid wages and liquidated damages** - The CITY shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

(4) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

1.14. No Obligation by the Federal Government

(1) The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

1.15. Program Fraud and False or Fraudulent Statements or Related Acts

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

1.16. Termination

a. Termination for Convenience (General Provision) The CITY may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to CITY to be paid the Contractor. If the Contractor has any property in its possession belonging to the CITY, the Contractor will account for the same, and dispose of it in the manner the CITY directs.

b. Termination for Default [Breach or Cause] (General Provision) If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the CITY may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by the CITY that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the CITY, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

c. Opportunity to Cure (General Provision) The CITY in its sole discretion may, in the case of a termination for breach or default, allow the Contractor [an appropriately short period of time] in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions

If Contractor fails to remedy to CITY's satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor of written notice from CITY setting forth the nature of said breach or default, CITY shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude CITY from also pursuing all available remedies against Contractor and its sureties for said breach or default.

d. Waiver of Remedies for any Breach In the event that CITY elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by CITY shall not limit CITY's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

e. Termination for Convenience (Professional or Transit Service Contracts) The CITY, by written notice, may terminate this contract, in whole or in part, when it is in the Government's interest. If this contract is terminated, the Recipient shall be liable only for payment under the payment provisions of this contract for services rendered before the effective date of termination.

f. Termination for Default (Supplies and Service) If the Contractor fails to deliver supplies or to perform the services within the time specified in this contract or any extension or if the Contractor fails to comply with any other provisions of this contract, the CITY may terminate this contract for default. The CITY shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner or performance set forth in this contract.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Recipient.

g. Termination for Default (Transportation Services) If the Contractor fails to pick up the commodities or to perform the services, including delivery services, within the time specified in this contract or any extension or if the Contractor fails to comply with any other provisions of this contract, the CITY may terminate this contract for default. The CITY shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of default. The Contractor will only be paid the contract price for services performed in accordance with the manner of performance set forth in this contract.

If this contract is terminated while the Contractor has possession of CITY goods, the Contractor shall, upon direction of the CITY, protect and preserve the goods until surrendered to the Recipient or its agent. The Contractor and CITY shall agree on payment for the preservation and protection of goods. Failure to agree on an amount will be resolved under the Dispute clause.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the CITY.

h. Termination for Default (Construction) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, the CITY may terminate this contract for default. The CITY shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, the CITY may take over the work and compete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the CITY resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the CITY in completing the work.

The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

1. The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of the CITY, acts of another Contractor in the performance of a contract with the CITY, epidemics, quarantine restrictions, strikes, freight embargoes; and

2. The Contractor, within [10] days from the beginning of any delay, notifies the CITY in writing of the causes of delay. If in the judgment of the CITY, the delay is excusable, the time for completing the work shall be extended. The judgment of the CITY shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of the CITY.

i. Termination for Convenience or Default (Architect and Engineering) The CITY may terminate this contract in whole or in part, for the CITY's convenience or because of the failure of the Contractor to fulfill the contract obligations. The CITY shall terminate by delivering to the Contractor a Notice of Termination specifying the nature, extent, and effective date of the termination. Upon receipt of the notice, the Contractor shall (1) immediately discontinue all services affected (unless the notice directs otherwise), and (2) deliver to the Contracting Officer all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this contract, whether completed or in process.

If the termination is for the convenience of the CITY, the Contracting Officer shall make an equitable adjustment in the contract price but shall allow no anticipated profit on unperformed services.

If the termination is for failure of the Contractor to fulfill the contract obligations, the CITY may complete the work by contact or otherwise and the Contractor shall be liable for any additional cost incurred by the CITY.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the CITY.

j. Termination for Convenience of Default (Cost-Type Contracts) The CITY may terminate this contract, or any portion of it, by serving a notice or termination on the Contractor. The notice shall state whether the termination is for convenience of the CITY or for the default of the Contractor. If the termination is for default, the notice shall state the manner in which the contractor has failed to perform the requirements of the contract. The Contractor shall account for any property in its possession paid for from funds received from the CITY, or property supplied to the Contractor by the CITY. If the termination is for default, the CITY may fix the fee, if the contract provides for a fee, to be paid the contractor in proportion to the value, if any, of work performed up to the time of termination. The Contractor shall promptly submit its termination claim to the CITY and the parties shall negotiate the termination settlement to be paid the Contractor.

If the termination is for the convenience of the CITY, the Contractor shall be paid its contract close-out costs, and a fee, if the contract provided for payment of a fee, in proportion to the work performed up to the time of termination.

If, after serving a notice of termination for default, the CITY determines that the Contractor has an excusable reason for not performing, such as strike, fire, flood, events which are not the fault of and are beyond the control of the contractor, the CITY, after setting up a new work schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

1.17. Government-wide Debarment and Suspension (Nonprocurement)

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as
defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by CITY. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to CITY, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

1.18. Privacy Act Requirements

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

(1) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

(2) The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

1.19. Civil Rights Requirements

The following requirements apply to the underlying contract:

(1) Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. §§ 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

1.20. Breaches and Dispute Resolution

Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative - City Manager. This decision shall be final and conclusive unless within [ten (10)] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the City Manager. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the City Manager shall be binding upon the Contractor and the Contractor shall abide be the decision.

Performance During Dispute - Unless otherwise directed by CITY, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the CITY and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the CITY is located.

Rights and Remedies - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the CITY, CONSULTANT or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

1.21. Disadvantaged Business Enterprises (DBE)

a. This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.* The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The CITY's overall goal for DBE participation is 1 %**.** A separate contract goal of 1% DBE participation has been established for this procurement.

b. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as CITY deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (*see* 49 CFR 26.13(b)).

c. Bidders/offerors are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying sealed bid**:**

1. The names and addresses of DBE firms that will participate in this contract;
2. A description of the work each DBE will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
5. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment; and
6. If the contract goal is not met, evidence of good faith efforts to do so.

Bidders must present the information required above as a matter of responsiveness with sealed bid (*see* 49 CFR 26.53(3)).

d. The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor's receipt of payment for that work from the CITY. In addition, the contractor may not hold retainage from its subcontractors.

e. The contractor must promptly notify CITY, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of CITY.

1.22 Veterans Preference/Employment

a. The Contractor shall ensure a hiring preference, to the extent practicable, to veterans (as defined in U.S.C. Title 5 Section 2108) who have the requisite skills and abilities to perform the construction work required under the contract. This subsection shall not be understood, construed or enforced in any manner that would require an employer to give preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or former employee, as set forth in FTA C 4220.1F Chapter IV, 2.c. (1)(c).

b. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

1.23 Incorporation of Federal Transit Administration (FTA) Terms

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any CTY requests which would cause CITY to be in violation of the FTA terms and conditions.

1.24 U.S. Department of Homeland Security's E-Verify System

The contractor and any subcontractors performing work or providing services shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the contractor and subcontractors during the contract term.

IN WITNESS WHEREOF, we, the parties hereto, each herewith subscribe the same this

_____ day of _____, A.D., 2017.

CITY OF KEY WEST

By_____ Attest_____

Title_____

CONTRACTOR

By_____ Attest _____

Title_____ (Seal)

* * * * *

FLORIDA PERFORMANCE BOND

BOND NO._____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section

255.05 _____

with offices at _____
hereinafter called the CONTRACTOR (Principal), and

_____

with offices at_____
a corporation duly organized and existing under and by virtue of the laws of the State of Florida, hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto the **CITY OF KEY WEST,** hereinafter called the CITY (Obligee), in the sum of:

_____DOLLARS ($_____),
lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract for **ITB #__-___ BUS APRONS – LOWER KEYS TS1102** attached hereto, with the CITY, dated _____, 2017, to furnish at his own cost, charges, and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the Contract Documents as defined therein, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR:

1. Shall in all respects comply with the terms and conditions of said Contract and his obligation there under, including the Contract Documents (which include the scope of work and conditions as prepared by the CITY, invitation to bid, instructions to bidders, the CONTRACTOR'S bid as accepted by the above CITY, the bid and contract performance and payment bonds, and all addenda, if any, issued prior to the opening of bids), being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying PRINCIPAL with labor, materials, or supplies, used directly or indirectly by PRINCIPAL in the prosecution of the work provided for in the contract; and

3. Pays CITY all losses, costs, expenses, damages, attorney's fees, including appellate proceedings, injury or loss of whatever kind and however arising including, without limitation, delay damages to which said CITY may be subject by reason of any wrongdoing, misconduct, want of care or skill, negligence, failure of performance, breach, failure to petition within the prescribed time, or default, including patent infringements, on the part of said CONTRACTOR, his agents or employees, in the execution or performance of said Contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract.

AND, the said Surety for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract Documents, or to the work to be performed, or materials to be furnished there under shall affect said obligation of said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract Documents, or to the work.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes.

IN WITNESS WHEREOF, the above parties bonded together have executed this instrument this _____ day of _____, 2017, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: _____

(SEAL)

Attest: _____

SURETY

By: _____

(SEAL)

Attest: _____

FLORIDA PAYMENT BOND

BOND NO._____

AMOUNT: $_____

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section 255.05,_____

with offices at_____
hereinafter called the CONTRACTOR, (Principal), and

_____

with offices at _____

a corporation duly organized and existing under and by virtue of the laws of the State of _____

_____ , hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto CITY OF KEY WEST**,** hereinafter called the City (Obligee), in the sum of:

_____DOLLARS(_____),
lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, and the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract for **ITB #__-___ BUS APRONS – LOWER KEYS TS1102** attached hereto, with the CITY, dated _____, 2017, to furnish at his own cost, charges, and expense the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the plans, drawings (if any), and specifications prepared by the CITY, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents specifically mentioned herein and relative hereto, is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein.

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents ,which include Scope of work and conditions prepared by the CITY, invitation to bid, instructions to bidders, the CONTRACTOR'S bid as accepted by the CITY, the bid and contract and payment bonds, and all addenda, if any, issued prior to the opening of bids), and further that if said CONTRACTOR

shall promptly make payments to all persons supplying materials, equipment, and/or labor, used directly or indirectly by said CONTRACTOR or subcontractors in the prosecution of the work for said contract is accordance with Florida Statutes, Section 255.05 or Section 713.23, then this obligation shall be void; otherwise to remain in full force and effect for the term of said contract, including and all guarantee periods as specifically mentioned in said Contract Documents.

AND, the said SURETY for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Contract Documents and specifications accompanying the said contract shall affect said obligation of said SURETY on this Bond, and the said SURETY does hereby waive notice of any such changes, extension of time, alternations, or additions of the terms of the Contract, or to the work, to the Contract Documents, or to the specifications.

Claimant shall give written notice to the CONTRACTOR and the SURETY as required by Section 255.05 or Section 713.23, Florida Statutes. Any action instituted against the CONTRACTOR or SURETY under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2) or Section 713.23, Florida Statutes.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument

this _____ day of _____, 2017, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: _____

(SEAL)

Attest: _____

SURETY

By: _____

(SEAL)

Attest: _____

PART 3

CONDITIONS OF THE CONTRACT

GENERAL CONDITIONS
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Article

Article

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****

DEFINITIONS

Whenever in the Contract Documents the following terms are used, the intent and meaning shall be interpreted as follows:

1. AS APPROVED

The words "as approved", unless otherwise qualified, shall be understood to be followed by the words "by the ENGINEER for conformance with the Contract Document".

2. AS SHOWN, AND AS INDICATED

The words "as shown" and "as Indicated" shall be understood to be followed by the words "on the Drawings".

3. BIDDER

The person or persons, partnership, firm, or corporation submitting a Proposal for the work contemplated.

4. CONTRACT DOCUMENTS

The "Contract Documents" consist of the Bidding Requirements, Contract Forms, Conditions of the Contact, Specifications, Drawings, all modifications thereof incorporated into the Documents before their execution, Change Orders, and all other requirements incorporated by specific reference thereto. These form the Contract.

5. CONTRACTOR

The person or persons, partnership, firm, or corporation who enters into the Contract awarded him by the OWNER.

6. CONTRACT COMPLETION

The "Contract Completion" is the date the OWNER accepts the entire work as being in compliance with the Contract Documents, or formally waives nonconforming work to extent of nonconformity, and issues the final payment in accordance with the requirements set forth in Article, "Final Payment" of these General Conditions.

7. DAYS

Unless otherwise specifically stated, the term "days" will be understood to mean calendar days. Business day or working day means any day other than Saturday, Sunday, or legal holiday.

8. DRAWINGS

The term "Drawings" refers to the official Drawings, Profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the ENGINEER, which shows the location, character, dimensions, and details of the work to be performed. Drawings may either be bound in the same book as the balance of the Contract Documents, or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.

9. ENGINEER

The person or organization identified as such in the Contract Documents. The Term "ENGINEER" means ENGINEER or his authorized representative.

10. NOTICE

The term "notice" or the requirement to notify, as used in the Contract Documents or applicable state or federal statutes, shall signify a written communication delivered in person or by registered mail to the individual, or to a member of the firm, or to an officer of the corporation for whom it is intended. Certified or registered mail shall be addressed to the last business address known to him who gives the notice.

11. OR EQUAL

The term "or equal" shall be understood to indicate that the "equal" Product is equivalent to or better than the Product named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the Project design requirements will be made by the ENGINEER. Such equal Products shall not be purchased or installed by the CONTRACTOR without written authorization.

12. OWNER

The person, organization, or public body identified as such in the Contract Documents.

13. PLANS (See Drawings)

14. SPECIFICATIONS

The term "Specifications" refers to those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the work and certain

administrative details applicable thereto. Where standard specifications, such as those of ASTM, AASHTO, etc., have been referred to, the applicable portions of such standard specifications shall become a part of these Contract Documents. If referenced specifications conflict with specifications contained herein, the requirements contained herein shall prevail.

15. NOTICE TO PROCEED

A written notice given by the OWNER to the CONTRACTOR (with a copy to the ENGINEER) fixing the date on which the Contract time will commence to run and on which the CONTRACTOR shall start to perform his obligation under the Contract Documents. The Notice to Proceed will be given within 30 days following the execution of the Contract by the OWNER.

16. SUBSTANTIAL COMPLETION

"Substantial Completion" shall be that degree of completion of the Project or a defined portion of the Project, as evidenced by the ENGINEER's written notice of Substantial Completion, sufficient to Provide the OWNER, at his discretion, the full-time use of the Project or defined portion of the Project for the purposes for which it was intended. "Substantial Completion" of an operating facility shall be that degree of completion that has Provided a minimum of 7 continuous days of successful, trouble-free, operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the ENGINEER. All equipment contained in the work, plus all other components necessary to enable the OWNER to operate the facility in a manner that was intended, shall be complete on the substantial completion date.

17. WORK

The word "work" within these Contract Documents shall include all material, labor, tools, and all appliances, machinery, transportation, and appurtenances necessary to perform and complete the Contract, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good Practice to Provide a complete and satisfactory system or structure. As used herein, "Provide" shall be understood to mean "furnish and install, complete in-place ".

CONTRACT DOCUMENTS

18. INTENT OF CONTRACT DOCUMENTS

The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all. The intent of the Documents is to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning.

Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect on the first published date of the Invitation to Bid, except as may be otherwise specifically stated. However, no Provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any ENGINEER's consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the Provisions of Article LIMITATIONS ON ENGINEER'S RESPONSIBILITIES.

19. DISCREPANCIES AND OMISSIONS

Any discrepancies or omissions found in the Contract Documents shall be reported to the ENGINEER immediately. The ENGINEER will clarify discrepancies or omissions, in writing, within a reasonable time.

In resolving inconsistencies among two or more sections of the Contract Documents, Precedence shall be given in the following order:

A. CONTRACT
B. PROPOSAL
C. SUPPLEMENTARY CONDITIONS
D. INVITATION TO BID
E. INSTRUCTIONS TO BIDDERS
F. GENERAL CONDITIONS
G. SPECIFICATIONS
H. DRAWINGS

Addenda shall take Precedence over all sections referenced therein. Figure dimensions on Drawings shall take precedence over scale dimensions. Detailed Drawings shall take precedence over general Drawings.

20. CHANGES IN THE WORK

The OWNER, without notice to the Sureties and without invalidating the Contract, may order changes in the work within the general scope of the Contract by altering, adding to, or deducting from the work, the Contract being adjusted accordingly. All such work shall be executed under the conditions of the original Contract, except as specifically adjusted at the time of ordering such change.

In giving instructions, the ENGINEER may order minor changes in the work not involving extra cost and not inconsistent with the purposes of the Project, but otherwise, except in an emergency endangering life and Property, additions or deductions from the work shall be performed only in pursuance of an approved Change Order from the OWNER, countersigned by the ENGINEER.

If the work is reduced by alterations, such action shall not constitute a claim for damages based on loss of anticipated Profits.

21. EXAMINATION AND VERIFICATION OF CONTRACT DOCUMENTS

The CONTRACTOR shall thoroughly examine and become familiar with all of the various parts of these Contract Documents and determine the nature and location of the work, the general and local conditions, and all other matters, which can in any way affect the work under this Contract. Failure to make an examination necessary for this determination shall not release the CONTRACTOR from the obligations of this Contract. No verbal agreement or conversation with any officer, agent, or employee of the OWNER or with the ENGINEER either before or after the execution of this Contract shall affect or modify any of the terms or obligations herein contained.

22. DOCUMENTS TO BE KEPT ON THE JOBSITE

The CONTRACTOR shall keep one copy of the Contract Documents on the job- site, in good order, available to the ENGINEER and to his representatives.

The CONTRACTOR shall maintain on a daily basis at the jobsite, and make available to the ENGINEER on request, one current record set of the Drawings which have been accurately marked to indicate all modifications in the completed work that differ from the design information shown on the Drawings. Upon Substantial completion of the work, the CONTRACTOR shall give the ENGINEER one complete set of these marked up record Drawings.

23. ADDITIONALCONTRACT DOCUMENTS

Copies of Contract Documents or Drawings may be obtained on request from the ENGINEER and by paying the actual cost of reproducing the Contract Documents or Drawings.

24. OWNERSHIP OF CONTRACT DOCUMENTS

All portions of the Contract Documents, and copies thereof furnished by the ENGINEER are instruments of service for this Project. They are not to be used on other work and are to be returned to the ENGINEER on request at the completion of the work. Any reuse of these materials without specific written verification or adaptation by the ENGINEER will be at the risk of the user and without liability or legal expense to the ENGINEER. Such user shall hold the ENGINEER harmless from any and all damages, including reasonable attorneys' fees, from any and all claims arising from any such reuse. Any such verification and adaptation shall entitle the ENGINEER to further compensation at rates to be agreed upon by the user and the ENGINEER.

THE ENGINEER

25. AUTHORITY OF THE ENGINEER

The ENGINEER will be the OWNER's representative during the construction period. His authority and responsibility will be limited to the Provisions set forth in these Contract Documents. The ENGINEER will have the Authority to reject work that does not conform to the Contract Documents. However, neither the ENGINEER's authority to act under this Provision, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any SUBCONTRACTOR, their respective Sureties, any of their agents or employees, or any other person performing any of the work.

26. DUTIES AND RESPONSIBILITIES OF THE ENGINEER

The ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the Progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. He will not make comprehensive or continuous review or observation to check quality or quantity of the work, and he will not be responsible for construction means, methods, techniques, sequences, or Procedures, or for safety Precautions and Programs in connection with the work. Visits and observations made by the ENGINEER shall not relieve the CONTRACTOR of his obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide

adequate safety Precautions, in conformance with the intent of the Contract.

The ENGINEER will make recommendations to the OWNER, in writing, on all claims of the OWNER or the CONTRACTOR arising from interpretation or execution of the Contract Documents. Such recommendations will be of factual and/or technical nature, and will not include the legal interpretation of the Contract Documents. Any necessary legal interpretation of the Contract Document will be made by the OWNER. Such recommendation shall be necessary before the CONTRACTOR can receive additional money under the terms of the Contract. Changes in work ordered by the ENGINEER shall be made in compliance with Article CHANGES IN THE WORK.

One or more Project representatives may be assigned to observe the work. It is understood that such Project representatives shall have the authority to issue notice of nonconformance and make decisions within the limitations of the authority of the ENGINEER. The CONTRACTOR shall furnish all reasonable assistance required by the ENGINEER or Project representatives for Proper observation of the work. The above-mentioned Project representatives shall not relieve the CONTRACTOR of his obligations to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety Precautions, in conformance with the intent of the Contract.

27. LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences, or Procedures of construction, or the safety Precautions and Programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the work in accordance with the Contract Documents.

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any SUBCONTRACTOR, any supplier, or of any other person or organization performing or furnishing any of the work.

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "Proper", or "satisfactory", or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the Provisions of this Article.

28. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to expiration of the warranty period shall be removed and replaced by work which shall conform to the Provisions of the Contract Documents. Any material condemned or rejected shall be removed at once from the Project site.

Failure on the part of the ENGINEER to condemn or reject bad or inferior work or to note nonconforming materials or equipment on CONTRACTOR submittals shall not be construed to imply acceptance of such work. The OWNER shall reserve and retain all of its rights and remedies at law against the CONTRACTOR and its Surety for correction of any and all latent defects discovered after the guarantee period.

29. LINES AND GRADES

Lines and grades shall be established as provided in the supplementary conditions. All stakes, marks, and other reference information shall be carefully preserved by the CONTRACTOR, and in case of their careless or unnecessary destruction or removal by him or his employees, such stakes, marks, and other information shall be replaced at the CONTRACTOR's expense.

30. SUBMITTALS

After checking and verifying all field measurements and after complying with applicable Procedures specified in Division I, GENERAL REQUIREMENTS, CONTRACTOR shall submit to ENGINEER, in accordance with the schedule for submittals for review, shop drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment), which shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submittal. All submittals shall be identified as ENGINEER may require. The data shown shall be complete with respect to quantities, dimensions specified, performance and design criteria, materials, and similar data to enable ENGINEER to review the information. CONTRACTOR shall also submit to ENGINEER for review, with such Promptness as to cause no delay in work, all samples required by the Contract Documents. All samples shall have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and shall be identified clearly as

to material, supplier, pertinent data such as catalog numbers and the use for which intended.

Before submission of each submittal, CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each submittal with other submittals and with the requirements of the work and the Contract Documents.

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the submittal may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each shop drawing submitted to ENGINEER for review and approval of each variation.

ENGINEER will review submittals with reasonable Promptness, but ENGINEER's review will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences, or Procedures of construction (except where a specific means, method, technique, sequence, or Procedure of construction is indicated in or required by the Contract Documents) or to safety Precautions or Programs incident thereto. The review of a separate item as such will not indicate review of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of shop drawings and submit as required new samples for review. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on Previous submittals.

ENGINEER's review of submittals shall not relieve CONTRACTOR from the responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated therein or accompanying the shop drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the shop drawings or from responsibility for having complied with the Provisions herein.

Where a shop drawing or sample is required by the specifications, any related work performed Prior to ENGINEER's review and approval of the pertinent submission shall be at the sole expense and responsibility of the CONTRACTOR.

31. DETAIL DRAWINGS AND INSTRUCTIONS

The ENGINEER will furnish, with reasonable Promptness, additional instructions by means of Drawings or otherwise, if, in the ENGINEER's opinion, such are required for the Proper execution of the work. All such Drawings and instructions will be consistent with the Contract Documents, true developments thereof, and reasonably inferable there from.

THE CONTRACTOR AND HIS EMPLOYEES

32. CONTRACTOR, AN INDEPENDENT AGENT

The CONTRACTOR shall independently perform all work under this Contract and shall not be considered as an agent of the OWNER or of the ENGINEER, nor shall the CONTRACTOR's SUBCONTRACTORS or employees be subagents of the OWNER or of the ENGINEER.

33. SUBCONTRACTING

Unless modified in the Supplementary Conditions, within 10 days after the execution of the Contract, the CONTRACTOR shall submit to the ENGINEER the names of all SUBCONTRACTORS Proposed for the work, including the names of any SUBCONTRACTORS that were submitted with the Proposal. The CONTRACTOR shall not employ any SUBCONTRACTORS to which the OWNER may object to as lacking capability to properly perform work of the type and scope anticipated.

The CONTRACTOR is as fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS and of persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relationship between any SUBCONTRACTOR and the OWNER or ENGINEER.

34. INSURANCE AND LIABILITY

A. GENERAL

The CONTRACTOR shall provide (from insurance companies acceptable to the OWNER) the insurance coverage designated hereinafter and pay all costs before commencing work under this Contract. The CONTRACTOR shall furnish the OWNER with certificates of insurance specified herein showing the type, amount class of operations covered, effective dates, and date of expiration of policies, and containing substantially the following statement:

"The insurance covered by this certificate shall not be canceled

or materially altered, except after 30 days' written notice has been received by the OWNER."

In case of the breach of any Provision of this Article, the OWNER, at his option, may take out and maintain, at the expense of the CONTRACTOR, such insurance as the OWNER may deem Proper and may deduct the cost of such insurance from any monies which may be due or become due the CONTRACTOR under this Contract.

B. CONTRACTOR AND SUBCONTRACTOR INSURANCE

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required hereunder and such insurance has been reviewed by the OWNER, nor shall the CONTRACTOR allow any SUBCONTRACTOR to commence work on his subcontract until insurance specified below has been obtained. Review of the insurance by the OWNER shall not relieve or decrease the liability of the CONTRACTOR hereunder.

C. COMPENSATION AND EMPLOYER'S LIABILITY INSURANCE

The CONTRACTOR shall maintain during the life of this Contract the statutory amount of Workmen's Compensation Insurance, in addition, Employer's Liability Insurance in an amount as specified in the Supplementary Conditions, for each occurrence, for all of his employees to be engaged in work on the Project under this Contract. In case any such work is subcontracted, the CONTRACTOR shall require the SUBCONTRACTOR to provide similar Workmen's Compensation and Employer's Liability Insurance for all of the SUBCONTRACTOR's employees to be engaged in such work.

D. GENERAL LIABILITY INSURANCE (INCLUDING AUTOMOBILE)

The CONTRACTOR shall maintain during the life of this Contract such general liability, completed operations and Products liability, and automobile liability insurance as will Provide coverage for claims for damages for personal injury, including accidental death, as well as for claims for Property damage, which may arise directly or indirectly from performance of the work under this Contract. The general liability policy shall include contractual liability assumed by the CONTRACTOR under Article **INDEMNITY.** Coverage for Property damage shall be on a "broad form" basis with no exclusions for "X, C & U". The amount of insurance to be provided shall be as specified in the Supplementary Conditions.

In the event any work under this Contract is performed by a SUBCONTRACTOR, the CONTRACTOR shall be responsible for any liability directly or indirectly arising out of the work performed by the SUBCONTRACTOR; to the extent such liability is not covered by the SUBCONTRACTOR's insurance.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as Additional Insured's on the CONTRACTOR's and any SUBCONTRACTOR's general liability and automobile liability insurance policies for any claims arising out of work performed under this Contract.

E. BUILDERS RISK ALL RISK INSURANCE

Unless otherwise modified in the Supplementary Conditions, the CONTRACTOR shall secure and maintain during the life of this Contract, Builders Risk All Risk Insurance coverage in an amount equal to the full value of the facilities under construction. Such insurance shall include coverage for earthquake, landslide, flood, collapse, loss due to the results of faulty workmanship or design, and all other normally covered risks, and shall provide for losses to be paid to the CONTRACTOR, OWNER, and ENGINEER as their interests may appear.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as additional insured's on the CONTRACTOR's and any SUBCONTRACTOR's Builders Risk All Risk insurance policies for any claims arising out of work performed under this Contract.

This insurance shall include a waiver of subrogation as to the ENGINEER, the OWNER, the CONTRACTOR, and their respective officers, agents, employees and SUBCONTRACTORS.

F. NO PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the Provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any public official.

35. INDEMNITY

To the maximum extent permitted by law, the CONTRACTOR shall indemnify and defend the OWNER and the ENGINEER, and their officers, employees, agents, and sub-consultants, from all claims and losses, including attorney's fees and litigation costs arising out of Property losses or health, safety, personal injury, or death claims by the CONTRACTOR, its SUBCONTRACTORS of any tier, and their employees, agents, or invitees regardless of the fault, breach of Contract, or negligence of the OWNER or ENGINEER, excepting only such claims or losses that have been adjudicated to have been caused solely by the negligence of the OWNER or the ENGINEER and regardless of whether

or not the CONTRACTOR is or can be named a party in a litigation.

36. EXCLUSION OF CONTRACTOR CLAIMS

In performing its obligations, the ENGINEER and its consultants may cause expense for the CONTRACTOR or its SUBCONTRACTORS and equipment or material suppliers. However, those parties and their sureties shall maintain no direct action against the ENGINEER, its officers, employees, agents, and consultants for any claim arising out of, in connection with, or resulting from the engineering services performed or required to be performed.

37. TAXES AND CHARGES

The CONTRACTOR shall withhold and pay any and all sales and use taxes and all withholding taxes, whether State or Federal, and pay all Social Security charges and also all State Unemployment Compensation charges, and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws.

38. REQUIREMENTS OF STATE LAW FOR PUBLIC WORKS PROJECTS

When the Contract Documents concern public works of the state or any county, municipality, or political subdivision created by its laws, the applicable statutes shall apply. All parties to this Contract shall determine the contents of all applicable statutes and comply with their Provisions throughout the performance of the Contract.

39. CODES, ORDINANCES, PERMITS AND LICENSES

The CONTRACTOR shall keep himself fully informed of all local codes and ordinances, as well as state and federal laws, which in any manner affect the work herein specified. The CONTRACTOR shall at all times comply with said codes and ordinances, laws, and regulations, and Protect and indemnify the OWNER, the ENGINEER and their respective employees, and its officers and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses and inspection fees necessary for Prosecution and completion of the work shall be secured and paid for by the CONTRACTOR, unless otherwise specified.

40. SUPERINTENDENCE

The CONTRACTOR shall keep at the project site, competent supervisory personnel. The CONTRACTOR shall designate, in writing, before starting work, a Project superintendent who shall be an employee of the CONTRACTOR and shall have complete authority to represent and to act for the CONTRACTOR. ENGINEER shall be notified in writing prior to any change in superintendent assignment. The CONTRACTOR shall give efficient supervision to the work, using his best skill and attention. The CONTRACTOR shall be solely responsible for all construction means, methods, techniques, and Procedures, and for providing adequate safety Precautions and coordinating all portions of the work under the Contract. It is specifically understood and agreed that the ENGINEER, its employees and agents, shall not have control or charge of and shall not be responsible for the construction means, methods, techniques, Procedures, or for providing adequate safety Precautions in connection with the work under Contract.

41. RECEPTION OF ENGINEER'S COMMUNICATIONS

The superintendent shall receive for the CONTRACTOR all communications from the ENGINEER. Communications of major importance will be confirmed in writing upon request from the CONTRACTOR.

The ENGINEER may schedule Project meetings for the purposes of discussing and resolving matters concerning the various elements of the work. Time and place for these meetings and the names of persons required to be Present shall be as determined by the ENGINEER. CONTRACTOR shall comply with these attendance requirements and shall also require his SUBCONTRACTORS to comply.

42. SAFETY

The CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and Property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety Provisions shall conform to U.S. Department of Labor (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. The CONTRACTOR's failure to thoroughly familiarize himself with the aforementioned safety Provisions shall not relieve him from compliance with the obligations and penalties set forth therein.

The CONTRACTOR shall develop and maintain for the duration of this Contract, a safety Program that will effectively incorporate and implement all required safety Provisions. The CONTRACTOR shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety Program. The duty of the ENGINEER to conduct construction review of the work does not include review or approval of the adequacy of the CONTRACTOR's safety Program, safety supervisor, or any safety measures taken in,

on, or near the construction site. The CONTRACTOR, as a part of his safety Program, shall maintain at his office or other well-known place at the jobsite, safety equipment applicable to the work as Prescribed by the aforementioned authorities, all articles necessary for giving first-aid to the injured, and shall establish the Procedure for the immediate removal to a hospital or a doctor's care of persons (including employees) who may be injured on the jobsite.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the ENGINEER and the OWNER. In addition, the CONTRACTOR must promptly report in writing to the ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If a claim is made by anyone against the CONTRACTOR or any SUBCONTRACTOR on account of any accident, the CONTRACTOR shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

43. PROTECTION OF WORK AND PROPERTY

The CONTRACTOR shall at all times safely guard and Protect from damage the OWNER's Property, adjacent Property, and his own work from injury or loss in connection with this Contract. All facilities required for Protection by federal, state, or municipal laws and regulations and local conditions must be provided and maintained.

The CONTRACTOR shall Protect his work and materials from damage due to the nature of the work, the elements, carelessness of other CONTRACTORs, or from any cause whatever until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under these Contract Documents, or from any unforeseen obstruction or defects which may be encountered in the Prosecution of the work, or from the action of the elements, shall be sustained by the CONTRACTOR.

44. RESPONSIBILITY OF CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury of Property, and/or safety of life, the CONTRACTOR shall act, without previous instructions from the OWNER or ENGINEER, as the situation may warrant. The CONTRACTOR shall notify the ENGINEER thereof immediately thereafter. Any claim for compensation by the CONTRACTOR, together with substantiating documents in regard to expense, shall be submitted to the OWNER through the ENGINEER and the amount of compensation shall be determined by agreement.

45. MATERIALS AND APPLIANCES

Unless otherwise stipulated, the CONTRACTOR shall Provide and pay for all materials, labor, water, tools, equipment, heat, light, fuel, power, transportation, construction equipment and machinery, appliances, telephone, sanitary facilities, temporary facilities and other facilities and incidentals necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

In selecting and/or approving equipment for installation in the Project, the OWNER and ENGINEER assume no responsibility for injury or claims resulting from failure of the equipment to comply with applicable federal, state, and local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials.

46. CONTRACTORS' AND MANUFACTURERS' COMPLIANCE WITH STATE SAFETY, OSHA, AND OTHER CODE REQUIREMENTS

The completed work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items required by the state and federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the work subject to such safety regulations shall be fabricated, furnished, and installed (including OWNER-furnished equipment) in compliance with these requirements. CONTRACTORs and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. CONTRACTORs shall notify all equipment suppliers and SUBCONTRACTORS of the Provisions of this Article.

47. SUBSTITUTION OF MATERIALS

Except for OWNER-selected equipment items, and items where no substitution is clearly specified, whenever any material, article, device, Product, fixture, form, type of construction, or Process is indicated or specified by patent or Proprietary name, by name of manufacturer, or by catalog number, such specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating the description of the material or Process desired. This Procedure

is not to be construed as eliminating from competition other Products of equal or better quality by other manufacturers where fully suitable in design, and shall be deemed to be followed by the words "or equal". The CONTRACTOR may, in such cases, submit complete data to the ENGINEER for consideration of another material, type, or Process that shall be

substantially equal in every respect to that so indicated or specified. Substitute materials shall not be used unless approved in writing. The ENGINEER will be the sole judge of the substituted article or material.

48. TESTS, SAMPLES, AND OBSERVATIONS

The CONTRACTOR shall furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the ENGINEER. When required, the CONTRACTOR shall furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.

The OWNER, ENGINEER, and authorized government agents, and their representatives shall at all times be Provided safe access to the work wherever it is in Preparation or Progress, and the CONTRACTOR shall Provide facilities for such access and for observations, including maintenance of temporary and permanent access.

If the Specifications, laws, ordinances, or any public authority require any work, to be specially tested or approved, the CONTRACTOR shall give timely notice of its readiness for observations. If any work should be covered up without approval or consent of the ENGINEER, it shall, if required by the ENGINEER, be uncovered for examination at the CONTRACTOR's expense.
Reexamination of questioned work may be ordered by the ENGINEER, and, if so ordered, the work shall be uncovered by the CONTRACTOR. If such work is found to be in accordance with the Contract Documents, the OWNER will pay the cost of uncovering, exposure, observation, inspection, testing and reconstruction. If such work is found to be not in accordance with the Contract Documents, the CONTRACTOR shall correct the defective work, and the cost of reexamination and correction of the defective work shall be paid by the CONTRACTOR.

49. ROYALTIES AND PATENTS

The CONTRACTOR shall pay all royalty and licenses fees, unless otherwise specified. The CONTRACTOR shall defend all suits or claims for infringement of any patent rights and shall save the OWNER and the ENGINEER harmless from any and all loss, including reasonable attorneys' fees, on account thereof.

50. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the work should be stopped under an order of any court or other public authority for a period of more than 3 months, through no act or fault of the CONTRACTOR, its SUBCONTRACTORS, or respective employees or if the ENGINEER should fail to make recommendation for payment to the OWNER or return payment request to CONTRACTOR for revision within 30 days after it is due, or if the OWNER should fail to pay the CONTRACTOR within 30 days after time specified in Article PARTIAL PAYMENTS, any sum recommended by the ENGINEER, then the CONTRACTOR may, upon 15 days' written notice to the OWNER and the ENGINEER, stop work or terminate this Contract and recover from the OWNER payment for all acceptable work performed and reasonable termination expenses, unless said default has been remedied.

51. CORRECTION OF DEFECTIVE WORK DURING WARRANTY PERIOD

The CONTRACTOR hereby agrees to make, at his own expense, all repairs or replacements necessitated by defects in materials or workmanship, Provided under terms of this Contract, and pay for any damage to other works resulting from such defects, which become evident within 2 years after the date of final acceptance of the work or within 2 years after the date of substantial completion established by the ENGINEER for specified items of equipment, or within such longer period as may be Prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents. Un-remedied defects identified for correction during the warranty period but remaining after its expiration shall be considered as part of the obligations of the warranty. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the warranty shall subject the remedied portion of the work to an extended warranty period of 2 years after the defect has been remedied.

The CONTRACTOR further assumes responsibility for a similar guarantee for all work and materials provided by SUBCONTRACTORS or manufacturers of packaged equipment components. The effective date for the start of the guarantee or warranty period for equipment qualifying as substantially complete is defined in Article SUBSTANTIAL COMPLETION, AND Article SUBSTANTIAL COMPLETION DATE, in these General Conditions.

The CONTRACTOR also agrees to hold the OWNER and the ENGINEER harmless from liability of any kind arising from damage due to said defects. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order for same from the OWNER. If the CONTRACTOR fails to make the repairs and replacements promptly, or in an emergency where delay would cause serious risk, or loss, or damage, the OWNER may have the defective work corrected or the rejected work removed and replaced, and the CONTRACTOR and his Surety shall be liable for the cost thereof.

PROGRESS OF THE WORK

52. BEGINNING OF THE WORK

Following execution of the Contract, the CONTRACTOR shall meet with the OWNER and ENGINEER relative to his arrangements for prosecuting the work.

53. SCHEDULES AND PROGRESS REPORTS

Prior to starting the construction, the CONTRACTOR shall Prepare and submit to the ENGINEER, a Progress schedule showing the dates on which each part or division of the work is expected to be started and finished, and a Preliminary schedule for submittals. The Progress schedule for submittals shall be brought up to date and submitted to the ENGINEER at the end of each month or at such other times the ENGINEER may request.

The CONTRACTOR shall forward to the ENGINEER, at the end of each month, an itemized report of the delivery status of major and critical items of purchased equipment and material, including shop drawings and the status of shop and field fabricated work. These Progress reports shall indicate the date of the purchase order, the current percentage of completion, estimated delivery, and cause of delay, if any.

If the completion of any part of the work or the delivery of materials is behind the submitted Progress schedule, the CONTRACTOR shall submit in writing a plan acceptable to the OWNER and ENGINEER for bringing the work up to schedule.

The OWNER shall have the right to withhold Progress payments for the work if the CONTRACTOR fails to update and submit the Progress schedule and reports as specified.

54. PROSECUTION OF THE WORK

It is expressly understood and agreed that the time of beginning, rate of Progress, and time of completion of the work are the essence of this Contract. The work shall be prosecuted at such time, and in or on such part or parts of the Project as may be required, to complete the Project as contemplated in the Contract Documents and the Progress schedule.

If the CONTRACTOR desires to carry on work at night or outside the regular hours, he shall give timely notice to the ENGINEER to allow satisfactory arrangements to be made for observing the work in Progress.

55. OWNER'S RIGHT TO RETAIN IMPERFECT WORK

If any part or portion of the work completed under this Contract shall Prove defective and not in accordance with the Drawings and Specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or unsuitable, or if the removal of such work will create conditions which are dangerous or undesirable, the OWNER shall have the right and authority to retain such work but will make such deductions in the final payment therefore as may be just and reasonable.

56. OWNER'S RIGHT TO DO WORK

Should the CONTRACTOR neglect to Prosecute the work in conformance with the Contract Documents or neglect or refuse at his own cost to remove and replace work rejected by the ENGINEER, then the OWNER may notify the Surety of the condition, and after 10 days' written notice to the CONTRACTOR and the Surety, or without notice if an emergency or danger to the work or public exists, and without Prejudice to any other right which the OWNER may have under Contract, or otherwise, take over that portion of the work which has been improperly or non timely executed, and make good the deficiencies and deduct the cost thereof from the payments then or thereafter due the CONTRACTOR.

57. OWNER'S RIGHT TO TRANSFER EMPLOYMENT

If the CONTRACTOR should abandon the work or if he should persistently or repeatedly refuse or should fail to make prompt payment to SUBCONTRACTORS for material or labor, or to persistently disregard laws, ordinances, or to prosecute the work in conformance with the Contract Documents, or otherwise be guilty of a substantial violation of any Provision of the Contract or any laws or ordinance, then the OWNER may, without Prejudice to any other right or remedy, and after giving the CONTRACTOR and Surety 10 days' written notice, transfer the employment for said work from the CONTRACTOR to the Surety. Upon receipt of such notice, such Surety shall enter upon the Premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the work included under this contract and employ by Contract or otherwise, any qualified person or persons to finish the work and Provide the materials therefore, in accordance with the Contract Documents, without termination of the continuing full force and effect of this contract. In case of such transfer of employment to such Surety, the Surety shall be paid in its own name on estimates according to the terms hereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.

If, after the furnishing of said written notice to the Surety, the CONTRACTOR and the Surety still fail to make reasonable Progress on the performance of the work, the OWNER may terminate the employment of the CONTRACTOR and take

possession of the Premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient and charge the cost thereof to the CONTRACTOR and the Surety. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the expense of completing the Contract, including compensation for additional managerial and administrative services, shall exceed such unpaid balance, the CONTRACTOR and the Surety shall pay the difference to the OWNER.

58. DELAYS AND EXTENSION OF TIME

If the CONTRACTOR is delayed in the Progress of the work by any act or neglect of the OWNER or the ENGINEER, or by any separate CONTRACTOR employed by the OWNER, or by strikes, lockouts, fire, adverse weather conditions not reasonably anticipated, or acts of Nature, and if the CONTRACTOR, within 48 hours of the start of the occurrence, gives written notice to the OWNER of the cause of the potential delay and estimate of the possible time extension involved, and within 10 days after the cause of the delay has been remedied, the CONTRACTOR gives written notice to the OWNER of any actual time extension requested as a result of the aforementioned occurrence, then the Contract time may be extended by change order for such reasonable time as the ENGINEER determines. It is agreed that no claim shall be made or allowed for any damages, loss, or expense which may arise out of any delay caused by the above referenced acts or occurrences other than claims for the appropriate extension of time. No extension of time will be granted to the CONTRACTOR for delays occurring to parts of the work that have no measurable impact on the completion of the total work under this Contract. No extension of time will be considered for weather conditions reasonably anticipated for the area in which the work is being performed. Reasonably anticipated weather conditions will be based on official records of monthly Precipitation and other historical data. Adverse weather conditions, if determined to be of a severity that would impact Progress of the work, may be considered as cause for an extension of Contract completion time.

Delays in delivery of equipment or material purchased by the CONTRACTOR or his SUBCONTRACTORS, including OWNER-selected equipment shall not be considered as a just cause for delay, unless the OWNER determines that for good cause the delay is beyond the control of the CONTRACTOR. The CONTRACTOR shall be fully responsible for the timely ordering, scheduling, complete the work is the per-diem rate, as stipulated in the Proposal. The said amount is hereby agreed upon as a reasonable estimate of the costs, which may be accrued by the OWNER after the expiration of the time of completion. It is expressly under- stood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against the CONTRACTOR. The OWNER shall have the right to deduct such damages from any amount due, or that may become due the CONTRACTOR, or the amount of such damages shall be due and collectible from the CONTRACTOR or Surety.

59. DIFFERING SITE CONDITIONS

The CONTRACTOR shall promptly, and before the conditions are disturbed, give a written notice to the OWNER and ENGINEER of:

A. subsurface or latent physical conditions at the site which differ materially from those indicated in this contract,

B. unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The ENGINEER will investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performing any part of the work under this Contract, whether or not changed as a result of the conditions, and equitable adjustment shall be made under this Article and the Contract modified in writing accordingly.

No request by the CONTRACTOR for an equitable adjustment to the Contract under this Article will be allowed, unless the CONTRACTOR has given the written notice required; Provided that the time prescribed above for giving written notice may be extended by the OWNER.

No request by the CONTRACTOR for an equitable adjustment to the Contract for differing site conditions will be allowed if made after final payment under this Contract.

60. LIQUIDATED DAMAGES

Should the CONTRACTOR fail to complete the work, or any part thereof, in the time agreed upon in the Contract or within such extra time as may have been allowed for delays by extensions granted as Provided in the Contract, the CONTRACTOR shall reimburse the OWNER for the additional expense and damage for each calendar day, Sundays and legal holidays included, that the Contract remains uncompleted after the Contract completion date. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per-diem rate, as stipulated in the Proposal. The said amount is hereby agreed upon as a reasonable estimate of the costs which may be accrued by the OWNER after the expiration of the time of completion. It is expressly under- stood and agreed that this amount is not to be considered in the nature of a

penalty, but as liquidated damages which have accrued against the CONTRACTOR. The OWNER shall have the right to deduct such damages from any amount due, or that may become due the CONTRACTOR, or the amount of such damages shall be due and collectible from the CONTRACTOR or Surety.

61. OTHER CONTRACTS

The OWNER reserves the right to let other Contracts in connection with the work. The CONTRACTOR shall afford other CONTRACTORs reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

If any part of the work under this Contract depends for Proper execution or results upon the work of any other CONTRACTOR, utility service company or OWNER, the CONTRACTOR shall inspect and Promptly report to the ENGINEER in writing any patent or apparent defects to deficiencies in such work that render it unsuitable for such Proper execution and results. The CONTRACTOR's failure to so report shall constitute and acceptance of the work by others as being fit and Proper for integration with work under this Contract, except for latent or non apparent defects and deficiencies in the work.

62. USE OF PREMISES

The CONTRACTOR shall confine his equipment, the storage of materials and the operation of his workers to limits shown on the Drawings or indicated by law, ordinances, permits, or directions of the ENGINEER, and shall not unreasonably encumber the Premises with his materials. The CONTRACTOR shall provide, at his own expense, the necessary rights-of-way and access to the work, which may be required outside the limits of the OWNER's Property and shall furnish the ENGINEER copies of permits and agreements for use of the Property outside that provided by the OWNER.

The CONTRACTOR shall not load nor permit any part of the structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the work or adjacent Property to stresses or Pressures that will endanger it.

63. SUBSTANTIAL COMPLETION DATE

The ENGINEER may issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees, and to establish the date that the OWNER will assume the responsibility for the cost of operating such equipment. Said notice shall not be considered as final acceptance of any portion of the work or relieve the CONTRACTOR from completing the remaining work within the specified time and in full compliance with the Contract Documents. See SUBSTANTIAL COMPLETION under DEFINITIONS of these General Conditions.

64. PERFORMANCE TESTING

Operating equipment and systems shall be performance tested in the Presence of the ENGINEER to demonstrate compliance with the specified requirements. Performance testing shall be conducted under the specified design operating conditions or under such simulated operating conditions as recommended or approved by the ENGINEER. Schedule such testing with the ENGINEER at least one week in advance of the planned date for testing.

65. OWNER'S USE OF PORTIONS OF THE WORK

Following issuance of the written notice of Substantial Completion, the OWNER may initiate operation of the facility. Such use shall not be considered as final acceptance of any portion of the work, nor shall such use be considered as cause for an extension of the Contract completion time, unless authorized by a Change Order issued by the OWNER.

66. CUTTING AND PATCHING

The CONTRACTOR shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together Properly and fit it to receive or be received by work of other CONTRACTORs shown upon or reasonably implied by the Drawings.

67. CLEANING UP

The CONTRACTOR shall, at all times, keep Property on which work is in Progress and the adjacent Property free from accumulations of waste material or rubbish caused by employees or by the work. Upon completion of the construction, the CONTRACTOR shall remove all temporary structures, rubbish, and waste materials resulting from his operations.

PAYMENT

68. PAYMENT FOR CHANGE ORDERS

The OWNER's request for quotations on alterations to the work shall not be considered authorization to proceed with the work expediting, delivery, and installation of all equipment and materials. Within a reasonable period after the CONTRACTOR submits to the OWNER a written request for an extension of time, the ENGINEER will Present his written opinion to the OWNER as to whether an extension of time is justified, and, if so, his recommendation as to the number of

days for time extension. The OWNER will make the final decision on all requests for extension of time.

Prior to the issuance of a formal Change Order, nor shall such request justify any delay in existing work. Quotations for alterations to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and profit. OWNER may require detailed cost data in order to substantiate the reasonableness of the proposed costs.

Any compensation paid in conjunction with the terms of a Change Order shall comprise total compensation due the CONTRACTOR for the work or alteration defined in the Change Order. By signing the Change Order, the CONTRACTOR acknowledges that the stipulated compensation includes payment for the work or alteration plus all payment for the interruption of schedules, extended overhead, delay, or any other impact claim or ripple effect, and by such signing specifically waives any reservation or claim for additional compensation in respect to the subject Change Order.

At the OWNER's option, payment or credit for any alterations covered by a Change Order shall be determined by one or a combination of the methods set forth in A, B, or C below, as applicable:

A. UNIT PRICES

Those unit Prices stipulated in the Proposal shall be utilized where they are applicable. In the event the Change Order results in a change in the original quantity that is materially and significantly different from the original bid quantity, a new unit Price shall be negotiated upon demand of either party. Unit Prices for new items included in the Change Order shall be negotiated and mutually agreed upon.

B. LUMP SUM

A total lump sum for the work negotiated and mutually acceptable to the CONTRACTOR and the OWNER. Lump sum quotations for modifications to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and Profit, all calculated as specified under "C" below.

C. COST REIMBURSEMENT WORK

The term "cost reimbursement" shall be understood to mean that payment for the work will be made on a time and expense basis, that is, on an accounting of the CONTRACTOR's forces, materials, equipment, and other items of cost as required and used to do the work.

If the method of payment cannot be agreed upon Prior to the beginning of the work, and the OWNER directs by written Change Order that the work be done on a cost reimbursement basis, then the CONTRACTOR shall furnish labor, and furnish and install equipment and materials necessary to complete the work in a satisfactory manner and within a reasonable period of time. For the work performed, payment will be made for the documented actual cost of the following:

1. Labor including foremen for those hours they are assigned and participating in the cost reimbursement work (actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements, labor insurance, and labor taxes as established by law). No other fixed labor burdens will be considered, unless approved in writing by the OWNER.
2. Material delivered and used on the designated work, including sales tax, if paid by the CONTRACTOR or his SUBCONTRACTOR.
3. Rental or equivalent rental cost of equipment, including necessary transportation for items having a value in excess of $100. Rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Rental and transportation allowances shall not exceed the current rental rates prevailing in the locality. The rentals allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, and renewals, and no further allowances will be made for those items, unless specific agreement to that effect is made.
4. Additional bond, as required and approved by the OWNER.
5. Additional insurance (other than labor insurance) as required and approved by the OWNER.

In addition to items 1 through 5 above, an added fixed fee for general overhead and Profit shall be negotiated and allowed for the CONTRACTOR (or approved SUBCONTRACTOR) actually executing the Cost Reimbursement work.

An additional fixed fee shall be negotiated and allowed the CONTRACTOR for the administrative handling of portions of the work that are executed by an approved SUBCONTRACTOR. No additional fixed fee will be allowed for the administrative handling of work executed by a SUBCONTRACTOR of a SUBCONTRACTOR, unless by written permission from the OWNER.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, Profit, and any other general expense. The CONTRACTOR's records shall make clear distinction between the direct costs of work paid for on a cost reimbursement basis and the costs of other work. The

CONTRACTOR shall furnish the ENGINEER report sheets in duplicate of each day's cost reimbursement work no later than the working day following the performance of said work. The daily report sheets shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the CONTRACTOR, SUBCONTRACTOR or other forces. The daily report sheets shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated.

Material charges shall be substantiated by valid copies of vendors' invoices. Such invoices shall be submitted with the daily report sheets, or, if not available, they shall be submitted with subsequent daily report sheets. Said daily report sheets shall be signed by the CONTRACTOR or his authorized agent.

The OWNER reserves the right to furnish such materials and equipment as he deems expedient and the CONTRACTOR shall have no claim for profit or added fees on the cost of such materials and equipment. To receive partial payments and final payment for cost reimbursement work, the CONTRACTOR shall submit to the ENGINEER, detailed and complete documented verification of the CONTRACTOR's and any of his SUBCONTRACTORS' actual costs involved in the cost reimbursement work. Such costs shall be submitted within 30 days after said work has been performed.

69. PARTIAL PAYMENTS

A. GENERAL

Nothing in this Article shall be construed to affect the right, hereby reserved, to reject the whole or any part of the aforesaid work, should such work be later found not to comply with the Provisions of the Contract Documents. All estimated quantities of work for which partial payments have been made are subject to review and correction on the final estimate. Payment by the OWNER and acceptance by the CONTRACTOR of partial payments based on periodic estimates of quantities of work performed shall not, in any way, constitute acceptance of the estimated quantities used as a basis for computing the amounts of the partial payments.

B. ESTIMATE

At least 30 days before each Progress payment falls due, as specified in the Supplementary Conditions, the CONTRACTOR shall submit to the ENGINEER a detailed estimate of the amount earned during the Preceding month for the separate portions of the work, and request payment. As used in this Article, the words "amount earned" means the value, on the date of the estimate for partial payment, of the work completed in accordance with the Contract Documents, and the value of approved materials delivered to the Project site suitable stored and Protected Prior to incorporation into the work.

ENGINEER will, within 7 days after receipt of each request for payment, either indicate in writing a recommendation of payment and present the request to OWNER, or return the request to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may, within 7 days, make the necessary corrections and resubmit the request.

ENGINEER may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such an extent as may be necessary in ENGINEER's opinion to protect the OWNER from loss because:

1. The work is defective, or completed work has been damaged requiring correction or replacement;

2. Written claims have been made against OWNER or Liens have been filed in connection with the work;

3. The Contract Price has been reduced because of Change Orders;

4. OWNER has been required to correct defective work or complete the work in accordance with Article OWNER'S RIGHT TO DO WORK;

5. Of CONTRACTOR's unsatisfactory Prosecution of the work in accordance with the Contract Documents; or

6. CONTRACTOR's failure to make payment to SUBCONTRACTORS or for labor, materials, or equipment.

C. DEDUCTION FROM ESTIMATE

Unless modified in the Supplementary Conditions,
deductions from the estimate will be as described below:

1. The OWNER will deduct from the estimate, and retain as part security, 10 percent of the amount earned for work satisfactorily completed. A deduction and retainage of 10 percent will be made on the estimated amount earned for approved items of material delivered to and properly stored at the jobsite but not incorporated into the work. When the work is 50 percent complete, the OWNER may

reduce the retainage to 5 percent of the dollar value of all work satisfactorily completed to date provided the CONTRACTOR is making satisfactory progress and there is no specific cause for a greater retainage. The OWNER may reinstate the retainage up to 10 percent if the OWNER determines, at his discretion, that the CONTRACTOR is not making satisfactory progress or where there is other specific cause for such withholding.

D. QUALIFICATION FOR PARTIAL PAYMENT FOR MATERIALS DELIVERED

Unless modified in the Supplementary Conditions, qualification for partial payment for materials delivered but not yet incorporated into the work shall be as described below:

1. Materials, as used herein, shall be considered to be those items which are fabricated and manufactured material and equipment. No consideration shall be given to individual purchases of less than $200 for any one item.

2. To receive partial payment for materials delivered to the site, but not incorporated in the work, it shall be necessary for the CONTRACTOR to include a list of such materials on the Partial Payment Request. At his sole discretion, the ENGINEER may approve items for which partial payment is to be made. Partial payment shall be based on the CONTRACTOR's actual cost for the materials as evidenced by invoices from the supplier. Proper storage and Protection shall be provided by the CONTRACTOR, and as approved by the ENGINEER. Final payment shall be made only for materials actually incorporated in the work and, upon acceptance of the work, all materials remaining for which advance payments had been made shall revert to the CONTRACTOR, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the work.

3. CONTRACTOR warrants and guarantees that title to all work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests, and encumbrances.

4. If requested by the ENGINEER, the CONTRACTOR shall provide, with subsequent pay requests, invoices receipted by the supplier showing payment in full has been made.

E. PAYMENT

After deducting the retainage and the amount of all previous partial payments made to the CONTRACTOR from the amount earned, the amount due will be made payable to the CONTRACTOR. Recommendations for payment received by the OWNER less than 9 days Prior to the scheduled day for payment will not be Processed or paid until the following month.

70. CLAIMS FOR EXTRA WORK

In any case where the CONTRACTOR deems additional time or compensation will become due him under this Contract for circumstances other than those defined in Article DELAYS AND EXTENSION OF TIME, the CONTRACTOR shall notify the ENGINEER, in writing, of his intention to make claim for such time or compensation before he begins the work on which he bases the claim, in order that such matters may be settled, if possible, or other appropriate action taken. The notice of claim shall be in duplicate, in writing, and shall state the circumstances and the reasons for the claim, but need not state the amount. If such notification is not given or if the ENGINEER is not afforded proper facilities by the CONTRACTOR for keeping strict account of actual cost, then the CONTRACTOR hereby agrees to waive the claim for such additional time or compensation. Such notice by the CONTRACTOR, and fact that the ENGINEER has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim.

No extension of time will be granted to the CONTRACTOR for delays resulting from extra work that have no measurable impact on the completion of the total work under this Contract. Claims for additional time or compensation shall be made in itemized detail and submitted, in writing, to the OWNER and ENGINEER within 10 days following completion of that portion of the work for which the CONTRACTOR bases his claim. Failure to make the claim for additional compensation in the manner and within the time specified above shall constitute waiver of that claim. In case the claim is found to be just, it shall be allowed and paid for as provided in Article PAYMENT FOR CHANGE ORDERS.

71. RELEASE OF LIENS OR CLAIMS

The CONTRACTOR shall indemnify and hold harmless the OWNER from all claims for labor and materials furnished under this Contract. Prior to the final payment, the CONTRACTOR shall furnish to the OWNER, as part of his final payment request, a certification that all of the CONTRACTOR's obligations on the project have been satisfied and that all monetary claims and indebtedness have been paid. The CONTRACTOR shall furnish complete and legal effective releases or waivers, satisfactory to the OWNER, of all liens arising out of or filed in connection with the work.

72. FINAL PAYMENT

Upon completion of all the work under this Contract, the CONTRACTOR shall notify the ENGINEER, in writing, that he has completed his part of the Contract and shall request final payment. Upon receipt of such notice the ENGINEER will inspect and, if acceptable, submit to the OWNER his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the CONTRACTOR. Upon approval of this final estimate by the OWNER and compliance by the CONTRACTOR with Provisions in Article **RELEASE OF LIENS OR CLAIMS,** and other Provisions as may be applicable, the OWNER shall pay to the CONTRACTOR all monies due him under the Provisions of these Contract Documents.

73. NO WAIVER OF RIGHTS

Neither the inspection by the OWNER, through the ENGINEER or any of his employees, nor any order by the OWNER for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the OWNER or ENGINEER, nor any extension of time, nor any possession taken by the OWNER or its employees, shall operate as a waiver of any Provision of this Contract, or any power herein reserved to the OWNER, or any right to damages herein Provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach. Acceptance or final payment shall not be final and conclusive with regards to latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the OWNER's rights under the warranty.

74. ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

The acceptance by the CONTRACTOR of the final payment shall release the OWNER and the ENGINEER, as representatives of the OWNER, from all claims and all liability to the CONTRACTOR for all things done or furnished in connection with the work, and every act of the OWNER and others relating to or arising out of the work except claims Previously made in writing and still unsettled. No payment, however, final or otherwise, shall operate to release the CONTRACTOR or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds and warranties, as herein provided.

SUPPLEMENTARY CONDITIONS

The General Conditions are hereby revised as follows:

ARTICLE 9 "ENGINEER"

Delete Article "ENGINEER" in its entirety and substitute the following:

The person or organization identified as such in the Contract Documents. The Term "ENGINEER" means ARCHITECT or his authorized representative.

ARTICLE 32 "THE CONTRACTOR AND HIS EMPLOYEES"

Add the following:

A. ASSIGNMENT OF CONTRACT

Assignment of any part or the whole of this Contract shall be subject to review and approval of the City Commission.

ARTICLE 34 "INSURANCE & LIABILITY"

Delete Article 34 "INSURANCE & LIABILITY" (A), (B), (C), (D), and (E) in their entirety and substitute the following:

Contractor shall maintain limits no less than those stated below:

CONTRACTOR is to secure, pay for, and file with the City of Key West, prior to commencing any work under the Contract, all certificates for workers' compensation, public liability, and property damage liability insurance, and such other insurance coverages as may be required by specifications and addenda thereto, in at least the following minimum amounts with specification amounts to prevail if greater than minimum amounts indicated. Notwithstanding any other provision of the Contract, the CONTRACTOR shall provide the minimum limits of liability insurance coverage as follows:

Auto Liability	$1,000,000	Combined Single Limit
General Liability	$2,000,000	Aggregate (Per Project)
	$2,000,000	Products Aggregate
	$1,000,000	Any One Occurrence
	$1,000,000	Personal Injury
	$ 300,000	Fire Damage/Legal
Additional Umbrella Liability	$2,000,000	Occurrence / Aggregate

CONTRACTOR shall furnish an original Certificate of Insurance indicating, and such policy providing coverage to, City of Key West named as an additional insured on a PRIMARY and NON CONTRIBUTORY basis utilizing an ISO standard endorsement at least as broad as CG

2010 (11/85) or its equivalent, (combination of CG 20 10 07 04 and CG 20 37 07 04, providing coverage for completed operations, is acceptable) including a waiver of subrogation clause in favor of City of Key West on all policies. CONTRACTOR will maintain the General Liability and Umbrella Liability insurance coverages summarized above with coverage continuing in full force including the additional insured endorsement until at least 3 years beyond completion and delivery of the work contracted herein.

Notwithstanding any other provision of the Contract, the CONTRACTOR shall maintain complete workers' compensation coverage for each and every employee, principal, officer, representative, or agent of the CONTRACTOR who is performing any labor, services, or material under the Contract. Further, CONTRACTOR shall additionally maintain the following minimum limits of coverage:

Bodily Injury Each Accident	$1,000,000
Bodily Injury by Disease Each Employee	$1,000,000
Bodily Injury by Disease Policy Limit	$1,000,000

If the work is being done on or near a navigable waterway, CONTRACTOR's workers compensation policy shall be endorsed to provide USL&H Act (WC 00 01 06 A) and Jones Act (WC 00 02 01 A) coverage if specified by the City of Key West. CONTRACTOR shall provide the City of Key West with a Certificate of Insurance verifying compliance with the workman's compensation coverage as set forth herein and shall provide as often as required by the City of Key West such certification which shall also show the insurance company, policy number, effective and expiration date, and the limits of workman's compensation coverage under each policy.

CONTRACTOR's insurance policies shall be endorsed to give 30 days written notice to the City of Key West in the event of cancellation or material change, using form CG 02 24, or its equivalent.

Certificates of Insurance submitted to the City of Key West will not be accepted without copies of the endorsements being requested. This includes additional insured endorsements, cancellation/material change notice endorsements, and waivers of subrogation. Copies of USL&H Act and Jones Act endorsements will also be required if necessary. PLEASE ADVISE YOUR INSURANCE AGENT ACCORDINGLY.

CONTRACTOR will comply with any and all safety regulations required by any agency or regulatory body including but not limited to OSHA. CONTRACTOR will notify City of Key West immediately by telephone at (305) 809-3963 any accident or injury to anyone that occurs on the jobsite and is related to any of the work being performed by the CONTRACTOR.

Add the following Article:

G. SURETY AND INSURER QUALIFICATIONS

All bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or insurance company, having his

place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or Insurance Company shall be duly licensed and qualified to do business in the State of Florida. If requested, Contractor shall Provide Proof of Florida Licensure for all insurance companies. The City of Key West shall be named as Additional Insured on the insurance certificates.

ARTICLE 35 "INDEMNITY"

Delete Article 35 "INDEMNITY" in its entirety and substitute the following:

INDEMNITY

To the fullest extent permitted by law, the CONTRACTOR expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents, and employees (herein called the "indemnitees") from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR, its Subcontractors or persons employed or utilized by them in the performance of the Contract. Claims by indemnitees for indemnification shall be limited to the amount of CONTRACTOR's insurance or $1 million per occurrence, whichever is greater. The parties acknowledge that the amount of the indemnity required hereunder bears a reasonable commercial relationship to the Contract and it is part of the project specifications or the bid documents, if any.

The indemnification obligations under the Contract shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR under workers' compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the CONTRACTOR or of any third party to whom CONTRACTOR may subcontract a part or all of the Work. This indemnification shall continue beyond the date of completion of the work.

ARTICLE 38 "REQUIREMENTS OF STATE LAW FOR PUBLIC WORKS PROJECTS"

Add the following:

A. U.S. DEPARTMENT OF HOMELAND SECURITY'S E-VERIFY SYSTEM

The contractor and any subcontractors performing work or providing services shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the contractor and subcontractors during the contract term.

ARTICLE 39 "CODES, ORDINANCES, PERMITS, AND LICENSES"

Add the following:

A. FLORIDA ADMINISTRATIVE CODE

1. THE BIDDER MUST BE PREQUALIFIED BY THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND SUBMIT PROOF OF SUCH WITH THE BID.

2. The Contractor shall hold and provide with Bid current FDOT Qualifications to perform the work as defined in Florida Administrative Code Rule 14-22 CONTRACTORS - HIGHWAY - QUALIFICATION TO BID. Work classes identified are 7. Drainage, 10. Flexible Paving, 11. Grading, 12. Grassing, Seeding and Sodding, 28. Pavement Marking, 38. Roadway Signing, and 40. Other – concrete, curbs, gutters, and sidewalks. Classes listed are not to be construed in completeness of all requirements.

B. PERMIT FOR WORK WITHIN RIGHTS-OF-WAY

The Contractor shall obtain from the Florida Department of Transportation the necessary permits (FDOT Contractor Coordinator Agreement) for work within the rights-of-way. The Contractor shall abide by all regulations and conditions, including maintenance of traffic.

C. LICENSES

1. THE BIDDER MUST BE A LICENSED CONTRACTOR BY THE STATE OF FLORIDA AND SUBMIT PROOF OF SUCH WITH THE BID.

2. Within 10 days of Notice of Award, the successful Bidder must represent that he holds all applicable county, and municipal licenses and permits required to do business as a contractor with respect to the work described in the Contract Documents.

ARTICLE 42 "SAFETY"

Add the following sub article:

OCCUPATIONAL SAFETY AND HEALTH

The Contractor shall observe and comply with all applicable local, state, and federal occupational safety and health regulations during the prosecution of work under this Contract. In addition, full compliance by

the Contractor with the U.S. Department of Labor's Occupational Safety and Health Standards, as established in Public Law 91-596, will be required under the terms of this Contract.

ARTICLE 43 "PROTECTION OF WORK AND PROPERTY"

Add the following Article:

HISTORIC PRESERVATION

The Contractor shall comply with Florida's Archives and Historic Act (Florida Statutes, Chapter 267) and the regulations of the local historic preservation board as applicable and protect against the potential loss or destruction of significant historical or archaeological data, sites, and properties in connection with the project.

ARTICLE 57 “OWNERS RIGHT TO TRANSFER EMPLOYMENT”

Add the following Article:

TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION

A. Owner shall have the right to terminate this Contract without cause by written notice of Termination to the Contractor. In the event of such termination for convenience, the Contractor’s recovery against the Owner shall be limited to that portion of the Contract amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred. Contractor shall not be entitled to any other or further recovery against the Owner, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.

B. The Owner shall have the right to suspend all or any portions of the Work upon giving the Contractor prior written notice of such suspension. If all or any portion of the Work is so suspended, the Contractor shall be entitled to reasonable costs, expenses and time extension associated with the suspension.

ARTICLE 60 "LIQUIDATED DAMAGES"

Delete Article "LIQUIDATED DAMAGES" in its entirety and substitute the following:
LIQUIDATED DAMAGES

Should the Contractor fail to complete the work or any part thereof in the time agreed upon in the Contract Documents or within such extra time as may have been allowed for delays by extensions granted as provided in the Contract, the Contractor shall reimburse the Owner for the additional expense and damage for each calendar day, Sundays and legal holidays included, that project outlined in Contract Documents remains uncompleted after the completion date. Liquidated damages shall be assessed. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per diem rate as stipulated in the Proposal. The said amount is hereby agreed upon as a reasonable estimate of the costs which may be accrued by the Owner after the expiration of the time of completion. It is expressly understood and agreed that this amount is not to be considered in the nature of a penalty but as liquidated damages, which have accrued against the Contractor. The Owner shall have the right to deduct such damages from any amount due or that may become due the Contractor or the amount of such damages shall be due and collectible from the Contractor or Surety.

ARTICLE 69 "PARTIAL PAYMENTS"

Delete the first paragraph of Article "PARTIAL PAYMENTS" and substitute the following:

No more than once each month the Contractor shall submit to the Engineer a detailed estimate of the amount earned during the preceding month for the separate portions of the work and request payment. As used in this Article the words "amount earned" means the value, on the date of the estimate, for partial payment of the work completed in accordance with the Contract Documents and the value of approved materials delivered to the project site suitably stored and protected prior to incorporation into the work.

ARTICLE 69 "PARTIAL PAYMENTS"

Add the following:

Payment will be made by the Owner to the Contractor within 40 days receipt of the written recommendation of payment from the Engineer.

ARTICLE 69 “PARTIAL PAYMENTS”

Delete Subarticle C “DEDUCTION FROM ESTIMATE” in its entirety and substitute the following:

DEDUCTION FROM ESTIMATE

The OWNER will deduct from the estimate, and retain as part security, 10 percent of the amount earned for work satisfactorily completed. A deduction and retainage of 10 percent will be made on the estimated amount earned for approved items of material delivered to and properly stored at the jobsite but not incorporated into the work. When the work is 90 percent complete, the OWNER may reduce the retainage to 5 percent of the dollar value of all work satisfactorily completed to date provided the CONTRACTOR is making satisfactory progress and there is no specific cause for a greater retainage. The OWNER may reinstate the retainage up to 10 percent if the OWNER determines, at his discretion, that the CONTRACTOR is not making satisfactory progress or where there is other specific cause for such withholding.

ARTICLE 69 "PARTIAL PAYMENTS"

Delete Subarticle E "PAYMENT" in its entirety and substitute the following:

PAYMENT

After deducting the retainage and the amount of all previous partial payments made to the Contractor from the amount earned the amount due will be made payable to the Contractor. Recommendations for payment received by the Owner less than 40 days prior to the scheduled day for payment will not be processed or paid until the following month.

The OWNER will withhold progress payments until the Contractor has satisfied the above conditions.

ARTICLE 72 "FINAL PAYMENT"

Delete Article "FINAL PAYMENT" in its entirety and substitute the following:

FINAL PAYMENT

Upon completion of the work the Contractor shall notify the Engineer, in writing, that he has completed it and shall request final payment. The Contractor shall be responsible for keeping an accurate and detailed record of his actual construction. Upon completion of construction and before final acceptance and payment the Contractor shall furnish the Engineer as-built drawings of his construction. Upon receipt of a request for final payment and the as-built drawings the Engineer will inspect and, if acceptable, submit to the Owner his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the Contractor. Upon approval of this final estimate by the Owner and compliance by the Contractor with provisions in Article RELEASE OF LIENS OR CLAIMS, and other

provisions as may be applicable, the Owner shall pay to the Contractor all monies due him under the provisions of these Contract Documents.

ARTICLE 72 "FINAL PAYMENT"

Add the following;

A. Acceptance and Final Payment.

Whenever the Contractor has completely performed the work provided for under the Contract and the Engineer has performed a final inspection and made final acceptance and subject to the terms of the Engineer will prepare a final estimate showing the value of the work as soon as the Engineer makes the necessary measurements and computations. The Engineer will correct all prior estimates and payments in the final estimate and payment. The OWNER will pay the estimate, less any sums that the OWNER may have deducted or retained under the provisions of the Contract, as soon as practicable after final acceptance of the work, provided the Contractor has met the requirements of (1) through (6) below.

1 The Contractor has agreed in writing to accept the balance due or refund the overpayment, as determined by the OWNER, as full settlement of his account under the Contract and of all claims in connection therewith, or the Contractor, accepted the balance due or refunded the overpayment, as determined by the OWNER, with the stipulation that his acceptance of such payment or the making of such refund does 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 the OWNER. To receive payment based on a FINAL PAYMENT CERTIIFCATE, The Contractor further agrees, by submitting a FINAL PAYMENT CERTIFICATE that any pending or future arbitration claim or suit is limited to those particulars, including the itemized amounts, defined in the original FINAL PAYMENT CERTIFICATE , and that he will commence with any such arbitration claim or suit within 15 calendar days from and after the time of final PAYMENT of the work and that his failure to file a formal claim within this period constitutes his full acceptance of the Engineer's final estimate and payment. The overpayment refund check from the Contractor, if required, will be considered a part of any Acceptance Letter executed.

2 The Contractor has properly maintained the project, as specified hereinbefore.

3 The Contractor has furnished a sworn affidavit to the effect that the Contractor has paid all bills and no suits are pending (other than those exceptions listed, if any) in connection with work performed under 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 the OWNER in the performance of the Contract.

4 The surety on the contract bond consents, by completion of their portion of the affidavit and surety release subsequent to the Contractor's completion of his portion, to final payment to the Contractor and agrees that the making of such payment does not relieve the surety of any of its obligations under the bond.

5 The Contractor has furnished all required mill tests and analysis reports to the Engineer.

6 Final record drawings will be required before final payment can be made. Final record drawings shall be signed and sealed by a Professional Engineer and/or Surveyor currently licensed in the State of Florida. Record drawing file format shall be compatible with the City's GIS system.

The City is requesting that all supplied data collections, as builts, drawings, and files to be compatible with ESRI ArcGIS 10.3 Software as these are the solutions that work within its current computing environment. If there are any questions or concerns on whether your files meet this request, please contact the City GIS department at (305) 809-3721.

The current computing environment consists of:

- Microsoft SQL Server
- Windows 10/Server 2008
- ESRI GIS Platform

The City uses a number of software applications critical to its core operation and mission. The proposed mobile asset data collection solution will need to interface or integrate with these existing platforms.

- Arc Collector
- ArcGIS Online
- ArcMap 10.3

* * * * * *

Memorandum

U.S. Department
of Transportation
Federal Transit
Administration

Subject: NEPA Class of Action for Key West Bus Aprons on US 1 Date: July 5, 2012

From: Brian Smart

To: Project File

After a thorough site assessment and corridor tour along US 1 on June 4, 2012, it is my opinion that the appropriate NEPA class of action for the subject project is a listed CE in TEAM. The primary reasons for this determination are" 1) all work would be performed within existing FDOT right-of-way and 2) Key West DOT will comply with several local and state environmental protection laws to ensure that observed environmental resources that include but are not limited to mangrove wetlands, endangered species, and Section 4(f) properties (Florida Keys Overseas Heritage Trail) will not be adversely impacted.

The following will be documented in a letter addressed to Key West DOT:

1) Key West DOT should continue to coordinate with the appropriate local and state agencies for permitting and approval needs including but not limited to, stormwater, ground disturbance, etc;
2) The Florida Keys Overseas Heritage Trail should be avoided, even for temporary closures related to construction or construction-related staging, etc. If any construction work is done outside of the existing FDOT right-of-way and/or if impacts to the trail are needed once the exact location of the apron sites are selected, a higher NEPA class of action will be needed to demonstrate no permanent adverse impacts or use of trail property would result from the project;
3) Final site selections must be in areas with no impact to wetlands, mangroves, endangered species, Section 4(f) or Section 6(f) properties such as the Florida Keys Overseas Heritage Trail, and should have only very limited impacts on existing parking facilities.

General Decision Number: FL170190 01/06/2017 FL190

Superseded General Decision Number: FL20160190

State: Florida

Construction Type: Highway

County: Monroe County in Florida.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017

* ELEC0349-002 02/29/2016

	Rates	Fringes
ELECTRICIAN	$ 31.11	11.25

SUFL2013-008 08/19/2013

	Rates	Fringes
CARPENTER, Includes Form Work	$ 11.95	1.44
CEMENT MASON/CONCRETE FINISHER	$ 13.65	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine)	$ 12.70	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Spray Nozzleman)	$ 13.08	0.00
INSTALLER - GUARDRAIL	$ 14.44	0.00
IRONWORKER, REINFORCING	$ 13.85	0.00
LABORER (Traffic Control Specialist)	$ 12.17	1.71

LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 13.60	0.00
LABORER: Common or General	$ 11.96	2.90
LABORER: Flagger	$ 9.87	0.00
LABORER: Grade Checker	$ 11.45	0.00
LABORER: Landscape & Irrigation	$ 11.16	0.00
LABORER: Pipelayer	$ 12.68	0.00
OPERATOR: Backhoe/Excavator/Trackhoe	$ 17.20	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 11.60	0.00
OPERATOR: Broom/Sweeper	$ 10.89	0.00
OPERATOR: Bulldozer	$ 13.90	0.00
OPERATOR: Crane	$ 17.83	0.00
OPERATOR: Forklift	$ 11.03	0.00
OPERATOR: Grader/Blade	$ 16.08	0.00
OPERATOR: Loader	$ 16.59	0.00
OPERATOR: Mechanic	$ 13.55	0.00
OPERATOR: Milling Machine	$ 13.23	0.00
OPERATOR: Oiler	$ 12.61	0.00
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 18.17	0.00
OPERATOR: Roller	$ 13.28	2.39
OPERATOR: Screed	$ 15.79	0.00
OPERATOR: Trencher	$ 16.00	0.00
TRAFFIC SIGNALIZATION: Traffic Signal Installation	$ 19.03	0.00
TRUCK DRIVER: Dump Truck	$ 12.66	0.00
TRUCK DRIVER: Lowboy Truck	$ 14.94	0.00
TRUCK DRIVER: Water Truck	$ 13.05	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate

changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Florida Department of Environmental Protection

Division of Recreation and Parks

Florida Keys Overseas Heritage Trail, FDEP District 5

Damaged Bike Trail Repair Instructions

Last revised: 11/14/11

Repair when damage is made to asphalt surface only:

For a horizontal distance of 5' each side of the location where damage occurs, the contractor is required to saw-cut existing asphalt at a 90 degree (perpendicular) angle to the trail, mill existing asphalt down to the lime rock base, then install new SP9.5 asphalt, minimum 1.5" thick with maximum 2% cross slope and 5% run slope; The Contractor shall install 24" wide Bahia sod along both sides of the trail for the length of the repair made to prevent edge crumbling and erosion. Width of new asphalt shall match that of existing. (ex. – If trail was 8' wide prior to repair the Contractor shall reinstall new trail to 8' width).

No stabilization or compaction testing of base material is required in this circumstance as it is understood that the damage and necessary repair affects the condition of the asphalt trail surface only.

Repair when damage is made to asphalt surface, base, and/or sub-base:

For a horizontal distance of 5' each side of the location where damage occurs, the contractor is required to saw-cut existing asphalt at a 90 degree (perpendicular) angle to the trail, mill existing asphalt, remove base and sub-base material, install new 12" sub-base (LBR40) and 6" lime rock base, compact and test; The Contractor shall install new SP9.5 asphalt, minimum 1.5" thick with maximum 2% cross slope and 5% run slope; The Contractor shall install 24" wide Bahia sod along both sides of the trail for the length of the repair made to prevent edge crumbling and erosion. Width of new asphalt shall match that of existing. (ex. – If trail was 8' wide prior to repair the Contractor shall reinstall new trail to 8' width).

Required trail repair from base material up through finish asphalt as indicated above applies when the trail has been impacted beyond the surface and below grade by the Contractors work. Geo-technical bore/testing may be required at the discretion of the responsible trail manager or construction manager to verify compaction of base material.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION AGREEMENT

Construction Agreement No.: _____

THIS CONSTRUCTION AGREEMENT (this "Agreement") is made and entered into by and between the State of Florida, Department of Transportation, _____ (hereinafter referred to as the "DEPARTMENT") and _____ _____ (hereinafter referred to as the "Construction Coordinator").

WITNESSETH:

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

WHEREAS, pursuant to Section 339.282, Florida Statutes, the DEPARTMENT may contract with a property owner to finance, construct, and improve public transportation facilities; and

WHEREAS, the Construction Coordinator proposes to construct certain improvements to SR _____ Section _____ Subsection _____ from Begin MP _____ to End MP _____ Local Name _____ located in _____ County (hereinafter referred to as the "Project"); and

WHEREAS, the parties desire to enter into this Agreement for the Construction Coordinator to make improvements within the DEPARTMENT'S right of way to construct the Project, which will become the property of the Department upon acceptance of the work.

NOW, THEREFORE, based on the premises above, and in consideration of the mutual covenants contained herein, the parties hereby agree that the construction of the Project shall proceed in accordance with the following terms and conditions:

1. The recitals set forth above are specifically incorporated herein by reference and made a part of this Agreement. The Construction Coordinator is authorized, subject to the conditions set forth herein, to enter the DEPARTMENT'S right of way to perform all activities necessary for the construction of _____.

2. The Project shall be designed and constructed in accordance with the latest edition of the DEPARTMENT'S Standard Specifications for Road and Bridge Construction and DEPARTMENT Design Standards and Manual of Uniform Traffic Control Devices ("MUTCD"). The following guidelines shall apply as deemed appropriate by the DEPARTMENT: the DEPARTMENT Structures Design Manual, AASHTO Guide Specifications for the Design of Pedestrian Bridges, AASHTO LRFD Bridge Design Specifications, the DEPARTMENT Plans Preparation Manual ("PPM") Manual for Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (the "Florida Green Book") and the DEPARTMENT Traffic Engineering Manual. The Construction Coordinator will be required to submit any construction plans required by the DEPARTMENT for review and approval prior to any work being commenced. Should any changes to the plans be required during construction of the Project, the Construction Coordinator shall be required to notify the DEPARTMENT of the changes and receive approval from the DEPARTMENT prior to the changes being constructed. The Construction Coordinator shall maintain the area of the project at all times and coordinate any work needs of the DEPARTMENT during construction of the project.

3. The Construction Coordinator shall notify the DEPARTMENT a minimum of 48 hours before beginning construction within DEPARTMENT right of way. The Construction Coordinator shall notify the DEPARTMENT should construction be suspended for more than 5 working days.

4. Pursuant to Section 7-13 of the DEPARTMENT Standard Specifications, the Construction Coordinator is required to possess a general liability insurance naming the DEPARTMENT as an additional insured and insuring the DEPARTMENT and the Construction Coordinator against any and all claims for injury or damage to persons and property, and for the loss of life or property that may occur (directly or indirectly) by reason of the Construction Coordinator accessing DEPARTMENT right of way and the Construction Coordinator's performance of the Project. Such amount shall be carried in a minimum amount of not less than _____ and 00/100 Dollars ($ _____) for bodily injury or death to any one person or any number of persons in any one occurrence, and not less than _____ and 00/100 Dollars ($ _____) for property damage, or a combined coverage of not less than _____ and 00/100 Dollars ($ _____). Additionally, the Construction Coordinator shall supply the DEPARTMENT with a payment and performance bond in the amount of the estimated cost of construction, provided by a surety authorized to do business in the State of Florida, payable to the DEPARTMENT. The bond and insurance shall remain in effect until completion of construction and acceptance by the DEPARTMENT. Prior to commencement of the Project and on such other occasions as the DEPARTMENT may reasonably require, the Construction Coordinator shall provide the DEPARTMENT with certificates documenting that the required insurance coverage is in place and effective. If the Construction Coordinator is a governmental entity they will be exempt from these requirements.

5. The Construction Coordinator shall be responsible for monitoring construction operations and the maintenance of traffic ("MOT") throughout the course of the project in accordance with the latest edition of the DEPARTMENT Standard Specifications, section 102. The Construction Coordinator is responsible for the development of a MOT plan and making any changes to that plan as necessary. The MOT plan shall be in accordance with the latest version of the DEPARTMENT Design Standards, Index 600 series. Any MOT plan developed by the Construction Coordinator that deviates from the DEPARTMENT Design Standards must be signed and sealed by a professional engineer. MOT plans will require approval by the DEPARTMENT prior to implementation.

6. The Construction Coordinator shall be responsible for locating all existing utilities, both aerial and underground, and for ensuring that all utility locations be accurately documented on the construction plans. All utility conflicts shall be fully resolved directly with the applicable utility.

7. The Construction Coordinator will be responsible for obtaining all permits that may be required by other agencies or local governmental entities.

8. It is hereby agreed by the parties that this Agreement creates a permissive use only and all improvements resulting from this agreement shall become the property of the DEPARTMENT. Neither the granting of the permission to use the DEPARTMENT right of way nor the placing of facilities upon the DEPARTMENT property shall operate to create or vest any property right to or in the Construction Coordinator, except as may otherwise be provided in separate agreements. The Construction Coordinator shall not acquire any right, title, interest or estate in DEPARTMENT right of way, of any nature or kind whatsoever, by virtue of the execution, operation, effect, or performance of this Agreement including, but not limited to, the Construction Coordinator's use, occupancy or possession of DEPARTMENT right of way. The parties agree that this Agreement does not, and shall not be construed to, grant credit for any future transportation concurrency requirements pursuant to chapter 163, Florida Statutes.

9. The Construction Coordinator shall perform all required testing associated with the design and construction of the project. Testing results shall be made available to the DEPARTMENT upon request. The DEPARTMENT shall have the right to perform its own independent testing during the course of the Project.

10. The Construction Coordinator shall exercise the rights granted herein and shall otherwise perform this Agreement in a good and workmanlike manner, with reasonable care, in accordance with the terms and provisions of this Agreement and all applicable federal, state, local, administrative, regulatory, safety and environmental laws, codes, rules, regulations, policies, procedures, guidelines, standards and permits, as the same may be constituted and amended from time to time, including, but not limited to, those of the DEPARTMENT, applicable Water Management District, Florida Department of Environmental Protection, Environmental Protection Agency, the Army Corps of Engineers, the United States Coast Guard and local governmental entities.

11. If the DEPARTMENT determines a condition exists which threatens the public's safety, the DEPARTMENT may, at its discretion, cause construction operations to cease and immediately have any potential hazards removed from its right of way at the sole cost, expense, and effort of the Construction Coordinator. The Construction Coordinator shall bear all construction delay costs incurred by the DEPARTMENT.

12. All work and construction shall be completed within 365 days of the date of the last signature affixed to this agreement. If construction is not completed within this time, the DEPARTMENT may make a claim on the bond. The DEPARTMENT may terminate this Agreement at any time, with or without cause and without DEPARTMENT liability to the Construction Coordinator, by providing sixty (60) days prior written notice of termination to the Construction Coordinator.

13. The Construction Coordinator shall be responsible to maintain and restore all features that might require relocation within the DEPARTMENT right of way.

14. The Construction Coordinator will be responsible for clean up or restoration required to correct any environmental or health hazards that may result from construction operations.

15. Upon completion of construction, the Construction Coordinator will be required to submit to the DEPARTMENT final as-built plans and an engineering certification that construction was completed in accordance to the plans. Prior to the termination of this Agreement, the Construction Coordinator shall remove its presence, including, but not limited to, all of the Construction Coordinator's property, machinery, and equipment from DEPARTMENT right of way and shall restore those portions of DEPARTMENT right of way disturbed or otherwise altered by the Project to substantially the same condition that existed immediately prior to the commencement of the Project.

16. If the DEPARTMENT determines that the Project is not completed in accordance with the provisions of this Agreement, the DEPARTMENT shall deliver written notification of such to the Construction Coordinator. The Construction Coordinator shall have thirty (30) days from the date of receipt of the DEPARTMENT'S written notice, or such other time as the Construction Coordinator and the DEPARTMENT mutually agree to in writing, to complete the Project and provide the DEPARTMENT with written notice of the same (the "Notice of Completion"). If the Construction Coordinator fails to timely deliver the Notice of Completion, or if it is determined that the Project is not properly completed after receipt of the Notice of Completion, the DEPARTMENT, within its discretion may: 1) provide the Construction Coordinator with written authorization granting such additional time as the DEPARTMENT deems appropriate to correct the deficiency(ies); or 2) correct the deficiency(ies) at the Construction Coordinator's sole cost and expense, without DEPARTMENT liability to the Construction Coordinator for any resulting loss or damage to property, including, but not limited to, machinery and equipment. If the DEPARTMENT elects to correct the deficiency(ies), the DEPARTMENT shall provide the Construction Coordinator with an invoice for the costs incurred by the DEPARTMENT and the Construction Coordinator shall pay the invoice within thirty (30) days of the date of the invoice.

17. Nothing in this Agreement shall be deemed or otherwise interpreted as waiving the DEPARTMENT'S sovereign immunity protections, or as increasing the limits of liability as set forth in Section 768.28, Florida Statutes. The DEPARTMENT'S liability for breach of this Agreement is limited in amount and shall not exceed the limitations of liability for tort actions as set forth in Section 768.28(5), Florida Statutes.

18. All formal notices, proposed changes and determinations between the parties hereto and those required by this Agreement, including, but not limited to, changes to the notification addresses set forth below, shall be in writing and shall be sufficient if mailed by regular United States mail, postage prepaid, to the parties at the contact information listed below.

19. The Construction Coordinator shall not cause any liens or encumbrances to attach to any portion of DEPARTMENT right of way.

20. This Agreement shall be governed by the laws of the State of Florida in terms of interpretation and performance. Venue for any and all actions arising out of or in any way related to the interpretation, validity, performance or breach of this Agreement shall lie exclusively in a state court of appropriate jurisdiction in Leon County, Florida.

21. The Construction Coordinator may not assign, pledge or transfer any of the rights, duties and obligations provided in this Agreement without the prior written consent of the DEPARTMENT'S District Secretary or his/her designee. The DEPARTMENT has the sole discretion and authority to grant or deny proposed assignments, with or without cause. Nothing herein shall prevent the Construction Coordinator from delegating its duties hereunder, but such delegation shall not release the Construction Coordinator from its obligation to perform this Agreement.

22. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Nothing in this Agreement is intended to confer any rights, privileges, benefits, obligations or remedies upon any other person or entity except as expressly provided for herein.

23. This instrument, together with the attached exhibits and documents made part hereof by reference, contain the entire agreement of the parties and no representations or promises have been made except those that are specifically set out in this Agreement. All prior and contemporaneous conversations, negotiations, possible and alleged agreements and representations, covenants, and warranties with respect to the subject matter of this Agreement, and any part hereof, are waived, merged herein and superseded hereby.

24. By their signature below, the parties hereby acknowledge the receipt, adequacy and sufficiency of consideration provided in this Agreement and forever waive the right to object to or otherwise challenge the same.

25. The failure of either party to insist on one or more occasions on the strict performance or compliance with any term or provision of this Agreement shall not be deemed a waiver or relinquished in the future of the enforcement thereof, and it shall continue in full force and effect unless waived or relinquished in writing by the party seeking to enforce the same.

26. No term or provision of this Agreement shall be interpreted for or against any party because that party or that party's legal representative drafted the provision.

27. If any section, paragraph, clause or provision of this Agreement is adjudged by a court, agency or authority of competent jurisdiction to be invalid, illegal or otherwise unenforceable, all remaining parts of this Agreement shall remain in full force and effect and the parties shall be bound thereby so long as principle purposes of this Agreement remain enforceable.

28. A modification or waiver of any of the provisions of this Agreement shall be effective only if made in writing and executed with the same formality as this Agreement.

29. The Construction Coordinator agrees to promptly indemnify, defend, save and hold harmless the DEPARTMENT and all of its officers, agents and employees from and pay all demands, claims, judgments, liabilities, damages, fines, fees, taxes, assessments, penalties, costs, expenses, attorneys' fees and suits of any nature or kind whatsoever caused by, or arising out of or related to the performance or breach of this Agreement by the Construction Coordinator, including, without limitation, performance of the Project within the DEPARTMENT'S right of way. The term "liabilities" shall specifically include, without limitation, any act, action, neglect or omission by the Construction Coordinator, its officers, agents, employees or representatives in any way pertaining to this Agreement, whether direct or indirect, except that neither the Construction Coordinator nor any of its officers, agents, employees or representatives will be liable under this provision for damages arising out of injury or damages directly caused or resulting from the sole negligence, intentional or wrongful acts of the DEPARTMENT or any of its officers, agents or employees. The Construction Coordinator shall notify the DEPARTMENT in writing immediately upon becoming aware of such liabilities. The Construction Coordinator's inability to evaluate liability, or its evaluation of liability, shall not excuse performance of the provisions of this paragraph. The indemnities assumed by the Construction Coordinator shall survive termination of this Agreement. The insurance coverage and limits required in this Agreement may or may not be adequate to protect the DEPARTMENT and such insurance coverage shall not be deemed a limitation on the Construction Coordinator's liability under the indemnities granted to the DEPARTMENT in this Agreement.

30. Construction Coordinator:

(1) shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Construction Coordinator during the term of the contract; and

(2) shall expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

31. COMPLIANCE WITH LAWS

The Construction Coordinator shall allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the Construction Coordinator in conjunction with this Agreement. Specifically, if the Construction Coordinator is acting on behalf of a public agency the Construction Coordinator shall:

(1) Keep and maintain public records that ordinarily and necessarily would be required by the Department in order to perform the services being performed by the Construction Coordinator.

(2) Provide the public with access to public records on the same terms and conditions that the Department would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, 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.

(4) Meet all requirements for retaining public records and transfer, at no cost, to the Department all public records in possession of the Construction Coordinator upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the Department in a format that is compatible with the information technology systems of the Department. Failure by the Construction Coordinator to grant such public access shall be grounds for immediate unilateral cancellation of this Agreement by the Department. The Construction Coordinator shall promptly provide the Department with a copy of any request to inspect or copy public records in possession of the Construction Coordinator and shall promptly provide the Department a copy of the Construction Coordinator's response to each such request.

CONSTRUCTION COORDINATOR CONTACT INFORMATION

Name _____ Title _____
Office No. _____ Cell _____ Email _____

Name _____ Title _____
Office No. _____ Cell _____ Email _____

Mail Address _____

IN WITNESS WHEREOF, Construction Coordinator and the DEPARTMENT have executed this Agreement for the purposes herein expressed on the dates indicated below.

CONSTRUCTION COORDINATOR

By: _____ (Signature)

_____ (Print Name)

_____ (Title)

_____ (Date)

DEPARTMENT OF TRANSPORTATION

By: _____ (Signature)

_____ (Print Name)

_____ (Title)

_____ (Date)

Legal Review:

_____

INSPECTOR COPY

RECEIVED PERMITS OFFICE JUL 13 2016

RECEIVED BY: KS

JUL 06 2016

PERMITS OFFICE
MONROE COUNTY D6

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION AGREEMENT

850-040-89
MAINTENANCE
0GC – 07/13

Construction Agreement No.: 2016 - C - 692 - 1 DEPT. OF TRANSPORTATION MIAMI, FLORIDA

THIS CONSTRUCTION AGREEMENT (this "Agreement") is made and entered into by and between the State of Florida, Department of Transportation, 1000 N.W. 111 Avenue, Miami, Florida 33172 (hereinafter referred to as the "DEPARTMENT") and The City of Key West P.O Box 4109, Key West, FL 33041 (hereinafter referred to as the "Construction Coordinator").

WITNESSETH:

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

WHEREAS, pursuant to Section 339.282, Florida Statutes, the DEPARTMENT may contract with a property owner to finance, construct, and improve public transportation facilities; and

WHEREAS, the Construction Coordinator proposes to construct certain improvements to SR 5 Section 020-040 Subsection 000 from Begin MP 5.427 to End MP 1.294 Local Name LOWER KEYS / KEY WEST located in Monroe County (hereinafter referred to as the "Project"); and

WHEREAS, the parties desire to enter into this Agreement for the Construction Coordinator to make improvements within the DEPARTMENT'S right of way to construct the Project, which will become the property of the Department upon acceptance of the work.

NOW, THEREFORE, based on the premises above, and in consideration of the mutual covenants contained herein, the parties hereby agree that the construction of the Project shall proceed in accordance with the following terms and conditions:

1. The recitals set forth above are specifically incorporated herein by reference and made a part of this Agreement. The Construction Coordinator is authorized, subject to the conditions set forth herein, to enter the DEPARTMENT'S right of way to perform all activities necessary for the construction of **See attached exhibit A scope of services/special provisions.** SEE ATTACHMENT(S)

2. The Project shall be designed and constructed in accordance with the latest edition of the DEPARTMENT'S Standard Specifications for Road and Bridge Construction and DEPARTMENT Design Standards and Manual of Uniform Traffic Control Devices ("MUTCD"). The following guidelines shall apply as deemed appropriate by the DEPARTMENT: the DEPARTMENT Structures Design Manual, AASHTO Guide Specifications for the Design of Pedestrian Bridges, AASHTO LRFD Bridge Design Specifications, the DEPARTMENT Plans Preparation Manual ("PPM") Manual for Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (the "Florida Green Book") and the DEPARTMENT Traffic Engineering Manual. The Construction Coordinator will be required to submit any construction plans required by the DEPARTMENT for review and approval prior to any work being commenced. Should any changes to the plans be required during construction of the Project, the Construction Coordinator shall be required to notify the DEPARTMENT of the changes and receive approval from the DEPARTMENT prior to the changes being constructed. The Construction Coordinator shall maintain the area of the project at all times and coordinate any work needs of the DEPARTMENT during construction of the project.

3. The Construction Coordinator shall notify the DEPARTMENT a minimum of 48 hours before beginning construction within DEPARTMENT right of way. The Construction Coordinator shall notify the DEPARTMENT should construction be suspended for more than 5 working days.

4. Pursuant to Section 7-13 of the DEPARTMENT Standard Specifications, the Construction Coordinator is required to possess a general liability insurance naming the DEPARTMENT as an additional insured and insuring the DEPARTMENT and the Construction Coordinator against any and all claims for injury or damage to persons and property, and for the loss of life or property that may occur (directly or indirectly) by reason of the Construction Coordinator accessing DEPARTMENT right of way and the Construction Coordinator's performance of the Project. Such amount shall be carried in a minimum amount of not less than N/A EXEMPT and 00/100 Dollars ($ SEE ATTACHMENT(S)) for bodily injury or death to any one person or any number of persons in any one occurrence, and not less than _____ and 00/100 Dollars ($ _____) for property damage, or a combined coverage of not less than _____ and 00/100 Dollars ($ _____). Additionally, the Construction Coordinator shall supply the DEPARTMENT with a payment and performance bond in the amount of the estimated cost of construction, provided by a surety authorized to do business in the State of Florida, payable to the DEPARTMENT. The bond and insurance shall remain in effect until completion of construction and acceptance by the DEPARTMENT. Prior to commencement of the Project and on such other occasions as the DEPARTMENT may reasonably require, the Construction Coordinator shall provide the DEPARTMENT with certificates documenting that the required insurance coverage is in place and effective. If the Construction Coordinator is a governmental entity they will be exempt from these requirements.

5. The Construction Coordinator shall be responsible for monitoring construction operations and the maintenance of traffic ("MOT") throughout the course of the project in accordance with the latest edition of the DEPARTMENT Standard Specifications, section 102. The Construction Coordinator is responsible for the development of a MOT plan and making any changes to that plan as necessary. The MOT plan shall be in accordance with the latest version of the DEPARTMENT Design Standards, Index 600 series. Any MOT plan developed by the Construction Coordinator that deviates from the DEPARTMENT Design Standards must be signed and sealed by a professional engineer. MOT plans will require approval by the DEPARTMENT prior to implementation.

6. The Construction Coordinator shall be responsible for locating all existing utilities, both aerial and underground, and for ensuring that all utility locations be accurately documented on the construction plans. All utility conflicts shall be fully resolved directly with the applicable utility.

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7. The Construction Coordinator will be responsible for obtaining all permits that may be required by other agencies or local governmental entities.

8. It is hereby agreed by the parties that this Agreement creates a permissive use only and all improvements resulting from this agreement shall become the property of the DEPARTMENT. Neither the granting of the permission to use the DEPARTMENT right of way nor the placing of facilities upon the DEPARTMENT property shall operate to create or vest any property right to or in the Construction Coordinator, except as may otherwise be provided in separate agreements. The Construction Coordinator shall not acquire any right, title, interest or estate in DEPARTMENT right of way, of any nature or kind whatsoever, by virtue of the execution, operation, effect, or performance of this Agreement including, but not limited to, the Construction Coordinator's use, occupancy or possession of DEPARTMENT right of way. The parties agree that this Agreement does not, and shall not be construed to, grant credit for any future transportation concurrency requirements pursuant to chapter 163, Florida Statutes.

9. The Construction Coordinator shall perform all required testing associated with the design and construction of the project. Testing results shall be made available to the DEPARTMENT upon request. The DEPARTMENT shall have the right to perform its own independent testing during the course of the Project.

10. The Construction Coordinator shall exercise the rights granted herein and shall otherwise perform this Agreement in a good and workmanlike manner, with reasonable care, in accordance with the terms and provisions of this Agreement and all applicable federal, state, local, administrative, regulatory, safety and environmental laws, codes, rules, regulations, policies, procedures, guidelines, standards and permits, as the same may be constituted and amended from time to time, including, but not limited to, those of the DEPARTMENT, applicable Water Management District, Florida Department of Environmental Protection, Environmental Protection Agency, the Army Corps of Engineers, the United States Coast Guard and local governmental entities.

11. If the DEPARTMENT determines a condition exists which threatens the public's safety, the DEPARTMENT may, at its discretion, cause construction operations to cease and immediately have any potential hazards removed from its right of way at the sole cost, expense, and effort of the Construction Coordinator. The Construction Coordinator shall bear all construction delay costs incurred by the DEPARTMENT.

12. All work and construction shall be completed within 365 days of the date of the last signature affixed to this agreement. If construction is not completed within this time, the DEPARTMENT may make a claim on the bond. The DEPARTMENT may terminate this Agreement at any time, with or without cause and without DEPARTMENT liability to the Construction Coordinator, by providing sixty (60) days prior written notice of termination to the Construction Coordinator.

13. The Construction Coordinator shall be responsible to maintain and restore all features that might require relocation within the DEPARTMENT right of way.

14. The Construction Coordinator will be responsible for clean up or restoration required to correct any environmental or health hazards that may result from construction operations.

15. Upon completion of construction, the Construction Coordinator will be required to submit to the DEPARTMENT final as-built plans and an engineering certification that construction was completed in accordance to the plans. Prior to the termination of this Agreement, the Construction Coordinator shall remove its presence, including, but not limited to, all of the Construction Coordinator's property, machinery, and equipment from DEPARTMENT right of way and shall restore those portions of DEPARTMENT right of way disturbed or otherwise altered by the Project to substantially the same condition that existed immediately prior to the commencement of the Project.

16. If the DEPARTMENT determines that the Project is not completed in accordance with the provisions of this Agreement, the DEPARTMENT shall deliver written notification of such to the Construction Coordinator. The Construction Coordinator shall have thirty (30) days from the date of receipt of the DEPARTMENT'S written notice, or such other time as the Construction Coordinator and the DEPARTMENT mutually agree to in writing, to complete the Project and provide the DEPARTMENT with written notice of the same (the "Notice of Completion"). If the Construction Coordinator fails to timely deliver the Notice of Completion, or if it is determined that the Project is not properly completed after receipt of the Notice of Completion, the DEPARTMENT, within its discretion may: 1) provide the Construction Coordinator with written authorization granting such additional time as the DEPARTMENT deems appropriate to correct the deficiency(ies); or 2) correct the deficiency(ies) at the Construction Coordinator's sole cost and expense, without DEPARTMENT liability to the Construction Coordinator for any resulting loss or damage to property, including, but not limited to, machinery and equipment. If the DEPARTMENT elects to correct the deficiency(ies), the DEPARTMENT shall provide the Construction Coordinator with an invoice for the costs incurred by the DEPARTMENT and the Construction Coordinator shall pay the invoice within thirty (30) days of the date of the invoice.

17. Nothing in this Agreement shall be deemed or otherwise interpreted as waiving the DEPARTMENT'S sovereign immunity protections, or as increasing the limits of liability as set forth in Section 768.28, Florida Statutes. The DEPARTMENT'S liability for breach of this Agreement is limited in amount and shall not exceed the limitations of liability for tort actions as set forth in Section 768.28(5), Florida Statutes.

18. All formal notices, proposed changes and determinations between the parties hereto and those required by this Agreement, including, but not limited to, changes to the notification addresses set forth below, shall be in writing and shall be sufficient if mailed by regular United States mail, postage prepaid, to the parties at the contact information listed below.

19. The Construction Coordinator shall not cause any liens or encumbrances to attach to any portion of DEPARTMENT right of way.

20. This Agreement shall be governed by the laws of the State of Florida in terms of interpretation and performance. Venue for any and all actions arising out of or in any way related to the interpretation, validity, performance or breach of this Agreement shall lie exclusively in a state court of appropriate jurisdiction in Leon County, Florida.

21. The Construction Coordinator may not assign, pledge or transfer any of the rights, duties and obligations provided in this Agreement without the prior written consent of the DEPARTMENT'S District Secretary or his/her designee. The DEPARTMENT has the sole discretion and authority to grant or deny proposed assignments, with or without cause. Nothing herein shall prevent the Construction Coordinator from delegating its duties hereunder, but such delegation shall not release the Construction Coordinator from its obligation to perform this Agreement.

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22. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns. Nothing in this Agreement is intended to confer any rights, privileges, benefits, obligations or remedies upon any other person or entity except as expressly provided for herein.

23. This instrument, together with the attached exhibits and documents made part hereof by reference, contain the entire agreement of the parties and no representations or promises have been made except those that are specifically set out in this Agreement. All prior and contemporaneous conversations, negotiations, possible and alleged agreements and representations, covenants, and warranties with respect to the subject matter of this Agreement, and any part hereof, are waived, merged herein and superseded hereby.

24. By their signature below, the parties hereby acknowledge the receipt, adequacy and sufficiency of consideration provided in this Agreement and forever waive the right to object to or otherwise challenge the same.

25. The failure of either party to insist on one or more occasions on the strict performance or compliance with any term or provision of this Agreement shall not be deemed a waiver or relinquished in the future of the enforcement thereof, and it shall continue in full force and effect unless waived or relinquished in writing by the party seeking to enforce the same.

26. No term or provision of this Agreement shall be interpreted for or against any party because that party or that party's legal representative drafted the provision.

27. If any section, paragraph, clause or provision of this Agreement is adjudged by a court, agency or authority of competent jurisdiction to be invalid, illegal or otherwise unenforceable, all remaining parts of this Agreement shall remain in full force and effect and the parties shall be bound thereby so long as principle purposes of this Agreement remain enforceable.

28. A modification or waiver of any of the provisions of this Agreement shall be effective only if made in writing and executed with the same formality as this Agreement.

29. The Construction Coordinator agrees to promptly indemnify, defend, save and hold harmless the DEPARTMENT and all of its officers, agents and employees from and pay all demands, claims, judgments, liabilities, damages, fines, fees, taxes, assessments, penalties, costs, expenses, attorneys' fees and suits of any nature or kind whatsoever caused by, or arising out of or related to the performance or breach of this Agreement by the Construction Coordinator, including, without limitation, performance of the Project within the DEPARTMENT'S right of way. The term "liabilities" shall specifically include, without limitation, any act, action, neglect or omission by the Construction Coordinator, its officers, agents, employees or representatives in any way pertaining to this Agreement, whether direct or indirect, except that neither the Construction Coordinator nor any of its officers, agents, employees or representatives will be liable under this provision for damages arising out of injury or damages directly caused or resulting from the sole negligence, intentional or wrongful acts of the DEPARTMENT or any of its officers, agents or employees. The Construction Coordinator shall notify the DEPARTMENT in writing immediately upon becoming aware of such liabilities. The Construction Coordinator's inability to evaluate liability, or its evaluation of liability, shall not excuse performance of the provisions of this paragraph. The indemnities assumed by the Construction Coordinator shall survive termination of this Agreement. The insurance coverage and limits required in this Agreement may or may not be adequate to protect the DEPARTMENT and such insurance coverage shall not be deemed a limitation on the Construction Coordinator's liability under the indemnities granted to the DEPARTMENT in this Agreement.

30. Construction Coordinator:

(1) shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Construction Coordinator during the term of the contract; and

(2) shall expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

31. COMPLIANCE WITH LAWS

The Construction Coordinator shall allow public access to all documents, papers, letters, or other material subject to the provisions of Chapter 119, Florida Statutes, and made or received by the Construction Coordinator in conjunction with this Agreement. Specifically, if the Construction Coordinator is acting on behalf of a public agency the Construction Coordinator shall:

(1) Keep and maintain public records that ordinarily and necessarily would be required by the Department in order to perform the services being performed by the Construction Coordinator.

(2) Provide the public with access to public records on the same terms and conditions that the Department would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, 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.

(4) Meet all requirements for retaining public records and transfer, at no cost, to the Department all public records in possession of the Construction Coordinator upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the Department in a format that is compatible with the information technology systems of the Department. Failure by the Construction Coordinator to grant such public access shall be grounds for immediate unilateral cancellation of this Agreement by the Department. The Construction Coordinator shall promptly provide the Department with a copy of any request to inspect or copy public records in possession of the Construction Coordinator and shall promptly provide the Department a copy of the Construction Coordinator's response to each such request.

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CONSTRUCTION COORDINATOR CONTACT INFORMATION

Name Devon Steckly Title Senior Project Manager
Office No. 305.809.3747 Cell 305.942.5806 Email dsteckly@cityofkeywest-fl.gov

Name Rogelio Hernandez Title Transit Manager
Office No. 305.809.3915 Cell 305.879.1506 Email rhernandez@cityofkeywest-fl.gov

Mail Address c/o City of Key West P.O. Box 1409 Key West Florida, 33041

IN WITNESS WHEREOF, Construction Coordinator and the DEPARTMENT have executed this Agreement for the purposes herein expressed on the dates indicated below.

CONSTRUCTION COORDINATOR

By: JK Scholl (Signature)

James K. Scholl (Print Name)

City Manager (Title)

28 JUNE 2016 (Date)

DEPARTMENT OF TRANSPORTATION

By: (Signature)

Ali Al-Said (Print Name)

DPE (Title)

07-18-16 (Date)

Legal Review:

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Special Provisions for Construction Agreement # 2016-C-692-01
Lower Keys Bus Stop Aprons (Big Coppitt Key to Marathon, FL)
Section Number 90020 (MP 5.427) – 90040 (MP 1.294), State Road 5 (U.S. 1)

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1. **Permitee shall provide Contractor's Liability Insurance in the amounts as per section 7-13 of FDOT Standard Specification, at the time of pre-construction meeting.**

2. **Coordination of a pre-construction meeting (referencing the Construction Agreement number) is** required at a minimum of fourteen (14) working days prior to beginning work within the Florida Department of Transportation (FDOT) Right-of-Way with Donald Downing by telephone at (305) 619-48822 or by e-mail at ddowning@ica-onramp.com and notify the above-mentioned representative at least forty-eight (48) hours prior to commencement of work.

3. All lane closure requests should be submitted by the Construction Coordinator at the Lane Closure Information System website (http://fdotlcis.com/) at a minimum of fourteen (14) working days prior to beginning work within the FDOT Right-of-Way.

Lane Closure Requests will not be reviewed until a copy of the pre-construction meeting agenda and minutes have been provided to Kristina Selstrom at kselstrom@ica-onramp.com or at ICA at 3100 Overseas Highway in Marathon, FL (33050).

4. All requests to extend an Approved Lane Closure should also be submitted at the above website a minimum of fourteen (14) working days prior to the End Date or Expiration of the Approved Lane Closure Permit.

5. **Please be advised that the Department currently has several projects under design or construction in the area. Please coordinate with the corresponding Project Managers: FM 4291401, Mark Croft at (305) 216-4959; FM 4364241 Kirk Hoosac at (305) 470-5384; FM 4333811 Pablo Orozco at (305) 470-5370 and FM 4291874 Hong Benitez at (305) 470-5471.**

6. **It is mandatory to contact the Department Representative after completion of the job for final inspection and to provide the Department with As-Builts and any relevant certifications at the time of final inspection.**

7. Working hours within the State Right-of-Way shall be from 9:00 AM to 4:00 PM or as directed by the Department Representative prior to commencement of work. There shall be no lane closure on weekends, Holidays, and Special Events without prior written approval.

8. The Department reserves the right to access any portion of the State Right-of-Way. Department Representative(s) reserve the right to increase or decrease the approved time frames as necessary.

9. This permit does not grant approval for the installation, modification, or construction of any other application by the Construction Coordinator within the FDOT Right-of-Way. Submittal to and approval by the Department, prior to beginning any work in conjunction with additional proposed applications including driveway connection(s), is mandatory.

10. The Permittee will ensure that no unsafe area(s) for pedestrians will remain during any time of the construction. Pedestrian control for closure of roads and sidewalks shall be in accordance with the *FDOT Design Standards (current edition), Index Series 600.*

11. **A traffic diversion may be required in two lane sections with bidirectional lanes. Use FDOT Standard Index 621 as a guide.**

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Special Provisions for Construction Agreement # 2016-C-692-01
Lower Keys Bus Stop Aprons (Big Coppitt Key to Marathon, FL)
Section Number 90020 (MP 5.427) – 90040 (MP 1.294), State Road 5 (U.S. 1)

12. The Construction Coordinator shall provide and maintain safe temporary access to all adjacent properties at all times and shall maintain accommodations for intersecting and crossing traffic within the construction zone. No road or street crossing shall be blocked or unduly restricted as determined by the Department. All accesses shall remain open at all times.

13. A copy of the Approved Construction Agreement, Approved Plans and Approved Lane Closure(s) will be kept on the job site at all times during the construction of the approved sign(s).

14. Validity of this Construction Agreement is contingent upon Construction Coordinator obtaining necessary approval/permits from all other agencies involved.

15. The Construction Coordinator is cautioned that utilities may be located within the construction area.

16. **In the event that the roadway pavement is damaged, it shall be restored in full lane to match or exceed existent conditions and in accordance with the *FDOT Design Standards* (current edition) and the *FDOT Standard Specifications for Road and Bridge Construction* (current edition).**

17. **Damaged sidewalks and/or curb and gutters shall be restored with full flags four (4) inches thick, using expansion material and tactile for handicap ramps according to *FDOT Design Standards (current edition), Indexes 304, 310 and Standard Specifications for Road and Bridge Construction (current edition), Section 522.***

18. No contamination issues are expected given the scope of the project; however, the following protocol should be implemented. The Permittee should assure that any actions carried out are in accordance with all environmental regulatory requirements. The following protocol should be implemented:

b) In the event that soil or groundwater contamination is identified during excavation, the applicant is to contact the Assistant Contamination Impact Coordinator at 305-470-5138 and inform her of the field assessment results.

c) Provide the Department deliverables submitted to environmental regulatory agencies. The reports are to be submitted to the District Contamination Impact coordinator at 1000 NW 111 Ave, Miami, Florida 33172-5800 (Room #6109).

19. Any restored or replaced landscape shall be maintained by the Construction Coordinator, at no additional cost to the Department, for a minimum of one (1) year from the time of final acceptance by the Department Representative, District Landscape Architect or his Designee.

20. **All portions of the State Right-of-Way disturbed in the construction of the proposed work shall be restored to FDOT Specifications.**

21. **Final restoration shall be coordinated with the Department Representative. All portions of the State Right-of-Way shall be restored within thirty (30) days upon completion of the approved installation.**

22. **Contractor will ensure appropriate erosion control devices are in place before work begins and are used throughout the project.**

23. Beginning any work within the FDOT Right-of-Way associated with this Construction Agreement constitutes acceptance of these conditions.

2016 C 692 1

Florida Department of Environmental Protection

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

June 15, 2016

Michael D. Gonzalez, P.E.
Project Manager
SRS Engineering, Inc.
5001 SW 74 Court, Suite 201
Miami, Florida 33155

Re: City of Key West Lower Keys Bus Apron Project

Michael,

Please be advised that the final plans for the Bus Stops adjacent to the FKOHT Trail have been reviewed and are approved as submitted. Thank you for the opportunity to participate in the review process and please keep me advised of the upcoming project schedule.

Sincerely,

Jim Post
Project Manager
FDEP Bureau of Design and Construction
3 LaCroix Court
Key Largo, FL 33037

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Regulation Division

June 30, 2016

Michael Gonzalez,
SRS Engineering, Inc.
5001 S.W. 74th Court, Suite 201
Miami, FL 33155

Subject: Exemption for Lower Keys Bus Aprons
Application No. 160609-14
Exemption No. 44-00625-P
Monroe County

Dear Mr. Gonzalez:

The South Florida Water Management District (District) has reviewed the information submitted for construction of 16 bus stop aprons between Marathon and Big Coppitt Key to provide paved pull-off platforms for safer bus passenger boarding and de-boarding, in accordance with Exhibits 2 and 3. The District has determined that the proposed project is exempt from the requirement to obtain an Environmental Resource Permit, pursuant to rule 62-330.051, Florida Administrative Code.

Activities which qualify for this exemption must be conducted and operated using appropriate best management practices and in a manner which does not cause or contribute to a water quality violation pursuant to Chapters 62-302 or 62-4, Florida Administrative Code.

This letter does not relieve you from the responsibility of obtaining other permits (federal, state or local) which may be required for the project.

The determination that this project qualifies as an exempt activity may be revoked if the installation is substantially modified, if the basis for the exemption is determined to be materially incorrect, or if the installation results in violation of state water quality standards. Any changes made in the construction plans or location of the project may necessitate a permit from the District. Therefore, you are advised to contact the District before beginning the project and before beginning any work in wetlands which is not specifically described in the submittal.

The notice of determination that the project qualifies as an exempt activity constitutes final agency action by the District unless a petition for administrative hearing is filed. Upon timely filing of a petition, this Notice will not be effective until further Order of the District.

Should you have any questions concerning this matter, please contact Eduardo J. López, for surface water engineering issues, at phone no. (561) 682-6959, or via email at elopez@sfwmd.gov and Caroline Hanes, for wetland and environmental issues, at phone no. (561) 682-6856, or via email at chanes@sfwmd.gov.

Sincerely,

Ricardo A. Valera, P.E.
Bureau Chief, Environmental Resource Bureau
South Florida Water Management District

RAV/cdh

Enclosure (Exhibits 1-3)

cc: Norman Whitaker, City of Key West Transportation Director
Devon Steckly, City of Key West, Engineering Project Manager
Patricia Ivey, FDOT Project Administrator

Addresses:

nwhitaker@cityofkeywest-fl.gov

Patty.Ivey@dot.state.fl.us

dsteckly@cityofkeywest-fl.gov

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

Table of Contents for Exemption Exhibits

Application No. 160609-14

Lower Keys Bus Stop Aprons

SFWMD GeoSpatial Services

Exhibit No: 1	Exhibit Created On: 2016-06-13	MONROE COUNTY, FL

REGULATION DIVISION

Project Name: LOWER KEYS BUS STOP APRONS

Application

Application Number: 160609-14

0 225,000 450,000 Feet

N

sfwmd.gov

Created by Regulation GIS Section

South Florida Water Management District

APPLICATION #160609-14
Exemption NO. 44-00625-P
Lower Keys Bus Stop Aprons

EXHIBIT NUMBER 2
Construction Plans

INCORPORATED BY REFERENCE

PART 1: GENERAL INFORMATION

A. CONTACT		
Name: Last: GONZALEZ	First: MICHAEL	Middle: D.
Title: PROJECT MANAGER	Company:	160609-14
Address: 5001 SW 74TH CT., SUITE 201		
City: MIAMI	State: FL	Zip: 33155
Home Telephone: N/A	Work Telephone: 305-662-8887	
Cell Phone:	Fax:	
E-mail Address: MICHAEL@SRS-CORP.COM		
Preferred correspondence method: ■ email ☐ US Mail		

B. Location of proposed activities:	Tax Parcel Identification Number:	
Address: MULTIPLE BUS APRONS FROM MARATHON TO BIG COPPITT KEY, SEE PLANS		
City:	County: MONROE	Zip:
Latitude (DMS) ° ' "	Longitude (DMS) ° ' "	
C. Date activity is proposed:	To Commence: 9/16	To be Completed: 12/16

D. Proposed Activities (be specific; use additional sheets as necessary)

Describe in general terms the proposed project, system, or activity (including materials to be used and construction methods:

MINOR ROADWAY SAFETY CONSTRUCTION OF 16 BUS APRONS TO PROVIDE A PAVED AREA FOR KWDOT BUSES TO PULL OFF OF US 1 FOR BUS PASSENGER BOARDING/ALIGHTING. APRON CONSTRUCTION WILL BE COMPOSED OF SUB-BASE, LIMEROCK BASE & ASPHALT. SEE ATTACHED PLANS FOR MORE DETAILS.

RECEIVED
JUN 09 2016
WATER RESOURCE REGULATION

SCANNED 06/10/2016 10:47 AM

E. Is any work proposed in wetlands or other surface waters? ☐ Yes ☒ No. If yes, please specifically describe, with specific references as to how the limits of the proposed work will comply with the terms and conditions of the above exemption:

- NO IMPACTS TO WETLANDS ARE PROPOSED.

160609-14

F. Please provide a description of all sediment and erosion controls to be used during the completion of this activity (such as use of turbidity and erosion controls):

SILT FENCE BARRIERS ARE BEING PROPOSED IMMEDIATELY ADJACENT TO CONSTRUCTION ACTIVITIES AS WELL AS INLET PROTECTION FOR AREAS IN CLOSE PROXIMITY TO A DRAINAGE SYSTEM.

RECEIVED
JUN 09 2016
WATER RESOURCE REGULATION

PART 2: ACKNOWLEDGEMENT

I understand this notice is being provided solely to seek verification of qualification to use this exemption(s), and that I am NOT requesting the Agency to process this notice as an application for a permit.

I hereby understand that the Agency will undertake reasonable efforts to determine, within 30 days of receipt of this notice, whether the activity contained in this notice qualifies for the above exemption. If it does not, the Agency will provide its determination that the requested activity does not meet the terms and conditions of the exemption, at which time I may provide a new notice with additional or modified information, or I may submit an application for an Environmental Resource Permit. In either case, denial of qualification to use an exemption will be made without prejudice, pending submittal of clarification of any errors or omissions contained in this notice or other information that demonstrates compliance with the terms and conditions of the exemption.

MICHAEL D. GONZALEZ	M. Gonzalez	5/2/16
Typed/Printed Name	Signature	Date

RECEIVED 12/19/2016 12:47 PM

City of Key West
DEPARTMENT OF TRANSPORTATION
DOT, DBE PROGRAM – 49 CFR PART 26

POLICY STATEMENT

Section 26.1, 26.23
Objectives / Policy Statement

The City of Key West Department of Transportation (KWDoT) is establishing a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26.

The KWDoT has received Federal financial assistance from the Department of Transportation, and as a condition of receiving this assistance; KWDoT signs an assurance that it will comply with 49 CFR Part 26, hereafter.

It is the policy of KWDoT to ensure that DBEs are defined in part 26, have an equal opportunity to receive and participate in DOT–assisted contracts. It is also our policy:

1. To ensure nondiscrimination in the award and administration of DOT – assisted contracts;
2. To create a level playing filed on which DBEs can compete fairly for DOT-assisted contracts;
3. To ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. To ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
5. To help remove barriers to the participation of DBEs in DOT assisted contracts;
6. To assist the development of firms that can compete successfully in the market place outside the DBE Program.

The City of Key West Transit Director for the Department of Transportation, Mr. Norman Whitaker, has been delegated as the DBE Liaison Officer for transportation. In that capacity Mr. Whitaker is responsible for implementing all aspects of the DBE program.

Implementation of the DBE program is accorded the same priority as compliance with all other legal obligations incurred by the City of Key West in its financial assistance agreements with the Department of Transportation. City of Key West has disseminated this policy statement to the City Commission, City Manager and Mayor of the City of Key West, public officials, and all of the components of our organization.

And, we will distribute this statement to DBE and non-DBE business communities that perform work for us on DOT-assisted contracts. Distribution is handled by internal and external mailings.

Norman Whitaker, Transit Director — Date: 6/5/2014

Bogdan Vitas, City Manager — Date: 6/4/14

SUBPART A – GENERAL REQUIREMENTS

Section 26.1 Objectives
The objectives are found in the policy statement on the first page of this program.

Section 26.3 Applicability
The KWDoT is the recipient of federal airport funds authorized by 49 U.S.C. 47101, et seq. The KWDoT is the recipient of federal highway funds authorized under Titles I and V of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Pub. L. 102-240, 105 Stat., 1914, Titles I, III, and V of the Transportation Equity Act for the 21st Century (TEA-21, Pub. L. 105-178, 112 Stat. 107. The KWDoT is the recipient of federal transit funds authorized by Titles I, III, V, and VI of ISTEA, Pub. L. 102-240 or by Federal transit laws in Title 49, U.S. Code, or Titles I, II, and V of the Teas-21, Pub. L. 105-178.

Section 26.5 Definitions
The KWDoT will adopt the definitions contained in Section 26.5 for this program.

Section 26.7 Non-discrimination Requirements
The KWDoT will never exclude any person from participation in, deny any person the benefits of, or otherwise discriminate against anyone in connection with the award and performance of any contract covered by 49 CFR, Part 26 on the basis of race, color, sex, or national origin. In administering its DBE program, the KWDoT will not, directly or through contractual or other arrangements, use criteria or methods of administration that have the effect of defeating or substantially impairing accomplishment of the objectives of the DBE program with respect to individuals of a particular race, color, sex, or national origin.

Section 26.11 Record Keeping Requirements
Reporting to DOT: 26.11(b)
We will report DBE participation to DOT as follows: We will report DBE participation on a semi-annual basis, using DOT Form 4630. These reports will reflect payments actually made to DBEs on DOT-assisted contracts.

Bidders List: 26.11(c)
The KWDoT will create a bidders list, consisting of information about all DBE and non-DBE firms that bid or quote on DOT-assisted contracts. The purpose of this requirement is to allow use of the bidder's list approach to calculating overall goals.

The bidder list will include the name, address, DBE / non-DBE status, age, and annual gross receipts of firms. We will collect this information in the following ways: A contract clause will require bidders to report name / address, and possible other information, of all firms who quote to them on subcontracts; a recipient-directed survey of a statistically sound sample of firms on a name/address list to get age/size information; a notice in all solicitations, and otherwise widely disseminated, request to firms quoting on subcontracts to report information directly to the recipient, and etc. This will be compiled with our reports submitted to DOT.

Section 26.13 Federal Financial Assistance Agreement
KWDoT has signed the following assurances, applicable to all DOT-assisted contracts and their administration:

Assurance: 26.13(a)

KWDoT shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT assisted contract or in the administration of its DBE Program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT assisted contracts. The recipient's DBE Program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the KWDoT of its failure to carry out its approved program, the Department may impose sanction as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.). This language will appear in financial assistance agreements with sub-recipients, verbatim, as stated in 26.13(a).

Contract Assurance: 26.13b

We will ensure that the following clause is placed in every DOT- assisted contract and subcontract: The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate. Language will be verbatim as stated in 26.13(b).

SUBPART B - ADMINISTRATIVE REQUIREMENTS

Section 26.21 DBE Program Updates

Since KWDoT will receive a grant of $250,000 or more in FTA capital and/or operating assistance in a federal fiscal year, we will continue to carry out this program until all funds from DOT financial assistance have been expended. We will provide to DOT updates representing significant changes in the program.

Section 26.23 Policy Statement

The Policy Statement is elaborated on the first page of this program.

Section 26.25 DBE Liaison Officer (DBELO)

We have designated Mr. Norman Whitaker, Transit Director, as our DBE Liaison Officer.

Norman Whitaker, P.O. Box 1078, Key West, Florida 33040
(305) 809-3910, nwhitaker@cityofkeywest-fl.gov

In that capacity, the DBELO is responsible for implementing all aspects of the DBE program and ensuring that the KWDoT complies with all provision of 49 CFR Part 26. The DBELO has direct, independent access to the City Manager or his designee concerning DBE program matters. An organizational chart displaying the DBELO's position in the organization is found in Attachment "A" to this program. The DBELO is responsible for developing, implementing and monitoring the DBE program, in coordination with other appropriate officials. The DBELO has a staff of four (4) to assist in the administration of the program. The duties and responsibilities include the following:

1. Gathers and reports statistical data and other information as required by DOT.
2. Reviews third party contracts and purchase requisitions for compliance with this program.

3. Works with all departments to set overall annual goals.
4. Ensures that bid notices and requests for proposals are available to DBEs in a timely manner.
5. Identifies contracts and procurements so that DBE goals are included in solicitations (both race- neutral methods and contract specific goals attainment and identifies ways to improve progress.
6. Analyzes KWDoT's progress toward attainment and identifies ways to improve progress.
7. Participates in pre-bid meetings.
8. Advises the CEO\governing body on DBE matters and achievement.
9. Chairs the DBE Advisory Committee.
10. Provides DBEs with information and assistance in preparing bids, obtaining bonding and insurance.
11. Plans and participates in DBE training seminars.
12. Certifies DBEs according to the criteria set by DOT and acts as liaison to the Uniform Certification Process in the State of Florida.
13. Provides outreach to DBEs and community organizations to advise them of opportunities.
14. Maintain KWDoT's updated directory on certified DBEs, who include the Manager's, Customer Service Specialist, Project & Grants Manager, Transit Supervisor, Fleet Technical Advisor and the Fleet Administrator (the last two of whom are at 50% split for time assignment of job duties).

Section 26.27 DBE Financial Institutions

It is the policy of the KWDoT to investigate and re-evaluate every three (3) years to the full extent of services offered by financial institutions owned and controlled by socially and economically disadvantaged individuals in the community, to make reasonable efforts to use these institutions, and to encourage prime contractors on DOT-assisted contract to make use of these institutions. Notification of solicitations of r financial services will be sent to the institutions identified in the United States Department of Treasury, Financial Management Services Division, Minority Bank Deposit Program listings of financial institutions in the State of Florida. The availability of such institutions can be obtained at the U.S Department of Treasury website http://www.fms.treas.gov/mbdp/current_list.html.

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Section 26.29 Prompt Payment Mechanisms

Prompt Payment: 26.29 (a)

The KWDoT will include the following clause in each DOT-assisted prime contract: The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than thirty (30) days from the receipt of each payment the prime contract receives from KWDoT. Any delay or postponement of payment from the above reference time frame may occur only for good cause following written approval of KWDoT. This applies to both DBE and non-DBE subcontracts.

Retainage: 26.29 (b)

The prime contractor agrees further to return retainage payments to each subcontractor within thirty (30) days after the subcontractors work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of KWDoT. This clause applies to both DBE and non-DBE subcontracts.

In all cases, prompt payment will be required or further legal or remedial action will be initiated on behalf of the subcontractor as is permitted by law.

Monitoring and Enforcement: 26.29 (d)

KWDoT has established the following mechanism to monitor and enforce prompt payment and return of retainage.

- If KWDoT determines that the prime contractor has failed to comply with the prompt payment provisions set forth above, KWDoT shall give written notice to the contractor and the contract surety that if the default is not remedied within a specific period of time (at least 30 days), the contract may be suspended.
- The prime contractor will not be reimbursed for work performed by subcontractors unless and until the prime contractor ensures that the subcontractors are promptly paid for the work they have already performed.

Section 26.31 Directory

KWDoT shall maintain a directory identifying firms eligible to participate as DBEs. The directory lists the firm's name, address, phone number, date of the most recent certification, and the type of work the firm has been certified to perform as a DBE. We will update and revise the Directory annually, and make the directory available during regular business hours each July 1st, at the KWDoT office building, 5701 College Road, Key West, Florida, 33040, or by a written request to P.O. Box 1078, Key West, Florida 33040, wherein a mail out will be replied to from KWDoT. KWDoT does intend to participate in the Uniform Directory efforts once our program is active.

Section 26.33 Overconcentration

KWDoT has not identified any areas of over-concentration. KWDoT will continue to monitor DBE participation and usage every three (3) years, and will take appropriate action to address any identified over-concentration.

Section 26.35 Business Development Programs

KWDoT has not established a business development, but is willing to look into establishing a program to assist with informing businesses who are not informed about DBE opportunities on how they may become a DBE business enterprise. We hope to re-evaluate this program once every third year.

Business opportunities are limited in the Florida Keys due to the unique demographics of the linear chain making up our land area; this may present business an opportunity to respond where they otherwise would not have an advantage in a disadvantaged marketplace.

If KWT establishes a program, it will be guided by the applicable Appendix of 49 CFR Part 26 and approved by FTA before being implemented.

Section 26.37 Monitoring and Enforcement Mechanisms

KWDoT will take the following monitoring and enforcement mechanisms to ensure compliance with 49 CFR Part 26.

1. We will bring to the attention of the Department of Transportation any false, fraudulent, or dishonest conduct in connection with the program, so that DOT can take the steps (e.g.,
referral to the Department of Justice for criminal prosecution, referral to the DOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules) provided in 26.109.
2. We will consider similar action under out own legal authorities, including responsibility determinations in future contracts. All Local, State and Federal regulations, provisions, and

contract remedies available in the events of non-compliance with regard to DBE regulations by a participant in our procurement activities will be applicable with assistance by the city attorney staff.
3. We will also provide a monitoring and enforcement mechanism to verify that work committed to DBEs at contract award is actually performed by the DBEs. This will be accomplished by on site visits and records of same.
4. We will keep a running tally of actual payments to DBE firms for work committed to them at the time of contract award.

Section 26.39 – Small Business Participation

The KWDoT has incorporated the following non-discriminatory element to its DBE program, in order to facilitate competition on DOT-assisted projects by Small Business concerns (both DBE and non-DBE small business).

City of Key West will require that Primate Contractors identify Small Business sub-contractors on large procurements / projects. In addition, KWDoT shall accomplish its DBE contract goals by including small businesses in the following:

The following efforts will be engaged to assure Small Businesses are included in Prime Contracts for goods and services:

- Unnecessary and unjustified bundling of contract requirements that may prevent small business participation in procurements as prime contracts or subcontracts
- Require bidders on large contract to identify and / or provide specific subcontracts appropriate for small business participation
- Evaluate City purchasing ordinance with regard to small business and local vendor preference clause
- Contract Unbundling / Assessment Utilize State of Florida UCP data base for small businesses when making purchases within their field or products/ services direct.
- Require bidders to submit business profile information as part of the bid packets – identifying business, employees, demographics, etc.

KWDoT will implement the Small Business program within nine (9) months of FTA approval of its DBE program and will verify business size through the DBE directory of Florida's UCP, maintained by FDOT.

As opportunities for growth become available, within transits authority, KWDoT will encourage and allow Small Business to partake in any bids for future construction projects or other services required to expand its transit agency.

SUBPART C – GOALS, GOOD FAITH EFFORTS, AND COUNTING

Section 26.43 Set-asides or Quotas

The KWDoT does not use quotas in any way in the administration of this DBE program.

Section 26.45 Overall Goals

In accordance with Section 26.45, KWDoT will submit its triennial overall DBE goal to FTA on August 1 of the year specified by FTA. KWDoT will also request use of project-specific DBE goals as appropriate, and / or will establish project-specific DBE goals as directed by FTA.

KWDoT has established an overall goal for the three (3) year period of 1% for DBE participation in USDOT assisted contracts. The goal is based upon the availability of ready, willing, and able DBEs relative to all businesses ready, willing, and available to participate on USDOT assisted

contracts. The goal reflects the level of DBE participation anticipated, absent the effects of discrimination.

Methodology used to Calculate Overall Goals

In accordance with Section 26.45, KWDoT has employed a two-step process to calculate its DBE program goal. Step 1 involves determining a "base figure" for the relative availability of DBEs in the area. The base figure is a percentage calculated as the ratio of available and potentially eligible DBEs to all available firms. Step 2 involves examining available evidence to determine what adjustment, if any, was needed to the base figure in order to arrive at the overall goal that reflects as accurately as possible the DBE participation KWDoT would expect in the absence of discrimination. A description of the methodology to calculate the overall goal and the goal calculations is found in Attachment D.

Step 1:
Determine the base figure for the relative availability of DBEs. The base figure for the relative availability of DBE's was calculated as follows:

The number of firms ready, willing and able is taken from data source or demonstrable evidence used to derive the numerator as is available from the purchasing records of the City of Key West and will be updated whenever available and with Unified Certification Program data when we achieve that level of program certification. Data source or demonstrable evidence used to derive the denominator is noted herein.

Step 2:
After calculating a base figure of the relative availability of DBEs, evidence was examined to determine what adjustment was needed to the base figure in order to arrive at the overall goal. In order to reflect as accurately as possible, the DBE participation we would expect in the absence of discrimination we have adjusted our base figure by the three (3) year period.

The data used to determine the adjustment to the base figure was historic data based on the business composition of vendors dealing in our area and immediately adjoining areas of the Florida Keys who are willing to transport or mobilize for projects scheduled in our area. From this data, we have adjusted our base figure to reflect the three (3) year goal period required.

Public Participation

We publish our goals on the City's website as well as via block advertisement in the local newspaper, the Key West Citizen. We then report any comments received from these advertisement efforts, summarizing comments and responses to said comments as part of our final program submission to FTA, Region IV office in Atlanta, GA.

In accordance with Section 26.45(f) the KWDoT will submit its overall goal to DOT on August 1 every three (3) years, for their review and comments.

Before establishing the overall goal every three years, KWDoT will consult with the purchasing and finance departments of the City, and any other applicable identified agents who may assist us in obtaining information concerning the availability of disadvantaged and non-disadvantaged businesses, the effects of discrimination on opportunities for DBEs, and KWDoT's efforts to establish a level playing field for the participation of DBEs.

Following this consultation, we publish a notice of the proposed three (3) year overall goal, informing the public that the proposed goals and its rationale are available for inspection during normal business hours at the KWDoT principal work office site for thirty (30) days following the date of the notice. This also invites the public input and public comment of the calculation process

as well as the three (3) year goal – within a timely forty-five (45) day period prior to August 1 of every third (3rd) year beginning 2011, as the first fiscal year of implementation following the rule change, as well as the published notice in the local newspaper – The Key West Citizen.

Our overall three (3) year goal submission to DOT will include a summary of information and comments received during this public participation process; along with our responses. We will implement annual fiscal goals established consecutively with our annual fiscal year period, or October 1, through September 30, of each year, unless we have received other instructions from DOT. All dollar values used in calculating the three (3) year OVERALL goal is cumulative and not based on individual projects.

Section 26.47 Goal Setting and Accountability

If the awards and commitments shown on KWDoT's "Uniform Report of Awards or Commitments and Payments" at the end of any fiscal year are less than the overall goal applicable to that fiscal year, KWDoT will:

1) Analyze in detail the reason for the difference between the overall goal and the actual awards/commitments
2) Establish specific steps and milestones to correct the problems identified in the analysis
3) Submit the plan to FTA within 90 days of the end of the affected fiscal year
4) Key West will conduct the analysis and keep it on file should FTA request it

Section 26.49 Transit Vehicle Manufacturers Goals

KWDoT will require each transit vehicle manufacturer, as a condition of being authorized to bid or propose on FTA-assisted transit vehicle procurements, to certify that it has complied with the requirements of this section. Alternatively, KWDoT may, at its discretion and with FTA approval, establish project-specific goals for DBE participation in the procurement of transit vehicles in lieu of the TVM complying with this element of the program.

Section 26.51 Meeting Overall Goals/Contract Goals

KWDoT will meet the maximum feasible portion of its three (3) year OVERALL goal by using race-neutral means of facilitating DBE participation. KWDoT uses the following race-neutral means to increase DBE participation:

1) KWDoT will notify appropriate Florida-based MBE's and DBE's of upcoming contracts available for bidding via industry specific media advertisements which covers beyond local advertisers market.
2) KWDoT will provide prime contractors a list of all DBE's for their use in order to assist with sub-contracting opportunities.

We estimate that in meeting our overall goal for the next 3 year period – the following will apply:

DBE 3 Year (2015 through 2017) calculation is 1%, of which we will obtain 0.5% from race-neutral participation and 0.5% from race-conscious measures.

This calculation is based on the number of available contractors to be awarded work via USDOT assisted contracts which we anticipate over the next three (3) year fiscal budget cycles of 2015 through 2017; with consideration given also to registered MBE's and small business.

In order to ensure that our DBE program will be narrowly tailored to overcome the effects of discrimination, if we use contract goals we will adjust the estimated breakout of race-neutral and race-conscious participation as needed to reflect actual DBE participation (see 26.51 (f)) and we will track and report race-neutral and race conscious participation separately. For reporting purposes, race-neutral DBE participation includes, but is not necessarily limited to the following:

DBE participation through a prime contract a DBE obtains through customary competitive procurement procedures; DBE participation through a subcontract on a prime contract that does not carry DBE goal; DBE participation on a prime contract exceeding a contract goal; and DBE participation through a subcontract from a prime contractor that did not consider a firm's DBE status in making the award.

We will maintain data separately on DBE achievements in those contracts with and without contract goals, respectively.

Section 26.53 Good Faith Effort Procedures

Demonstration of good faith efforts [26.53(a) & (c)] the obligation of the bidder/offeror is to make good faith efforts. The bidder/offeror can demonstrate that it has done so either by meeting the contract goal or documenting good faith efforts. Examples of good faith efforts are found in Appendix A to Part 26.

The Department Manager / Director will be responsible for determining whether a bidder/offeror who has not met the contract goal has documented sufficient good faith efforts to be regarded as responsible.

KWDoT will ensure that all information is complete and accurate and adequately documents the bidder/offer's good faith efforts before KWDoT commits to the performance of the contract by the bidder/offeror.

Each solicitation for which a contract goal has been established will require the bidders/offerors to submit the following information:

- The names and addresses of DBE firms that will participate in the contract;
- A description of the work that each DBE will perform;
- The dollar amount of the participation of each DBE firm participating;
- Written and signed documentation of commitment to use a DBE subcontractor whose participation it submits to meet a contract goal;
- Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractors commitment and
- If the contract goal is not met, evidence of good faith efforts.

Administrative Reconsideration: 26.53(d)

Within ten (10) days of being informed by KWDoT that the bidder/offeror is not responsible because they have not documented sufficient good faith efforts, an offeror may request administrative reconsideration. Bidder/offerors should make this request in writing to the following reconsideration official:

- DBELO Norman Whitaker, Director
  Department of Transportation
  P.O. Box 1078,
  Key West, Florida 33040
  (305) 809-3910
  nwhitaker@cityofkeywest-fl.gov

The DBELO will not have played any role in the original determination that the bidder/offeror did not document sufficient good faith efforts.

As part of this reconsideration, the bidder/offeror will have the opportunity to provide written documentation or argument concerning the issue of whether it met the goal or made adequate

good faith efforts to do so. The bidder/offeror will have the opportunity to meet in person with our DBELO to discuss the issue of whether it met the goals or made adequate good faith efforts to do so. KWDoT will send the bidder/offeror a written decision on reconsideration, explaining the basis for finding that the bidder/offeror did or did not meet the goal or make adequate good faith efforts to do so. The result of the reconsideration process is not administratively appealable to the Department of Transportation.

Good Faith Efforts when a DBE is Terminated/Replaced on a contract with Contract Goals 26.53(f)

KWDoT requires that prime contractors not terminate/replace a DBE subcontractor listed on a bid/contract with a DBE contract goal without KWDoT's prior written consent. Prior written consent will only be provided where there is "good cause" for termination/replacement of the DBE firm, as established by Section 26.53(f)(3) of the DBE regulation.

A "good cause" includes but not limited to the following:

- The DBE fails or refuses to execute a written contract, to perform the work consistent with normal industry standards,
- Meet the prime contractor's nondiscriminatory bond requirements
- The DBE becomes bankrupt or has credit unworthiness,
- Is ineligible to work because of suspension and debarment,
- The DBE owner dies or becomes disabled resulting in the inability to perform the work on the contract, or other documented compelling reason.

Before transmitting to KWDoT its request to terminate/replace, the prime contractor must give notice in writing to the DBE of its intent to do so. A copy of the notice must be provided to KWDoT prior to consideration of the request to terminate. The DBE will then have five (5) days to respond and advise KWDoT of why it objects to the proposed termination.

In those instances where "good cause" exists to terminate a DBE's contract, KWDoT will require the prime contractor to make good faith efforts to replace a DBE that is terminated or has otherwise failed to complete its work on a contract with another certified DBE, to the extent needed to meet the contract goal. KWDoT will require the prime contractor to notify the DBE Liaison officer immediately of the DBE's inability or unwillingness to perform and provide reasonable documentation.

In this situation, KWDoT will require the prime contractor to obtain our prior approval of the substitute DBE and to provide copies of new or amended subcontracts, or documentation of good faith efforts.

If the contractor fails or refuses to comply in the time specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

Sample Bid Specification:
The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of the City of Key West Department of Transportation to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this contract will be conditioned upon satisfying the requirements of this bid specification. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE contract goal of ____ percent has been established for this contract. The bidder/offeror shall make good

faith efforts, as defined in Appendix A, 49 CFR Part 26 (Attachment 1), to meet the contract goal for DBE participation in the performance of this contract. The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) Written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; (5) Written confirmation from the DBE that it is participating in the contract as provided in the commitment made under (4); and (5) if the contract goal is not met, evidence of good faith efforts.

Section 26.55 Counting DBE Participation

We will count DBE participation toward overall and contract goals as provided in 49 CFR 26.55.

SUBPART D – CERTIFICATION STANDARDS

Section 26.61 – 26.73 Certification Process

KWDoT will use the certification standards of Subpart D of Part 26 to determine the eligibility of firms to participate as DBEs in DOT-assisted contracts. To be certified as a DBE, a firm must meet all certification eligibility standards. We will make our certification decisions based on the facts as a whole. For information about the certification process or to apply for certification, firms should contact: Norman Whitaker, P.O. Box 1078, Key West, Florida, 33040 or at the city's website address: www.cityofkeywest-fl.gov

Our certification application forms and documentation requirements are found in Attachment "D" to this program.

SUBPART E – CERTIFICATION PROCEDURES

Section 26.81 Unified Certification Programs

KWDoT is a non certified member of the Unified Certification Program (UCP) administered by the Florida Department of Transportation. The Florida UCP will meet all of the requirements of 49 CFR Part 26. KWDoT will use and count for DBE credit only those DBE firms certified by the Florida UCP.

Section 26.83 Procedures for Certification Decisions Re-certifications 26.83(a) & (c)

We will review the eligibility of DBEs that we certified under former part 23, to make sure that they will meet the standards of Subpart E of Part 26. We will complete this review no later than three years from the most recent certification date of each firm. Our schedule for this review process will meet minimum requirements but is not established at this time due to this being a new program for KWDoT.

For firms that we have certified or reviewed and found eligible under part 26, we will again review their eligibility as is required by FTA standards, at a minimum every third (3rd) year, or whenever there is a considerate marketplace change or change in project goals originally identified.

These reviews may or may not include one or more of the following components:

- On site visit
- New application submittals

"No Change" Affidavits and Notices of Change (26.83(j))

We require all DBEs to inform us, in a written affidavit, of any change in its circumstances affecting its ability to meet size, disadvantaged status, ownership or control criteria of 49 CFR Part 26 or of any material changes in the information provided with a KWDoT application for certification.

We also require all owners of all DBEs we have certified to submit, on the anniversary date of their certification, a "no change" affidavit meeting the requirements of 26.83(j). The test of this affidavit is the following:

I swear (or affirm) that there have been no changes in the circumstances of _____ _____ (business name) affecting its ability to meet the size, disadvantaged status, ownership, or control requirements of 49 CFR part 26. There have been no material changes in the information provided with _____(business name) application for certification, except for any changes about which you have provided written notice to the KWDoT under 26.83(j). _____ (business name) meets Small Business Administration (SBA) criteria for being a small business concern and its average annual gross receipts (as defined by SBA rules) over the firm's previous three fiscal years do not exceed $16.6 million. We require DBEs to submit with this affidavit documentation of the firm's size and gross receipts. We will notify all currently certified DBE firms of these obligations [program should state how and when]. This notification will inform DBEs that to submit the "no change" affidavit, their owners must swear or affirm that they meet all regulatory requirements of part 26, including personal net worth. Likewise, if a firm's owner knows or should know that he or she, or the firm, fails to meet a part 26 eligibility requirement (e.g. personal net worth), the obligation to submit a notice of change applies.

Section 26.85 Denials of Initial Requests for Certification

If we deny a firm's application or decertify it, it may not reapply until a minimum of six (6) months have passed from our action.

Section 26.87 Removal of a DBE's Eligibility

In the event we propose to remove a DBE's certification, we will follow procedures consistent with 26.87. Attachment "E" to this program sets forth these procedures in detail. To ensure separation of functions in a de-certification, we have determined that the Finance Director of the City of Key West will serve as the decision-maker in de-certification proceedings. We have established an administrative "firewall" to ensure that the Finance Director will not have participated in any way in the de-certification proceeding against the firm (including in the decision to initiate such a proceeding).

Section 26.89 Certification Appeals

Any firm or complainant may appeal our decision in a certification matter to DOT. Such appeals may be sent to:

Department of Transportation
Office of Civil Rights Certification Appeals Branch
1200 New Jersey Ave. SE
West Building, 7th Floor
Washington, D.C 20590

KWDoT will promptly implement any DOT certification appeal decisions affecting the eligibility of DBEs for our DOT-assisted contracting (e.g., certify a firm if DOT has determined that our denial of its application was erroneous).

SUBPART F – COMPLIANCE AND ENFORCEMENT

Section 26.109 Information, Confidentiality, Cooperation

We will safeguard from disclose to third parties information that may reasonably be regarded as confidential business information, consistent with Federal, state, and local law. Notwithstanding any contrary provisions of state or local law, we well not release personal financial information submitted in response to the personal net worth requirement to a third party (other than DOT) without the written consent of the submitter. Monitoring Payments to DBEs We will require prime contractors to maintain records and documents of payments to DBEs for three years following the performance of the contract. These records will be making available for inspection upon request by any authorized representative of the KWDoT or DOT. This reporting requirement also extends to any certified DBE subcontractor. We will perform interim audits of contract payments to DBEs. The audit will review payments to DBE subcontractors to ensure that the actual amount paid to DBE subcontractors equals or exceeds the dollar amounts states in the schedule of DBE participation.

ATTACHMENTS

Attachment A - Organizational Chart

Attachment B - DBE Directory

Attachment C - Monitoring and Enforcement Mechanisms / Legal Remedies

Attachment D – Goal Setting Methodology

Attachment E – Good Faith Efforts Forms

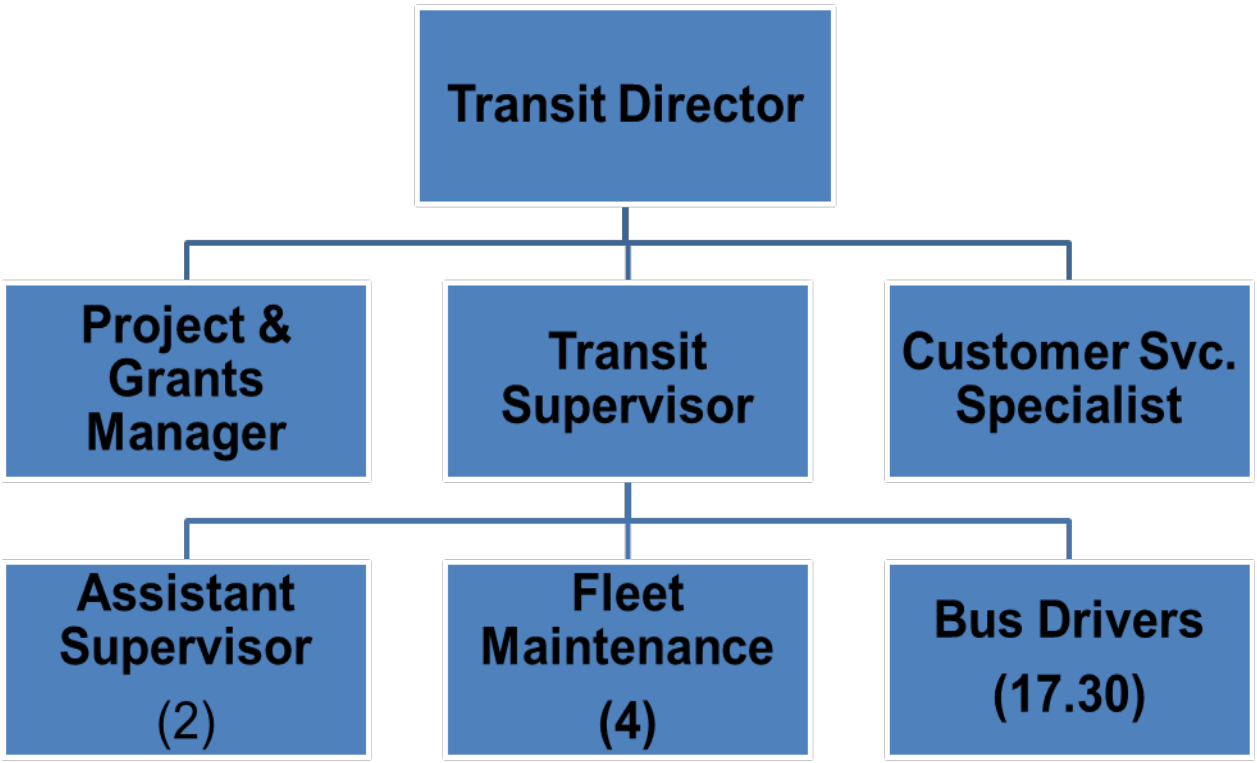
Attachment F – Certification Forms

Attachment G – DBE Regulation, 49 CFR Part 26

Attachment A

CITY OF KEY WEST
Key West DoT
Grantee ID: 2850

Organizational Chart



Attachment B

CITY OF KEY WEST
Key West DoT
Grantee ID: 2850

DBE Directory

The most current DBE Directory may be found on the following websites:

http://www.dot.state.fl.us/equalopportunityoffice/dbereports.shtm

https://www3.dot.state.fl.us/EqualOpportunityOffice/biznet/mainmenu.asp

Attachment C

CITY OF KEY WEST
Key West DoT
Grantee ID: 2850

Monitoring and Enforcement Mechanisms

1. Breach of contract action, pursuant to the terms of the contract
2. Breach of contract action, pursuant to State of Florida Code
3. All Local, State and Federal enforcement mechanisms will be utilized

In addition, the federal government has available several enforcement mechanisms that it may apply to firms participating in the DBE problem, including, but not limited to, the following:

1. Suspension or debarment proceeding pursuant to 49 CFR part 26
2. Enforcement action pursuant to 49 CFR part 31
3. Prosecution pursuant to 18 USC 1001

Attachment D

CITY OF KEY WEST
Key West DoT
Grantee ID: 2850

Section 26.45 Overall Goal Calculations

As required by 49 CFR Part 26.45, City of Key West Department of Transportation (KWDoT) must submit the FY15, FY16 and FY17 DBE Goal to FTA on or before August 1, 2014.

The City of Key West Department of Transportation (KWDoT) is the only public transit service in Key West and the adjoining Keys, up to the City of Marathon, MM52.5 or 109th Street. KWDoT has a total of six (6) routes – four (4) operate seven (7) days a week and two (2) operate six (6) days a week. KWDoT has three (3) Federal Transit Administration (FTA) funded projects projected for the upcoming three (3) year period. One of our projects – New Transit Facility, will be completed by September 2015.

Section 26.43 Set-asides or Quotas

The KWDoT does not use quotas in any way in the administration of this DBE program.

Section 26.45 Overall Goals

As of March 3, 2010, USDOT issued a final rule affecting the implementation and management of the DBE program. The department is required to submit three (3) year DBE goal and goal setting methodology.

Key West Department of Transportation's three (3) year DBE goals are:

3 Year – Thirty-six (36) Month – Overall Calculation for FY2015 to FY2017:

The City of Key West Department of Transportation has calculated the overall goal for fiscal year periods covering the required three (3) year and thirty-six (36) month time frame to be 1%, which represents a dollar value of $1,000,000.00 as it relates to USDOT-assisted contracts that KWDoT expects to award during this three (3) year / thirty-six (36) month period. This summarizes that KWDoT has set a goal of expending $10,000.00 with DBE's during the three (3) year period.

Methodology used to Calculate Overall Goal - Three (3) Year Period:

Step 1: 26.45(c)

Determine the base figure for the relative availability of DBE's. The base figure for the relative availability of DBE's was calculated as follows:

The elements of work were identified along with the cost associated to determine the percentage of total work (weighted). The number of DBEs and non DBEs were identified by the elements of work to determine the relative availability. The weighted work was multiplied by the weighted relative availability to determine the percentage of anticipated DBE participation (see attachment A).

The date sources used to derive all firms available (including DBE's) were from the 2011 US Census for Florida Business. The data sources used to derive the ready, willing and able vendors were from the Florida Unified Certification Program. When using the Florida Unified Certification

Program, KWDoT used District 6, Broward County, Miami-Dade County, and Monroe County to arrive at the number of DBEs available to perform the work described in attachment A.

Utilizing available information of grant funds awarded to date, along with those requested and budgeted through FY 2017 period; KWDoT calculates the ready, willing, and able DBE's Base figure to be 11 / 3911, which equals 0.0028%.

When we divided the numerator by the denominator we arrived at the base figure for our overall goal for the full three (3) year / thirty-six (36) month period, as our overall calculation.

Step 2: 26.45(d)

After calculating a base figure of the relative availability of DBEs, evidence was examined to determine what adjustment was needed to the base figure in order to arrive at the overall goal. In order to reflect as accurately as possible, the DBE participation we would expect in the absence of discrimination we have adjusted our base figure by the three (3) year period.

The data used to determine the adjustment to the base figure was historic data based on the business composition of vendors dealing in our area and immediately adjoining areas of the Florida Keys who are willing to transport or mobilize for projects scheduled in our area.

From this data, we have adjusted our base figure to reflect the three (3) year goal period required.

Public Participation

We publish our goals on the City's website as well as via block advertisement in the local newspaper, the Key West Citizen. We then report any comments received from these advertisement efforts, summarizing comments and responses to said comments as part of our final program submission to FTA, Region IV office in Atlanta, GA.

In accordance with Section 26.45(f), KWDoT submits its overall goal to USDOT on or before August 1 every three (3) years, for their review and comments. Before establishing the overall goal every three years - KWDoT consults with its' purchasing and finance departments to assure applicable data and other relative identified information such as registered DBE's as well as MBE's are included in our calculation process. KWDoT also meets with members of various local committees such as – Local Coordinating Board (LCB), Pedestrian Action Committee (PAC), and also Transportation Coordination Team (TCT), to name a few. This assures that there will be no discrimination of opportunities for DBE's, and the City of Key West's efforts to establish a level playing filed for the participation of as many as possible DBE's as well as MBE's is thereby established by coordination with all internal support departments of the City.

Following this consultation, we publish a notice of the proposed three (3) year ***OVERALL*** goal informing the public that the proposed goal and calculation detail are available for inspection during normal business hours at the KWDoT work office site for thirty (45) days following the date of the notice. This also invites public input and public comment of the calculation process as well as the three (3) year goal - within a timely forty-five (45) day period prior to August 1 of every third (3rd) year.

CITY OF KEY WEST
Key West DoT
Grantee ID: 2850
Page 3

Our overall three (3) year goal submission to DOT will include a summary of information and comments received during this public participation process; along with our responses. We will implement annual fiscal goals established consecutively with our annual fiscal year period, or October 1, through September 30, of each year, unless we have received other instructions from USDOT. ***All dollar values used in calculating the three (3) year OVERALL goal is cumulative and based on individual projects. (Attachment A – Step 1)***

Section 26.51 Breakout of Estimated Race-Neutral & Race Conscious Participation

KWDoT will meet the maximum feasible portion of its three (3) year OVERALL goal by using race-neutral means of facilitating DBE participation. KWDoT uses the following race-neutral means to increase DBE participation:

1) KWDoT will notify appropriate Florida-based MBE's and DBE's of upcoming contracts available for bidding via industry specific media advertisements which covers beyond local advertisers market.

2) KWDoT will provide prime contractors a list of all DBE's for their use in order to assist with sub-contracting opportunities.

We estimate that in meeting our overall goal for the next 3 year period - the following will apply:

> *DBE 3 Year (2015 through 2017) calculation is 1%, of which we will obtain 0.5% from race-neutral participation and 0.5% from race-conscious measures.*

This calculation is based on the number of available contractors to be awarded work via USDOT assisted contracts which we anticipate over the next three (3) year fiscal budget cycles of 2015 through 2017; with consideration given also to registered MBE's and small businesses.

In order to ensure that our DBE program will be narrowly tailored to overcome the effects of discrimination, if we use contract goals we will adjust the estimated breakout of race-neutral and race-conscious participation as needed to reflect actual DBE participation (see 26.51 (f0) and we will track and report race-neutral and race conscious participation separately. For reporting purposes, race-neutral DBE participation includes, but is not necessarily limited to the following:
DBE participation through a prime contract a DBE obtains through customary competitive procurement procedures; DBE participation through a subcontract on a prime contract that does not carry DBE goal; DBE participation on a prime contract exceeding a contract goal; and DBE participation through a subcontract from a prime contractor that did not consider a firm's DBE status in making the award.

We will maintain data separately on DBE achievements in those contracts with and without contract goals, respectively.

Attachment A

Step 1 - Determine the weight of each type of work by NAICS Code:

* Enter all the FTA-assisted projects below. Project amounts should be assigned relevant NAICS Code(s).

	NAICS Code	Project	Amount of DOT funds on project:	% of total DOT funds (weight)
1)				0.0000
2)		Bus Aprons		0.0000
3)	54137	* Survey	$31,667.00	0.0317
4)				0.0000
5)	5414	* Design, Permitting	$66,667.00	0.0667
6)				0.0000
7)	237310	* CEI Services / Construction Phase	$901,666.00	0.9017
8)				0.0000
9)				0.0000
10)				0.0000
	Total FTA-Assisted Contract Funds		**$1,000,000.00**	**1**

Step 2 – Determine the relative availability of DBE's by NAICS Code:

*Use DBE Directory, census data and / or a bidders list to enter the number of available DBE firms and the number of available firms.

	NAICS Code	Project	Number of DBEs available to perform this work	Number of all firms available (including DBEs)	Relative Availability	
1)						
2)		Bus Aprons				
3)	54137	* Survey	2	628	0.0032	
4)						
5)	5414	* Design, Permitting	1	2793	0.0004	
6)						
7)	237310	* CEI Services / Construction Phase	8	490	0.0163	
8)						
9)						
10)						
	Combined Totals		**11**	**3911**	0.0028	***Overall availability of DBEs***

Step 3 - (Weight) x (Availability) = Weighted Base Figure

	NAICS Code	Project	Weight	x	Availability	Weighted Base Figure
1)				x		
2)		Bus Aprons		x		
3)	54137	* Survey	0.03167	x	0.00318	0.0001
4)				x		
5)	5414	* Design, Permitting	0.06667	x	0.00036	0.000
6)				x		
7)	237310	* CEI Services / Construction Phase	0.90167	x	0.01633	0.0147
8)				x		
9)				x		
10)				x		
					Total	0.0148
					Expressed as a % (*100)	1.48%
					Rounded, Weighted Base Figure:	**1%**

CITY OF KEY WEST
Key West DOT

Attachment – E
DBE

Forms 1 & 2 - Demonstration of Good Faith Efforts

FORM 1: DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION

The undersigned bidder/offeror has satisfied the requirements of the bid specification in the following manner (please check the appropriate space):

_X_ The bidder/offeror is committed to a minimum of 50 % DBE utilization on this contract.

_____ The bidder/offeror (if unable to meet the DBE goal of ____ %) is committed to a minimum of ____% DBE utilization on this contract a submits documentation demonstrating good faith efforts.

Name of bidder/offeror's firm: SRS ENGINEERING, INC.

State Registration No. 7817

By _____ (Signature) PRESIDENT Title

CITY OF KEY WEST
Key West DOT

Attachment – E (cont.)
DBE

FORM 2: LETTER OF INTENT

Name of bidder/offeror's firm: _____

Address: _____

City: _____ State: _____ Zip: _____

Name of DBE firm: _____

Address: _____

City: _____State: _____ Zip: _____

Telephone: _____ Email: _____

Description of work to be performed by DBE firm:

_____

_____

_____

_____

_____

The bidder/offer or is committed to utilizing the above-named DBE firm for the work described above.

The estimated dollar value of this work is $ _____.

Affirmation:

The above-named DBE firm affirms that it will perform the portion of the contract for the estimated dollar value as stated above.

By: _____ _____
(Signature) (Title)

If the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

CITY OF KEY WEST
Key West DOT

Attachment – F
DBE

Certification Application Forms

Name of bidder/offeror's firm: _____

Address: _____

City: _____ State: _____ Zip: _____

Name of DBE firm: _____

Address: _____

City: _____State: _____ Zip: _____

Telephone: _____ Email:_____

I,_____, as a duly authorized officer / agent of the above-named DBE firm hereby swears/affirms that it is in compliance with all required DOT DBE mandates and as such by signing below, we make formal application for certification to participate in the KWDoT / DOT / DBE Program with the City of Key West

By:_____ _____
(Signature) (Title)

_____
Witness (Signature / print name)

_____
Notary Public

_____
Witness (Signature / print name)

Regulations: 49 CFR Part 26

Attached hereto and made a part hereof is a complete copy of 49 CFR Part 26 for reference.

Federal Transit Administration – Bus Aprons (Lower Keys) Competitive Solicitation Review

From: White, Christopher (FTA) [mailto:Christopher.White@dot.gov]
Sent: Thursday, September 29, 2016 4:08 PM
To: Carolyn Haia <chaia@cityofkeywest-fl.gov>; Devon Steckly <dsteckly@cityofkeywest-fl.gov>
Cc: Norman Whitaker <nwhitaker@cityofkeywest-fl.gov>
Subject: FW: Project TS1102 Bus Aprons (Lower Keys) - DRAFT ITB and Estimate / FL-04-0132 Bus Apron Project

Hello Devon,

As we discussed earlier, over and above the tenets of the FTA Master Agreement (which is attached to every FTA grant) grantees – to include the City of Key West – are self-certifying that they will comply with FTA requirements which include ensuring full and open competition wrt procurements/solicitations when they Execute the grant electronically in our system.

I noted to Mr. Dwight Hill, our regional Procurement/Contracts consultant, that you were at a minimum requesting an FTA review of the Invitation To Bid (ITB) documents for the Bus Aprons-Lower Keys Project. Please see the feedback Mr. Hill provided (below) indicating he was satisfied that all federal requirements were included, with one exception (Veterans Preference/Employment).

Please feel free to reply or call with additional questions/as needed.

V/R,

Christopher P. White
FTA Program Manager
Region IV
404-865-5619

From: Hill, Dwight CTR (FTA) [mailto:Dwight.hill.ctr@dot.gov]
Sent: Thursday, September 29, 2016 3:19 PM
To: White, Christopher (FTA)
Subject: RE: Project TS1102 Bus Aprons (Lower Keys) - DRAFT ITB and Estimate / FL-04-0132 Bus Apron Project

Chris,

All the federal requirements are included except "1":

Veterans Preference/Employment

Basic Requirement: Chapter IV, 2.c. (1)(c) C4220.1F of FTA C 4220.1F Recipients and sub-recipients of Federal financial assistance under this chapter shall ensure that contractors working on a capital project funded using such assistance give a hiring preference, **to the extent practicable,** to veterans (as defined in section 2108 of title 5) who have the requisite skills and abilities to perform the construction work required under the contract. This subsection shall not be understood, construed or enforced in any manner that would require an employer to give preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or former employee.

Nothing else "jumped" out at me.

v/r
Dwight Hill, CFCM, Contractor
Sr. Contracts Consultant
FTA Region 04 – Atlanta
230 Peachtree Street, NW, Suite 1400
Atlanta, GA 30303
404-865-5641

PART 4

SCOPE OF WORK

SCOPE OF WORK

PART 1 - SCOPE OF WORK

1.1 DESCRIPTION

A. Work Included: The furnishing of all materials, equipment and labor for the construction of Bus Aprons – Lower Keys and all necessary appurtenances and record drawings, surveys, and incidental work to provide a complete and serviceable project identified as:

TS1102 / BUS APRONS – LOWER KEYS

B. Related requirements in other parts of the Contract Documents: General and Supplementary Conditions of the Contract for Construction.

C. Contractor's Duties:

1. In addition to provisions stipulated in other portions of the Contract Documents, the Contractor shall:

    a. Secure permits as necessary for proper execution and completion of the work.

    b. Notify (in writing) all residents and proprietors adjacent to construction site of work to be performed, more specifically the notice shall state the day and time construction will begin, hours of work, the name and phone number of the Contractor's Superintendent and an end date for the project.

D. The Contractor shall be totally responsible for all permits required and shall ensure that construction complies with all applicable local, state, and federal codes.

E. The Contractor shall provide an experienced, qualified, and competent Superintendent to oversee the Work and perform quality assurance inspections. Prior to starting construction, the proposed Superintendent's qualifications shall be submitted in writing to the City for approval. The approved Superintendent shall be expected to remain for the duration of the Project, unless the City or Engineer deem him/her inadequate and requests his/her removal or the Contractor cannot continue his services to the Project for a reason or reasons that shall be communicated in writing to the City.

F. A replacement Superintendent shall be required to follow the same approval process as required for the original. The Superintendent shall provide to the City Inspector Construction Reports for each day of construction, the reports shall be in English, legible, and signed. Contractor shall provide PDF copies monthly. Reports shall include quantity control checks done daily.

G. It shall be the Contractor's responsibility to request approval for entrance to the site for work on Saturdays, Sundays, holiday, and weekday hours other than 7:00 AM until 7:00 PM. No construction can commence before 8:00 AM on weekdays.

H. The Contractor shall provide material safety data sheets (2 copies) for chemicals, paints, coatings and materials used on-site prior to initiation of work.

1.2 CONTRACTOR'S USE OF PREMISES

A. Work shall be scheduled as to not interfere with on-going area activities.

B. Coordinate use of premises and requirements for security under direction of City.

C. Assume full responsibility for the protection and safekeeping of products, under this Contract, stored on the site.

D. Obtain and pay for the use of additional storage or work areas needed for operation.

E. Contractor shall provide drinking water and toilet facilities for construction personnel; The City will not provide.

1.3 MAINTENANCE OF EXISTING UTILITIES OPERATION

A. Provide at least three weeks notice prior to interruption of utility services for temporary or permanent connections.

B. Keep interruption of utility services, and utility outages during disconnection, moving, and reconnection to a minimum.

C. Keys Energy shall be notified two weeks in advance in writing by the contractor for any KEYS support equipment required by the Contractor during any excavation. (e.g., Power poles next to excavations requiring support, etc.) No additional payment will be paid for this coordination.

****

PART 5

SPECIFICATIONS AND DRAWINGS

SPECIFICATIONS

TABLE OF CONTENTS

EARTHWORK AND RELATED OPERATIONS

BASE COURSES

BITUMINOUS TREATMENTS SURFACE COURSES AND CONCRETE PAVEMENT

STRUCTURES

INCIDENTAL CONSTRUCTION

SIGNING, PAVEMENT MARKING AND LIGHTING

GENERAL NOTES

1. Existing topographic information has been obtained from the survey prepared by Amec Foster Wheeler on 05/21/2015.

2. All elevations refer to the North American Vertical Datum of 1988 (navd88) and nad83 (horizontal datum).

3. All public land corners and monuments within the limits of construction are to be protected by the contractor as follows: corners and monuments in conflict with the work and in danger of being damaged, destroyed or covered have to be properly referenced by a professional land surveyor in accordance with the minimum technical standards of the Florida board of professional land surveyors prior to beginning work at that site. The contractor shall retain the land surveyor of reference, and restore upon completion of the work, all such corners and monuments and shall furnish to the engineer a signed and sealed copy of the land surveyor's reference drawing.

4. All bench mark monuments within the limits of construction shall be protected and referenced by the contractor in the same way as public land corners except that the land surveyor shall not be required to restore the bench mark upon completion of the work. The contractor shall promptly transmit all displaced or damaged discs to the engineer, who will notify the geodetic information center.

5. All reference points and bench marks as indicated on the attached plans shall be preserved by the contractor. Prior to final acceptance of the project, the contractor shall reestablish and mark those control points in a permanent manner on the surface of the completed work. All control points reestablished and marked shall be certified, signed and sealed by a professional land surveyor in a F.D.O.T. field book and returned to the engineer.

6. Permanent turnouts and driveways connections to private property that lie outside the limits of right-of-way and where access rights have not been acquired shall be constructed in accordance with the turnout details and standard specifications for these plans. The contractor shall not isolate adjacent and/or the remainder of the property unless access rights are acquired. Access shall be provided to such property whenever construction interferes with the existing means of access.

7. 48 hours prior to digging contractor shall coordinate with all underground utility service companies to verify location of all underground utilities, additionally, contractor shall contact sunshine state one call of Florida, Inc. (811) to assure that all utilities have been identified.

8. The location and size of the utilities shown in the plans are approximate only. The exact location shall be determined by the contractor during construction. Additional utilities may exist which are not shown on plans. The contractor shall be responsible for the location of all existing utilities. The contractor shall verify all utilities by electronic methods and by hand excavation in coordination with all utility companies, prior to beginning any construction operation, any and all conflicts of existing utilities with proposed improvements must be resolved by the architect/engineer and the owner. This work by the contractor shall be considered incidental to the contract and no additional compensation shall be allowed.

9. Underground utility information shown hereon was shown on the survey provided.

10. Utilities needed to be adjusted will be adjusted by others. Contractor will be responsible for scheduling these adjustments with the utility company.

11. The contractor is to use caution when working, especially in or around areas of overhead transmission lines and underground utilities.

12. Any water lines to be adjusted shall be approved by Florida Keys Aqueduct Authority prior to adjustment.

13. All existing rock base material which is removed is to be incorporated in the stabilized portion of the subgrade, as directed by the engineer.

14. None of the existing rock base that is removed is to be incorporated into the proposed limerock base

15. Stabilize all turnouts and intersections to a depth of 12" (minimum l.b.r. 40) and 12" outside edge of pavement (6" back of curb).

16. Extend limerock base 8" thick, 6" outside edges of pavement at all connections and intersections to roads and streets.

17. All disposal of excess and unsuitable excavated material, demolition, vegetation, rubbish and debris shall be made outside the limits of construction at a legal disposal site provided by the contractor at his/her own expense, with the prior approval of the engineer. Material cleared from the site shall not be deposited on adjacent and/or nearby property.

18. Any material to be stockpiled for periods greater than 24 hours shall be protected by appropriate erosion control devices.

19. All drainage construction shall be in strict accordance with the Florida Department of Transportation.

20. The contractor shall be responsible for providing appropriate safety precautions during excavation and trenching operations as required by the "trench safety act".

21. All landscape is designated to remain unless otherwise noted on plans.

22. All landscape is designated to remain unless otherwise noted on plans.

23. All unsuitable material under the new pavement shall be removed and replaced with acceptable materials before proceeding with construction.

24. All muck and organic materials found within the construction area shall be removed and replaced with clean fill material in 6 inch lifts compacted to not less than 95% maximum density at optimum moisture in accordance with AASHTO T-99.

25. The contractor should take special note of the soil conditions throughout this project. any special shoring, sheeting or other procedures necessary to protect adjacent property, either public or private, during excavation of subsoil material and exfiltration trench or during the filing of any area, or for any operation during construction shall be the sole responsibility of the contractor, the only exception will be the protection of utilities. All utilities shall be maintained by the owner of the utility.

26. Any existing building, pavement or other existing improvements not specified for removal which is temporarily damaged, exposed or in any way disturbed by construction performed under this contract, shall be repaired, patched or replaced at no additional cost to the City of Key West. The contractor shall be responsible for providing appropriate safety precautions during excavation and trenching operations as required by the "trench safety act".

27. Any fencing damaged by contractor at any time during construction shall be replaced or repaired to original condition.

28. Existing chain link fence, concrete wall and metal fence within the limits of construction shall be protected unless otherwise indicated.

29. Any damage to public or private property shall be restored by the contractor at no expense to the owner. Traffic signs damaged shall be restored immediately by the contractor.

30. Contractor shall adjust all existing valves boxes, catch basins grates, manholes covers, etc. to meet new grades where applicable and coordinate with the utility owner prior to making the adjustment.

31. All valves, A.R.V.'s, and manholes to be raised and adjusted to proposed roadway elevation.

32. All existing utilities are to remain unless otherwise noted.

33. Proposed elevations shown at drainage structures refer to edge of pavement unless otherwise noted.

34. Grades shown are "finished" grades.

35. Prior to removal and/or relocation of existing trees, if required, the contractor must obtain approval from all applicable agencies. Otherwise contractor shall protect existing trees where applicable within the limits of construction.

36. Where new pavement meets existing connection shall be made in a neat straight line and flush with existing pavement. Saw cut at existing pavement joint matching to new pavement, if required.

37. When dissimilar material connections are made, such as concrete to metal. The dissimilar material shall be separated by coating the contact surface with bitumastic material.

38. Provide a smooth transition where new pavement, sidewalk, or curb meets existing grass areas.

39. Radii on curb returns are to the edge of pavement unless otherwise noted.

40. The contractor is responsible for keeping existing and new inlets clean of milling material, limerock, debris, etc. during the construction at no additional cost. All lines and structures shall be cleaned prior to final inspection and acceptance.

101 MOBILIZATION (REV. 03-12-2013)

A. Description.

1. 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(s) and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, and sanitary and other facilities.
2. Include the costs of bonds and any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials.

B. Basis of Payment.

1. When No Separate Item for Mobilization is Included in the Contract:
   a. All work and incidental costs specified as being covered under this Article will be included for payment under the several scheduled items of the overall Contract, and no separate payment will be made therefore.
2. When a Separate Pay Item for Mobilization is Included in the Contract:
   a. The work and incidental costs specified as being covered under this Article will be paid for at the Contract lump sum price for the Mobilization pay item, after an executed Notice to Proceed has been issued, by partial payments made in accordance with the following:
      1) For contracts of 120 contract days duration or less, partial payment will be made at 50% of the bid price per month for the first two months. For contracts in excess of 120 contract days duration, partial payment will be made at 25% of the bid price per month for the first four months. In no event shall more than 50% of the bid price be paid prior to commencing construction on the project site.
      2) Total partial payments for Mobilization on any project, including when more than one project or job is included in the Contract, 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 Contract.
      3) Retainage, as specified in the Contract Documents, will be applied to all partial payments.

      Partial payments made on this Subarticle will in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

   b. Payment will be made under:

Item #	Description	Unit
101-1	Mobilization	Lump sum

102 MAINTENANCE OF TRAFFIC

A. 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 detours. Provide 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 (MOT) in construction areas. Provide any other special requirements for safe and expeditious movement of traffic specified in the Plans. MOT includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.
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. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to existing pavement open to traffic.
Include the cost of any work that is necessary to meet the requirements of the Contract Documents under the MOT pay item, when there is not a pay item provided.

B. Materials.

Meet the material requirements specified in FDOT Division III (Materials). Meet the following requirements:

Bituminous Adhesive.....Section 970
Temporary Retroreflective Pavement Markers…Section 990
Paint .....Section 971
Removable Tape .....Section 990
Glass Spheres .....Section 971
Temporary Traffic Control Device Materials .....Section 990
Retroreflective and Nonreflective Sheeting
for Temporary Traffic Control Devices.....Section 994

1. Temporary Traffic Control Devices: Use only the materials meeting the requirements of Section 990, Section 994, Design Standards and the Manual on Uniform Traffic Control Devices (MUTCD).
2. Detour: Provide all materials for the construction and maintenance of all detours.
3. Commercial Materials for Driveway Maintenance: Provide materials of the type typically used for base, including recycled asphalt pavement material, and having stability and drainage properties that will provide a firm surface under wet conditions.

C. Specific Requirements.

1. Beginning Date of 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.
2. Worksite Traffic Supervisor: Provide a worksite traffic supervisor in accordance with Section 105. Provide the worksite traffic supervisor with all equipment and materials needed to set up, take down, maintain traffic control, and handle traffic-related situations.(REV 8-5-14) (FA 8-21-14) (1-15)

Ensure that the worksite traffic supervisor performs the following duties:

a) Performs on site direction of all traffic control on the project.
b) Is on site during all set up and take down, and performs a drive through inspection immediately after set up.
c) Is on site during all nighttime operations to ensure proper MOT.
d) Immediately corrects all safety deficiencies and does not permit minor deficiencies that are not immediate safety hazards to remain uncorrected for more than 24 hours.
e) Is available on a 24 hour per day basis and present within 45 minutes after notification of an emergency situation and is prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.
f) Conducts daily daytime and weekly nighttime inspections of projects with predominately daytime work activities, and daily nighttime and weekly daytime inspections of projects with predominantly nighttime work activities of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations.

Advise the project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as is deemed necessary. Submit a comprehensive weekly report, using the Department's currently approved form, to the Engineer detailing the condition of all traffic control devices (including pavement markings) being used. Include assurances in the inspection report that pedestrians are accommodated with a safe, accessible travel path around work sites separated from mainline traffic in compliance with the Americans with Disabilities Act (ADA) Standards for Transportation Facilities, that existing or detoured bicyclist paths are being maintained satisfactorily throughout the project limits, and that existing businesses in work areas are being provided with adequate entrances for vehicular and pedestrian traffic during business hours. Have the worksite traffic supervisor sign the report and certify that all of the above issues are being handled in accordance with the Contract Documents. When deficiencies are found, the worksite traffic supervisor is to note such deficiencies and include the proposed corrective actions, including the date corrected. The Department may disqualify and remove from the project a worksite traffic supervisor who fails to comply with the provisions of this Section. The Department may temporarily suspend all activities, except traffic, erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions.

D. Alternative Traffic Control Plan.

The Contractor may propose an alternative traffic control plan (TCP) to the plan presented in the Contract Documents. Have the Contractor's Engineer of Record sign and seal the alternative plan. Prepare the TCP in conformance with and in the form outlined in the current version of the Department's Plans Preparation Manual. Indicate in the plan a TCP for each phase of activities. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by the Contractor, and notify the Department in writing of any such potential impacts to utilities.

Engineer's approval of the alternate TCP 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 Specifications, Design Plans (including TCPs) 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.(REV 8-5-14) (FA 8-21-14) (1-15)

The Department reserves the right to reject any alternative TCP. Obtain the Engineer's written approval before beginning work using an alternate TCP. The Engineer's written approval is required for all modifications to the TCP. The Engineer will only allow changes to the TCP in an emergency without the proper documentation.

E. Traffic Control.

1. Standards: FDOT Design Standards are the minimum standards for the use in the development of all TCPs. The MUTCD, Part VI is the minimum national standard for traffic control for highway construction, maintenance, and utility operations. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers which are necessary to protect the public and workers from hazards within the project limits.
2. Maintenance of Roadway Surfaces: Maintain all lanes that are being used for the MOT, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.
3. Number of Traffic Lanes: Maintain one lane of traffic in each direction. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion. Construct each lane used for MOT at least as wide as the traffic lanes existing in the area before commencement of construction. Do not allow traffic control and warning devices to encroach on lanes used for MOT.

The Engineer may allow the Contractor to restrict traffic to one-way operation for short periods of time provided that the Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicles, or use traffic signals.

4. 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 Engineer. Before beginning any construction, provide the Engineer the names and phone numbers of persons that can be contacted when signal operation malfunctions.
5. Access for Residences and Businesses: Provide continuous access to all residences and all places of business.
6. Protection of the Work from Injury by Traffic: Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.
7. Flagger: Provide trained flaggers in accordance with Section 105.
8. Conflicting Pavement Markings: Where the lane use or where normal vehicle or pedestrian paths are altered during construction, remove all pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) that will conflict with the adjusted vehicle or pedestrian paths. Use of paint to cover conflicting pavement markings is prohibited. Remove conflicting 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. (REV 8-5-14) (FA 8-21-14) (1-15) Remove all pavement markings that will be in conflict with “next phase of operation” vehicle pedestrian paths as described above, before opening to vehicle traffic or use by pedestrians. Cost for removing conflicting pavement markings (paint, tape, thermoplastic, raised pavement markers, etc.) to be included in Maintenance of Traffic, Lump Sum.
9. Vehicle and Equipment Visibility: Equip all pickups and automobiles used on the project with a minimum of one Class 2 amber or white warning light that meets the Society of Automotive Engineers Recommended Practice SAE J595, dated November 1, 2008, or SAE J845, dated December 1, 2007, and incorporated herein by reference. Existing lights that meet SAE J845, dated March, 1992, or SAE J1318, dated April, 1986, may be used to their end of service life. .The warning lights shall be a high intensity amber or white rotating, flashing, oscillating or strobe light. Lights should shall be unobstructed by ancillary vehicle equipment such as ladders, racks or booms. If the light is obstructed, additional lights will be required. The lights shall be operating when a vehicle is in a work area where a potential hazard exists, when operating the vehicle at less than the average speed for the facility while performing work activities, making frequent stops or called for in the Plans or Design Standards. Equip all other vehicles and equipment with a minimum of 4 square feet of retro-reflective sheeting or flashing warning lights.
10. 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 his surety.

F. Detours.

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.
2. 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 pedestrian facilities are detoured, blocked or closed during the work, provide safe alternate accessible routes through or around the work zone meeting the requirements of the ADA Standards for Transportation Facilities. When the Plans call for the Department to furnish detour bridge components, construct the pile bents in accordance with the Plans, unless otherwise authorized by the Engineer.

   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 Engineer at least 30 calendar days before the intended pick-up date, to obtain the storage facility location and list of components for the project. Upon receipt of letter, the Engineer will, within ten calendar days provide an approved material list to the Contractor and the appropriate Department storage yard.

   Provide a letter with an original company seal, identifying the representative with authority to pick up components, to the Engineer at least 10 calendar days before the proposed pick-up date. The Department is not obligated to load the bridge components without this notice. Take responsibility and sign for each item loaded at the time of issuance.

   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. (REV 8-5-14) (FA 8-21-14) (1-15)

   Notify the Engineer in writing at least 10 calendar days before returning the components. Include in this notice the name of the Contractor’s representative authorized to sign for return of the bridge components. The yard supervisor is not obligated to unload the bridge components without this notice.

   The Department will provide equipment and an operator at the Department’s storage facility to assist in loading and unloading the bridge components.

Furnish all other labor and equipment required for loading and unloading the components.

The Departments representative will record all bridge components issued or returned on the Detour Bridge Issue and Credit Ticket. The tickets must be signed by a Department and a 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. The yard supervisor will repack components that are not packed in compliance with these instructions. Upon request, written packing instructions will be made available to the Contractor, before dismantling of the bridge for return to the Department's storage facility.

Assume responsibility for any shortage or damage to the bridge components. Monies due the Contractor will be reduced at the rate of $35.00 per hour plus materials for repacking, repairs or replacement of bridge components.

The skid resistance of open steel grid decking on the detour bridge may decrease gradually after opening the bridge to traffic. The Department will 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 cubic foot per minute capacity, 90 psi air pressure for the power supply of the machine, and an operator. Transport the scabbler machine to and from the Department's structures shop. Repair any damage to the scabbler machine caused by operations at no expense to the Department. Perform scabbling when determined necessary by the Engineer. The Department will pay for the cost of scabbling as Unforeseeable Work in accordance with 4-4.

Return the bridge components to the designated storage facility beginning no later than 10 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. Upon failure to return the bridge components to the Department within the time specified, compensate the Department for the bridge components not returned at the rate of $5.00 per 10 feet, per day, per bridge, for single lane; and $10.00 per 10 feet, per day, per bridge, for dual lane until the bridge components are returned to the Department.

3. Construction Methods: Select and use construction methods and materials that 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.
4. Removal of Detours: Remove 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 the materials on loan from the Department with the stipulation that they are returned.(REV 8-5-14) (FA 8-21-14) (1-15)
5. Detours Over Existing Roads and Streets: When the Department 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.
6. Operation of Existing Movable Bridges: The Department will maintain and operate existing moveable bridges that are to be removed by the Contractor until such time as they are closed to traffic. During this period, make immediate repairs of any damage to such structures caused by use or operations related to the work at no expense to the Department, but do not provide routine repairs or maintenance. In the event that use or operations result in damage to a bridge requiring repairs, give such repairs top priority to any equipment, material, or labor available.

G. Traffic Control Officer.

Provide uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone when the following types of work is necessary on projects:

1. Directing traffic/overriding the signal in a signalized intersection.

2. When Design Standards, Index No. 619 is used on freeway facilities (interstates, toll roads, and expressways) at nighttime for work within the travel lane.

3. When Design Standards, Index No. 655 Traffic Pacing for overhead work is called for in the Plans or approved by the Engineer.

4. When pulling conductor/cable above an open traffic lane on limited access facilities, when called for in the Plans or approved by the Engineer.

5. When Design Standards, Index No. 625 Temporary Road Closure 5 Minutes or Less is used.

H. Driveway Maintenance.

1. General: Ensure that each residence and business has safe, stable, and reasonable access.

   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.

I. Temporary Traffic Control Devices.

1. Installation and Maintenance: Install and maintain temporary traffic control devices as detailed in the Plans, Index 600 of the Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on the Department's Qualified Products List (QPL) or the Department's Approved Products List (APL). Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the QPL or the APL.

Immediately remove or cover any devices that do not apply to existing conditions.

All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) or the Manual for Assessing Safety Hardware 2009 (MASH) and current FHWA directives. Manufacturers seeking evaluation must furnish certified test reports showing that their product meets all test requirements set forth (REV 8-5-14) (FA 8-21-14) (1-15) by NCHRP 350 or the MASH. Manufacturers seeking evaluation of Category I devices for inclusion on the QPL APL shall include the manufacturer's self-certification letter. Manufacturer's seeking evaluation of Category II and Category III devices for inclusion on the QPL APL shall include the FHWA WZ numbered acceptance letter with attachments and vendor drawings of the device in sufficient detail to enable the Engineer to distinguish between this and similar devices. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida. Manufacturers seeking evaluation of Category IV devices for inclusion on the QPL or APL must comply with the requirements of Section 990 and include detailed vendor drawings of the device along with technical information necessary for proper application, field assembly and installation.

Ensure that the QPL or APL number is permanently marked on the device at a readily visible location. Sheeting used on devices is exempt from this marking requirement.

Notify the Engineer 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 temporary traffic control devices.

Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting this employee on a 24 hour basis.

Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA) "Quality Guidelines for Temporary Traffic Control Devices and Features". Immediately repair, replace or clean damaged, defaced or dirty devices.

2. Work Zone Signs: Provide signs in accordance with the Plans and Design Standards. Meet the requirements of 700-1.2.4 and 990-8. Use only approved systems, which includes sign support posts or stands and attachment hardware (nuts, bolts, clamps, brackets, braces, etc.), meeting the vendor requirements specified on the QPL APL drawings.

   Attach the sign to the sign support using hardware meeting the manufacturer's recommendations and as specified in the Design Standards.

   Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the NCHRP Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."
3. Business Signs: Provide and place signs in accordance with the Plans and Design Standards, Index No. 600 series. Furnish signs having retroreflective sheeting meeting the requirements of Section 990.
4. High Intensity Flashing Lights: Furnish Type B lights in accordance with the Plans and Design Standards.
5. Warning/Channelizing Devices: Furnish warning/channelizing devices in accordance with the Plans and Design Standards.
6. Retroreflective Collars for Traffic Cones: Use collars for traffic cones listed on the QPL APL that meet the requirements of Section 990. Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inch collar a (REV 8-5-14) (FA 8-21-14) (1-15)

   uniform 3-1/2 inches distance from the top of the cone and the lower 4 inch collar a uniform 2 inches 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 a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
7. Barrier Wall (Temporary): Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the Plans. Ensure that temporary concrete barrier wall for use on roadway sections, complies with Design Standards, Index Nos. 412, 415 or 414 as specified in the Plans. Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with Design Standards, Index No 414 as specified in the Plans. Ensure that temporary water filled barrier wall used on roadway sections meets the NCHRP Report 350 criteria or the MASH and is listed on the QPLAPL. Barriers meeting the requirements of Design Standards, Index Nos. 412, 415 or temporary water filled barriers on the QPL APL will not be accepted as an alternate to barriers meeting the requirements of Design Standards, Index No. 414.
8. Glare Screen (Temporary): Use temporary glare screens listed on the QPL APL that meet the requirements of Section 990. Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the Plans. Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 pounds per foot of glare screen, with a requirement to use a minimum of three fasteners per barrier section.

   When glare screen is utilized on temporary barrier wall, warning lights barrier delineators will not be required.
9. Temporary Crash Cushion (Redirective/Gating): Furnish, install, maintain and subsequently remove temporary crash cushions in accordance with the

details and notes shown in the Plans, the Design Standards, and requirements of the pre-approved alternatives listed on the QPLAPL. Maintain the crash cushions until their authorized removal. Repair all attachment scars to permanent structures and pavements after crash cushion removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department. Restore crash cushions damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

10. Guardrail (Temporary): Furnish guardrail (temporary) in accordance with the Plans and Design Standards. Meet the requirements of Section 536.
11. Arrow Board: Furnish arrow boards that meet the requirements of Section 990 as required by the Plans and Design Standards to advise approaching traffic of lane closures or shoulder work. Type B arrow boards may be used on low to intermediate speed (0 mph to 50 mph) facilities or for maintenance or moving operations on any speed facility. Type C arrow boards shall be used for all other operations on high-speed (50 mph and greater) facilities and may be substituted for Type B arrow boards on any speed facility.
12. Portable Changeable Message Sign (PCMS): Furnish PCMSs or truck mounted changeable message signs that meet the requirements of Section 990 as required by the Plans and Design Standards to supplement other temporary traffic control devices used in work zones.(REV 8-5-14) (FA 8-21-14) (1-15) A truck mounted PCMS may be used as a stand alone MOT device only when used for accident or incident management situations as defined in the MUTCD and is listed on the APL.
13. Portable Regulatory Signs (PRS): Furnish PRSs that meet the requirements of 990 as required by the Plans and Design Standards.
    Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.
14. Radar Speed Display Unit (RSDU): Furnish RSDUs that meet the requirements of Section 990 as required by the Plans and Design Standards to inform motorists of the posted speed and their actual speed.
    Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.
15. Temporary Signalization and Maintenance: Provide temporary signalization and maintenance at existing, temporary, and new intersections including but not limited to the following:

    a) Installation of temporary poles and span wire assemblies as shown in the Plans,
    b) Temporary portable traffic signals as shown in the Plans,
    c) Adding or shifting signal heads,
    d) (4) Trouble calls,
    e) (5) Maintaining intersection and coordination timing and preemption devices.

    Restore any loss of operation within 12 hours after notification. Provide traffic signal equipment that meets the requirements of the Design Standards and 603-2. The Engineer may approve used signal equipment if it is in acceptable condition. Replacement components for traffic signal cabinet assemblies will be provided by the maintaining agency.

16. Temporary Traffic Detection and Maintenance: Provide temporary traffic detection and maintenance at existing, temporary, and new signalized intersections. Provide temporary traffic detection equipment listed on the APL. Restore any loss of detection within 12 hours. Ensure 90% accuracy per signal phase, measured at the initial installation and after any lane shifts, by comparing sample data collected from the detection system with ground truth data collected by human observation. Collect the sample and ground truth data for a minimum of five minutes during a peak and five minutes during an off-peak period with a minimum three detections for each signal phase. Perform the test in the presence of the Engineer.
17. Truck Mounted Attenuators and Trailer Mounted Attenuators: Furnish, install and maintain only those attenuators that meet the requirements of NCHRP 350 or the MASH. Use truck mounted attenuators or trailer mounted attenuators, when called for in the Design Standards. Use attenuators listed on the QPLAPL. When attenuators are called for, use either a truck mounted attenuator or a trailer mounted attenuator system designed and installed in accordance with the manufacturers recommendations. Equip the attenuator cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. (REV 8-5-14) (FA 8-21-14) (1-15) 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. In the raised position, place at least the same square footage of striping on the bottom of the cartridge as placed on the rear facing cartridge in the open position. Use Type III retroreflectorized sheeting for striping. Attenuators will not be paid for separately. Include the cost of the truck with either a truck mounted attenuator or a trailer mounted attenuator in MOT Lump Sum. 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.
18. Temporary Raised Rumble Strip Sets: When called for in the Plans, furnish, install, maintain, remove, and reinstall temporary raised rumble strips sets. Install the temporary raised rumble strip sets per the manufacturer’s recommendations and in accordance with Design Standards, Index No. 600. The

temporary raised rumble strip may be either a removable polymer striping tape or a molded engineered polymer material.

19. Automated Flagger Assistance Devices (AFAD): Furnish, install, maintain, remove and relocate AFADs in accordance with the Plans and Design Standards. Position AFADs where they are clearly visible to oncoming traffic and out of the lane of traffic. The devices may be operated either by a single flagger at one end of the traffic control zone, from a central location, or by a separate flagger near each device's location. AFADs may be either a remotely controlled Stop/Slow AFAD mounted on either a trailer or a movable cart system, or a remotely controlled Red/Yellow Lens AFAD. AFADs will not be paid for separately. AFADs may be used as a supplement or an alternate to flaggers in accordance with Index 603. Include the cost for AFADs in Maintenance of Traffic Lump Sum.
20. Temporary Lane Separator: Furnish, install, maintain, remove and relocate temporary lane separator in accordance with the Plans and Design Standards, Index No 600. Anchor the portable temporary lane separator with a removable anchor bolt. Use epoxy on bridge decks where anchoring is not allowed. Remove the epoxy from the bridge deck by hydroblasting or other method approved by the Engineer.

J. Work Zone Pavement Marking.

1. Description: Furnish and install work zone pavement markings for MOT in construction areas and in close conformity with the lines and details shown in the Plans and Design Standards. Centerlines, lane lines, edge lines, stop bars and turn arrows will be required in work zones prior to opening the road to traffic. The most common types of work zone pavement markings are painted pavement markings and removable tape. Other types of work zone pavement markings may be identified in the Plans.
2. Painted Pavement Markings:(REV 8-5-14) (FA 8-21-14) (1-15)
3. General: Use painted pavement markings meeting the requirements of Section 710. Use standard waterborne paint unless otherwise identified in the Plans or approved by the Engineer.

K. Removable Tape:

1. General: Use removable tape listed on the QPL APL and meeting the requirements of 990-4.
2. Application: Apply removable tape with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and accumulatively measure the length of each line placed within an accuracy tolerance of plus or minus 2%. Ensure removable tape adheres to the road surface. Removable tape may be placed by hand on short sections, 500 feet or less, if it is done in a neat accurate manner.
3. Retroreflectivity: Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 300 mcd/lx•m2 for white and contrast markings and not less than 250 mcd/lx•m2 for yellow markings. Black portions of contrast tapes and black masking tapes must be non-reflective and have a reflectance of less than 5 mcd/lx m2. At the end of the six month service life, the retroreflectance of white and yellow removable tape shall not be less than 150 mcd/lx•m2 .
4. Removability: Provide removable tape capable of being removed from bituminous concrete and portland cement concrete pavement intact or in substantially large strips, either manually or by a mechanical roll-up device, at temperatures above 40ºF, without the use of heat, solvents, grinding or blasting.
5. Temporary Retroreflective Pavement Markers (RPM's): Use markers listed on the QPL APL and meeting the requirements of 990-5. Apply all markers in accordance with the Design Standards, Index No. 600, prior to opening the road to traffic. Replace markers any time after installation when more than three consecutive markers fail or are missing, at no expense to the Department, in a timely manner, as directed by the Engineer.

L. Method of Measurement.

1. General: Devices installed/used on the project on any calendar day or portion thereof, within the allowable Contract Time, including time extensions which may be granted, will be paid for at the Contract unit price for the applicable pay item, except those paid for as Lump Sum.
2. Traffic Control Officers: The quantity to be paid for will be at the Contract unit price per hour (4 hour minimum) for the actual number of officers certified to be on the project site, including any law enforcement vehicles and all other direct and indirect costs. Payment will be made only for those traffic control officers specified in the Plans and authorized by the Engineer.
3. Special Detours: When a detour facility is specifically detailed in the Plans, or is otherwise described or detailed as a special item, and an item for separate payment is included in the proposal, the work of constructing, maintaining, and subsequently removing such detour facilities will be paid for separately. Traffic control devices, warning devices, barriers, signing, and pavement markings for special detours will also be paid for separately. When the Plans show more than one detour, each detour will be paid for separately, at the Contract lump sum price for each. Where a separate item for a specific detour facility is included in the proposal, payment will be made under special detour.(REV 8-5-14) (FA 8-21-14) (1-15)
4. Commercial Material for Driveway Maintenance: The quantity to be paid for will be the certified volume, in cubic yards, of all materials authorized by the Engineer, acceptably placed and maintained for driveway maintenance. The volume, which is authorized to be reused, and which is acceptably

salvaged, placed, and maintained in other designated driveways will be included again for payment.

5. Work Zone Signs: The number of temporary post-mounted signs (temporary regulatory, warning and guide) certified as installed/used on the project will be paid for at the Contract unit price for work zone signs. When multiple signs are located on single or multiple posts, each sign panel will be paid individually. Signs greater than 20 square feet and detailed in the Plans will be paid for under Lump Sum MOT. Temporary portable signs (excluding mesh signs) and vehicular mounted signs will be included for payment under work zone signs, only if used in accordance with the Design Standards.
6. Business Signs: The number of business signs certified as installed/used on the project will be paid for at the Contract unit price for business signs.
7. High Intensity Flashing Lights: The number of high intensity flashing lights (Type B) certified as installed/used on the project will be paid for at the Contract unit price for high intensity flashing lights (temporary - Type B).
8. Channelizing Devices: The number of Type I, Type II, direction indicator barricade, Type III, vertical panel, drum and longitudinal channelizing devices certified as installed/used on the project meeting the requirements of Design Standards, Index No. 600 and have been properly maintained will be paid for at the Contract unit prices for barricade (temporary). Payment will be made for each channelizing device that is used to delineate trailer mounted devices. Payment will be made for channelizing devices delineating portable changeable message signs during the period beginning 14 working days before Contract Time begins as authorized by the Engineer.
9. Barrier Wall (Temporary): The Contract unit price for barrier wall (temporary) will be full compensation for furnishing, installing, maintaining, and removing the barrier wall. When called for, the Contract unit price for barrier wall (temporary/relocate) will be full compensation for relocating the barrier. The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.
10. Lights, Temporary, Barrier Wall Mount Delineators: The number of Type C steady burn lights barrier delineators, mounted installed on top of barrier wall, certified as installed/used on the project, meeting the requirements of the Design Standards and Section 705have been properly maintained will be paid for at the Contract unit price for lights temporary, barrier wall mount.
11. Glare Screen (Temporary): The certified quantity to be paid for will be determined by the number of sections times the nominal length of each section.
12. Temporary Crash Cushions:
13. Redirective: The quantity to be paid for will be the number of temporary crash cushions (redirective) certified as installed/used and maintained on the project, including object marker.
14. Gating: The quantity to be paid for will be the number of temporary crash cushions (gating) certified as installed/used and maintained on the project, including object marker.(REV 8-5-14) (FA 8-21-14) (1-15)
15. Temporary Guardrail: The quantity to be paid for will be the length, in feet, of temporary guardrail constructed and certified as installed/used on the project. The length of a run of guardrail will be determined as a multiple of the nominal panel lengths.
16. Arrow Board: The quantity to be paid at the contract unit price will be for the number of arrow boards certified as installed/used on the project on any calendar day or portion thereof within the contract time.
17. Portable Changeable Message Sign: The quantity to be paid at the Contract unit price will be for the number of portable changeable message signs PCMSs or truck mounted changeable message signs certified as installed/used on the project on any calendar day or portion thereof within the contract time. Payment will be made for each portable changeable message sign that is used during the period beginning fourteen working days before Contract Time begins as authorized by the Engineer.
18. Portable Regulatory Signs: The quantity to be paid for will be the number of portable regulatory signs certified as installed/used on the project on any calendar day or portion thereof within the Contract time, will be paid for the Contract unit price for portable regulatory sign.
19. Radar Speed Display Unit: The quantity to be paid for will be the number of radar speed display units certified as installed/used on the project on any calendar day or portion thereof within the Contract Time, will be paid for the Contract unit price for radar speed display unit.
20. Temporary Signalization and Maintenance: For existing intersections, the quantity to be paid for will be the number of signalized intersections per day for the full duration of the Contract. For temporary intersections, the quantity to be paid for will be the number of signalized intersections per day for the duration of the temporary intersection. No separate payment will be made for temporary signalization and maintenance at new intersections.
21. Temporary Traffic Detection and Maintenance: For existing intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day Contract Time begins and ending the day the permanent detection is operational and the final lane configuration is in place. For temporary and new intersections, the quantity to be paid for will be the number of signalized intersections per day beginning the day the temporary detection is functional and ending the day: the permanent detection is operational and the final lane configuration is in place for a new intersection; or, when the detection is removed for a temporary intersection.
22. Work Zone Pavement Markings: The quantities, furnished and installed, to be paid for will be the length of skip and solid pavement markings, and the area of pavement markings placed as follows:
    (a) The total transverse distance, in feet, of skip pavement marking authorized and acceptably

applied. The length of actual applied line will depend on the skip ratio of the material used. Measurement will be the distance from the beginning of the first stripe to the end of the last stripe with proper deductions made for unpainted intervals as determined by plan dimensions or stations, subject to 9-1.3.

(b) The net length, in feet, of solid pavement marking authorized and acceptably applied.

(c) The number of directional arrows or pavement messages authorized and acceptably applied.

(d) The number of temporary RPM's authorized and acceptably applied.(REV 8-5-14) (FA 8-21-14) (1-15)

23. Temporary Raised Rumble Strips: The quantity to be paid for will be the number of calendar days, or portions thereof, that temporary raised rumble strips are certified as installed/used on the project within the Contract Time. The number of strips used must meet the requirements of the Design Standards, Index No. 600. No adjustment will be made to the per day measurement for the number of strips or sets used, or for the number of times the sets are relocated.
24. Temporary Lane Separator: The quantity of temporary lane separator to be paid for will be plan quantity, in feet, including drainage gaps, completed and accepted.

M. Submittals.

1. Submittal Instructions: Prepare a certification of quantities, using the Department's current approved form, for certified MOT payment items for each project in the Contract. Submit the certification of quantities to the Engineer. The Department will not pay for any disputed items until the Engineer approves the certification of quantities.
2. Contractor's Certification of Quantities: Request payment by submitting a certification of quantities no later than Twelve O'clock noon Monday after the estimate cut-off date or as directed by the Engineer, based on the amount of work done or completed. Ensure the certification consists of the following:

    a) Contract Number, FPID Number, Certification Number, Certification Date and the period that the certification represents.
    b) The basis for arriving at the amount of the progress certification, less payments previously made and less an amount previously retained or withheld. The basis will include a detail breakdown provided on the certification of items of payment in accordance with 102-13. After the initial setup of the MOT items and counts, the interval for recording the counts will be made weekly on the certification sheet unless there is a change. This change will be documented on the day of occurrence. Some items may necessitate a daily interval of recording the counts.

N. Basis of Payment.

1. Maintenance of Traffic (General Work): When an item of work 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.
2. Traffic Control Officers: Price and payment will be full compensation for the services of the traffic control officers.
3. Special Detours: Price and payment will be full compensation for providing all detour facilities shown in the Plans and all costs incurred in carrying out all requirements of this Section for general MOT within the limits of the detour, as shown in the Plans.
4. Commercial Materials for Driveway Maintenance: Price and payment will be full compensation for all work and materials specified for this item, including specifically all required shaping and maintaining of driveways.
5. Work Zone Signs: Price and payment will be full compensation for all work and materials for furnishing signs, supports and necessary hardware, installation, relocating, maintaining and removing signs.
6. Business Signs: Price and payment will be full compensation for all materials and labor required for furnishing, installing, relocating, maintaining, and removing the signs as well as the cost of installing any logos provided by business owners.(REV 8-5-14) (FA 8-21-14) (1-15)
7. High Intensity Warning Lights: Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing high intensity flashing lights (Type B).
8. Channelizing Devices: Prices and payment will be full compensation for furnishing, installing, relocating, maintaining and removing the channelizing devices, including the costs associated with attached warning lights as required.
9. Barrier Wall (Temporary): Price and payment will be full compensation for furnishing, installing, maintaining, and removing the barrier. When called for, barrier wall (temporary) (relocate) will be full compensation for relocating the barrier.
10. Lights, Temporary, Barrier Wall Mount Delineators: Price and No separate payment will be full compensation for all work and materials made for furnishing, installing and maintaining the warning lights mounted barrier delineators installed on top of temporary barrier wall. Payment will not be made for lights that are improperly placed or are not working. The cost of furnishing, installing and maintaining the barrier delineators will be included in the cost of the temporary barrier wall.
11. Glare Screen (Temporary): Price and payment will be full compensation for furnishing, installing, maintaining, and removing the glare screen certified as installed/used on the project. When called for, glare screen (relocate) will be full compensation for relocating the glare screen.
12. Temporary Crash Cushion (Redirective/Gating): Price and payment will be full compensation for furnishing, installing, maintaining and subsequently removing such crash cushions.
13. Temporary Guardrail: Price and payment will be full compensation for furnishing all materials required for

a complete installation, including end anchorage assemblies and any end connections to other structures and for installing, maintaining and removing guardrail.

14. Arrow Board: Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing arrow boards.
15. Portable Changeable Message Sign: Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable changeable message signs.
16. Portable Regulatory Signs: Price and payment will be full compensation for furnishing, installing, relocating, maintaining and removing a completely functioning system as described in these Specifications portable regulatory signs. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing portable regulatory signs. Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is being affected by construction and/or MOT operations.
17. Radar Speed Display Unit: Price and payment will be made only for a completely functioning system as described in these specifications. Payment will include all labor, hardware, accessories, signs, and incidental items necessary for a complete system. Payment will include any measurements needed to insure that the unit conforms to all specification requirements. Payment will include all labor, materials, incidentals, repairs and any actions necessary to operate and maintain the unit at all times that work is being performed or traffic is (REV 8-5-14) (FA 8-21-14) (1-15) being affected by construction and/or MOT operations. Price and payment will be full compensation for furnishing, installing, operating, relocating, maintaining and removing radar speed display unit.
18. Temporary Signalization and Maintenance: Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic control signals including all equipment and components necessary to provide an operable traffic signal. Payment will be withheld for each day at each intersection where the temporary signalization is not operational within 12 hours after notification.
19. Temporary Traffic Detection and Maintenance: Price and payment will constitute full compensation for furnishing, installing, operating, maintaining and removing temporary traffic detection including all equipment and components necessary to provide an acceptable signalized intersection. Take ownership of all equipment and components. Payment will be withheld for each day at each intersection where the temporary detection is not operational within 12 hours after notification.
20. Temporary Raised Rumble Strips: Price and payment will be full compensation for all work and materials described in this Section, including all cleaning and preparing of surfaces, disposal of all debris, furnishing of all materials, application, curing, removal, reinstalling and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work.
21. Work Zone Pavement Markings: Price and payment will be full compensation for all work specified including, all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected. Removable tape may be substituted for work zone paint at no additional cost to the Department. Payment for temporary RPMs used to supplement line markings will be paid for under temporary retroreflective pavement markers. Install these markers as detailed in the Design Standards.
22. Temporary Lane Separator: Price and payment will be full compensation for all work specified in this Section.

O. Payment Items: Payment will be made under:

Item No. 102- 1- Maintenance of Traffic - lump sum.

104 PREVENTION, CONTROL, AND ABATEMENT OF EROSION AND WATER POLLUTION (REV. 01-09-12)

A. Description.

1. Provide erosion control measures on the Project and in areas outside the right-of-way where work is accomplished in conjunction with the Project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the Project right-of-way, and damage to work on the Project.
2. Construct and maintain temporary erosion control features and, as required, construct and maintain permanent erosion control features as shown in the Plans or as may be directed by Engineer.

B. General.

1. Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to ensure economical, effective, and continuous control of erosion and water pollution throughout the life of the Contract.
2. Maintain, at the work site, copies of all documents referenced by this Specification including: the Departmental Stormwater Pollution Prevention Plan (if provided); the approved contractor Erosion Control Plan; and applicable inspection reports, permits and certifications. Document compliance with all requirements pertaining to the aforementioned documents and this Specification.
3. Engineer may direct, when warranted by unforeseen conditions, the use of control features or methods other than those included in the original Contract. In such

event, the Department will pay for this additional work as unforeseeable work.

C. Control of Contractor's Operations Which May Result in Water Pollution.

1. Prevent pollution of streams, canals, lakes, reservoirs, and other water impoundments with fuels, oils, bitumens, calcium chloride, or other harmful materials.
2. Conduct and schedule operations to avoid or otherwise minimize pollution or siltation of such water impoundments, and to avoid interference with movement of migratory fish. Do not dump any residue from dust collectors or washers into any water body.
3. Restrict construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals, and other water impoundments to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the Plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear rivers, streams, and impoundments of all obstructions placed therein or caused by construction operations.
4. Do not frequently ford live streams with construction equipment. Wherever an appreciable number of stream crossings are necessary at any one location, use a temporary bridge or other structure.
5. Except as necessary and authorized for Project construction, do not deposit excavated material in rivers, streams, canals, or impoundments, or in a position close enough thereto, to be washed away by high water or runoff.
6. Where pumps are authorized for use in removing highly turbid waters from enclosed construction areas such as cofferdams or forms, treat the water by one or more of the following methods prior to discharge into State waters:
    a. Pumping into grassed swales or appropriate vegetated areas or sediment basins.
    b. Confined by an appropriate enclosure such as turbidity barriers when other methods are not considered appropriate.
7. Do not disturb lands or waters outside the limits of construction as staked, except as authorized by Engineer.
8. Obtain Engineer's approval for the location of, and method of operation in, borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in probability of detrimental siltation or water pollution.

D. Materials for Temporary Erosion Control.

1. Engineer will not require testing of materials used in construction of temporary erosion control features other than as provided for geotextile fabric in FDOT 985-3 unless such material is to be incorporated into the completed Project.
2. When no testing is required, Engineer will base acceptance on visual inspection.
3. Contractor may use new or used materials, subject to Engineer's approval, for the construction of temporary silt fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed Project.

E. Erosion Control Plan.

1. Prepare the Erosion Control Plan (ECP) in a format acceptable to the Department and in accordance with the planned sequence of operations.
2. At the Preconstruction Conference, submit to the Department an ECP that:
    a. Meets the requirements or conditions of all permits authorizing construction of the Project. Where no permits are required or the approved permits do not contain conditions that specifically addresses erosion and water pollution, the requirements of the ECP will be governed by the Contract Documents and all applicable laws, rules, or regulations.
    b. Accompanies the Department's Stormwater Pollution Prevention Plan (SWPPP) when a SWPPP is provided for the Project.
    c. Includes and describes for each phase of construction operations or activities the following:
        1) Locations of all erosion control devices
        2) Types of all erosion control devices
        3) Estimated time erosion control devices will be in operation
        4) Monitoring schedules for maintenance of erosion control devices
        5) Methods of maintaining erosion control devices
        6) Containment or removal methods for pollutants or hazardous wastes
        7) The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.
    d. Includes procedures to control off-site tracking of soil by vehicles and construction equipment and a procedure for cleanup and reporting of non-stormwater discharges.
    e. Describes all phases of operations, the prevention, control, and abatement of erosion and water pollution items or activities necessary for the Project, to include:
        1) Types and locations of all erosion control devices
        2) Estimated time erosion control devices will be in operation
        3) Monitoring schedules for maintenance of erosion control devices
        4) Methods for maintaining erosion control devices

5) Containment or removal methods for pollution or hazardous wastes

6) Name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.

3. Contractor must obtain Engineer's written approval of the ECP prior to commencing any construction activities.

4. For project requiring a Florida Department of Environmental Protection (FDEP) Generic Permit for Stormwater Discharge from Large and Small Construction Activities (Generic Permit):

   a. Failure to sign any documents or certification statements required by the FDEP Generic Permit will be considered a default of the Contract.

   b. Any soil disturbing activities performed without the required signed documents or certifications statements may be considered a violation of the FDEP Generic Permit.

F. Construction Requirements.

1. Limitation of Exposure of Erodible Earth:

   a. Engineer may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct Contractor to provide erosion or pollution control measures to prevent contamination of any river, stream, lake, tidal waters, reservoir, canal, or other water impoundments or to prevent detrimental effects on property outside the Project right-of-way or damage to the Project.

   b. Limit the area in which excavation and filling operations are being performed so that it does not exceed the capacity to keep the finish grading, turf, sod, and other such permanent erosion control measures current in accordance with the accepted schedule.

   c. Do not allow the surface area of erodible earth that clearing and grubbing operations or excavation and filling operations expose to exceed 750,000 square feet without specific prior approval by Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.

   d. Engineer may increase or decrease the amount of surface area the Contractor may expose at any one time.

2. Incorporation of Erosion and Sediment Control Features:

   a. Incorporate permanent erosion control features into the project at the earliest practical time. Use temporary erosion and sediment control features found in the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (E&SC Manual) to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion and sediment prior to the time it is practical to construct permanent control features, or to provide immediate temporary control of erosion and sediment that develops during normal construction operations, which are not associated with permanent erosion control features on the project. An electronic version of the E&SC Manual can be found at the following URL: http://www.dot.state.fl.us/specificationsoffice/Implemented/URLinSpecs/Files/FLErosionSedimentManual060709.pdf

   b. Install all sediment control devices in a timely manner to ensure the control of sediment and the protection of lakes, streams, gulf or ocean waters, or any wetlands associated therewith and to any adjacent property outside the right-of-way as required.

   c. At sites where exposure to such sensitive areas is prevalent, complete the installation of any sediment control device prior to the commencement of any earthwork.

   After installation of sediment control devices, repair portions of any devices damaged at no expense to the Department. Engineer may authorize temporary erosion and sediment control features when finished soil layer is specified in the Contract and the limited availability of that material from the grading operations will prevent scheduled progress of the work or damage the permanent erosion control features.

3. Scheduling of Successive Operations:

   a. Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposure of uncompleted construction to the elements is as short as practicable.

   b. Schedule and perform clearing and grubbing so that grading operations can follow immediately thereafter. Schedule and perform grading operations so that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

4. Details for Temporary Erosion and Sediment Control Features:

   a. General: Use temporary erosion, sediment and water pollution control features found in the E&SC Manual. These features consist of, but are not limited to, temporary turf, rolled erosion control products, sediment containment systems, runoff control structures, sediment barriers, inlet protection systems, silt fences, and turbidity barriers. For design details for some of these items, refer to the Plans, the FDOT Design Standards and E&SC Manual.

   b. Temporary Sod: Engineer may designate certain areas of sod constructed in accordance with the Specifications as temporary erosion control features. For areas not defined as sod, constructing temporary turf by seeding only is not an option for temporary erosion control under this Article. Engineer may waive the turf establishment requirements of the Specifications for areas with temporary sod that will not be a part of the permanent construction. The work of placing temporary sod, approved as a temporary erosion control feature where directed by Engineer and in accordance with these Specifications, will be paid for as unforeseeable work.

c. Runoff Control Structures: Construct runoff control structures in accordance with the details shown in the Plans, the E&SC Manual, or as may be approved as suitable to adequately perform the intended function.

d. Sediment Containment Systems: Construct sediment containment systems in accordance with the details shown in the Plans, the E&SC Manual, or as may be approved as suitable to adequately perform the intended function. Clean out sediment containment systems as necessary in accordance with the Plans or as directed.

Sediment Barriers: Provide and install sediment barriers according to details shown in the Plans, as directed by Engineer, or as shown in the E&SC Manual to protect against downstream accumulation of sediment. Sediment Barriers include, but are not limited to synthetic bales, silt fence, fiber logs and geosynthetic barriers. Reusable barriers that have had sediment deposits removed may be reinstalled on the Project as approved by Engineer.

e. Silt Fence:

1) General: Furnish, install, maintain, and remove silt fences, in accordance with the manufacturer's directions, these Specifications, the details as shown on the Plans, the FDOT Design Standards, and the E&SC Manual.

2) Materials and Installation: Use a geotextile fabric made from woven or nonwoven fabric, meeting the physical requirements of FDOT Section 985 according to those applications for erosion control. Choose the type and size of posts, wire mesh reinforcement (if required), and method of installation. Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective silt fence that controls sediment comparable to the FDOT Design Standards and the E&SC Manual. Erect silt fence at upland locations, across ditch lines and at temporary locations shown on the plans or approved by Engineer where continuous construction activities change the natural contour and drainage runoff. Do not attach silt fence to existing trees unless approved by Engineer.

3) Inspection and Maintenance: Inspect all silt fences immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, install additional silt fences as directed by Engineer. Remove sediment deposits when the deposit reaches approximately 1/2 of the volume capacity of the silt fence or as directed by Engineer. Dress any sediment deposits remaining in place after the silt fence is no longer required to conform with the finished grade, and prepare them in accordance with the Contract Documents and as directed by Engineer.

4) Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters and minimize damage to areas where floating barriers installed.

f. Inlet Protection System: Furnish and install inlet protection systems as shown in the Plans, FDOT Design Standards and the E&SC Manual.

g. Rolled Erosion Control Products (RECPs):

1) General: Install RECPs in locations where temporary protection from erosion is needed. Two situations occur that require artificial coverings each having differing material requirements.

Temporary pauses in construction: Use RECPs composed of natural or synthetic fiber mats, plastic sheeting, or netting as protection against erosion, when directed by Engineer, during temporary pauses in construction caused by inclement weather or other circumstances. Remove the material when construction resumes.

a) Facilitating plant growth: Use RECPs as erosion control blankets, at locations shown in the plans, to facilitate plant growth while permanent grassing is being established. For the purpose described, use non-toxic, biodegradable, natural or synthetic woven fiber mats. Install erosion control blankets capable of sustaining a maximum design velocity of 6.5 ft/sec as determined from tests performed by Utah State University, Texas Transportation Institute or an independent testing laboratory approved by the Department. Furnish to Engineer, two certified copies of manufacturers test reports showing that the erosion control blankets meet the requirements of this Specification. Certification must be attested, by a person having legal authority to bind the manufacturing company. Also, furnish two 4 by 8 inch samples for product identification. The manufacturers test records shall be made available to the Department upon request. Leave the material in place, as installed, to biodegrade.

5. Removal of Temporary Erosion Control Features: In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in an area of the Project in such a manner that no detrimental effect will result. Engineer may direct that temporary features be left in place.

G. Maintenance of Erosion and Sediment Control Features.

1. General: Provide routine maintenance of permanent and temporary erosion and sediment control features, at no expense to the Department, until the Project is complete and accepted. If reconstruction of such erosion and sediment control features is necessary due to Contractor's negligence or carelessness or, in the case of temporary erosion and sediment control features, failure by the Contractor to install permanent erosion control

features as scheduled, Contractor must replace such erosion control features at no expense to the Department. If reconstruction of permanent or temporary erosion and sediment control features is necessary due to factors beyond the control of Contractor, the Department will pay for replacement under the appropriate Contract pay item or items.

2. Inspect all erosion and sediment control features at least once every seven calendar days and within 24 hours of the end of a storm of 0.50 inches or greater. Maintain all erosion control features as required in the SWPPP, Contractor's ECP, the E&SC Manual, and as specified in the State of Florida Department of Environmental Protection Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

H. Protection during Suspension of Contract Time.

1. If it is necessary to suspend the construction operations for any appreciable length of time, shape the top of the earthwork in such a manner to permit runoff of rainwater, and construct earth berms along the top edges of embankments to intercept runoff water. Provide temporary slope drains to carry runoff from cuts and embankments that are in the vicinity of rivers, streams, canals, lakes, and impoundments. Locate slope drains at intervals of approximately 500 feet, and stabilize them by paving or by covering with waterproof materials. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation. Engineer may direct Contractor to perform, during such suspensions of operations, any other erosion and sediment control work deemed necessary.

I. Method of Measurement.

1. Direct Payment Provided:

   a. When separate items for temporary erosion control features are included in the Contract and have awarded Contract prices, the quantities to be paid for will be the:

      1) Area, in square yards, of Rolled Erosion Control Products.

      2) Length, in feet, of Runoff Control Structures, measured along the surface of the work constructed.

      3) Number of Sediment Containment Systems constructed and accepted.

      4) Number of Sediment Containment System Cleanouts accomplished and accepted.

      5) Length, in feet, of Sediment Barriers.

      6) Length, in feet, of Floating Turbidity Barrier.

      7) Length, in feet, of Staked Turbidity Barrier.

      8) Number of inlet protection systems.

   b. Upon acceptance by the Engineer, the quantity of floating turbidity barriers, sediment barriers, staked turbidity barriers, and inlet protection devices will be paid for regardless of whether materials are new, used, or relocated from a previous approved installation on the Project.

2. No Direct Payment Provided: Unless otherwise specified, when no item for direct payment of temporary erosion control features is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.

J. Basis of Payment.

Prices and payments will be full compensation for all work specified in this Article, including construction and routine maintenance of temporary erosion control features.

1. Any additional costs resulting from compliance with the requirements of this Article, other than construction, routine maintenance, and removal of temporary erosion control features, will be included in the Contract unit prices for the item or items to which such costs are related.

2. Separate payment will not be made for the cost of constructing temporary earth berms along the edges of the roadways to prevent erosion during grading and subsequent operations. Contractor must include these costs in the Contract prices for earthwork items.

3. Additional temporary erosion control features constructed as directed by Engineer will be paid for as unforeseeable work.

4. In case of repeated failure on the part of Contractor to control erosion, pollution, or siltation, Engineer reserves the right to employ outside assistance or to use the Department's own forces to provide the necessary corrective measures. Any such costs incurred, including engineering costs, will be charged to Contractor and appropriate deductions made from the monthly progress estimate.

5. Payment will be made under:

Item No.	Description	Unit
Item No. 104-12	Staked Turbidity Barrier – Nylon Reinforced PVC	LF
Item No. 104-16	Inlet Protection System	EA

105 CONTRACTOR QUALITY CONTROL GENERAL REQUIREMENTS (REV. 08-23-12)

A. General.

1. Submit to Engineer a Contractor's Quality Control Plan (CQCP) meeting the requirements stipulated in this Article and that addresses the transportation, storage, placement, sampling, inspection of Contract materials and related construction operations; and to ensure that all work and material incorporated into the Project meet the requirements of the Contract Documents.
2. Comply with all personnel qualification requirements stipulated in this Article and elsewhere in the Contract Documents.

B. Guidelines for Development of the CQCP

1. Use the following guidelines for developing the CQCP and include other additional items as necessary.
   a. General. Provide detailed policies, methods and procedures to ensure the specified quality of all applicable materials and related production and field operations.
   b. Process control testing. List the material to be tested by pay item, tests to be conducted, the location of sampling, and the frequency of testing.
   c. Inspection/control procedures. Address each of the following subjects in each phase of construction:
      1) Preparatory phase.
         a) Review all Contract requirements.
         b) Ensure compliance of component material to the Contract requirements.
         c) Coordinate all submittals including certifications.
         d) Ensure capability of equipment and personnel to comply with the Contract requirements.
         e) Ensure preliminary testing is accomplished.
         f) Coordinate surveying and staking of the work.
      2) Start-up phase.
         a) Review the Contract requirements with personnel performing the work.
         b) Inspect start-up of work.
         c) Establish standards of workmanship.
         d) Provide training as necessary.
         e) Establish detailed testing schedule based on the production schedule.
      3) Production phase.
         a) Conduct intermittent or continuous inspection during construction to identify and correct deficiencies.
         b) Inspect completed work before requesting Engineer inspection acceptance.
         c) Provide feedback and system changes to prevent repeated deficiencies.
   d. Description of records. List the records to be maintained.
   e. Personnel qualifications.
      1) Identify the primary contact that will communicate with the Department. Identify roles and responsibilities of the personnel involved in the Quality Control (QC) process. Document the name, authority, relevant experience, and qualifications of person with overall responsibility for the inspection system.
      2) Document the names, authority, and relevant experience of all personnel directly responsible for inspection and testing.

         Submit the Training Identification Numbers (TINs) or any other information which will be traceable to the certification agency's training location and dates for all technicians performing sampling, testing and inspection for both field and laboratory tests. Provide the names of the Florida Department of Transportation's Construction Training and Qualification Program (CTQP) certifications and other pertinent certifications held and the expiration dates for each certification for each technician. Include employed and subcontracted technicians.
   f. Subcontractors.
      1) Include the work of all subcontractors.
      2) If a subcontractor is to perform work subject to the requirements of this Article, detail how that subcontractor will interface with Contractor's and other subcontractor's organizations.
   g. Raw Materials:
      1) Source: Identify the sources of raw materials. Provide locations and plant or mine numbers when applicable. Include the mailing address, physical address including county of the plant, telephone and fax numbers, E-mail address, primary contact at the plant, responsible person in charge, facility number provided by the FDOT, Owner information and Vendor Number and other information as required.
      2) Certification: Describe methods of verifying compliance of certification with the Specifications.
      3) Disposition of Failing Materials: Describe the system for controlling non-conforming materials, including procedures for identification, isolation and disposition.
      4) Storage Facilities for Raw Materials: Describe measures and methods, including bedding details, for preventing segregation, contamination and degradation.
      5) Describe methods of identifying individual materials. Where applicable, submit a site plan showing the locations of various materials.

h. Production Equipment: Describe calibration frequencies, maintenance schedule and procedures for production equipment.

i. Other Requirements:

1) Copy of Certification: Attach certifications issued by the plant/Contractor for the products approved by the FDOT that will be used in the Project.

2) Statement of Compliance: Include a statement of compliance with all quality requirements set forth by the Department in the Contract Documents.

Information on Producers with Accepted FDOT Quality Control Programs: All producers of materials listed herein in Subarticle 105-G.1 must have FDOT accepted QC Programs and be listed on the FDOT's List of Producers with Accepted QC Programs. Identify the Producers of materials for the Project and include the FDOT's Facility Id number as part of the identification.

3) Describing Documentation Procedure: Identify location of document storage to enable Department review. Include QC charts, qualification/accreditation records, inspection reports, and other pertinent/supporting documents for an approved CQCP.

j. Final Manufactured Product - Plant Operations: Describe inspection schedule and methods for identifying defects and non-compliance with the specifications. Describe corrective actions and methods to resolve them.

1) Storage: When storage of the produced materials is required and it is not defined in the Contract Documents, describe the methods and duration for storage. Include measures and methods for preventing segregation, contamination and degradation during storage.

2) Disposition of Failing Materials: When not described in the specifications, describe the methods and measures for identifying and controlling the failing materials. Include preventive and corrective measures. Describe disposition of failing materials.

k. Final Manufactured Product - Field Operations:

1) Transportation: Describe the method of delivery from the point of production/storage to the point of placement.

2) Storage: When storage of the produced materials is required and it is not defined in the Contract Documents, describe the methods and duration for storage. Include measures and methods for preventing segregation, contamination and degradation during storage.

3) Placement: Describe the methods and identify the type of equipment used in incorporation of the materials into the project.

4) Disposition of Failing Materials: When not described in the specifications, describe the methods and measures for identifying and controlling the failing materials. Include preventive and corrective measures. Describe disposition of failing materials.

C. Quality Control Plan Submittal.

1. Submit the CQCP to Engineer for approval within 21 days after the Contract Award or at the Preconstruction Conference, whichever is sooner. Do not incorporate materials into the Project or begin any work subject to the CQCP prior to Engineer's acceptance of the CQCP.

Modifications or additions may be required to any part of the CQCP that is not adequately covered. Acceptance of the CQCP will be based on the inclusion of the required information. Acceptance does not imply any warranty by the County that the CQCP will result in consistent contract compliance. It remains the responsibility of Contractor to demonstrate such compliance.

2. If at any time Contractor is not in compliance with the approved CQCP, or a part thereof, affected portions of the CQCP will be disapproved. Cease work in the affected operation(s) and submit a revision to Engineer. If the CQCP, or a part thereof, must be revised, submit the revision to Engineer. Engineer will review the revision and respond within seven calendar days of receipt.

3. Continue to work on operations that are still in compliance with the approved sections of the CQCP.

4. As work progresses, submit to Engineer for acceptance supplementary documentation to the CQCP whenever quality control or quality control personnel changes are necessary.

D. Quality Control Documentation.

1. Maintain complete testing and inspection records by pay item number and make them accessible to Engineer. When or where required, submit the record and certification within one working day of the work being performed. If the record is incomplete, in error, or otherwise misleading, a copy of the record will be returned with corrections noted. When chronic errors or omissions occur, correct the procedures by which the records are produced.

2. Submission of Materials Certification and Reporting Test Results: Provide certifications prior to placement of materials. Report test results at completion of the test and meet the requirements of the applicable Specifications.

3. Worksheets: Make available to the Department, when requested, worksheets used for collecting test information. Ensure the worksheets at a minimum contain the following:

a. Project Identification Number,
b. Time and Date,
c. Laboratory Identification and Name,
d. Training Identification Numbers (TIN) and initials,
e. Record details as specified within the test method.

4. Inspections to Assure Compliance with Acceptance Criteria.

   a. General: The Department is not obligated to make an inspection of materials at the source of supply, manufacture, or fabrication.

      Quality Control Inspection: Provide all necessary inspection to assure effective Quality Control of the operations related to materials acceptance. This includes but is not limited to sampling and testing, production, storage, delivery, construction and placement. Ensure that the equipment used in the production and testing of the materials provides accurate and precise measurements in accordance with the applicable Specifications. Maintain a record of all inspections, including but not limited to, date of inspection, results of inspection, and any subsequent corrective actions taken. Make available to the Department the inspection records, when requested.

   b. Notification of Placing Order:

      1) Order materials sufficiently in advance of their incorporation in the work to allow time for sampling, testing and inspection. Notify Engineer, prior to placing orders for materials.

      2) Submit to Engineer a fabrication schedule for all items requiring commercial inspection, before or at the preconstruction meeting. These items include, but are not limited to steel bridge components, overhead cantilevered sign supports with cantilevered arms exceeding 41 feet, moveable bridge components or any other item identified as an item requiring commercial inspection in the Contract Documents.

      3) Notify Engineer at least 30 days before beginning any production and include a production schedule.

E. Contractor Certification of Compliance.

1. Provide Engineer with a notarized monthly certification of compliance with the requirements of this Article, to accompany each progress estimate, on a form acceptable by Engineer. The Department may not authorize payment of any progress estimate not accompanied by an executed certification document.

2. Final payment will not be made until a final notarized certification summarizing all QC exceptions has been submitted.

F. Personnel Qualifications.

1. General:

   a. Provide qualified personnel for sampling, testing and inspection of materials and construction activities. Ensure that qualifications are maintained during the course of sampling, testing and inspection.

   b. Construction operations that require a qualified technician must not begin until Engineer verifies that the technician is on the FDOT CTQP list of qualified technicians.

2. QC Manager:

   Designate a QC Manager who has full authority to act as Contractor's agent to institute any and all actions necessary for the successful implementation of the CQCP. The QC Manager must speak and understand English. The QC Manager must be on-site at the Project on a daily basis or always available upon four hours notice to administer the CQCP. This includes administering, implementing, monitoring, and as necessary, adjusting the processes to ensure compliance with the Contract Documents. Ensure that the QC Manager is qualified as such through the FDOT CTQP.

   a. Under the direction of the QC Manager, and using standard forms approved by Engineer, summarize the daily QC activities including testing and material sampling. Since erasures are strictly prohibited on all reports and forms, use blue or colored ink. Do not use black ink. If manual corrections to original data are necessary, strike through, correct, and date the entry, including the initials of the person making the correction. Make copies of the completed forms available for the Department to review daily unless otherwise required in the specifications. Maintain all QC related reports and documentation for a period of three years from final acceptance of the Project. Make copies available for review by the Department upon request.

3. Worksite Traffic Supervisor:

   a. Provide a Worksite Traffic Supervisor who is responsible for initiating, installing, and maintaining all traffic control devices as described in Article 102 (Maintenance of Traffic) and in the Contract Documents. Ensure that the Worksite Traffic Supervisor is certified in the advanced training category by a FDOT approved training Provider. Approved Providers will be posted on the FDOT's website at the following URL address:

      1) http://www.dot.state.fl.us/rddesign/MOT/MOT.shtm

   b. Use approved alternate Worksite Traffic Supervisors when necessary.

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. The Worksite Traffic Supervisor or others as approved by the Department will provide training for flaggers.

5. Earthwork Quality Control Personnel:

   a. Earthwork Level I: Ensure the technician who samples soil and earthwork materials from the roadway project, takes earthwork moisture and density readings, and records those data in the Density Log Book holds a CTQP Earthwork Construction Inspection Level I qualification.

   b. Earthwork Level II: Ensure the technician responsible for determining the disposition of soil and earthwork materials on the roadway, and for interpreting and meeting Contract Document requirements holds a CTQP Earthwork Construction Inspection Level II qualification.

6. Asphalt Quality Control Personnel:

   Plant Technicians: For asphalt plant operations, provide a QC technician, qualified as a CTQP Asphalt Plant Level II technician, available at the asphalt plant at all times when producing mix for the Department. Perform all asphalt plant related testing with a CTQP Asphalt Plant Level I technician. As an exception, measurements of temperature may be performed by someone under the supervision of a CTQP Plant Level II technician.

   a. Paving Technicians: For paving operations (with the exception of miscellaneous or temporary asphalt), keep a qualified CTQP Asphalt Paving Level II technician on the roadway at all times when placing asphalt mix for the Department, and perform all testing with a CTQP Asphalt Paving Level I technician. As an exception, measurements of cross-slope, temperature, and yield (spread rate) can be performed by someone under the supervision of a CTQP Paving Level II technician at the roadway.

   b. Mix Designer: Ensure all mix designs are developed by individuals who are CTQP qualified as an Asphalt Hot Mix Designer.

   c. Documentation: Document all QC procedures, inspection, and all test results and make them available for review by Engineer throughout the life of the Contract. Identify in the asphalt producer's Quality Control Plan the Quality Control Manager(s) and/or Asphalt Plant Level II technician(s) responsible for the decision to resume production after a quality control failure.

7. Concrete QC Personnel:

   a. Concrete Field Technician - Level I: Ensure technicians performing plastic property testing on concrete for materials acceptance are qualified CTQP Concrete Field Technicians Level I. Plastic property testing will include but not be limited to slump, temperature, air content, water-to-cementitious materials ratio calculation, and making and curing concrete cylinders. Duties will include initial sampling and testing to confirm specification compliance prior to beginning concrete placements, ensuring timely placement of initial cure and providing for the transport of compressive strength samples to the designated laboratories.

   b. Concrete Field Inspector - Level II: Ensure field inspectors responsible for the quality of concrete being placed on major bridge projects are qualified CTQP Concrete Field Inspectors Level II. A Level II Inspector must be present on the jobsite during all concrete placements. Prior to the placement of concrete, the inspector will inspect the element to be cast to ensure compliance with Contract Documents. A Level II Inspector's duties may include ensuring that concrete testing, inspection, and curing in the field are performed in accordance with the Contract Documents. The QC Inspector will inform the Verification Inspector of anticipated concrete placements and LOT sizes.

   c. Concrete Laboratory Technician:

      1) Concrete Laboratory Technician - Level I: Ensure technicians testing cylinders and recording concrete strength for material acceptance are qualified CTQP Concrete Laboratory Technicians Level I. Duties include final curing, compressive strength testing, and the recording/reporting of all test data.

      2) Concrete Laboratory Technician – Level II: Ensure that laboratories providing hardened property test results to the Department are under the supervision of a CTQP Concrete Laboratory Technician - Level II. This person is responsible to ensure that the tests are performed in accordance with Standard Test Methods, project specifications and other contract documents.

8. Pipe and Precast Concrete Products Manufacturing Facilities Quality Control Personnel:

   a. General: Obtain personnel certifications from FDOT accredited training providers. The list of FDOT approved courses and their accredited providers is available on the State Materials Office website.

   b. Precast Concrete Drainage Structures, Precast Concrete Box Culvert, Precast Concrete Pipe, Incidental Precast Concrete, and Flexible Pipe Manufacturing Facilities Quality Control Personnel:

      1) Level I Quality Control Inspectors: Ensure that the Level I Inspectors have completed a minimum of a 12-hour, Department approved, Level I QC Inspector training course in the respective work area. As an exception to this, ensure Flexible Pipe Level I QC Inspectors have completed a minimum of an 8-hour, Department approved, Level I QC Flexible Pipe Inspector training course. For Incidental Precast Concrete, as an alternative to the completion of the 12-hour training course, the Department will accept QC personnel meeting the requirements of Subarticle 105-F.11.b.4)a) below and CTQP Concrete Field Technician level I certification or Precast/Prestressed Concrete Institute (PCI) Quality Control Technician/Inspector Level II certification.

      2) Level II Quality Control Inspectors: Ensure that Level II Inspectors have completed FDOT approved Level I QC Inspector training and a minimum of a 5-hour, FDOT approved, Level II QC Inspector training course in the respective work areas. For Incidental Precast Concrete, as an alternative to the completion of the 5-hour training course, the Department will accept CTQP Concrete Field Technician Level II or PCI Quality Control Level III certifications.

      3) Plant Quality Control Manager: Ensure that QC Manager has completed FDOT approved Level II QC Inspector training and has a minimum of 2 years construction related experience in the specific work area.

      Additional Requirements for Quality Control Personnel of Precast Concrete Drainage, Precast Concrete Box Culvert, and Incidental Precast Concrete Manufacturing Facilities:

a) Testing Personnel: Ensure the personnel performing plastic property tests have ACI Concrete Field Testing Technician-Grade I certification. Ensure the personnel performing laboratory compressive strength testing have ACI Concrete Laboratory Testing Technician-Grade 1 certification or ACI Concrete Strength Testing Technician certification.

b) Batch Plant Operator: Ensure the concrete batch plant operator is qualified as a CTQP Concrete Batch Plant Operator. As an alternative to CTQP qualification, the Department will accept the completion of a minimum of a 6-hour, FDOT approved, Batch Plant Operator training course.

110 CLEARING AND GRUBBING (REV. 05-16-11)

A. General.

1. Perform all Clearing and Grubbing required by the Contract Documents or necessary to prepare the Project site for the proposed construction.
2. Remove and dispose of all structures, material, product and debris not required to be salvaged or not required to complete the construction.
3. Trim trees and shrubs within the Project right-of-way that are required by the Contract Documents or necessary for the construction of the Project.
4. Perform the work and meet all the requirements for the miscellaneous operations described in Subarticle B.6 herein.
5. Protect and do not displace structures which are to remain in place.

B. Clearing and Grubbing:

1. Standard Clearing and Grubbing.
   a. Perform Standard Clearing and Grubbing within:
      1) Right-of-way of the roadway to be constructed.
      2) All Project areas, whether or not shown in the Plans, that require Clearing and Grubbing including:
         a) Areas where excavation is to be done.
         b) Areas where roadway embankments will be constructed.
         c) Areas where structures will be constructed or installed.
   b. Work includes complete removal and disposal of:
      1) All buildings, structures, appurtenances, existing pavement, trees, plants, vegetation, timber, brush, stumps, roots, rubbish, debris, and all other obstructions resting on or protruding through the surface of the existing ground and the surface of excavated areas.
      2) All other structures and obstructions necessary to be removed and for which other items of the Contract do not specify the removal thereof.
      3) Any boulders encountered in the roadway excavation or found on the surface of the ground unless otherwise permitted by the Contract Documents
   c. Depths of Removal of Roots, Stumps, and Other Debris:
      1) Completely remove and dispose of all stumps found within the roadway right-of-way.
      2) Remove roots and other debris from all excavated material to be used in the construction of roadway embankment.
      3) In all areas where excavation is to be performed or roadway embankments are to be constructed, plow the surface to a depth of at least 6 inches, and remove roots and other debris to a depth of 12 inches below the ground surface.
      4) Remove all roots and other debris protruding through or appearing on the surface of the completed excavation within the roadway area and for structures, to a depth of at least 12 inches below the finished excavation surface.
      5) In borrow pits, material pits, and lateral ditches, remove or cut off all stumps, roots, etc. below the surface of the completed excavation. Do not perform any clearing or grubbing within 3 feet inside the right-of-way line in borrow and material pits.
      6) Within all other areas where Standard Clearing and Grubbing is to be performed, remove roots and other debris projecting through or appearing on the surface of the original ground to a depth of 12 inches below the surface, but do not plow or harrow these areas.
   d. Trees to Remain:
      1) As an exception to the above provisions, where so directed by the Engineer, trim, protect, and leave standing desirable trees within the Project area.
      2) Trim branches of trees extending over the area occupied by the roadway as directed, to give a clear height of 16 feet above the roadway.
2. Selective Clearing and Grubbing.
   a. Perform Selective Clearing and Grubbing only in areas so designated in the Plans or where directed by the Engineer.
   b. Completely remove and dispose of stumps and remove and dispose of all vegetation, obstructions,
   c. etc., as required for Standard Clearing and Grubbing except that, where so elected, the Contractor may cut roots flush with the ground surface.
   d. Entirely remove undergrowth except in specific areas designated by the Engineer to remain for aesthetic purposes.
   e. Trim, protect, and leave standing desirable trees, with the exception of such trees as the Engineer may designate to be removed in order to facilitate right-of-way maintenance. Remove undesirable or damaged trees as so designated by the Engineer.
3. Removal of Existing Structures.
   a. Structures to be removed include:

1) Structures, or portions of structures, shown in the Plans to be removed;

2) Structures, or portions of structures, found within the areas requiring Clearing and Grubbing, and directed by the Engineer to be removed;

3) Structures, or portion of structures, which are necessary to be removed in order to construct new structures; and

4) All other appurtenances or obstructions which may be designated in the Contract Documents as to be included for removal under this Article.

b. Removal Requirements:

1) General:

a) Remove and dispose of all materials from existing structures required to be removed.

b) Remove the structures in a neat manner so as to leave no obstructions to any proposed new structures, construction, or to any waterways.

c) Pull, cut off, or break off pilings to the requirements of the permit or other Contract Documents, whichever requires the deepest removal, but not less than 2 feet below the finish ground line.

d) If Plans indicate channel excavation to be done by others, consider the finish ground line as the limits of such excavation.

e) For materials which are to remain the property of the Department or are to be salvaged for use in temporary structures, avoid damage to such materials, and entirely remove all bolts, nails, etc. from timbers to be so salvaged.

f) Mark structural steel members for identification as directed.

4. Removal of Existing Concrete Pavement.

Remove and dispose of existing rigid portland cement concrete pavement, sidewalk, slope pavement, ditch pavement, curb, and curb and gutter etc., where shown in the plans or ordered by the Engineer to be removed or where required because of the construction operations.

a. The work under Removal of Existing Concrete Pavement does not include the removal of retaining walls, drainage structures and flexible asphalt pavement.

b. Landscape Areas: When certain areas of the right-of-way, outside of the limits of construction, are shown in the plans or designated by the Engineer to be landscaped, either under the construction Contract or at a later time, remove undesirable trees, stumps, undergrowth, and vegetation, as directed, and preserve and trim natural growth and trees as directed by the Engineer.

c. Leveling Terrain: Within the areas between the limits of construction and the outer limits of clearing and grubbing, fill all holes and other depressions, and cut down all mounds and ridges. Make the area of a sufficient uniform contour so that the Department's subsequent mowing and cutting operations are not hindered by irregularity of terrain. Perform this work regardless of whether the irregularities were the result of construction operations or existed originally.

d. Mailboxes: When the Contract Documents require furnishing and installing mailboxes, permit each owner to remove the existing mailbox. Work with the Local Postmaster to develop a method of temporary mail service for the period between removal and installation of the new mailboxes. Install the mailboxes in accordance with the Design Standards.

C. Ownership of Materials.

1. Except as may be otherwise specified in the Contract Documents, the Contractor shall take ownership of all buildings, structures, appurtenances, and other materials removed by him and shall dispose of them in accordance with subarticle D below.

D. Disposal of Materials.

1. General:

a. Dispose of all debris, timber, stumps, brush, roots, rubbish, and other waste material resulting from clearing and grubbing in areas and by methods meeting the applicable requirements of all Local, State and Federal regulations.

2. Disposal of Treated Wood:

a. Treated wood, including that which comes from bridge channel fender systems, must be handled and disposed of properly during removal.

b. Treated wood should not be cut or otherwise mechanically altered in a manner that would generate dust or particles without proper respiratory and dermal protection.

c. Treated wood must be disposed of in at least a lined solid waste facility or through recycling/reuse.

d. Treated wood shall not be disposed by burning or placement in a construction and demolition (C&D) debris landfill.

e. All compensation for the cost of removal and disposal of treated wood will be included in the Cost of Removal of Existing Structures when an item for direct payment is provided in the Contract. If an item of direct payment is not provided in the Contract, the aforementioned cost is included in the cost for Clearing and Grubbing or among the other items of work in the Contract.

3. Hazardous Materials/Waste:

a. General:

1) Handle, transport and dispose of hazardous materials in accordance with all Local, State and Federal requirements including the following:

a) SSPC Guide 7

b) Federal Water Pollution Control Act, and

c) Resource Conservation and Recovery Act (RCRA).

2) Accept responsibility for the collection, sampling, classification, packaging, labeling, accumulation time, storage, manifesting, transportation, treatment and disposal of hazardous waste, both solid and liquid. Separate all solid and liquid waste and collect all liquids used at hygiene stations and handle as hazardous materials/waste. Obtain written approval from the Engineer and required agencies for all hazardous materials/waste stabilization methods before implementation.

3) Obtain an EPA/FDEP Hazardous Waste Identification Number (EPA/FDEP ID Number) before transporting and/or disposal of any hazardous materials/waste.

4) List the Department as the generator of all hazardous materials/waste.

5) Submit the following for the Engineers' approval before transporting, treatment or disposal of any hazardous materials/waste:

a) Name, address and qualifications of the transporter,

b) Name, address and qualifications of the treatment facility,

c) Proposed treatment and/or disposal of all Hazardous Materials/Waste.

6) Transport all hazardous materials/waste in accordance with applicable 40 CFR 263 Standards. Provide a copy of all completed Hazardous Materials/Waste manifest/bills of lading to the Engineer within 21 days of each shipment.

b. Certification of Compliance:

Furnish two copies of Certification of Compliance from the firm actually removing and disposing of the hazardous materials/waste stipulating, the hazardous materials/waste has been handled, transported and disposed of in accordance with this Specification.

1) The Certification of Compliance shall be attested to by a person having legal authority to bind the company.

c. Maintain all records required by this Specification and ensure they are available to the Department upon request.

E. Method of Measurement.

1. Clearing and Grubbing:

a. No Direct Payment Provided: When no item for direct payment of Clearing and Grubbing is provided by the Contract, the costs for performing all work and meeting the requirements of this Article will be included among the various scheduled items of the Contract.

b. Direct Payment Provided: When direct payment for Clearing and Grubbing is provided in the Contract, the quantity to be paid for will be the lump sum quantity.

2. One or more of the following items may appear in a contract where no direct payment item for Clearing and Grubbing is provided. Only those items with an Awarded Unit Price will be considered for direct payment. All other work of Clearing and Grubbing is included among the various scheduled items of the Contract.

a. Removal of Existing Structures: When a separate item for the Removal of Existing Structures is provided for direct payment in the Contract, the quantity to be paid for will be the lump sum quantity or actual quantities for the specific structures removed, as stipulated in the Contract Documents.

b. Removal of Existing Concrete Pavement: When a separate item for Removal of Existing Concrete Pavement is provided for direct payment in the Contract, the quantity to be paid for will be the number of square yards of existing pavement of the types listed in subarticle B.5 herein, acceptably removed and disposed of, as specified. The quantity will be determined by actual measurement along the surface of the pavement before its removal. Measurements for appurtenances which have irregular surface configurations, such as curb and gutter, steps, and ditch pavement, will be the area as projected to an approximate horizontal plane. Where the removal of pavement areas is necessary only for the construction of box culverts, pipe culverts, storm sewers, french drains, inlets, manholes, etc., these areas will not be included in the measurements.

c. Removal of Trees: When separate items for the Removal of Trees are provided for direct payment in the Contract, trees that are greater than 6 inches in diameter, will be paid on a per each basis by actual count by the Engineer of such trees under the appropriate item provided in the Contract. The diameter of a tree shall be obtained by measuring its circumference at 4.5 feet above the ground using a flexible tape measure and dividing the circumference by 3.14. If the tree is growing on a slope, the circumference is measured at 4.5 feet from the center of the slope. If the tree begins to branch below 4.5 feet, measure at the smallest circumference below the first branch.

d. Mailboxes: When a separate item is provided in the Contract for furnishing and installing mailboxes, the quantity to be paid for will be the number of mailboxes acceptably furnished and installed.

e. Delivery of Salvageable Material to the Department: When a separate item is provided in the Contract for the delivery of salvageable material to the Department, the quantity to be paid for will be the Lump Sum quantity for delivery of salvageable materials to the Department as indicated in the Plans or as directed by the Engineer.

F. Basis of Payment.

1. Clearing and Grubbing:

a. No Direct Payment Provided: When direct payment for Clearing and Grubbing is not provided in the Contract, the cost of any work of clearing and grubbing necessary for the proper construction of the Project

and meeting all requirements of this Article, is included in the Contract price for the structure or other item of work for which such clearing and grubbing is required.

b. Direct Payment Provided:

1) Price and payment will be full compensation for all clearing and grubbing indicated or required for the construction of the entire Project, including all necessary hauling, furnishing equipment, equipment operation, furnishing any areas required for disposal of debris, leveling of terrain and the landscaping work of trimming, etc., as specified herein, except for any areas designated to be paid for separately or to be specifically included in the costs of other work under the Contract.

2) Unless otherwise provided by the Contract, price and payment will be full compensation for all work required by this Article including Removal of Existing Structures, Removal of Existing Concrete Pavement, Removal of Trees, Plugging of Water Wells, Mailboxes, and Delivery of Salvageable Material to the Department.

3) Where construction easements are specified in the Plans and the limits of clearing and grubbing for such easements are dependent upon the final construction requirements, no adjustment will be made in the lump sum price and payment, either over or under, for variations from the limits of the easement defined on the Plans.

c. The Contractor shall include the cost of all clearing and grubbing which might be necessary in pits or areas from which base material is obtained in the

Contract price for the base in which such material is used.

d. The clearing and grubbing of areas for obtaining stabilizing materials, where required only for the purpose of obtaining materials for stabilizing, will not be paid for separately.

2. Removal of Existing Structures:

a. Price and payment will be full compensation for all work of removal and disposal of the designated structures.

b. When direct payment for the removal of existing structures is not provided in the Contract, the cost of removing all structures is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included, in the compensation for the other items covering the new structure being constructed.

3. Removal of Existing Concrete Pavement:

a. Price and payment will be full compensation for performing and completing all the work of removal and satisfactory disposal including any saw cutting required.

b. When direct payment for the removal of existing concrete pavement is not provided in the Contract and no applicable item of excavation or embankment covering such work is included in the Contract, the Contractor shall include the costs of this work in the Contract price for the item of Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in any work, pipe or other structure for which the concrete pavement removal is required.

4. Removal of Trees:

a. Price and payment will be full compensation for complete removal and disposal of each tree counted by the Engineer pursuant to these specifications.

b. When direct payment for the removal of trees is not provided in the Contract, the cost of removing all trees is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

5. Mailboxes:

a. Price and payment will be full compensation for all work and materials required, including supports and numbers.

b. When direct payment for mailboxes is not provided in the Contract, the cost for all work and materials required, including supports and numbers, is included in the Contract price for Clearing and Grubbing or, if no item of Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

6. Delivery of Salvageable Material to the Department:

a. Price and payment will be full compensation for all work required for delivery of the materials to the Department.

b. When the Contract does not provide direct payment for the Delivery of Salvageable Material that is to be delivered to the County, the cost of Delivery of Salvageable Material is included in the Contract price for Clearing and Grubbing or, where no item for Clearing and Grubbing is included in the Contract, in the compensation for all other items in the Contract.

7. Payment Items: Payment will be made under:

Item No.	Description	Unit
110- 1-1	Clearing and Grubbing	SY
110-4	Removal of Existing Asphalt	SY
110-7-1	Mailbox (Furnish & Install)	Each

120 EXCAVATION AND EMBANKMENT

A. Description.

1. General:

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

   b. Perform Earthwork and Related Operations based on the type of work specified in the Contract Documents.

   c. Meet the applicable requirements for materials, equipment and construction as specified in the Contract Documents.

B. Classes of Excavation.

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

2. Lateral Ditch Excavation: Lateral Ditch Excavation consists of all excavation of inlet and outlet ditches to structures and roadway, changes in channels of streams, and ditches parallel to the roadway right-of-way.

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

C. Excavation Requirements.

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

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

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

3. Excavation for Structures and Pipe.

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

   b. Earth Excavation:

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

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

      3) Removal of Obstructions: Remove boulders, logs, or any unforeseen obstacles encountered in excavating.

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

   d. Pipe Trench Excavation:

      1) Excavate trenches for pipe culverts and storm sewers to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. Remove soil not meeting the classification specified herein for suitable backfill material for backfilling around pipe to a depth of 4 inches below the

bottom of the pipe elevation. Remove rock, boulders or other hard lumpy or unyielding material to a depth of 12 inches below the bottom of the pipe elevation. Remove muck or other soft material to a depth necessary to establish a firm foundation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

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

D. Disposal of Surplus and Unsuitable Material.

1. Ownership of Excavated Materials: Dispose of surplus and excavated materials as shown in the Plans or, if the Plans do not indicate the method of disposal, take ownership of the materials and dispose of them in an authorized and lawful manner.
2. Disposal of Muck on Side Slopes: As an exception to the provisions herein for Ownership of Excavated Materials, when approved by the Engineer, muck (A-8 material) may be placed on the slopes, or stored alongside the roadway, provided there is a clear distance of at least 6 feet between the roadway grading limits and the muck, and the muck is dressed to present a neat appearance. In addition, this material may also be disposed of by placing it on the slopes where, in the opinion of the Engineer, this will result in an aesthetically pleasing appearance and will have no detrimental effect on the adjacent developments. Where the Engineer permits the disposal of muck or other unsuitable material inside the right-of-way limits, do not place such material in a manner which will impede the inflow or outfall of any channel or of side ditches. The
3. Engineer will determine the limits adjacent to channels within which such materials may be disposed.
4. Disposal of Paving Materials: Unless otherwise noted, take ownership of paving materials, such as paving brick, asphalt block, concrete slab, sidewalk, curb and gutter, etc., excavated in the removal of existing pavements, and dispose of them outside the right-of-way. If the materials are to remain the property of the Agency, place them in neat piles as directed. Existing
5. Limerock base that is removed may be incorporated in the stabilized portion of the subgrade. If the construction sequence will allow, incorporate all existing limerock base into the project as allowed by the Contract Documents.
6. Disposal Areas:
   a. Where the Contract Documents require disposal of excavated materials outside the right-of-way, and the disposal area is not indicated in the Contract Documents, furnish the disposal area without additional compensation.

E. Materials for Embankment.

1. General Requirements for Embankment Materials:
   a. Construct embankments using suitable materials excavated from the roadway or delivered to the jobsite from authorized borrow pits.
   b. Construct the embankment using maximum particle sizes (in any dimension) as follows:
      1) In top 12 inches: 3 1/2 inches (in any dimension).
      2) 12 to 24 inches: 6 inches (in any dimension).
      3) In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.
   c. Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with the requirements herein for Compaction of Embankments.
   d. When and where approved by the Engineer, larger rocks (not to exceed 18 inches in any dimension) may be placed outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3 1/2 inches in diameter within 3 feet of the location of any end-bent piling. Use of Materials Excavated From the Roadway and Appurtenances: Assume responsibility for determining the suitability of excavated material for use on the project in accordance with the applicable Contract Documents. Consider the sequence of work and maintenance of traffic phasing in the determination of the availability of this material.
2. Authorization for Use of Borrow: Use borrow only when sufficient quantities of suitable material are not available from roadway and drainage excavation, to properly construct the embankment, subgrade, and shoulders, and to complete the backfilling of structures and pipe. Do not use borrow material until authorized by the Engineer, and then only use material from approved borrow pits.
   a. Haul Routes for Borrow Pits:
      1) Provide and maintain, at no expense to the County, all necessary roads for hauling the borrow material. Where borrow area haul roads or trails are used by others, do not cause such roads or trails to deteriorate in condition.
      2) Arrange for the use of all non-public haul routes crossing the property of any railroad. Incur any expense for the use of such haul routes. Establish haul routes which will direct construction vehicles away from developed areas when feasible, and keep noise from hauling operations to a minimum. Advise the Engineer in writing of all proposed haul routes.
   b. Borrow Material for Shoulder Build-up: When so indicated in the Plans, furnish borrow material with a specific minimum bearing value, for building up of existing shoulders. Blend materials as necessary to

achieve this specified minimum bearing value prior to placing the materials on the shoulders. Take samples of this borrow material at the pit or blended stockpile.

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

F. Embankment Construction.

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

2. Dry Fill Method:

a. General:

1) Construct embankments to meet the requirements of subarticle G (Compaction Requirements) and in accordance with the Acceptance Program requirements herein. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

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

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

For A-3 and A-2-4 Materials with up to 15% fines: Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A 2 4 material does not exceed 15%.

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

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

4) When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or in low swampy ground in accordance with the requirements herein for Compaction Where Plastic Material Has Been Removed.

b. Placing in Unstable Areas: Where depositing the material in water, or in low swampy ground that will not support the weight of hauling equipment, construct the embankment by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers. Once sufficient material has been placed so that the hauling equipment can be supported, construct the remaining portion of the embankment in layers in accordance with the applicable provisions herein for Compaction Where Plastic Material Has Been Removed and for Compaction of Grassed Shoulder Areas.

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

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

3. Hydraulic Method:

Method of Placing: When the hydraulic method is used, as far as practicable, place all dredged material in its final position in the embankment by such method. Place and compact any dredged material that is rehandled, or moved and placed in its final position by any other method, as specified herein for Compaction of Embankments. The Contractor may use baffles or any form of construction he may select, provided the slopes of the embankments are not steeper than indicated in the Plans. Remove all timber used for temporary bulkheads or baffles from the embankment, and fill and thoroughly compact the holes thus formed. When placing fill on submerged land, construct dikes prior to beginning of dredging, and maintain the dikes throughout the dredging operation.

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

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

G. Compaction Requirements.

1. Moisture Content: Compact the materials at a moisture content such that the specified density can be attained. If necessary to attain the specified density, add water to the

material, or lower the moisture content by manipulating the material or allowing it to dry, as is appropriate.

2. Compaction of Embankments:

   a. Density requirements for earthwork and related operations associated with the construction of sidewalks and bike paths along with any drainage structures associated with these facilities; and for earthwork and related operations associated with the construction of turn lanes and other non-mainline traffic lanes, widening, roadway shoulders, concrete box culverts, retaining walls, and other drainage structures on the non-mainline pavement:

      1) Reduce the minimum required density from 100% to 95% of AASHTO T99 Method C for all earthwork items requiring densities.

   b. Density Requirements for earthwork and related operations associated with the construction of new mainline pavement, along with concrete box culverts, retaining walls, and other drainage structures on the mainline pavement:

      Except for embankments constructed by the hydraulic method as specified herein, and for the material placed outside the standard minimum slope as specified herein for Placing Outside Standard Minimum Slope, and for other areas specifically excluded herein, compact each layer of the material used in the formation of embankments to a density of at least 100% of the maximum density as required by AASHTO T 99, Method C.

      1) Uniformly compact each layer using equipment that will achieve the required density, and as compaction operations progress, shape and manipulate each layer as necessary to ensure uniform density throughout the embankment.

      Compaction Over Unstable Foundations: Where the embankment material is deposited in water or on low swampy ground, and in a layer thicker than 12 inches (as provided herein under the requirements for Placing in Unstable Areas), compact the top 6 inches (compacted thickness) of such layer to the density as specified in the Acceptance Criteria herein.

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

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

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

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

3. Compaction of Subgrade:

   a. If the Plans do not provide for stabilizing, compact the subgrade in both cuts and fills to the density specified in the Acceptance Criteria herein. For undisturbed soils, do not apply density requirements where constructing narrow widening strips or paved shoulders 5 feet or less in width.

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

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

H. Backfilling Around Structures and Pipe.

1. Backfill Materials:

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

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

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

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

   d. Placement and Compaction:

      1) Place the material in horizontal layers not exceeding 6 inches compacted thickness, in depth above water level, behind abutments, wingwalls and end bents or end rest piers, and around box culverts and all structures including pipe culverts. When the backfill material is deposited in water, compact per the requirements herein for

Compaction Under Wet Conditions and Backfill Under Wet Conditions.

2) The Contractor may elect to place material in thicker lifts of no more than 12 inches compacted thickness outside the soil envelope if he can demonstrate with a successful test section that density can be achieved. Notify the Engineer prior to beginning construction of a test section. Construct a test section of 500 feet in length. Perform five tests at random locations within the test section. All five tests must meet the density required by the Compaction of Embankments specified herein. Identify the test section with the compaction effort and soil classification in the Agency Logbook. In case of a change in compaction effort or soil classification, construct a new test section. When a test fails the Compaction Requirements specified herein, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time.

2. Additional Requirements for Structures Other than Pipe:

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

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

      Other Limited Areas: Compact in other limited areas using mechanical tampers or approved hand tampers, until the cover over the structure is at least 12 inches thick. When hand tampers are used, deposit the materials in layers not more than 4 inches thick using hand tampers suitable for this purpose with a face area of not more than 100 in^2. Take special precautions to prevent any wedging action against the masonry, and step or terrace the slope bounding the excavation for abutments and wingwalls if required by the Engineer.

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

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

3. Additional Requirements for Pipe 15 Inches Inside Diameter or Greater:

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

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

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

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

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

   b. Material:

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

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

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

   c. Compaction:

      1) Lowest Zone: Compact the soil in the Lowest Zone to approximately match the density of the soil in which the trench was cut.

      2) Bedding Zone:

         a) If the trench was not undercut below the bottom of the pipe, loosen the soil in the bottom of the trench immediately below the approximate middle third of the outside diameter of the pipe.

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

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

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

5) Backfill Under Wet Conditions:

a) Where wet conditions are such that dewatering by normal pumping methods would not be effective, the procedure outlined below may be used when specifically authorized by the Engineer in writing.

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

I. Acceptance Program.

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

2. Maximum Density Determination: Determine the maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed below for Density Testing Requirements.

3. Density Testing Requirements: Ensure compliance, with the requirements of the Acceptance Criteria herein, by Nuclear Density testing in accordance with FDOT Florida Method FM 1 T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1 T 238, FM 5 507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D 4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.

4. Soil Classification: Perform soil classification tests in accordance with AASHTO T 88. Classify soils in accordance with AASHTO M–145 in order to determine compliance with embankment utilization requirements.

5. Acceptance Criteria: Obtain a minimum density in accordance with the requirements herein for Compaction of Embankments with the following exceptions:

a. Embankment constructed by the Hydraulic Method as specified herein;

b. Material placed outside the standard minimum slope as specified in the requirements herein for Placing Outside Standard Minimum Slope;

c. Other areas specifically excluded herein.

6. Frequency: Conduct sampling and testing at a minimum frequency listed in the table below.

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

J. Maintenance and Protection of Work.

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

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

K. Construction.

1. Construction Tolerances:

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

1) Shape the surface of shoulders to within 0.1 foot of the plan cross-section.

2) Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.

3) Shape the bottom of ditches so that the ditch impounds no water.

4) When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the plan cross-section.

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

2. Operations Adjacent to Pavement:

a. Carefully dress areas adjacent to pavement areas to avoid damage to such pavement.

b. Complete grassing of shoulder areas prior to placing the final wearing course. Do not manipulate any embankment material on a pavement surface.

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

L. Method of Measurement.

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

1. Embankment: Embankment will be paid for by volume, in cubic yards, calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result. The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer. Payment will not be made for embankment beyond the limits shown in the Plans or authorized by the Engineer.

M. Basis of Payment.

1. When No Direct Payment is Provided:

   a. When no item for Excavation or Embankment is included in the list of Contract Unit Prices, the cost of any excavation or embankment necessary for the proper construction of the Project is included in the Contract Prices for the work requiring excavation or embankment.

   b. Where the Work includes structures including pipe culvert and french drain, all earthwork costs for the installation of these items are included in their associated Contract Price.

2. When Direct Payment for Excavation or Embankment is Provided in the Contract:

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

   b. Excavation:

      1) The total quantity of all excavation specified under this Section will be paid for at the Contract unit price for Excavation.

      2) No payment will be made for the excavation of any materials which are used for purposes other than those shown in the Plans or designated by the Engineer.

      3) No payment will be made for materials excavated outside the lines and grades given by the Engineer, unless specifically authorized by the Engineer.

   c. Embankment:

      1) The total quantity of embankment specified in this Section will be paid for at the Contract unit price for embankment.

      2) No payment will be made for materials which are used for purposes other than those shown in the Plans or designated by the Engineer.

      3) No payment will be made for materials placed outside the lines and grades given by the Engineer.

3. Payment will be made under:

Item No.	Description	Unit
120-1	Regular Excavation	CY
120-6	Embankment	CY

160 STABILIZING

A. Description.

Stabilize designated portions of the roadbed to provide a firm and unyielding subgrade, having the required bearing value specified in the plans. When specified in the plans, provide additional strengthening of the subbase by additional stabilizing of the upper portion of the previously stabilized subgrade, within the limits specified. Perform work in accordance with an approved Quality Control Plan meeting the requirements of 6-8.

B. Stabilized Subgrade.

For stabilized subgrade, choose the type of material, Commercial or Local.

When the stabilizing is designated as Type B, the Engineer will determine compliance with the bearing value requirements by the Limerock Bearing Ratio (LBR) Method. If approved by the Engineer and only for materials requiring an LBR value of 40, the Engineer may omit Sections 6.0 and 6.1 of Florida Method of Test for Limerock Bearing Ratio (FM 5-515) and perform an Unsoaked LBR Test. The Engineer or the Contractor may request to use this method. If the Unsoaked LBR Test results in a failing test, then the Engineer will perform a standard Soaked LBR Test. Take responsibility for making the finished roadbed section meet the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added. Also, the Department will make full payment for any areas where the existing subgrade materials meet the design bearing value requirements without the

addition of stabilizing additives, as well as areas where the Contractor may elect to place select high-bearing materials from other sources within the limits of the stabilizing. After substantially completing the roadbed grading operations, determine the type and quantity (if any) of stabilizing material necessary for compliance with the bearing value requirements. Notify the Engineer of the approximate quantity to be added. Obtain the Engineer's approval for spreading and mixing-in of such quantity of materials to achieve uniformity and effectiveness. The Engineer may allow, at no additional cost to the Department, the substitution of 6 inches of Granular Subbase meeting the requirements of Section 290, when 12 inches of Type B Stabilization requiring an LBR value of 40 is specified.

C. Stabilized Subbase.

When Stabilized Subbase is required, after the mixing operations for the stabilization of the entire subgrade limits, strengthen the upper portion of the subgrade, within the limits shown, by adding and mixing-in a loose depth of commercial stabilizing material as designated in the plans or as may be otherwise designated by the Engineer. Provide a minimum depth of spread 3 inches (loose measurement).

D. Materials.

1. Meet the material requirements specified in FDOT Division III (Materials)

2. Commercial and Local Materials: Meet the requirements of Section 914 for the particular type of stabilizing material to be used.

3. Use of Materials from Existing Base: When the use of materials from an existing base is required as all, or a portion, of the stabilizing additives, the Engineer will direct the location, placement, and distribution of such materials. Perform this work prior to the spreading of any additional commercial or local materials. Do not remove any section of existing base until the need for it in maintaining traffic is fulfilled. The Engineer may direct the Contractor to use materials from an existing base in combination with either of the designated types of stabilizing.

E. Construction Methods.

1. General: A LOT is defined as a single lift of finished Subgrade, not to exceed 500 feet. Isolated mixing operations will be considered as separate LOTs. Curbpads and shoulders compacted separately shall be considered separate LOTs. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase. Prior to the beginning of stabilizing operations, construct the area to be stabilized to an elevation such that, upon completion of stabilizing operations, the completed stabilized subgrade will conform to the lines, grades, and cross-section shown in the plans. Prior to spreading any additive stabilizing material, bring the surface of the roadbed to a plane approximately parallel to the plane of the proposed finished surface. The Contractor may process the subgrade to be stabilized in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction, and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.
2. Application of Stabilizing Material: When additive stabilizing materials are required, spread the designated quantity uniformly over the area to be stabilized. When materials from an existing base are to be used in the stabilizing at a particular location, place and spread all of such materials prior to the addition of other stabilizing additives. Spread commercial stabilizing material by the use of mechanical material spreaders, except that where use of such equipment is not practicable, use other means of spreading, but only upon written approval of the proposed alternate method.
3. Mixing: Perform mixing using rotary tillers or other equipment meeting the approval of the Engineer. The Contractor may mix the materials in a plant of an approved type suitable for this work. Thoroughly mix the area to be stabilized throughout the entire depth and width of the stabilizing limits. Perform the mixing operations, as specified, (either in place or in a plant) regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.
4. Maximum Particle Size of Mixed Materials: At the completion of the mixing, ensure that the gradation of the material within the limits of the area being stabilized is such that 97% will pass a 3 1/2 inch sieve and that the material does not have a plasticity index greater than eight or liquid limit greater than 30. Remove any materials not meeting the plasticity requirements from the stabilized area. The Contractor may break down or remove from the stabilized area materials, including clay lumps or lumps made of clay-size particles (any particle size 2 microns or less), not meeting the gradation requirements.
5. Compaction: Except where a stabilized subbase is also to be constructed (as specified in 160-6), after completing the mixing operations and satisfying the requirements for bearing value, uniformity, and particle size. Compact the materials at a moisture content permitting the specified compaction in 160-7.2.3. If the moisture content of the material is improper for attaining the specified density, either

add water or allow the material to dry until reaching the proper moisture content for the specified compaction.

6. Finish Grading: Shape the completed stabilized subgrade to conform with the finished lines, grades, and cross-section indicated in the plans. Check the subgrade using elevation stakes or other means approved by the Engineer.

7. Requirements for Condition of Completed Subgrade: After completing the stabilizing and compacting operations, ensure that the subgrade is firm and substantially unyielding to the extent that it will support construction equipment and will have the bearing value required by the plans. Remove all soft and yielding material, and any other portions of the subgrade which will not compact readily, and replace it with suitable material so that the whole subgrade is brought to line and grade, with proper allowance for subsequent compaction.

8. Maintenance of Completed Subgrade: After completing the subgrade as specified above, maintain it free from ruts, depressions, and any damage resulting from the hauling or handling of materials, equipment, tools, etc. The Contractor is responsible for maintaining the required density until the subsequent base or pavement is in place including any repairs, replacement, etc., of curb and gutter, sidewalk, etc., which might become necessary in order to recompact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Perform any such recompaction at no expense to the Department. Construct and maintain ditches and drains along the completed subgrade section.

F. Stabilized Subbase (Additional Strengthening of Upper Portion).

When a stabilized subbase is to be constructed in conjunction with the stabilization operations, after the mixing of the stabilization area as specified in 160-5.3, and determination that the bearing value requirements specified in 160-7.2.1 have been met, shape the area over which the stabilized subbase is to be constructed as provided in 160-5.1, and compact it sufficiently to provide a firm surface for the operations to follow. Spread the amount of commercial stabilizing material specified in 160-3 for this operation, in accordance with 160-5.2, and mix it to the depth indicated in the plans, in accordance with 160-5.3. Allow a tolerance of 1 inch in excess of the plan depth in this mixing. The Engineer will not perform any additional tests for bearing value after the mixing of materials for the Stabilized Subbase. Compact and finish grading, as specified in 160-5.5 and 160-5.6, and meet the provisions of 160-5.4, 160-5.7, and 160-5.8 for this work. When commercial materials are used as the stabilizing additives for the initial subgrade stabilization, the Engineer may eliminate the work of Stabilized Subbase, either entirely or in designated sections of the overall limits for this work as may be specified in the plans.

G. Acceptance Program for Mixed Materials.

Subarticle 160-7 is deleted in its entirety and replaced with the following:

1) There shall be no undertolerances in the L.B.R. permitted.

2) Density Requirements:

a) General: Within the entire limits of the width and depth of the areas to be stabilized, other than as provided in section b), obtain a minimum density at any location of 98% of the Modified Proctor maximum density as determined by FM 1-T 180, Method D.

b) Exceptions to Density Requirements: The Contractor need not obtain the minimum density specified in section a) above if within the following limits:

i. The width and depth of areas which are to be subsequently incorporated into a base course under the same contract.
ii. The upper 6 inches of areas to be grassed under the same contract. Compact these areas to a reasonably firm condition as directed by the Engineer.

H. Method of Measurement.

1. Type B Stabilization and Type C Stabilization: The quantity to be paid for will be the plan quantity, in square yards, completed and accepted.
2. Stabilized Subbase: The quantity to be paid for will be the area, in square yards, completed and accepted.
3. Commercial Stabilizing Material: The quantity to be paid for separately will be determined by measurement, loose volumes, in truck bodies, at the point of unloading.

I. Basis of Payment.

1. When the item of Type “B” Stabilization is included in the Contract, payment will be made at the Contract unit price per square yard. Such price and payment will include all cost of the mixture, in place and accepted, determined as specified above. No measurement and payment will be made for material placed outside the neat line limits or outside the adjusted limits, or for unused or wasted material.

2. Payment will be made under:

Item No.	Description	Unit
160- 4	Type “B” Stabilization	S.Y.

BASE COURSES

230 LIMEROCK BASE

A. Description.

1. Construct a base composed of limerock material. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications.

B. Materials.

General: Meet the material requirements specified in FDOT Division III (Materials)

1. Limerock base:
   a. Meet the requirements of FDOT Section 911.
   b. Produced and obtained from an FDOT approved source listed on the current FDOT Approved Aggregate Products from Mines or Terminals Listings.
   c. Meet the material requirements specified in FDOT Division III (Materials)
2. More than one source of base rock on a single Contract may be used provided that a single source is used throughout the entire width and depth of a section of base. Obtain approval from Engineer before placing material from more than one source. Place material to ensure total thickness single source integrity at any station location of the base.
3. Intermittent placement or “Blending” of sources is not permitted.
4. Do not use any of the existing base that is removed to construct the new base.
5. Limerock is referred to hereinafter as “rock”.

C. Equipment.

1. Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For crossovers, intersections and ramp areas; roadway widths of 20 feet or less; the main roadway area when forms are used and any other areas where the use of a mechanical spreader is not practicable; Contractor may spread the rock using bulldozers or blade graders.

D. Transporting Rock.

1. Transport the rock to its point of use, over rock previously placed if practicable, and dump it on the end of the preceding spread. Hauling and dumping on the subgrade will be permitted only when, in Engineer’s opinion, these operations will not be detrimental to the subgrade.

E. Spreading Rock.

1. Method of Spreading:
   a. Spread the rock uniformly.
   b. Remove all segregated areas of fine or coarse rock and replace them with properly graded rock.
2. Number of Courses:
   a. When the specified compacted thickness of the base is greater than 6 inches, construct the base in multiple courses of equal thickness. Individual courses shall not be less than 3 inches. The thickness of the first course may be increased to bear the weight of the construction equipment without disturbing the subgrade.
3. Approval requirements for thicker lifts.
   a. If, through field tests, Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by Engineer, the base may be constructed in successive courses of not more than 8 inches compacted thickness. Engineer will base approval on results of a test section constructed using Contractor’s specified compaction effort as follows:
      1) Notify Engineer prior to beginning construction of a test section.
      2) Construct a test section of the length of one LOT. Perform five QC density tests at random locations within the test section. At each test site, test the bottom 6 inches in addition to the entire course thickness. All QC tests and a Department Verification test must meet the density required by the Acceptance Criteria in this Article.
      3) Identify the test section with the compaction effort and thickness in the Logbook. Remove the materials above the bottom 6 inches, at no expense to the Department. The minimum density required on the thicker lift will be the average of the five results obtained on the thick lift in the passing test section.
      4) Maintain the exposed surface as close to “undisturbed” as possible; no further compaction will be permitted during the test preparation. If unable to achieve the required density, remove and replace or repair the test section to comply with the specifications at no additional expense to the Department. Contractor may elect to place material in 6 inches compacted thickness at any time.
      5) Once approved, a change in the source of base material will require the construction of a new test section. Do not change the compaction effort once the test section is approved. Engineer will periodically verify the density of the bottom 6 inches during thick lift operations.
      6) Engineer may terminate the use of thick lift construction and instruct Contractor to revert to the 6 inches maximum lift thickness if Contractor fails to achieve satisfactory results or meet applicable specifications.

Rock Base for Shoulder Pavement: Unless otherwise permitted, complete all rock base shoulder construction at any particular location before placing the final course of pavement on the traveled roadway. When dumping material for the construction of a rock base on the shoulders, do not allow material capable of scarring or contaminating the pavement surface on the adjacent pavement. Immediately sweep off any rock material that is deposited on the surface course.

F. Compacting and Finishing Base.

1. General:

   a. Perform work in accordance with an approved Quality Control Plan meeting the requirements of Article 105 of these Specifications and the Acceptance Criteria herein below.

   b. Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as a single lift of finished embankment not to exceed 500 feet.

   c. Construct shoulder-only areas, bike/shared use paths, and sidewalks in sections of not less than 300 feet in length or for the full length of the rock base. For these, a LOT is defined as 1,000 feet or one Day's Production, whichever is greater. Shoulders compacted separately shall be considered separate LOTs.

2. Single Course Base: After spreading, scarify the entire surface. Shape the base to produce the required grade and cross-section, free of scabs and laminations, after compaction.

3. Multiple Course Base: Clean the first course of foreign material, then blade and bring it to a surface cross-section approximately parallel to the finished base. Before spreading any material for the upper courses, allow Engineer to make density tests for the lower courses to determine that the required compaction has been obtained. After spreading the material for the top course, scarify finish and shape its surface to produce the required grade and cross-section, free of scabs and laminations, after compaction.

4. Moisture Content: When the material does not have the proper moisture content to ensure the required density, wet or dry it as required. When adding water, uniformly mix it in to the full depth of the course that is being compacted. During wetting or drying operations, manipulate, as a unit, the entire width and depth of the course that is being compacted.

5. Thickness Requirements: Within the entire limits of the length and width of the finished base, meet the specified plan thickness in accordance with the Quality Control requirements specified in Depth and Surface Testing Requirements subarticle herein below.

6. Correction of Defects:

   Contamination of Base Material: If, at any time, the subgrade material becomes mixed with the base course material, dig out and remove the mixture, and reshape and compact the subgrade. Then replace the materials removed with clean base material, and shape and compact as specified above. Perform this work at no expense to the Department.

   a. Cracks and Checks: If cracks or checks appear in the base, either before or after priming, which, in the opinion of Engineer, would impair the structural efficiency of the base, remove the cracks or checks by rescarifying, reshaping, adding base material where necessary, and recompacting.

7. Compaction of Widening Strips:

   a. Where base construction consists of widening strips and the trench width is not sufficient to permit use of standard base compaction equipment, compact the base using vibratory compactors, trench rollers or other special equipment which will achieve the density requirements specified herein.

   b. When multiple course base construction is required, compact each course prior to spreading material for the overlaying course.

G. Acceptance Criteria:

1. Density: Within the entire limits of the width and depth of the base, obtain a minimum density in any LOT of 98% of modified Proctor maximum density as determined by FM 1-T 180, Method D. For shoulder only areas and bike/shared use paths, obtain a minimum density of 95% of the modified Proctor maximum density as determined by FM 1-T 180, Method D.

2. Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. Engineer will perform Verification sampling and tests at a minimum frequency listed in the tables below.

Mainline Pavement Lanes, Turn Lanes, Ramps, Parking Lots, Concrete Box Culverts and Retaining Wall Systems		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per eight consecutive LOTs	One per 16 consecutive LOTs
Density	One per LOT	One per four LOTs
Roadway Surface	Ten per LOT	Witness
Roadway Thickness	Three per LOT	Witness

Shoulder-Only, Bike/Shared Use Path and Sidewalk Construction		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density	One per LOT	One per two LOTs
Surface	Five per 500 feet	Witness
Thickness	Three per 600 consecutive feet	Witness

3. Initial Equipment Comparison:

    a. Before initial production, perform a comparison test using the Quality Control, Verifications and Independent Assurance gauges. Unless Engineer instructs, do not perform the initial equipment comparison more than once per project. When comparing the computed dry density of one nuclear gauge to a second gauge, ensure that the difference between the two computed dry densities does not exceed 2 lb/ft^3 between gauges from the same manufacturer, and 3 lb/ft^3 between gauges from different manufacturers. Repair or replace any Quality Control gauge that does not compare favorably with the Independent Assurance gauge.

    b. Perform a comparison analysis between the Quality Control nuclear gauge and the Verification nuclear gauge any time a nuclear gauge or repaired nuclear gauge is first brought to the project. Repair and replace any Quality Control gauge that does not compare favorably with the Verification gauge at any time during the remainder of the project. Calibrate all Quality Control gauges annually.

4. Initial Production Lot:

    a. Before construction of any other LOT, prepare a 500-foot initial control section consisting of one full LOT in accordance with the approved Quality Control Plan for the Project.

    b. Notify Engineer at least 24 hours prior to production of the initial control section. Perform all QC tests required herein below. When the initial Quality Control test results pass specifications, Engineer will perform a Verification test to verify compliance with the specifications.

    c. Do not begin constructing another LOT until successfully completing the initial production LOT. Engineer will notify Contractor of the initial production lot approval within three working days after receiving Contractor's Quality Control data when test results meet the following conditions:

        1) Quality Control tests must meet the specifications.

        2) Verification test must meet the specifications.

        3) Difference between Quality Control and Verification computed Dry Density results shall meet the requirements provided above for Initial Equipment Comparison.

        4) If Verification test result fails the density requirements of the Acceptance Critera, correct the areas of non-compliance. The Quality Control and Verification tests will then be repeated. Engineer will reject Contractor's Quality Control Plan after three unsuccessful Verification attempts. Submit a revised Quality Control Plan to Engineer for approval.

5. Density over 105%:

    When a QC computed dry density results in a value greater than 105% of the applicable Proctor maximum dry density, Engineer will perform an Independent Verification density test within 5 feet.

    a. If the Independent Verification density results in a value greater than 105%, Engineer will investigate the compaction methods, examine the applicable Standard Proctor Maximum Density and material description.

    b. Engineer may collect and test an Independent Verification Standard Proctor Maximum Density sample for acceptance in accordance with the Acceptance Criteria.

6. Quality Control Tests:

    a. Standard Proctor Maximum Density Determination: Determine the Quality Control standard Proctor maximum density and optimum moisture content by sampling and testing the material in accordance with the specified test method listed in the Acceptance Criteria.

    b. Density Testing Requirements: Ensure compliance to the requirements of the Acceptance Criteria by Nuclear Density testing in accordance with FM 1-T 238. Determine the in-place moisture content for each density test. Use Florida Method FM 1-T 238, FM 5-507 (Determination of Moisture Content by Means of a Calcium Carbide Gas Pressure Moisture Tester), or ASTM D-4643 (Laboratory Determination of Moisture Content of Granular Soils By Use of a Microwave Oven) for moisture determination.

    c. Soil Classification: Perform soil classification tests on the sample collected for the Standard Proctor Maximum Density Determination above, in accordance with AASHTO T-88. Classify soils in accordance with AASHTO M–145 in order to determine compliance with embankment utilization requirements. Unless required by Engineer, do not test or classify materials for stabilized subgrade or base.

7. Department Verification:

    a. Engineer will conduct a Verification test(s) in order to accept all materials and work associated with the Quality Control Tests. Engineer will verify the Quality Control results if they meet the Verification Comparison Criteria, otherwise Engineer will implement Resolution procedures.

    b. Engineer will select test locations, including Station, Offset, and Lift, using a Random Number generator based on the Lots under consideration. Each Verification test evaluates all work represented by the Quality Control testing completed in those LOTs.

    c. In addition to the Verification testing, Engineer may perform additional Independent Verification (IV) testing. Engineer will evaluate and act upon the IV test results in the same manner as Verification test results.

    d. When the project requires less than four Quality Control tests per material type, Engineer reserves the right to accept the materials and work through visual inspection.

8. Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC density testing to one test every two LOTs by identifying the substantiating tests in the Density Log Book and

notifying Engineer in writing prior to starting reduced frequency of testing. Generate random numbers based on the two LOTs under consideration. When Quality Control test frequency is reduced to one every two LOTs, obtain Engineer's approval to place more than one LOT over an untested LOT. Assure similar compaction efforts for the untested LOTs. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing, the Quality Control testing will revert to the original frequency of one Quality Control test per LOT. Do not apply reduced testing frequency in construction of shoulder-only areas, bike/shared use paths and sidewalks.

9. Quality Control Testing:

   a. Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples and retain two for Engineer's Verification and Resolution testing until Engineer accepts the 16 LOTs represented by the samples.

   b. Depth and Surface Testing Requirements:

      1) Notify Engineer a minimum of 24 hours before checking base depths and surface checking. Determine test locations including Stations and Offsets, using the Random Number generator approved by the Department. Do not perform depth and surface checks until Engineer is present to witness. Perform thickness check on the finished base or granular subbase component of a composite base. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment. Traffic control is to be provided in accordance with the standard maintenance of traffic requirements of the Contract.

      2) The thickness is considered deficient, if the measured depth is over 1/2 inch less than the specified thickness. Correct all deficient areas of the completed base by scarifying and adding additional base material. As an exception, if authorized by the Department, such areas may be left in place without correction and with no payment.

      3) Check the finished surface of the base course with a template cut to the required crown and with a 15 foot straightedge laid parallel to the centerline of the road. Correct all irregularities greater than 1/4 inch to the satisfaction of the Engineer by scarifying and removing or adding rock as required, and recompact the entire area as specified hereinbefore.

   Surface & Thickness Reduced Testing Frequency: When no Resolution testing is required for 12 consecutive verified LOTs, or if required, the QC test data was upheld, reduce the QC surface and/or Thickness checks to one half the minimum requirements as stated in the frequency requirements above (e.g. Reduce frequency from ten per LOT to ten per two LOTs) by identifying the substantiating tests and notifying Engineer in writing prior to starting reduced frequency of testing. If the Verification test fails, and Quality Control test data is not upheld by Resolution testing the Quality Control testing will revert to the original frequency required by the Acceptance Criteria above. The results of the Independent Verification testing will not affect the frequency of the Quality Control testing.

10. Department Verification Tests:

   a. Maximum Density: Engineer will randomly select one of the remaining two split samples and test in accordance with FM 1-T 180, Method D.

   b. Thickness and Surface Testing Requirements: The Department will witness the base depth and surface checks to ensure compliance with the Depth and Surface Testing Requirements above. If the QC test results are not deficient as defined therein, the LOT or 500-foot section will be accepted. If the QC test results are deficient, resolve deficiencies in accordance with the Depth and Surface Testing Requirements. Repeat acceptance testing. Provide traffic control, coring/boring equipment, and an operator for the coring/boring equipment.

   c. Verification Comparison Criteria and Resolution Procedures:

      1) Modified Proctor Maximum Density: Engineer will compare the Verification test results for Maximum Density to the corresponding Quality Control test results. If the test result is within 4.5 lb/ft3 of the QC test result, the LOTs will be verified. Otherwise, Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

      2) Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft^3 of the corresponding Quality Control test result, Engineer will use the Quality Control test results for material acceptance purposes for each corresponding set of LOTs. If the Resolution test result is not within 4.5 lb/ft^3 of the corresponding Quality Control test, Engineer will collect the remaining Verification split sample for testing. Verification Test results will be used for material acceptance purposes for the LOTs in question.

      3) Density: When a Verification or Independent Verification density test does not meet the requirements of the Acceptance Criteria, retest at a site within a 5 feet radius of the Verification test location and observe the following:

         a) If the Quality Control retest meets the Acceptance Criteria and compares favorably with the Verification or Independent Verification test, Engineer will accept the LOTs in question.

         b) If the Quality Control retest does not meet the Acceptance Criteria and compares favorably with the Verification or Independent Verification

test, rework and retest the material in that LOT. Engineer will re-verify the LOTs in question.

c) If the Quality Control retest and the Verification or Independent Verification test do not compare favorably, complete a new Equipment-Comparison Analysis. Once acceptable comparison is achieved, retest the LOTs. Engineer will perform new verification testing. Acceptance testing will not begin on a new LOT until Contractor has a gauge that meets the comparison requirements.

4) Thickness and Surface Testing Requirements: Resolve deficiencies in accordance with the Depth and Surface Testing Requirements above.

H. Priming and Maintaining.

1. Priming: Apply the prime coat only when the base meets the specified density requirements and when the moisture content in the top half of the base does not exceed the optimum moisture of the base material. At the time of priming, ensure that the base is firm, unyielding and in such condition that no undue distortion will occur.

2. Maintaining: Maintain the true crown and template, with no rutting or other distortion, while applying the surface course.

I. Thickness of Base.

1. Engineer will determine, as follows, the average thickness of the compacted limerock base for use in the measurements specified in the Method of Measurement:

   a. Average thickness will be calculated per typical cross-section for the entire job as a unit.

   b. Any measured thickness that is more than 1/2 inch greater than the design thickness shown on the typical cross-section in the Plans or, when no plans exist, the thickness specified in the description of the Contract pay item, will be considered as the design or specified thickness plus 1/2 inch.

   c. Any areas of existing base left in place will not be included in the calculations.

J. Method of Measurement.

1. The quantity to be paid for will be the pay area in square yards of limerock base constructed pursuant to these specifications that is measured, adjusted as specified below, and accepted by Engineer.

   Normal Thickness Base: The surface area of specified normal thickness base to be adjusted will be the measured quantity as specified above, omitting any areas not accepted for payment under Subarticle 200-J.2 below, and omitting areas which are to be included for payment under the Method of Measurement for Variable Thickness Base Authorized by Engineer. The pay area is determined by adjusting the aforementioned surface area using the formula below limited to a maximum for the final pay area of 105 percent of the surface area.

   1) Pay Area = Surface Area × ((Calculated Average Thickness per these Specifications)/(Plan or Specified Thickness))

   b. Variable Thickness Base Authorized by Engineer: Where the base is constructed to an authorized compacted thickness other than the normal thickness as shown on the typical section in the Plans, as specified on the Plans, the thickness specified in the description of the Contract pay item, or ordered as by Engineer for providing additional depths at culverts or bridges, or for providing transitions to connecting pavements; the volume of such authorized variable thickness compacted base will be calculated from authorized lines and grades, or by other methods selected by Engineer, and converted to equivalent square yards of normal thickness base for payment.

2. Additional areas that will not be included in the above measurements for payment include:

   a. Areas of existing base left in place;

   b. Areas where under-thickness is in excess of the allowable tolerance as specified in Subarticle 200-G.9; and

   c. Areas where the work under other Contract pay item(s) includes the construction or restoration of a limerock base.

K. Basis of Payment.

1. Price and payment will be full compensation for all the work specified in this Article, including correcting all defective surface and deficient thickness, removing cracks and checks as provided above in Crack and Checks, prime coat application meeting the requirements of FDOT Section 300, and the additional rock required for crack elimination.

2. Payment will be made under the item(s) below that are provided in the Contract having awarded Contract unit price(s)

Item No.	Description	Unit
230-701	Limerock Base (4 inch thickness)	SY
230-703	Limerock Base (5-1/2 inch thickness)	SY
230-709	Limerock Base (10 inch thickness)	SY

300 PRIME AND TACK COAT

A. Description.

1. Apply bituminous prime coats on previously prepared bases, and apply bituminous tack coats on previously prepared bases and on existing pavement surfaces.

B. Materials.

1. Meet the material requirements specified in FDOT Division III (Materials)

2. Prime Coat: For prime coat, use a product listed on the Department's Approved Product List (APL), meeting the requirements of 916-2, or other types and grades of bituminous material, if specified in the Contract Documents. Where prime coats are to be diluted, certify that the dilution was done in accordance with the specific dilution requirements for each product and for each load of material used. The Contractor may select any of the approved prime coats unless the Contract Documents indicate the use of a specific material. The Engineer may allow types and grades of bituminous material other than those specified above if the Contractor can show the alternate material will properly perform the function of prime coat material.
3. Cover Material for Prime Coat: Uniformly cover the primed base by a light application of cover material. However, if using EPR-1 prime material, the Engineer may waive the cover material requirement if the primed base is not exposed to general traffic and construction traffic does not mar the prime coat so as to expose the base. The Contractor may use either sand or screenings for the cover material. For the sand, meet the requirements as specified in 902-2 or 902-6, and for the screenings, meet the requirements as specified in 902-5. If the primed base course will be exposed to general traffic, apply a cover material that has been coated with 2 to 4% asphalt cement. Apply the asphalt coated material at approximately 10 lb/yd2. Roll the entire surface of asphalt coated prime material with a traffic roller as required to produce a reasonably dense mat.
4. Tack Coat: Unless the Contract Documents call for a specific type or grade of tack coat, use PG 52-28 meeting the requirements of 916-1, heated to a temperature of 250 to 300ºF or use an undiluted emulsion listed on the APL, meeting the requirements of 916-2. Heat the emulsion to the temperature recommended by the tack coat manufacturer. For night paving, use PG 52-28 tack coat. The Engineer may approve an emulsified tack coat for night paving if the Contractor demonstrates, at the time of use, that the emulsion will break and not affect the progress of the paving operation.

C. Equipment.

1. 300-3.1 Pressure Distributor: Provide a pressure distributor that is equipped with pneumatic tires having a sufficient width of rubber in contact with the road surface to avoid breaking the bond or forming a rut in the surface. Ensure that the distance between the centers of openings of the outside nozzles of the spray bar is equal to the width of the application required, within an allowable variation of 2 inches. Ensure that the outside nozzle at each end of the spraybar has an area of opening not less than 25% or more than 75% in excess of the other nozzles. Ensure that all other nozzles have uniform openings. When the application covers less than the full width, the Contractor may allow the normal opening of the end nozzle at the junction line to remain the same as those of the interior nozzles.
2. Sampling Device: Equip all pressure distributors and transport tanks with an approved spigot-type sampling device.
3. Temperature Sensing Device: Equip all pressure distributors and transport tanks with an approved dial type thermometer. Use a thermometer with a temperature range from 50 to 500ºF with maximum 25ºF increments with a minimum dial diameter of 2 inches. Locate the thermometer near the midpoint in length and within the middle third of the height of the tank, or as specified by the manufacturer (if in a safe and easily accessible location). Enclose the thermometer in a well with a protective window or by other means as necessary to keep the instrument clean and in the proper working condition.

D. Contractor's Quality Control.

1. Provide the necessary quality control of the prime and tack coats and application in accordance with the Contract requirements. If the rate of application varies by more than 5% from the rate set by the Engineer or varies beyond the range established in 300-7or 300-8, immediately make all corrections necessary to bring the spread rate into the acceptable range. The Engineer may take additional measurements at any time. The Engineer will randomly check the Contractor's measurement to verify the spread rate.

E. Cleaning Base and Protection of Adjacent Work.

1. Before applying any bituminous material, remove all loose material, dust, dirt, caked clay and other foreign material which might prevent proper bond with the existing surface for the full width of the

application. Take particular care in cleaning the outer edges of the strip to be treated, to ensure that the prime or tack coat will adhere.

2. When applying the prime or tack coat adjacent to curb and gutter, valley gutter, or any other concrete surfaces, cover such concrete surfaces, except where they are to be covered with a bituminous wearing course, with heavy paper or otherwise protect them as approved by the Engineer, while applying the prime or tack coat. Remove any bituminous material deposited on such concrete surfaces.

F. Weather Limitations.

1. Do not apply prime and tack coats when the air temperature in the shade and away from artificial heat is less than 40ºF at the location where the application is to be made or when weather conditions or the surface conditions are otherwise unfavorable.

G. Application of Prime Coat.

1. General: Clean the surface to be primed and ensure that the moisture content of the base does not exceed the optimum moisture. Heat the prime coat material to the temperature recommended by the prime coat manufacturer. Apply the material with a pressure distributor. Determine the application amount based on the character of the surface. Use an amount sufficient to coat the surface thoroughly and uniformly with no excess.

2. Rate of Application:
Limerock, Limerock Stabilized, and Local Rock Bases: For these bases, use a rate of application that is not less than 0.10 gal/yd2, unless a lower rate is directed by the Engineer. Determine the application rate at the beginning of each day's production, and as needed to control the operation, a minimum of twice per day.

a) Sand-Clay, Shell and Shell Stabilized Bases: For these bases, use a rate of application that is not less than 0.15 gal/yd2, unless a lower rate is directed by the Engineer. Determine the application rate at the beginning of each day's production, and as needed to control the operation, a minimum of twice per day.
b) Sprinkling: If so required by the Engineer, lightly sprinkle the base with water and roll it with a traffic roller in advance of the application of the prime coat.
c) Partial Width of Application: If traffic conditions warrant, the Engineer may require that the application be made on only 1/2 the width of the base at one time, in which case use positive means to secure the correct amount of bituminous material at the joint.

A. Application of Tack Coat.

1. General: Where the Engineer requires a tack coat prior to laying a bituminous surface, apply the tack coat as specified herein below.
2. Where Required: Place a tack coat on all asphalt layers prior to constructing the next course. In general, the Engineer will not require a tack coat on primed bases except in areas that have become excessively dirty and cannot be cleaned, or in areas where the prime has cured to the extent that it has lost all bonding effect.
3. Method of Application: Apply the tack coat with a pressure distributor except that on small jobs, if approved by the Engineer, apply it by other mechanical devices or by hand methods. Heat the bituminous material to a suitable temperature as designated by the Engineer, and apply it in a thin, uniform layer.
4. Rate of Application: Use a rate of application as defined in Table 300-1. Control the rate of application to be within plus or minus 0.01 gallon per square yard of the target application rate. The target application rate may be adjusted by the Engineer to meet specific field conditions. Determine and record the rate of application a minimum of twice per day, once at the beginning of each day's production and again as needed to control the operation. When using PG 52-28, multiply the target rate of application by 0.6.

Table 300-1
Tack Coat Application Rates

Asphalt Mixture Type	Underlying Pavement Surface	Target Tack Rate (gal/yd2)
Base Course, Structural Course, Dense Graded Friction Course	Newly Constructed Asphalt Layers	0.03 minimum
	Milled Surface or Oxidized and Cracked Pavement	0.06
	Newly Constructed Asphalt Layers	0.08
Open Graded Friction Course	Milled Surface	0.05
		0.07

5. Curing and Time of Application: Apply the tack coat sufficiently in advance of the laying of the bituminous mix to permit drying, but do not apply the tack coat so far in advance that it might lose its adhesiveness as a result of being covered with dust or other foreign material.

6. Protection: Keep the tack coat surface free from traffic until the subsequent layer of bituminous hot mix has been laid.

H. Method of Measurement.

1. General: The quantity specified will be the volume, in gallons of bituminous material actually applied and accepted. This spread rate will be determined from measurements made by the Contractor and verified by the Engineer based on tank calibrations, as specified in.
2. Where it is specified that prime coat or tack coat material is to be diluted with water, the amount specified for the spread rate will be the volume after dilution.
3. Calibration of Tanks: Ensure that all distributors used for applying tack or prime coats are calibrated prior to use by a reliable and recognized firm engaged in calibrating tanks. Provide a certification of calibration and the calibration chart to the Engineer prior to use. In lieu of a volumetrically calibrated distributor, use a distributor that is equipped with a calibrated meter and is approved by the Engineer.
4. Temperature Correction: Measure the volume and increase or decrease the volume actually measured to a corrected volume at a temperature of 60ºF. Make the correction for temperature by applying the applicable conversion factor (K), as shown below. For petroleum oils having a specific gravity (60ºF/60ºF) above 0.966, K = 0.00035 per degree. For petroleum oils having a specific gravity (60ºF/60ºF) of between 0.850 and 0.966, K = 0.00040 per degree. For emulsified asphalt, K = 0.00025 per degree. When volume-correction tables based on the above conversion factors are not available, use the following formula in computing the corrections for volumetric change:

$$V = \frac{V_1}{K(T - 60) + 1}$$

Where:
V= Volume of the bituminous material at 60ºF (pay volume).
V1= Volume of bituminous material as measured.
K= Correction factor (Coefficient of Expansion).
T= Temperature (in ºF), of the bituminous material when measured.

I. Basis of Payment.

There is no direct payment for the work specified in this Section, it is incidental to, and is to be included in the other items of related work.

327 MILLING OF EXISTING ASPHALT PAVEMENT (REV. 05-14-12)

A. Description.

At the locations and to the average depth of cut specified by the Contract Documents or Work Order, remove existing asphalt concrete pavement by milling to improve the rideability and cross slope of the finished pavement, to lower the finished grade adjacent to existing curb prior to resurfacing, or to completely remove existing pavement.

1. Take ownership of milled material.

B. Equipment.

1. Provide a milling machine capable of maintaining a depth of cut and cross slope that will achieve the results specified in the Contract Documents or Engineer. Use a machine with a minimum overall length (out to out measurement excluding the conveyor) of 18 feet and a minimum cutting width of 6 feet.
2. Equip the milling machine with a built-in automatic grade control system that can control the transverse slope and the longitudinal profile to produce the specified results.
3. To start the project, Engineer will approve any commercially manufactured milling machine that meets the above requirements. If it becomes evident after starting milling that the milling machine cannot consistently produce the specified results, Engineer will reject the milling machine for further use.
4. Contractor may use a smaller milling machine when milling to lower the grade adjacent to existing curb or other areas where it is impractical to use the above described equipment.
5. Equip the milling machine with means to effectively limit the amount of dust escaping during the removal operation.
6. For complete pavement removal, Engineer may approve the use of alternate removal and crushing equipment in lieu of the equipment specified above.

C. Construction.

1. General:

Remove the existing raised reflective pavement markers prior to milling. Include the cost of removing existing pavement markers in the price for milling. When milling to improve rideability or cross slope, remove the existing pavement to the average depth specified by the Contract Documents or Work Order, in a manner that will restore the pavement surface to a uniform cross-section and longitudinal profile. Engineer may require the use of a stringline to ensure maintaining the proper alignment. Establish the longitudinal profile of the milled surface in accordance with the milling plans. Ensure that the final cross slope of the milled surface parallels the surface cross slope shown on the Plans or as directed by Engineer. Establish the cross slope of the milled surface

by a second sensing device near the outside edge of the cut or by an automatic cross slope control mechanism. The Plans may waive the requirement of automatic grade or cross slope controls where the situation warrants such action.

a. Operate the milling machine to minimize the amount of dust being emitted. Engineer may require prewetting of the pavement.

b. Provide positive drainage of the milled surface and the adjacent pavement. Perform this operation on the same day as milling. Repave all milled surfaces no later than the day after the surface was milled unless otherwise stated in the plans.

c. If traffic is to be maintained on the milled surface prior to the placement of the new asphalt concrete, provide suitable transitions between areas of varying thickness to create a smooth longitudinal riding surface. Produce a pattern of striations that will provide an acceptable riding surface. Engineer will require the control the traveling speed of the milling machine to produce a texture that will provide an acceptable riding surface.

d. Prior to opening an area which has been milled to traffic, sweep the pavement with a power broom or other approved equipment to remove, to the greatest extent practicable, fine material which will create dust under traffic. Sweep in a manner that will minimize the potential for creation of a traffic hazard and to minimize air pollution.

e. Sweep the milled surface with a power broom prior to placing asphalt concrete.

f. In urban and other sensitive areas, use a street sweeper or other equipment capable of removing excess milled materials and controlling dust. Obtain Engineer's approval of such equipment, contingent upon its demonstrated ability to do the work.

g. Perform the sweeping operation immediately after the milling operations or as directed by Engineer.

2. Quality Control Requirements:

Furnish an electronic level with a length of 4 feet and an accuracy of plus or minus 0.1 degree approved by Engineer for the control of cross slope. Make this electronic level available at the jobsite at all times during milling operations. Calibrate and compare electronic levels at a minimum frequency of once per day before any milling operation, and at any time as directed by Engineer. If the comparison between the QC and Verification levels is within the comparison tolerance of plus or minus 0.2%, the QC level is considered to compare favorably and can be used for measurement and acceptance of cross slopes. If the levels do not compare favorably, perform a second comparison using another calibrated electronic level (Contractor) for resolution. If this resolution level compares favorably with the QC level, the QC level is considered to be verified. If the second level does not compare favorably with the QC level, discontinue the use of the QC electronic level and obtain another approved electronic level that meets the requirements of this specification. Regardless of the comparison analysis outcome, Contractor assumes all risk associated with placing the pavement at the correct cross slope.

a. Multiple cuts may be made to achieve the required pavement configuration or depth of cut. Measure the cross slope of the milled surface by placing the level at the center location of a lane and perpendicular to the roadway centerline. Record all the measurements to the nearest 0.1% on an approved form and submit to Engineer for documentation.

1) Tangent Sections: Measure the cross slope per lane at a minimum frequency of one measurement every 100 feet. Calculate the absolute deviation of cross slope at each measurement and then average the absolute deviation of ten consecutive cross slope measurements. The absolute deviation is the positive value of a deviation. When the average absolute deviation cross slope is consistently within the acceptance tolerance as shown in Table 327-1 and upon approval by Engineer, the frequency of the cross slope measurements can be reduced to one measurement every 200 feet during milling operations.

2) Superelevated Sections: Measure the cross slope every 100 feet per lane within the length of full superelevation. Calculate the absolute deviation of each measurement and then average the absolute deviation of ten consecutive cross slope measurements. For every transition section, measure the cross slope at control points identified in the plans or, if not shown in the plans, at a control point at a location of 0.0% cross slope. For curves where the length of the fully superelevated section is less than 250 feet, measure the cross slope at the beginning point, midpoint and ending point of the fully superelevated section, calculate the absolute deviation and average. When the number of measurements is less than ten and the length of full superelevation is greater than 250 feet, average the absolute deviation of all measurements. If the average absolute deviation of the cross slope measurements falls outside the acceptance tolerance shown in Table 327-1, stop the milling operations and make adjustments until the problem is resolved to the satisfaction of Engineer. If an individual cross slope deviation falls outside the acceptance tolerance as shown in Table 327-1, make corrections only in the deficient area to the satisfaction of Engineer at no cost to the Department. For pavement with multiple cuts, the deficient areas not caused by the final cut may be left in place upon approval of Engineer. All milling corrections shall be completed before placement of the asphalt course unless stated otherwise in the plans or as determined by Engineer.

b. The limits of deficient areas requiring correction may be verified and adjusted with more accurate measurement methods, including survey instruments,

upon approval by Engineer at no cost to the Department. Should Contractor wish to have any

corrections waived, submit a request to Engineer for approval. Engineer may waive the corrections at no reduction in payment if an engineering determination indicates that the deficiencies are sufficiently separated so as not to significantly affect the final cross slope or project grade.

c. For intersections, tapers, crossovers, transitions at the beginning and end of the project, bridge approaches and similar areas, adjust the cross slope to match the actual site conditions, or as directed by Engineer.

TABLE 327-1
Cross Slope Milling Acceptance Tolerance

Roadway Feature	Individual Absolute Deviation	Average Absolute Deviation
Tangent section (including turn lanes)	0.4%	0.2%
Superelevated curve	0.4%	0.2%
Shoulder	0.5%	0.5%

D. Milled Surface.

1. Provide a milled surface with a reasonably uniform texture, within 1/4 inch of a true profile grade, and with no deviation in excess of 1/4 inch from a straightedge applied to the pavement perpendicular to the centerline. Ensure that the variation of the longitudinal joint between multiple cut areas does not exceed 1/4 inch. Engineer may accept areas varying from a true surface in excess of the above stated tolerance without correction if Engineer determines that they were caused by a pre-existing condition which could not have reasonably been corrected by the milling operations. Correct any unsuitable texture or profile, as determined by Engineer, at no additional expense to the Department.

2. Engineer may require remilling of any area where a surface lamination causes a non-uniform texture to occur.

E. Method of Measurement.

1. The quantity to be paid for will be the area, in square yards, over which milling is completed and accepted by Engineer.

F. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including hauling off and stockpiling or otherwise disposing of the milled material.

2. Payment will be made under:

Item No.	Description	Unit
327- 70-1	Milling Existing Asphalt Pavement (1" Average Depth)	SY

334 SUPERPAVE ASPHALT CONCRETE

A. Description.

1. General.

a. Construct plant mixed Hot Mix Asphalt (HMA) pavements based on the type of mixture specified in the Contract Documents and for the Asphalt Work Categories defined below.

b. Meet all applicable requirements for plants, material, equipment, and construction specified herein.

2. Asphalt Work Categories.

a. Asphalt Work Category 1: Includes the construction of bike paths.

b. Asphalt Work Category 2: Includes the construction of paved shoulders and other non-mainline pavement locations.

c. Asphalt Work Category 3: Includes the construction of new mainline and turn lanes HMA pavement, milling and resurfacing.

3. Mix Types.

a. Use a HMA mix that meets the requirements of this specification.

b. In the event a mix type is not identified in the Contract Documents use, subject to Engineer's approval, the appropriate HMA mix from Table 1 below.

c. Mixtures are based on the design traffic level of the project, expressed in 18,000 pounds Equivalent Single Axle Loads (ESAL's).

d. A Type SP or FC mix one traffic level higher than the traffic level specified in the Contract may be substituted, at no additional cost.

Table 1
HMA Fine Mix Types

Asphalt Work Category	Mix Types	Traffic Level(2)
1	Type SP-9.5(1)	A
2	Structural Mixes: Types SP-9.5 or SP-12.5(1) Friction Mixes: Types FC-9.5 or FC-12.5(1)	B or C
3	Structural Mixes: Types SP-9.5 or SP-12.5 Friction Mixes: Types FC-9.5 or FC-12.5	C
(1) Equivalent mixes may be approved as determined by the Engineer.		
(2) Traffic Level (1x106 ESAL's): A is <0.3; B is 0.3 to <3; and C is 3 to <10		

4. Gradation Classification.

a. Use only fine HMA mixes meeting the requirements of subarticle C.2.b below. The equivalent AASHTO

nominal maximum aggregate size Superpave mixes are as follows:

1) Type SP-9.5, FC-9.5 ……. 9.5 mm (3/8")

2) Type SP-12.5, FC-12.5 …….. 12.5 mm (1/2")

5. Total Pavement Thickness.

a. The total pavement thickness of the HMA Pavement will be based on a specified spread rate or plan thickness as shown in the Contract Documents. Before paving, propose a spread rate or thickness for each individual layer meeting the requirements of this specification, which when combined with other layers (as applicable) will equal the plan spread rate or thickness.

b. When the total pavement thickness is specified as plan thickness, the plan thickness and individual layer thickness will be converted to spread rate using the following equation:

1) Spread rate (lbs/yd^2) = t x G_{mm} x 43.3 where:

a) t = Thickness (in.) (Plan thickness or individual layer thickness)

b) G_{mm} = Maximum specific gravity from the mix design

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

c. Plan quantities are based on a G_{mm} of 2.540, corresponding to a spread rate of 110 lbs. per square yard per inch. Pay quantities will be based on the actual maximum specific gravity of the mix being used.

6. Layer Thicknesses.

a. Structural Course Layer(s):

1) Unless otherwise called for in the Contract Documents, the allowable layer thicknesses for fine Type SP HMA mixes are as follows:

a) Type SP-9.5……..1 – 1 ½ inches

b) Type SP-12.5……...1 ½ – 2 ½ inches

2) Fine Type SP-9.5 mixes are limited to the top two structural layers, two layers maximum.

b. Friction Course Layer (FC-12.5 and FC-9.5):

1) The thickness of the friction course layer will be the plan thickness as shown in the Contract Document or as directed in writing by the Engineer. For construction purposes, the plan thickness will be converted to spread rate as defined in Subarticle A.5 above.

7. Additional Requirements.

a. Type SP HMA fine mixtures:

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

For overbuild layers, use the minimum and maximum layer thicknesses as specified above unless called for differently in the Contract Documents. On variable thickness overbuild layers, the minimum allowable thickness may be reduced by ½ inch, and the maximum allowable thickness may be increased by ½ inch, unless called for differently in the Contract Documents.

8. Weight of Mixture.

a. The weight of the mixture shall be determined as provided in FDOT 320-2.2 (Electronic Weigh Systems).

B. Materials.

1. General Requirements: Meet the material requirements specified in FDOT Division III (Materials). Specific references as follows:

Superpave PG Asphalt Binder	FDOT 916-1
Recycling Agents	FDOT 916-2
Course Aggregate	FDOT Section 901
Fine Aggregate	FDOT Section 902

2. Asphalt Binder:

a. For Type SP Mixtures:

1) Unless specified elsewhere in the Contract Documents, use a PG 67-22 asphalt binder from the FDOT's Qualified Products List (QPL).

2) Meet the requirements of FDOT Section 916 and Subarticle B.4 below.

b. For Type FC Mixtures:

1) Use an ARB-5 asphalt rubber binder meeting the requirements of FDOT Section 336 and any additional requirements or modifications specified herein for the various mixtures.

2) If called for in the Contract Documents, use a PG 76-22 asphalt binder meeting the requirements of FDOT 916-1. For projects with a total quantity of FC-9.5 or FC-12.5 less than 500 tons, the Contractor may elect to substitute for the ARB-5, a PG 76-22 Asphalt Binder that meets the requirements of FDOT 916-1.

3. Aggregate:

a. Provide certification from the aggregate supplier that the material meets all requirements for construction aggregates stipulated in the Contract Documents.

b. Aggregates and sources used must be identified in the FDOT "Approved Aggregate Products from Mines or Terminals" current listings.

c. For Type FC mixes:

Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, other crushed materials (as approved by FDOT for friction courses per Rule 14-103.005, Florida Administrative Code), or a combination of the above. Crushed limestone from the Oolitic

formation may be used if it contains a minimum of 12% silica material as determined by FDOT Test Method FM 5-510 and FDOT grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may either contain:

a) Up to 40% fine aggregate from other sources, or

b) A combination of up to 15% Reclaimed Asphalt Pavement (RAP) Material and the remaining fine aggregate from other sources.

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

4. Reclaimed Asphalt Pavement (RAP) use in Type SP asphalt mixture:

a. General requirements: RAP may be used as a component of the Type SP asphalt mixture, if approved by the Engineer. Usage of RAP is subject to the following requirements:

1) Limit the amount of RAP material used in the mix to a maximum of 50 percent by weight of total aggregate.

2) When using a PG 76-22 Asphalt Binder, limit the amount of RAP material used in the mix to a maximum of 15 percent by weight of total aggregate.

Provide stockpiled RAP material that is reasonably consistent in characteristics and contains no aggregate particles which are soft or conglomerates of fines. Provide RAP material having a minimum average asphalt content of 4.0 percent by weight of total mix. The Engineer may sample the stockpile to verify that this requirement is met.

3) Use a grizzly or grid over the RAP cold bin, in-line roller crusher, screen, or other suitable means to prevent oversized RAP material from showing up in the completed recycle mixture. If oversized RAP material appears in the completed recycle mix, take the appropriate corrective action immediately. If the appropriate corrective actions are not immediately taken, stop plant operations.

b. Material Characterization: Assume responsibility for establishing the asphalt binder content, gradation, viscosity and bulk specific gravity (Gsb) of the RAP material based on a representative sampling of the material.

c. Asphalt Binder for Mixes with RAP:

1) Select the appropriate asphalt binder grade based on Table 2 below.

2) The Engineer reserves the right to change the asphalt binder type and grade at design based on the characteristics of the RAP asphalt binder, and reserves the right to make changes during production.

3) Maintain the viscosity of the recycled mixture within the range of 5,000 to 15,000 poises.

Table 2
Asphalt Binder Grade for Mixes Containing RAP

Percent RAP	Asphalt Binder Grade
<20	PG 67-22
20 – 29	PG 64-22
≥ 30	Recycling Agent

C. Composition of Mixture.

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

2. Mix Design:

General: Design the asphalt mixture in accordance with AASHTO R35 04, except as noted herein. Submit the proposed mix design with supporting test data indicating compliance with all mix design criteria to the Engineer. Prior to the production of any asphalt mixture, obtain the Engineer's conditional approval of the mix design. If required by the Engineer, send representative samples of all component materials, including asphalt binder to a laboratory designated by the Engineer for verification. The Engineer will consider any marked variations from original test data for a mix design or any evidence of inadequate field performance of a mix design as sufficient evidence that the properties of the mix design have changed, and at his discretion, the Engineer may no longer allow the use of the mix design.

a. Mixture Gradation Requirements: Combine the aggregates in proportions that will produce an asphalt mixture meeting all of the requirements defined in this specification and conform to the gradation requirements at design as defined in AASHTO M323 04, Table 3. Aggregates from various sources may be combined.

1) Mixture Gradation Classification: Plot the combined mixture gradation on an FHWA 0.45

2) Power Gradation Chart. Include the Control Points from AASHTO M323 04, Table 3, as well as the Primary Control Sieve (PCS) Control Point from AASHTO M323 04, Table 4. Fine mixes are defined as having a gradation that passes above or through the primary control sieve control point. Use only fine mixes.

b. Gyratory Compaction: Compact the design mixture in accordance with AASHTO T312 04. Use the number of gyrations as defined in AASHTO R35 04, Table 1.

c. Design Criteria: Meet the requirements for nominal maximum aggregate size as defined in AASHTO

M323 04, as well as for relative density, VMA, VFA, and dust-to-binder ratio as specified in AASHTO M323 04, Table 6.

d. Moisture Susceptibility:

1) Test 4 inch specimens in accordance with FM 1 T 283. Provide a mixture having a retained tensile strength ratio of at least 0.80 and a minimum tensile strength (unconditioned) of 100 psi. If necessary, add a liquid anti-stripping agent from the FDOT's Qualified Products List, or hydrated lime in order to meet these criteria.

2) In lieu of moisture susceptibility testing, add a liquid anti-stripping agent from the FDOT's Qualified Products List. Add 0.5% liquid anti-stripping agent by weight of binder.

e. Additional Information: In addition to the requirements listed above, provide the following information on each mix design:

1) The design traffic level and the design number of gyrations (N_{design}).

2) The source and description of the materials to be used.

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

4) The gradation and proportions of the raw materials as intended to be combined in the paving mixture. The gradation of the component materials shall be representative of the material at the time of use.

5) Compensate for any change in aggregate gradation caused by handling and processing as necessary.

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

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

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

9) A target temperature at which the mixture is to be discharged from the plant and a target roadway temperature. Do not exceed a target temperature of 330°F for modified asphalts and 315°F for unmodified asphalts.

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

11) The name of the Mix Designer.

12) The ignition oven calibration factor.

D. Contractor Quality Control.

1. Assume full responsibility for controlling all operations and processes such that the requirements of these Specifications are met at all times. Perform any tests necessary at the plant and Project site for quality control purposes.

2. Acceptance of any automatic delivery ticket printout, electronic weight delivery ticket, or other evidence of weight of the materials or approval of any particular type of materials or production methods will not constitute agreement by the County that such matters are in accordance with the Contract Documents and it shall be the Contractor's responsibility to ensure that the materials delivered to the project are in accordance with the Contract Documents.

E. General Construction Requirements.

1. Weather Limitations: Do not transport asphalt mix from the plant to the roadway unless all weather conditions are suitable for the laying operations.

2. Limitations of Laying Operations:

a. General: Spread the mixture only when the surface upon which it is to be placed has been previously prepared, is intact, firm, and properly cured, and is dry.

b. Air Temperature: Spread the mixture only when the air temperature in the shade and away from artificial heat is at least 40ºF for layers greater than 1 inch (100 lb/yd2) in thickness and at least 45ºF for layers 1 inch (100 lb/yd2) or less in thickness (this includes leveling courses). The minimum temperature requirement for leveling courses with a spread rate of 50 lb/yd2 or less is 50ºF.

3. Mix Temperature: Heat and combine the ingredients of the mix in such a manner as to produce a mixture with a temperature at the plant and at the roadway, within a range of ±30ºF from the target temperature as shown on the mix design. Reject all loads outside of this range.

4. Transportation of the Mixture: Transport the mixture in vehicles previously cleaned of all foreign material. After cleaning, thinly coat the inside surface of the truck bodies with soapy water or an asphalt release agent as needed to prevent the mixture from adhering to the beds. Do not allow excess liquid to pond in the truck body. Do not use diesel fuel or any other hazardous or environmentally detrimental material as a coating for the inside surface of the truck body. Cover each load at all times.

5. Preparation of Surfaces Prior to Paving:

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

b. Patching and Leveling Courses: Where the HMA is to be placed on an existing pavement which is irregular, wherever the plans indicate, or if directed by the Engineer, bring the existing surface to proper grade

and cross-section by the application of patching or leveling courses.

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

d. Tack Coat: Apply a tack coat on existing pavement structures that are to be overlaid with an asphalt mix and between successive layers of all asphalt mixes, unless directed otherwise by the Engineer. Use a tack coat product meeting FDOT Section 300 (Prime and Tack Coats for Base Courses). Use an emulsified tack coat spread rate of 0.02 to 0.08 gal/sy or as specified by the Engineer.

6. Paving:

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

b. Rain and Surface Conditions: Immediately cease transportation of asphalt mixtures from the plant when rain begins at the roadway. Do not place asphalt mixtures while rain is falling, or when there is water on the surface to be covered. Once the rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in subarticle E.3 above, the Contractor may then place the mixture caught in transit.

c. Checking Depth of Layer: Check the depth of each layer at frequent intervals, and make adjustments when the thickness exceeds the allowable tolerance of ¼". Address any material outside of this tolerance per the direction of the Engineer. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet to stabilize before the second check is made to determine the effects of the adjustment.

d. Hand Spreading: In limited areas where the use of the spreader is impossible or impracticable, spread and finish the mixture by hand.

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

f. Thickness of Layers: Construct each course of Type SP mixtures in layers of thickness pursuant to subarticle A.6.a above.

7. Leveling Courses:

a. Patching Depressions: Before spreading any leveling course, fill all depressions in the existing surface more than 1 inch deep by spot patching with leveling course mixture, and compact thoroughly.

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

c. Rate of Application: When using Type SP-9.5 (fine graded) for leveling, do not allow the average spread of a layer to be less than 50 lb/yd2 or more than 75 lb/yd2. The quantity of mix for leveling shown in the plans represents the average for the entire project; however, the Contractor may vary the rate of application throughout the project as directed by the Engineer. When leveling in connection with base widening, the Engineer may require placing all the leveling mix prior to the widening operation.

8. Compaction:

a. For each paving or leveling train in operation, furnish a separate set of rollers, with their operators.

When density testing for acceptance is required (Asphalt Work Category 3), select equipment, sequence, and coverage of rolling to meet the specified density requirement. Regardless of the rolling procedure used, complete the final rolling before the surface temperature of the pavement drops to the extent that effective compaction may not be achieved or the rollers begin to damage the pavement.

b. When density testing for acceptance is not required (Asphalt Work Categories 1 and 2), use a rolling pattern approved by the Engineer.

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

9. Joints.

a. Transverse Joints: Construct smooth transverse joints, which are within 3/16 inch of a true longitudinal profile when measured with a 15 foot manual straightedge.

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

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

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

requirements below for Correcting Unacceptable Pavement.

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

Pavement Smoothness: Construct a smooth pavement meeting the requirements of this Specification. Furnish a 15 foot manual and a 15 foot rolling straightedge meeting the requirements of FM 5-509. Make them available at the job site at all times during paving operations for Asphalt Work Category 3 and make them available upon request of the Engineer for Asphalt Work Categories 1 and 2.

1) Asphalt Work Category 3:

Acceptance Testing: Using a rolling straightedge, test the final Type SP structural layer and the Type FC layer, where a friction course is called for in the Contract Documents. Test all pavement lanes where the width is constant using a rolling straightedge and document all deficiencies on a form approved by the Engineer. Notify the Engineer of the location and time of all straightedge testing a minimum of 48 hours before beginning testing. Rolling Straightedge Exceptions: Testing with the rolling straightedge will not be required in the following areas: intersections, tapers, crossovers, parking lots and similar areas. In addition, testing with the rolling straightedge will not be performed on the following areas when they are less than 50 feet in length: turn lanes, acceleration/deceleration lanes and side streets. However, correct any individual surface irregularity in these areas that deviates from the plan grade in excess of 3/8 inch as determined by a 15 foot manual straightedge, and that the Engineer deems to be objectionable, in accordance with the requirement below for Correcting Unacceptable Pavement. The Engineer may waive or modify straightedging requirements if no milling, leveling, overbuild or underlying structural layer was placed on the project and the underlying layer was determined to be exceptionally irregular.

a) Final Type SP Structural Layer: Straightedge the final Type SP structural layer with a rolling straightedge behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). If the Type SP layer is to be the final surface, corrections may be waived by the Engineer. Retest the corrected areas.

b) Friction Course Layer: Where a friction course is called for in the Contract, at the completion of all paving operations, straightedge the friction course either behind the final roller of the paving train or as a separate operation. Address all deficiencies in excess of 3/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (friction course), unless waived by the Engineer. Retest all corrected areas.

Asphalt Work Categories 1 and 2: If required by the Engineer, straightedge the final structural layer with a rolling straightedge, either behind the final roller of the paving train or as a separate operation. Correct all deficiencies in excess of 5/16 inch in accordance with the requirements below for Correcting Unacceptable Pavement (structural layer). Retest all corrected areas. If the Engineer determines that the deficiencies on a bicycle path are due to field geometrical conditions, the Engineer will waive corrections with no deduction to the pay item quantity.

c. Correcting Unacceptable Pavement:

1) General: Correct all areas of unacceptable pavement at no additional cost.

2) Structural Layers: Correct deficiencies in the Type SP structural layer by one of the following methods:

Remove and replace the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.

a) Mill the pavement surface to a depth and width that is adequate to remove the deficiency. (This option only applies if the structural layer is not the final surface layer.)

3) Friction Course: Correct deficiencies in the friction course layer by removing and replacing the full depth of the layer, extending a minimum of 50 feet on both sides of the defective area for the full width of the paving lane.

F. Acceptance of the Mixture.

1. General: The asphalt mixture will be accepted based on the Asphalt Work Category as defined below:

a. Asphalt Work Category 1 – Certification by the Contractor as defined below.

b. Asphalt Work Category 2 – Certification and quality control testing by the Contractor as defined below.

c. Asphalt Work Category 3 – Quality control testing by the Contractor and acceptance testing by the Engineer as defined below.

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

3. Certification and Quality Control Testing by the Contractor: On Asphalt Work Category 2 construction, submit a Notarized Certification of Specification

Compliance letter on company letterhead to the Engineer stating that all material produced and placed on the project was in substantial compliance with the Specifications, along with supporting test data documenting all quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a. below). If so required by the Contract, utilize an Independent Laboratory as approved by the Engineer for the quality control testing. The mix will also require visual acceptance by the Engineer. In addition, the Engineer may run independent tests to determine the acceptability of the material.

a. Quality Control Sampling and Testing Requirements:

1) Perform quality control testing at a frequency of once per day. Obtain the samples in accordance with FDOT Method FM 1 T 168.

2) Test the mixture at the plant for gradation (P-8 and P-200) and asphalt binder content (Pb).

3) Test the mixture on the roadway for density using six-inch diameter roadway cores obtained at a frequency of three cores per day.

4) Determine the asphalt content of the mixture in accordance with FM 5 563.

5) Determine the gradation of the recovered aggregate in accordance with FM 1 T 030.

6) Determine the roadway density in accordance with FM 1 T 166. The minimum roadway density will be based on the percent of the maximum specific gravity (Gmm) from the approved mix design. If the Contractor or Engineer suspects that the mix design Gmm is no longer representative of the asphalt mixture being produced, then a new Gmm value will be determined from plant-produced mix with the approval of the Engineer. Roadway density testing will not be required in certain situations as described in the Acceptance Testing Exceptions (subarticle F.4.a below).

7) Assure that the asphalt content, gradation and density test results meet the criteria in Table 3 below.

Table 3
Quality Control and Acceptance Values

Characteristic	Tolerance
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (average of three cores)	91.5% G_{mm}
Roadway Density (any single core)	90.0 % G_{mm}

Quality Control Testing by the Contractor and Acceptance Testing by the Engineer: On Asphalt Work Category 3, perform quality control testing as described in the Quality Control Sampling and Testing Requirements (subarticle F.3.a above). In addition, the Engineer will accept the mixture at the plant with respect to gradation (P-8 and P-200) and asphalt binder content (Pb). The mixture will be accepted on the roadway with respect to density. The Engineer will sample and test the material as described in subarticle F.3.a above. The Engineer will randomly obtain at least one set of samples per day. Assure that the asphalt content, gradation and density test results meet the criteria in Table 3 above. Material failing to meet these acceptance criteria will be addressed as directed by the Engineer.

b. Acceptance Testing Exceptions:

1) When the total quantity of any mix type in the Project is less than 500 tons, or on Asphalt Work Category 1 construction, the Engineer will accept the mix on the basis of visual inspection. The Engineer may run independent tests to determine the acceptability of the material.

Density testing for acceptance will not be performed on widening strips or shoulders with a width of 5 feet or less, variable thickness overbuild courses, leveling courses, first lift of asphalt base course placed on subgrade, miscellaneous asphalt pavement, or any course with a specified thickness less than 1 inch or a specified spread rate less than 100 lbs/sy. In addition, density testing for acceptance will not be performed on the following areas when they are less than 1,000 feet in length: crossovers, intersections, turning lanes, acceleration lanes, deceleration lanes, or ramps. Compact these courses in accordance with a standard rolling procedure approved by the Engineer. In the event that the rolling procedure deviates from the approved procedure, placement of the mix will be stopped.

G. Method of Measurement.

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

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

H. Basis of Payment.

1. General: Price and payment will be full compensation for all the work specified under this Article.

Item No.	Description	Unit
334-1-11	Superpave Asphalt Concrete (SP-12.5, Traffic A, 1” Thick)	Ton
334-1-13	Superpave Asphalt Concrete (SP-12.5, Traffic C, 4” Thick)	Ton

337 ASPHALT CONCRETE FRICTION COURSES

A. Description.

Construct an asphalt concrete friction course pavement with the type of mixture specified in the Contract, or when offered as alternates, as selected. This Section specifies mixes designated as FC-5, FC-9.5, and FC-12.5.Meet the plant and equipment requirements of Section 320, as modified herein. Meet the general construction requirements of Section 330, as modified herein.

A. Materials.

1. General Requirements: Meet the requirements specified in Division III as modified herein. The Engineer will base continuing approval of material sources on field performance.
2. Asphalt Binder: Meet the requirements of Section 336, and any additional requirements or modifications specified herein for the various mixtures. When called for in the Contract Documents, use a PG 76-22 asphalt binder meeting the requirements of 916-1. For projects with a total quantity of FC-5, FC-9.5, or FC-12.5 less than 500 tons, the Contractor may elect to substitute a PG 76-22 for the ARB-12 or ARB-5, meeting the requirements of 916-1.
3. Coarse Aggregate: Meet the requirements of Section 901, and any additional requirements or modifications specified herein for the various mixtures.
4. Fine Aggregate: Meet the requirements of Section 902, and any additional requirements or modifications specified herein for the various mixtures.
5. Hydrated Lime: Meet the requirements of AASHTO M303 Type 1. Provide certified test results for each shipment of hydrated lime indicating compliance with the specifications.

6. Fiber Stabilizing Additive (Required for FC-5 only): Use either a mineral or cellulose fiber stabilizing additive. Meet the following requirements:

a) Mineral Fibers: Use mineral fibers (made from virgin basalt, diabase, or slag) treated with a cationic sizing agent to enhance the disbursement of the fiber, as well as to increase adhesion of the fiber surface to the bitumen. Meet the following requirements for physical properties:

1) Size Analysis

Average fiber length: 0.25 inch (maximum)

Average fiber thickness: 0.0002 inch (maximum)

2) Shot Content (ASTM C612)

Percent passing No. 60 Sieve: 90 - 100

Percent passing No. 230 Sieve: 65 - 100

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

b) Cellulose Fibers: Use cellulose fibers meeting the following requirements:
1) Fiber length: 0.25 inch (maximum)
2) Sieve Analysis

a. Alpine Sieve Method

Percent passing No. 100 sieve: 60-80

b. Ro-Tap Sieve Method

Percent passing No. 20 sieve: 80-95

Percent passing No. 40 sieve: 45-85

Percent passing No. 100 sieve: 5-40

3) Ash Content: 18% non-volatiles (±5%)

4) pH: 7.5 (±1.0)

5) Oil Absorption: 5.0 (±1.0) (times fiber weight)

6) Moisture Content: 5.0 (maximum)

Provide certified test results for each batch of fiber material indicating compliance with the above tests.

B. General Composition of Mixes.

1. General: Use a bituminous mixture composed of aggregate (coarse, fine, or a mixture thereof), asphalt rubber binder, and in some cases, fibers and/or hydrated lime. Size, uniformly grade and combine the aggregate fractions in such proportions that the resulting mix meets the requirements of this Section. The use of RAP material will not be permitted.

2. Specific Component Requirements by Mix:

a) FC-5:

1) Aggregates: Use an aggregate blend which consists of either 100% crushed granite or 100% crushed Oolitic limestone. In addition to the requirements of Section 901, meet the following coarse aggregate requirements. Use either crushed granite or crushed limestone. Use crushed limestone from the Oolitic formation, which contains a minimum of 12% non-carbonate material (as determined by FM 5-510), and has been approved for this use. In addition to the requirements of Section 902, meet the following fine aggregate requirements. Use either crushed granite screenings, or crushed Oolitic limestone screenings for the fine aggregate.

2) Asphalt Binder: Use an ARB-12 asphalt rubber binder. If called for in the Contract Documents, use a PG 76-22 asphalt binder.
3) Hydrated Lime: Add the lime at a dosage rate of 1.0% by weight of the total dry aggregate to mixes containing granite.
4) Fiber Stabilizing Additive: Add either mineral fibers at a dosage rate of 0.4% by weight of the total mix, or cellulose fibers at a dosage rate of 0.3% by weight of total mix.

b) FC-9.5 and FC-12.5:

1) Aggregates: In addition to the requirements of Sections 901 and 902, use coarse and fine aggregate components which also meet the aggregate requirements for an SP-9.5 or SP-12.5 Superpave mix, respectively, as specified in Section 334. Use an aggregate blend that consists of crushed granite, crushed Oolitic limestone, or a combination of the two. (Aggregates other than those listed above may be used if approved by the Engineer for use in friction courses.) Crushed limestone from the Oolitic formation may be used if it contains a minimum of 12% non-carbonate material as determined by FM 5-
510 and the Engineer grants approval of the source prior to its use. As an exception, mixes that contain a minimum of 60% crushed granite may contain up to 40% fine aggregate from other approved sources.

2) Asphalt Binder: Use an ARB-5 asphalt rubber binder. If called for in the Contract, use a PG 76-22 asphalt binder.

3. Grading Requirements:

a) FC-5: Use a mixture having a gradation at design within the ranges shown in Table 337-1.

Table 337-1
FC-5 Gradation

3/4 inch	100
1/2 inch	85-100
3/8 inch	55-75
No. 4	15-25
No. 8	5-10
No. 16	--
No. 30	--
No. 50	--
No. 100	--
No. 200	2-4

b) FC-9.5: Meet the design gradation requirements for a SP-9.5 Superpave fine mix as defined in 334-3.2.2.

c) 337-3.3.3 FC-12.5: Meet the design gradation requirements for a SP-12.5 Superpave fine mix as defined in 334-3.2.2.

C. Mix Design.

1. FC-5: The Department will design the FC-5 mixtures. Furnish the materials and all appropriate information (source, gradation, etc.) as specified in 334-3.2.7. The Department will have two weeks to design the mix. The Department will establish the design binder content for FC-5 within the following ranges based on aggregate type:

Aggregate Type	Binder Content
Crushed Granite	5.5 - 7.0
Crushed Limestone (Oolitic)	6.5 - 8.0

2. FC-9.5 and FC-12.5: Provide a mix design conforming to the requirements of 334-3.2 for Traffic Level C unless otherwise designated in the plans. Develop the mix design using an ARB-5 or PG 76-22 asphalt binder if called for in the Contract Documents.
3. Revision of Mix Design: For FC-5, FC-9.5 and FC-12.5, meet the requirements of 334-3.3. For FC-5, all revisions must fall within the gradation limits defined in Table 337-1.

D. Contractor's Process Control.

Provide the necessary process control of the friction course mix and construction in accordance with the applicable provisions of 330-2 and 334-4 for FC-5, and 330-2 and 334-4 for FC-9.5 and FC-12.5. The Engineer will monitor the spread rate periodically to ensure uniform thickness. Provide quality control procedures for daily monitoring and control of spread rate variability. If the spread rate varies by more than 5% of the spread rate set by the Engineer in accordance with 337-9, immediately make all corrections necessary to bring the spread rate into the acceptable range.

E. Acceptance of the Mixture.

1. FC-9.5 and FC-12.5: Meet the requirements of 334-5.
2. FC-5: Meet the requirements of 334-5 with the following exceptions:

a) The mixture will be accepted with respect to gradation (P-3/8, P-4, and P-8), and asphalt binder content (Pb) only.

b) Testing in accordance with AASHTO T312-04 and FM 1-T 209 (and conditioning prior to testing) will not be required as part of 334-5.1.1.
c) The standard LOT size of FC-5 will be 2,000 tons, with each LOT subdivided into four equal sublots of 500 tons each.
d) Initial production requirements of 334-5.3 do not apply.
e) The Between-Laboratory Precision Values described in Table 334-5 are modified to include (P-3/8, P-4, and P-8) with a maximum difference per FM 1-T 030 (Figure 2).
f) Table 334-4 (Master Production Range) is replaced by Table 337-2.
g) The mixture will be accepted on the roadway with respect to surface tolerance in accordance with the applicable requirements of 334-5.8. No density testing will be required for these mixtures.

Table 337-2
FC-5 Master Production Range

Characteristic	Tolerance (1)
Asphalt Binder Content (%)	Target ± 0.60
Passing 3/8 inch Sieve (%)	Target ± 7.50
Passing No. 4 Sieve (%)	Target ± 6.00
Passing No. 8 Sieve (%)	Target ± 3.50
(1) Tolerances for sample size of n = 1 from the verified mix design	

(1) Tolerances for sample size of n = 1 from the verified mix design

a) Individual Test Tolerances for FC-5 Production: In the event that an individual Quality Control test result of a sublot for gradation (P-3/8, P-4, and P-8), does not meet the requirements of Table 337-2, take steps to correct the situation and report them to the Engineer. In the event that two consecutive individual Quality Control test results for gradation (P-3/8, P-4, and P-8) or an individual test result for asphalt binder content does not meet the requirements of Table 337-2, the LOT will be automatically terminated and production of the mixture stopped until the problem is adequately resolved (to the satisfaction of the Engineer), unless it can be demonstrated to the satisfaction of the Engineer that the problem can immediately be (or already has been) resolved. Address any material represented by the failing test result in accordance with 334-5.9.5.

F. Special Construction Requirements.

1. Hot Storage of FC-5 Mixtures: When using surge or storage bins in the normal production of FC-5, do not leave the mixture in the surge or storage bin for more than one hour.
2. Longitudinal Grade Controls for Open-Graded Friction Courses: On FC-5, use either longitudinal grade control (skid, ski or traveling stringline) or a joint matcher.
3. Temperature Requirements for FC-5:

a) Air Temperature at Laydown: Spread the mixture only when the air temperature (the temperature in the shade away from artificial heat) is at or above 65ºF. As an exception, place the mixture at temperatures lower than 65ºF, only when approved by the Engineer based on the Contractor's demonstrated ability to achieve a satisfactory surface texture and appearance of the finished surface. In no case shall the mixture be placed at temperatures lower than 60ºF.
b) Temperature of the Mix: Heat and combine the asphalt rubber binder and aggregate in a manner to produce a mix having a temperature, when discharged from the plant, meeting the requirements of 330-6.3. Meet all requirements of 330-9.1.2 at the roadway. The target mixing temperature shall be established at 320ºF.
c) Compaction of FC-5: Provide two, static steel-wheeled rollers, with an effective compactive weight in the range of 135 to 200 PLI, determined as follows:

$$PLI = \frac{\text{Total Weight of Roller(pounds)}}{\text{Total Width of Drums (inches)}}$$

(Any variation of this equipment requirement must be approved by the Engineer.) Establish an appropriate rolling pattern for the pavement in order to effectively seat the mixture without crushing the aggregate. In the event that the roller begins to crush the aggregate, reduce the number of coverages or the PLI of the rollers. If the rollers continue to crush the aggregate, use a tandem steel-wheel roller weighing not more than 135 lb/in (PLI) of drum width.

3. Temperature Requirements for FC-9.5 and FC-12.5:

a) Air Temperature at Laydown: Spread the mixture only when the air temperature (the temperature in the shade away from artificial heat) is at or above 45ºF.
b) Temperature of the mix: Heat and combine the asphalt rubber binder and aggregate in a manner to produce a mix having a temperature, when discharged from the plant, meeting the requirements of 330-6.3. Meet all requirements of 330-9.1.2 at the roadway.

4. Prevention of Adhesion: To minimize adhesion to the drum during the rolling operations, the Contractor may add a small amount of liquid detergent to the

water in the roller. At intersections and in other areas where the pavement may be subjected to cross-traffic before it has cooled, spray the approaches with water to wet the tires of the approaching vehicles before they cross the pavement.

5. Transportation Requirements of Friction Course Mixtures: Cover all loads of friction course mixtures with a tarpaulin.

B. Thickness of Friction Courses.

1. FC-12.5 and FC-9.5: The thickness of the friction course layer will be the plan thickness as shown in the Contract Documents. For construction purposes, the plan thickness will be converted to spread rate as defined in 334-1.4. Plan quantities are based on a Gmm of 2.540, corresponding to a spread rate of 110 lbs/yd2-in. Pay quantities will be based on the actual maximum specific gravity of the mix being used.

2. FC-5: The total thickness of the FC-5 layer will be the plan thickness as shown in the Contract Documents. For construction purposes, the plan thickness will be converted to spread rate based on the combined aggregate bulk specific gravity of the asphalt mix being used as shown in the following equation:

Spread rate (lbs/yd2) = t x Gsb x 40.5

Where: t = Thickness (in.) (Plan thickness)

Gsb = Combined aggregate bulk specific gravity from the verified mix design. The weight of the mixture shall be determined as provided in 320-2.2. Plan quantities are based on a Gsb of 2.635, corresponding to a spread rate of 80 lbs/yd2. Pay quantities will be based on the actual combined aggregate bulk specific gravity (Gsb) of the mix being used.

C. Special Equipment Requirements for FC-5.

Fiber Supply System: Use a separate feed system to accurately proportion the required quantity of mineral fibers into the mixture in such a manner that uniform distribution is obtained. Interlock the proportioning device with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes. Control the proportion of fibers to within plus or minus 10% of the amount of fibers required. Provide flow indicators or sensing devices for the fiber system, interlocked with plant controls so that the mixture production will be interrupted if introduction of the fiber fails. When a batch plant is used, add the fiber to the aggregate in the weigh hopper or as approved and directed by the Engineer. Increase the batch dry mixing time by 8 to 12 seconds, or as directed by the Engineer, from the time the aggregate is completely emptied into the pugmill. Ensure that the fibers are uniformly distributed prior to the addition of asphalt rubber into the pugmill. When a drum-mix plant is used, add and uniformly disperse the fiber with the aggregate prior to the addition of the asphalt rubber. Add the fiber in such a manner that it will not become entrained in the exhaust system of the drier or plant.

1. Hydrated Lime Supply System: For FC-5 mixes containing granite, use a separate feed system to accurately proportion the required quantity of hydrated lime into the mixture in such a manner that uniform coating of the aggregate is obtained prior to the addition of the asphalt rubber. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant. Interlock the proportioning device with the aggregate feed or weigh system to maintain the correct proportions for all rates of production and batch sizes and to ensure that all mixture produced is properly treated with hydrated lime. Control the proportion of hydrated lime to within plus or minus 10% of the amount of hydrated lime required. Provide and interlock flow indicators or sensing devices for the hydrated lime system with plant controls so that the mixture production will be interrupted if introduction of the hydrated lime fails. The addition of the hydrated lime to the aggregate may be accomplished by Method (A) or (B) as follows:

a) Method (A) - Dry Form: Add hydrated lime in a dry form to the mixture according to the type of asphalt plant being used. When a batch plant is used, add the hydrated lime to the aggregate in the weigh hopper or as approved and directed by the Engineer. Increase the batch dry mixing time by eight to twelve seconds, or as directed by the Engineer, from the time the aggregate is completely emptied into the pugmill. Uniformly distribute the hydrated lime prior to the addition of asphalt rubber into the pugmill. When a drum-mix plant is used, add and uniformly disperse the hydrated lime to the aggregate prior to the addition of the asphalt rubber. Add the hydrated lime in such a manner that it will not become entrained in the exhaust system of the drier or plant.

b) Method (B) - Hydrated Lime/Water Slurry: Add the required quantity of hydrated lime (based on dry weight) in a hydrated lime/water slurry form to the aggregate. Provide a solution consisting of hydrated lime and water in concentrations as directed by the Engineer. Use a plant equipped to blend and maintain the hydrated lime in suspension and to mix it with the aggregates uniformly in the proportions specified.

2. Hydrated Lime Pretreatment: For FC-5 mixes containing granite, as an alternative to 337-10.2, pretreat the aggregate with hydrated lime prior to incorporating the aggregate into the mixture. Use a feed system to accurately proportion the aggregate and required quantity of hydrated lime, and mix them in such a manner that uniform coating of the aggregate is obtained. Control the proportion of

hydrated lime to within ± 10% of the amount required. Aggregate pretreated with hydrated lime in this manner shall be incorporated into the asphalt mixture within 45 days of pretreatment.

a) Hydrated Lime Pretreatment Methods: Pretreat the aggregate using one of the following two methods:

Pretreatment Method A – Dry Form: Add the required quantity of hydrated lime in a dry form to the aggregate. Assure that the aggregate at the time of preteatment contains a minimum of 3% moisture over saturated surface dry (SSD) conditions. Utilize equipment to accurately proportion the aggregate and hydrated lime and mix them in such a manner as to provide a uniform coating. Pretreatment Method B – Hydrated Lime/Water Slurry: Add the required quantity of hydrated lime (based on dry weight) in a hydrated lime/water slurry form to the aggregate. Provide a solution consisting of hydrated lime and water in a concentration to provide effective treatment. Use equipment to blend and maintain the hydrated lime in suspension, to accurately proportion the aggregate and hydrated lime/water slurry, and to mix them to provide a uniform coating.

a) Blending Quality Control Records: Maintain adequate Quality Control records for the Engineer's review for all pretreatment activities. Include as a

b) minimum the following information (for each batch or day's run of pretreatment): pretreatment date, aggregate certification information, certified test results for the hydrated lime, aggregate moisture content prior to blending, as-blended quantities of aggregate and hydrated lime, project number, customer name, and shipping date.

c) Certification: In addition to the aggregate certification, provide a certification with each load of material delivered to the HMA plant, that the material has been pretreated in conformance with these specifications. Include also the date the material was pretreated.

D. Failing Material.

Meet the requirements of 334-5.9. For FC-5, use the Master Production Range defined in Table 337-2 in lieu of Table 334-4

E. Method of Measurement.

For the work specified under this Section (including the pertinent provisions of Sections 320 and 330), the quantity to be paid for will be the weight of the mixture, in tons. The pay quantity will be based on the average spread rate for the project, limited to a maximum of 105% of the spread rate set by the Engineer in accordance with 337-8. The bid price for the asphalt mix will include the cost of the asphalt binder (asphalt rubber (or polymer), asphalt cement, ground tire rubber, anti-stripping agent, blending and handling) and the tack coat application as directed in 300-8, as well as fiber stabilizing additive and hydrated lime (if required). There will be no separate payment or unit price adjustment for the asphalt binder material in the asphalt mix. The weight will be determined as provided in 320-2 (including the provisions for the automatic recordation system). Prepare a Certification of Quantities, using the Department's current approved form, for the certified asphalt concrete friction course pay item. Submit this certification to the Engineer no later than Twelve O'clock noon Monday after the estimate cut-off or as directed by the Engineer, based on the quantity of asphalt produced and accepted on the Contract. The certification must include the Contract Number, FPID Number, Certification Number, Certification Date, period represented by Certification and the tons produced for each asphalt pay item.

F. Basis of Payment.

1. General: Price and payment will be full compensation for all the work specified under this Section (including the applicable requirements of Sections 320 and 330). Based upon the quality of the material, a pay adjustment will be applied to the bid price of the material as determined on a LOT by LOT basis. The pay adjustment will be assessed by calculating a Pay Factor for individual quality characteristics. The pay adjustment will be computed by multiplying a Composite Pay Factor for the LOT by the bid price per ton. Perform all calculations with the Department's Asphalt Plant - Pay Factor Worksheets (Form No. 675-030-22).

2. FC-9.5 and FC-12.5: Meet the requirements of 334-8.

3. FC-5: Meet the requirements of 334-8 with the following exceptions:

a) Pay factors will be calculated for asphalt binder content and the percentages passing the 3/8 inch, the No. 4, and the No. 8 sieves only.

b) Table 337-3 replaces Table 334-6.

c) Table 337-4 replaces Table 334-7.

d) The Composite Pay Factor equation in 334-8.3 is replaced with the following:

CPF = [(0.20 x PF 3/8 inch) + (0.30 x PF No. 4) + (0.10 x PF No. 8) + (0.40 x PF AC)]

Table 337-3 Specification Limits for FC-5	
Quality Characteristic	Specification Limits
Asphalt Binder Content (%)	Target ± 0.45
Passing 3/8 inch sieve (%)	Target ± 6.00
Passing No. 4 sieve (%)	Target ± 4.50
Passing No. 8 sieve (%)	Target ± 2.50

e) Payment: Payment will be made under:

Item No.	Description	Unit
337-7-73	Asphaltic Concrete Friction Course, Traffic C, FC-9.5, PG 76-22	Ton

346 PORTLAND CEMENT CONCRETE (REV. 10-26-11)

A. Description.

1. Use concrete composed of a mixture of Portland cement, aggregates, and water, with or without chemical or mineral admixtures. Construct Concrete based on the type of work as described in the Contract Documents and the Concrete Work Categories below.

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

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

   c. Concrete Work Category 3: Includes the work associated with the placement and/or construction of structural cast-in-place concrete requiring a class of concrete specified in FDOT Section 346.

B. Materials.

1. General: Certify that all materials used in concrete meet the material requirements specified in FDOT Division III (Materials) and the following requirements:

Portland Cement:	FDOT Section 921 except Portland cements meeting the requirements of AASHTO M-85 or ASTM C-150 are allowed for nonstructural concrete.
Coarse Aggregate:	FDOT Section 901
Fine Aggregate:	FDOT Section 902
Water:	FDOT Section 923
Chemical Admixtures:	FDOT Section 924
Pozzolans and Slag:	FDOT Section 929

2. Admixture Requirements: Chemical admixtures may be added at the dosage rates recommended by the manufacturer.

3. Material Storage: Use a concrete production facility that meets the following requirements.

   Cementitious Materials Storage: Provide a separate and clearly labeled weatherproof facility to store each brand or type of cementitious material without mixing or contamination. Different brands of cement, cement of the same brand from different facilities, or different types of cement must be stored separately and must not be mixed. Provide a suitable, safe and convenient means of collecting cementitious material samples at each storage facility. Aggregate Storage: Provide suitable bins, stockpiles or silos to store and identify aggregates without mixing, segregating or contaminating different grades or types of materials. Identify aggregate type/gradation. Handle the aggregates in a manner to minimize segregation and meet the specification requirements when recovered from storage. Continuously and uniformly sprinkle coarse aggregate with water, for 24 hours preceding introduction into the concrete mix. Timers may be used to facilitate the sprinkling of aggregate stockpiles using an alternating on/off method. However, in no event shall the top surface of the stockpile be permitted to become dry prior to batching of concrete. Moisture probes may be used to determine the moisture content of the aggregate. Ensure that the accuracy of the probe is certified annually and verified weekly. Maintain stored aggregates in a well-drained condition to minimize free water content. Provide access for the Engineer to sample the aggregates from the recovery side of the storage facility.

C. Production, Mixing and Delivery of Concrete.

1. Concrete Production Requirements:

   a. Use concrete production facilities certified by the National Ready-Mixed Concrete Association (NRMCA) and approved by the FDOT.

      Produce concrete utilizing equipment that is in good operating condition and operated in a manner to ensure a consistent product. When moisture probes are not used, ensure that the concrete production facility determines the free moisture for the coarse and fine aggregates within two hours prior to each day's batching. On concrete placements expected to exceed three hours, perform an additional moisture test approximately half way through the batching operations and adjust batch proportions accordingly. Ensure that the calibration of the measuring devices of the concrete production facilities meets the requirements of Chapter 531 of the Florida Statutes, and are in accordance with Chapter 9.2 of the FDOT Materials Manual. At least quarterly, ensure that all

scales, meters and other weighing or measuring devices are checked for accuracy by a qualified representative of a scale company registered with the Bureau of Weights and Measures of the Florida Department of Agriculture. As an alternative, the producer may have this frequency identified in an FDOT approved QC plan. The accuracy of admixture measuring dispensers will be certified annually by the admixture supplier.

b. When Volumetric Mixers are used for Category I applications, deliver concrete in accordance with the requirements of Volumetric Mixer Manufacturers Bureau (VMMB) and ensure that the vehicle has a VMMB registered rating plate.

2. Classes of Concrete: Classes of concrete to be used on the Project will be as specified in the Contract Documents or FDOT Section 346 when applicable.

3. Contractors Quality Control: Provide Engineer for approval a Quality Control (QC) plan to identity to the Department how quality will be ensured at the project site. During random inspections Engineer will use this document to verify that the construction of the Project is in agreement with the QC plan and the Contract Documents.

4. Concrete Mix Design:

   a. Before producing any concrete, submit the proposed mix design to Engineer on a form provided by the Department. Otherwise, the Department may accept applicable mix designs previously described in an FDOT approved QC plan. In any event, use only concrete mix designs having prior approval of the Engineer.

      Materials may be adjusted provided that the theoretical yield requirement of the approved mix design is met. Show all required original approved design mix data and batch adjustments and substituted material on a Department approved concrete delivery ticket. Engineer may disqualify any concrete production facility for non-compliance with specification requirements.

5. Delivery:

   a. For cast-in-place applications, the maximum allowable mixing and agitation time of concrete is 90 minutes.

   b. Furnish a delivery ticket on a form approved by the Department with each batch of concrete before unloading at the placement site. The delivery ticket shall be printed. Record material quantities incorporated into the mix on the delivery ticket. Ensure that the Batcher responsible for producing the concrete certifies that the batch was produced in accordance with these Specifications and signs the delivery ticket. Contractor must sign the delivery ticket certifying that the concrete was batched, delivered and placed in accordance with these Specifications.

   c. The Contractor is responsible for rejecting loads of concrete that do not meet the plastic properties of the approved mix design or the minimum compressive strength requirements.

   d. At the sole option of the Department, the Engineer may accept concrete at a reduced pay when it is determined that the concrete will serve its intended function.

6. Placing Concrete:

   a. Concreting in Cold Weather:

      1) Do not place concrete when the temperature of the concrete at placement is below 45°F.

      2) Meet the air temperature requirements for mixing and placing concrete in cold weather as specified in FDOT Section 346. During the curing period, if NOAA predicts the ambient temperature to fall below 35°F for 12 hours or more or to fall below 30°F for more than 4 hours, enclose the structure in such a way that the concrete and air within the enclosure can be kept above 60°F for a period of 3 days after placing the concrete or until the concrete reaches a minimum compressive strength of 1,500 psi.

      3) Assume all risks connected with the placing and curing of concrete. Although Engineer may give permission to place concrete, Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the County.

   b. Concreting in Hot Weather:

      1) Meet the temperature requirements and special measures for mixing and placing concrete in hot weather as specified in FDOT Section 346.

      When the temperature of the concrete as placed exceeds 75°F, incorporate in the concrete mix a water-reducing retarder or water reducer if allowed by FDOT Section 346. Spray reinforcing steel and metal forms with cool fresh water just prior to placing the concrete in a method approved by the Engineer.

      Assume all risks connected with the placing and curing of concrete. Although Engineer may give permission to place concrete, Contractor is responsible for satisfactory results. If the placed concrete is determined to be unsatisfactory, remove, dispose of, and replace the concrete at no expense to the County.

7. Mixers: Ensure that mixers are capable of combining the components of concrete into thoroughly mixed and uniform mass, free from balls or lumps of cementitious materials, and capable of discharging the concrete uniformly. Operate concrete mixers at speeds per the manufacturer's design. Do not exceed the manufacturer's rated capacity for the volume of mixed concrete in the mixer, mixing drum, or container.

8. Small Quantities of Concrete: With approval of the Engineer, small quantities of concrete, less than 3 yd3 placed in one day and less than 0.5 yd3 placed in a single placement may be accepted using a pre-bagged mixture. The Department may verify that the pre-bagged mixture is prepared in accordance with the

manufacturer's recommendations and will meet the requirements of this Specification.

9. Sampling and Testing:

   a. Category 1: Engineer may sample and test the concrete at his discretion to verify its quality. The minimum 28 day compressive strength requirement for this concrete is 3,000 psi.

   b. Category 2: Provide a statement of certification from the manufacturer of the precast element that the element meets the quality control and inspection testing requirements of the Contract Documents.

   c. Category 3: The Department will randomly select a sample from each 200 yd3 or one day's production to determine plastic properties and to make three 4 x 8 inch cylinders for testing by the Department at 28 days to ensure that the design compressive strength has been met. The Department may, at its discretion, test additional concrete samples to ensure compliance with the Specifications.

10. Records: Maintain the following records for review for at least 3 years after final acceptance of the Project:

    a. Approved concrete mix designs.

    b. Materials source (delivery tickets, certifications, certified mill test reports).

    c. A copy of the scale company or testing agency report showing the observed deviations from quantities checked during calibration of the scales and meters.

    d. A copy of the documentation certifying the admixture weighing/measuring devices.

    For non-structural concrete, the Department will accept recent NRMCA, VMMB or FDOT inspection records certifying the plant or truck can produce concrete. In addition, documentation will be available at the plant or in the truck showing that action has been taken to correct deficiencies noted during the inspections.

D. Acceptance of the Work.

1. Category 1 Work: Category 1 work will be accepted based upon compliance with Production, Mixing and Delivery Requirements specified in herein.

2. Category 2 Work: Precast elements will be accepted based upon certification from the Contractor that the elements were produced by a production facility on the FDOT's current approved plant list. In addition, the producers QC stamp will be displayed on the element.

3. Category 3 Work: Category 3 work shall be in full compliance with this Specification, and with current FDOT Specifications, FDOT Section 346 and associated Contractor Quality Control (QC) specifications governing cast-in-place concrete. In addition, a Delivery Ticket as described in Subarticle 344-B.5 will be required for acceptance of the material at the Project site.

E. Method of Measurement.

1. The quantities to be paid for will be the concrete items having awarded Contract Prices that are completed and accepted by Engineer.

F. Basis of Payment.

1. Prices and payments will be full compensation for all work and materials specified in this Article and the Articles applicable to the items of work having awarded Contract Prices measured and approved for payment.

G. Basis of Payment.

1. When the item of Concrete is included in the Contract, payment will be made at the Contract unit price per cubic yard. Such price and payment will include all cost of the mixture, in place and accepted, determined as specified above. No measurement and payment will be made for material placed outside the neat line limits or outside the adjusted limits, or for unused or wasted material.

2. Payment will be made under:

   Refer to Sections 520 and 522

425 ADJUSTMENT OR RELOCATION OF VALVE, METER AND JUNCTION BOXES

1. The work under these pay items includes any adjustments (raising or lowering) of existing boxes or fire hydrants. When relocation of the box is required, the Contractor shall make all necessary arrangements with the utility companies, as the utility companies are responsible to relocate the valves and meters and valve and meter boxes.
2. Payment shall be made under the following:

Item Number	Description	Unit
425-5	Manhole, Adjust, Utilities	EA
425-6	Valve Boxes, Adjust	EA

430 PIPE CULVERTS

A. Description.

1. Furnish and install drainage pipe and end sections at the locations called for in the Plans or as directed by Engineer. Furnish and construct joints and connections to existing pipes, catch basins, inlets, manholes, walls, etc., as may be required to complete the work.
2. Construct structural plate pipe culverts or underdrains in accordance with FDOT Sections 435 and 440.
3. Obtain pipe culverts from a Producer currently on the FDOT's list of Producers with Accepted Quality Control Programs. Producers seeking inclusion on the list shall meet the requirements of FDOT 105-3.
4. When the producer's FDOT Quality Control Program is suspended, accept responsibility of either obtaining drainage products from another producer with an accepted FDOT Quality Control Program or await re-approval of the producer's FDOT Quality Control Program. Engineer will not allow changes in Contract Time or completion dates as a result of the producer's FDOT Quality Control Program suspension. Accept responsibility for all delay costs or other costs associated with the producer's FDOT Quality Control Program suspension.

B. Materials.

1. Pipe: Meet the material requirements specified in FDOT Division III (Materials) and the following requirements:

Corrugated Polyethylene Pipe FDOT Section 948

2. Joint Materials: Use joint materials specified in this Article according to type of pipe and conditions of usage.

C. Type of Pipe to Be Used.

1. When the Plans designate a type (or types) of pipe, use only the type (or choose from the types) designated.
2. If the Plans do not designate a type (or types) of pipe, Contractor, subject to Engineer's approval, may use either a minimum Class I concrete pipe, corrugated steel pipe, corrugated aluminum pipe, corrugated polyethylene pipe or PVC pipe. If one of the metal types is chosen, use the minimum gage specified in FDOT Section 943 for steel pipe or FDOT Section 945 for aluminum pipe.
3. Class I corrugated Polyethylene Pipe may be used on local (non-arterial or non-collector) roads only.

D. Laying Pipe.

1. General:
   a. Lay all pipe, true to the lines and grades given, with hubs upgrade and tongue end fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, install the pipe in a position such that the manufacturer's marks designating "top" and "bottom" of the pipe are not more than five degrees from the vertical plane through the longitudinal axis of the pipe. Do not allow departure from and return to plan alignment and grade to exceed 1/16 inch per foot of nominal pipe length, with a total of not more than 1 inch departure from theoretical line and grade. Take up and relay any pipe that is not in true alignment or which shows any settlement after laying at no additional expense to the Department.
   b. Do not use concrete pipe with lift holes except round pipe which has an inside diameter in excess of 54 inches or any elliptical pipe.
   c. Repair lift holes, if present, by use of a hand-placed, stiff, non-shrink, 1-to-1 mortar of cement and fine sand, after first washing out the hole with water. Completely fill the void created by the lift hole with mortar. Cover the repaired area with a 24 by 24 inches piece of filter fabric secured to the pipe. Use a Type D-3 filter fabric meeting the requirements shown on FDOT Design Standards, Index 199 and the Contract Documents.
   d. Secure the filter fabric to the pipe using a method that holds the fabric in place until the backfill is placed and compacted. Use a grout mixtures, mastics, or strapping devices to secure the fabric to the pipe.
   e. When installing pipes in structures, construct inlet and outlet pipes of the same size and kind as the connecting pipe shown in the Plans. Extend the pipes through the walls for a distance beyond the outside surface sufficient for the intended connections, and construct the concrete around them neatly to prevent leakage along their outer surface as shown on the FDOT Design Standards, Index 201. Keep the inlet

and outlet pipes flush with the inside of the wall. Resilient connectors as specified in FDOT 942-3 may be used in lieu of a masonry seal.

f. Furnish and install a filter fabric jacket around all pipe joints and the joint between the pipe and the structure in accordance with FDOT Design Standards, Index Nos. 201 and 280. Use fabric meeting the physical requirements of Type D-3 specified on the FDOT Design Standards, Index 199 and the Contract Documents. The fabric shall extend a minimum of 12 inches beyond each side of the joint or both edges of the coupling band, if a coupling band is used. The fabric shall have a minimum width of 24 inches, and a length sufficient to provide a minimum overlap of 24 inches. Secure the filter fabric jacket against the outside of the pipe by metal or plastic strapping or by other methods approved by Engineer.

g. Meet the following minimum joint standards:

Pipe Application	Minimum Standard
Storm and Cross Drains	Water-tight
Gutter Drain	Water-tight
Side Drains	Soil-tight

h. When rubber gaskets are to be installed in the pipe joint, the gasket shall be the sole element relied on to maintain a tight joint. Soil tight joints must be watertight to 2 psi. Water-tight joints must be water-tight to 5 psi unless a higher pressure rating is required in the Plans.

2. Trench Excavation: Excavate the trench for storm and cross drains, and side drains as specified in the Contract Documents.

3. Foundation: Provide a suitable foundation, where the foundation material is of inadequate supporting value, as determined by Engineer. Remove the unsuitable material and replace it with suitable material, as specified in Article 120 (Earthwork and Related Operations) of these Specifications. Where in Engineer's opinion, the removal and replacement of unsuitable material is not practicable, he may direct alternates in the design of the pipe line, as required to provide adequate support. Minor changes in the grade or alignment will not be considered as an adequate basis for extra compensation. Do not lay pipe on blocks or timbers, or on other unyielding material, except where the use of such devices is called for in the Plans.

4. Backfilling: Backfill around the pipe as specified in Article 120 (Earthwork and Related Operations) of these Specifications unless specific backfilling procedures are described in the Contract Documents.

5. Plugging Pipe:

a. When existing pipe culverts are to be permanently placed out of service, fill them with flowable fill that is non-excavatable, contains a minimum 350 lbs/cy of cementious material and meets the requirements Article 121 (Flowable Fill) and/or plug them with masonry plugs as required by the Contract Documents. Install masonry plugs that are a minimum of 8 inches in thickness, in accordance with FDOT Design Standards Index 280.

b. When proposed or existing pipe culverts are to be temporarily placed out of service, plug them with prefabricated plugs as shown in the Plans. Install prefabricated plugs in accordance with the manufacturer's recommendations. Do not fill, or construct masonry plugs in, any pipe culverts intended for current or future service.

6. End Treatment:

a. Place an end treatment at each storm and cross drain, and side drain as shown in the Plans. Refer to the FDOT Design Standards for types of end treatment details.

b. As an exception to the above, when concrete mitered end sections are permitted, Contractor may use reinforced concrete U-endwalls, if shop drawings are submitted to Engineer for approval prior to use.

c. Provide end treatments for corrugated polyethylene pipe and PVC pipe as specified in FDOT Section 948, or as detailed in the Plans.

7. Metal Pipe Protection:

a. Apply a bituminous coating to the surface area of the pipe within and 12 inches beyond the concrete or mortar seal prior to sealing, to protect corrugated steel or aluminum pipe embedded in a concrete structure, such as an inlet, manhole, junction box, endwall, or concrete jacket.

b. Ensure that the surface preparation, application methods (dry film thickness and conditions during application), and equipment used are in accordance with the coating manufacturers' published specifications.

c. Obtain Engineer's approval of the coating products used.

8. Final Pipe Inspection:

a. Based on contract pavement type, upon completion of placement of concrete pavement or the placement of structural asphalt, but prior to placement of asphalt friction course, dewater installed pipe and provide Engineer with a video recording schedule allowing for pipe videoing and reports to be completed and submitted to the Department and reviewed prior to continuation of pavement.

b. For pipe 48 inches or less in diameter, provide Engineer a video DVD and report using low barrel distortion video equipment with laser profile technology, non-contact video micrometer and associated software that provides:

1) Actual recorded length and width measurements of all cracks within the pipe.

2) Actual recorded separation measurement of all pipe joints.

3) Pipe ovality report.

4) Deflection measurements and graphical diameter analysis report in terms of x and y axis.

5) Flat analysis report.

6) Representative diameter of pipe.

7) Pipe deformation measurements, leaks, debris, or other damage or defects.

8) Deviation in pipe line and grade, joint gaps, and joint misalignment.

c. Laser profiling and measurement technology must be certified by the company performing the work to be in compliance with the calibration criteria posted at: http://www.dot.state.fl.us/construction/contractorissues/laser.shtm. Reports may be submitted in electronic media if approved by Engineer.

d. For video recorded, laser profiled pipe that indicates deflection that appears to be in excess of that allowed by Specification, Engineer may require further testing of the pipe. If directed by Engineer, test pipe using a mandrel. The mandrel shall be pulled by hand and be approved by Engineer prior to use. If use of a mandrel is selected as the means of further testing, the mandrel's diameter, length, and other requirements shall conform to Subarticle 430-D.8.g below. Remove, replace, and retest pipe failing to meet the specific deflection requirements for the type of pipe installed, at no cost to the Department. Should the deflection test prove that the pipe met specifications, the Department will bear the cost of the deflection testing.

e. Engineer may waive this requirement for side drains and cross drains which are short enough to inspect from each end of the pipe.

f. Video Report:

1) Provide a high quality DVD in a MPEG2 format video with a standard resolution of 720 x 480. Use a camera with lighting suitable to allow a clear picture of the entire periphery of the pipe. Center the camera in the pipe both vertically and horizontally and be able to pan and tilt to a 90 degree angle with the axis of the pipe and rotating 360 degrees. Use equipment to move the camera through the pipe that will not obstruct the camera's view or interfere with proper documentation of the pipe's condition.

2) The video image shall be clear, focused, and relatively free from roll, static, or other image distortion qualities that would prevent the reviewer from evaluating the condition of the pipe. The video will include identification before each section of pipe filmed. The identification will include the project number, the structure number corresponding to the structure number on the set of plans for the project, size of pipe, the date and time, and indicate which pipe is being filmed if multiple pipes are connected to the structure. Notes should be taken during the video recording process. Provide Engineer with copies of these notes along with the video.

3) Move the camera through the pipe at a speed not greater than 30 feet per minute. Mark the video with the distance down the pipe. The distance shall have an accuracy of one foot per 100 feet. Film the entire circumference at each joint. Stop the camera and pan when necessary to document defects.

g. Mandrels: Use mandrels which are rigid, nonadjustable, odd-numbered legged (minimum 9 legs) having a length not less than its nominal diameter. The diameter at any point shall not be less than the allowed percent deflection of the certified actual mean diameter of the pipe being tested. The mandrel shall be fabricated of metal, fitted with pulling rings at each end, stamped or engraved on some segment other than a runner with the nominal pipe size and mandrel outside diameter.

E. Removing Existing Pipe.

1. If the Plans indicate that existing pipe is to remain the property of the Department, collect and stack along the right-of-way all existing pipe or pipe arch so indicated in the Plans to be removed, or that does not conform to the lines and grades of the proposed work and that is not to be re-laid, as directed by Engineer. Take care to prevent damage to salvageable pipe during removal and stacking operations.

F. Specific Requirements for Concrete Pipe.

1. Sealing Joints: Seal the pipe joints with round rubber or profile gaskets meeting the requirements of FDOT Section 449. Ensure that the gasket and the surface of the pipe joint, including the gasket recess, are clean and free from grit, dirt and other foreign matter, at the time the joints are made. In order to facilitate closure of the joint, application of a vegetable soap lubricant immediately before closing of the joint will be permitted. Prelubricated gaskets may be used in lieu of a vegetable soap lubricant when the lubricating material is certified to be inert with respect to the rubber material.

2. Laying Requirements for Concrete Pipe with Rubber Gasket Joints: Do not allow the gap between sections of pipe to exceed 5/8 inch for pipe diameters of 12 inches through 18 inches, 7/8 inch for pipe diameters of 24 through 66 inches, and 1 inch for pipe diameters 72 inches and larger. Where minor imperfections in the manufacture of the pipe create an apparent gap in excess of the tabulated gap, Engineer will accept the joint provided that the imperfection does not exceed 1/3 the circumference of the pipe, and the rubber gasket is 1/4 inch or more past the pipe joint entrance taper. Where concrete pipes are outside of these tolerances, replace them at no expense to the Department. Do not apply mortar, joint compound, or other filler to the gap which would restrict the flexibility of the joint.

3. Field Joints for Elliptical Concrete Pipe: Use either a preformed plastic gasket material or an approved rubber gasket to make a field joint.

a. Plastic Gasket. For field joints that are made from preformed plastic gasket material; install field joints in accordance with the manufacturer's instructions and the following:

1) Material: Meet the requirements of FDOT 942-2.

2) Joint Design: Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and the amount of gasket

material required to affect a satisfactory seal. Do not brush or wipe joint surfaces which are to be in contact with the gasket material with a cement slurry. Fill minor voids with cement slurry.

3) Primer: Apply a primer of the type recommended by the manufacturer of the gasket material to all joint surfaces which are to be in contact with the gasket material, prior to application of the gasket material. Thoroughly clean and dry the surface to be primed.

4) Application of Gasket: Apply gasket material to form a continuous gasket around the entire circumference of the leading edge of the tongue and the groove joint, in accordance with the detail shown on the Design Standards, Index No. 280. Do not remove the paper wrapper on the exterior surface of the gasket material until immediately prior to joining of sections. Apply plastic gasket material only to surfaces which are dry. When the atmospheric temperature is below 60ºF, either store plastic joint seal gaskets in an area above 70ºF, or artificially warm the gaskets to 70ºF in a manner satisfactory to Engineer.

5) Installation of Pipe: Remove and reposition or replace any displaced or contaminated gasket as directed by Engineer. Install the pipe in a dry trench. Carefully shape the bottom of the trench to minimize the need for realignment of sections of pipe after they are placed in the trench. Hold to a minimum any realignment of a joint after the gaskets come into contact. Prior to joining the pipes, fill the entire joint with gasket material and ensure that when the pipes are joined there is evidence of squeeze-out of gasket material for the entire internal and external circumference of the joint. Trim excess material on the interior of the pipe to provide a smooth interior surface. If a joint is defective, remove the leading section of pipe and reseal the joint.

b. Rubber Gasket. For field joints that are made with profile rubber gaskets; install field joints in accordance with the manufacturer's instructions and the following:

1) Material: Meet the requirements of FDOT 942-4.

2) Joint Design: Ensure that the pipe manufacturer furnishes Engineer with details regarding configuration of the joint and gasket required to effect a satisfactory seal. Do not apply mortar, joint compound, or other filler which would restrict the flexibility of the gasket joint.

4. Requirements for Concrete Radius Pipe:

a. Design: Construct concrete radius pipe in segments not longer than 4 feet (along the pipe centerline), except where another length is called for in the Contract Documents. Join each segment using round rubber gaskets. Ensure that the pipe manufacturer submits details of the proposed joint, segment length and shape for approval by Engineer, prior to manufacture.

b. Pre-Assembly: Ensure that the manufacturer pre-assembles the entire radius section in his yard, in the presence of Engineer, to ensure a proper fit for all parts. At the option of the manufacturer, Contractor may assemble the pipe without gaskets. Consecutively number the joints on both the interior and exterior surfaces of each joint, and make match marks showing proper position of joints. Install the pipe at the project site in the same order as pre-assembly.

G. Specific Requirements for Corrugated Metal Pipe.

1. Field Joints:

a. General:

1) Make a field joint with locking bands, as specified in Article 9 of AASHTO M 36 and AASHTO M 196M for aluminum pipe. For aluminum pipe, fabricate bands from the same alloy as the culvert sheeting.

2) When existing pipe to be extended is helically fabricated, make a field joint between the existing pipe and the new pipe using one of the following methods:

a) Cut the new pipe to remove one of the re-rolled annular end sections required in FDOT Sections 943 or 945, or fabricate the pipe so that the re-rolled annular section is fabricated only on one end. Use either a spiral (helical) band with a gasket or a flat band with gaskets as required by Subarticle 430-H.1.b.1) b) to join the pipe sections.

b) Contractor may construct a concrete jacket as shown on the FDOT Design Standards, Index No. 280, provided that the minimum cover required by the FDOT Design Standards, Index No. 205 can be obtained.

b. Side Drain, Storm and Cross Drain, and Gutter Drains: Where corrugated metal pipe is used as side drain, storm and cross drain, or gutter drain, use a rubber or neoprene gasket of a design shown to provide a joint as specified in Subarticle 430-D.

1) Use a gasket of one of the following dimensions:

a) For annular joints with 1/2 inch depth corrugation: either a single gasket a minimum of 7 inches by 3/8 inch or two gaskets a minimum of 3 1/2 inches by 3/8 inch; and for annular joints with 1 inch depth corrugations: either a single gasket a minimum of 7 inches by 7/8 inch or two gaskets a minimum of 3 1/2 inches by 7/8 inch.

b) For helical joints with 1/2 inch depth corrugation: either a single gasket a minimum of 5 inches by 1 inch or two gaskets a minimum of 3 1/2 inches by 1 inch; and for helical joints with 1 inch depth corrugations: either a single gasket a minimum of 5 inches by 1 1/2 inches or two gaskets a minimum of 3 1/2 inches by 1 1/2 inches.

c) Such other gasket designs as may be approved by Engineer.

2) If, in lieu of a single gasket spanning the joint, two gaskets are used, place these individual gaskets approximately 2 inches from each pipe end at the joint. When two gaskets are used, seal the overlapping area on the coupling band between the gaskets consistent with the joint performance specified. Contractor may tuck a strip of preformed gasket material over the bottom lip of the band for this purpose. Use coupling bands that provide a minimum circumferential overlap of 3 inches. As the end connections on the coupling band are tightened, ensure that there is no local bending of the band or the connection. Use precurved coupling bands on pipe diameters of 24 inches or less.

3) Use flat gaskets meeting the requirements of ASTM D-1056, designation 2C2 or 2B3. In placing flat gaskets on pipe prior to placing the coupling band, do not stretch the gasket more than 15% of its original circumference. Use circular gaskets meeting the requirements of ASTM C-361. Do not stretch the circular gasket more than 20% of its original circumference in placing the gasket on pipe. Use preformed plastic gasket material meeting the composition requirements of FDOT 942-2.2.

4) Apply an approved vegetable soap lubricant, as specified for concrete pipe in Subarticle 430-G.1.

c. Alternate Joint: In lieu of the above-specified combination of locking bands and flat gaskets, Contractor may make field joints for these pipe installations by the following combinations:

1) Use the metal bands as specified in Article 9 of AASHTO M 36M that are at least 10 1/2 inches wide and consist of a flat central section with a corrugated section near each end, designed to match the annular corrugation in the pipe with which they are to be used. Connect the bands in a manner approved by Engineer, with a suitable fastening device such as the use of two galvanized 1/2 inch diameter bolts through a galvanized bar and galvanized strap, suitably welded to the band. Use a strap that is the same gage as the band.

2) Where helically corrugated pipe is to be jointed by this alternate combination, ensure that at least the last two corrugations of each pipe section are annular, and designed such that the band will engage each pipe end with the next-to-outside annular corrugation.

3) For these bands, use a rubber gasket with a circular cross-section of the “O-ring” type conforming to ASTM C-361. Use gaskets having the following cross-sectional diameter for the given size of pipe:

Pipe Size	Gasket Diameter
12 inches through 36 inches (with 1/2 inch depth corrugations)	13/16 inch
42 inches through 96 inches (with 1/2 inch depth corrugations)	7/8 inch
36 inches through 120 inches (with 1 inch depth corrugations)	1 3/8 inches

4) Use preformed gasket material to seal the overlapping area on the coupling band between gaskets.

5) Use channel band couplers in helical pipe with ends which have been reformed and flanged specifically to receive these bands. Use channel band couplers that are of a two piece design, are fabricated from galvanized steel stock conforming to AASHTO M 36, have 2 by 2 by 3/16 inch angles fastened to the band ends to allow for proper tightening, and meet the following:

Band Thickness	Pipe Wall Thickness
0.079 inch	0.109 inch or lighter
0.109 inch	0.138 inch or heavier
3/4 inch wide	0.109 inch or lighter
1 inch wide	0.138 inch or heavier

6) Furnish two 1/2 inch diameter connection bolts with each band, that conform to ASTM A-307, Grade A and are electroplated in accordance with ASTM B-633.

7) Use a gasket with the joint that is a hydrocarbon blend of butyl rubber meeting the chemical composition and physical properties of FDOT 942-2.2. Use a 3/8 by 3/4 inch gasket for pipe fabricated from 0.109 inch or lighter material and a 3/8 by 1 inch gasket for pipe fabricated from 0.138 inch and heavier material.

8) Contractor may use a flange band coupler without the gasket for all applications other than side drain, storm and cross drain, and gutter drain.

9) Do not use the flange band coupler to join dissimilar types of pipe.

10) Contractor may join reformed flanged helical pipe to existing annular or reformed pipe having annular ends. On non-gasketed installations, use either an annular band or an alternate joint described in Subarticle 430-H.1.c. On gasketed installations, use an annular band, minimum of five corrugations in width, in conjunction with two O-ring gaskets as specified in Subarticle 430-H.1.c. Use mastic material to seal the area of band overlap.

11) The minimum joint performance standards specified in Subarticle 430-D.1 apply.

2. Laying and Shape Requirements for Corrugated Metal Pipe: Install pipe using either a trench or open ditch procedure.

   a. Check pipe shape regularly during backfilling to verify acceptability of the construction method used. Pipe deflected 5% or more of the certified actual mean diameter of the pipe at final inspection shall be replaced at no cost to the Department. Deflection measurements are taken at the point of smallest diameter on the corrugations.

H. Specific Requirements for Corrugated Polyethylene Pipe and Polyvinyl Chloride (PVC) Pipe.

1. Field Joints: Use gasketed joints to seal side drain, and storm and cross drain. Use gaskets meeting the requirements of FDOT Section 449. Ensure that the pipe manufacturer provides a joint design approved by Engineer before use.

2. Installation Requirements Including Trenching, Foundation and Backfilling Operations: Check structure shape regularly during backfilling to verify acceptability of the construction method used.

3. Pipe deflected 5% or more of the certified actual mean diameter of the pipe at final inspection shall be replaced at no cost to the Department.

I. Desilting Pipe Culverts, Box Culverts, and Inlet Structures.

1. Description. Completely remove and dispose of silt, debris, vegetation, soil, rock, and any type of blockage inside existing pipe culvert(s), box culvert(s) or inlet structure(s) specified in the Contract Documents or directed by Engineer.

2. General.

   a. Access to the pipe or box culvert may require temporary removal of fence, signs, guardrail, grates or manhole covers.

   b. Clean the existing pipe or box culvert by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage to restore the hydraulic conveyance design capacity of the pipe or box culvert.

   c. Clean the existing inlet structure by completely removing all of the silt, debris, vegetation, soil, rock, and any type of blockage.

   d. Perform desilting operations in a manner not to damage the pipe culverts, box culverts, and inlet structures or surrounding area.

   e. Meet the requirements of Federal, State and local environmental standards and laws when performing all activities.

   f. Meet the requirements of Article 104 of these Specifications (Prevention, Control, and Abatement of Erosion and Water Pollution).

   g. Identify and report to Engineer necessary repairs to the pipes or box culverts and structures exposed during the desilting operation.

   h. Pipe or Box Culverts:

      1) Replace according to Department standards at the completion of the desilting operation or each day, as appropriate for safety.

      2) Align infall and outfall ditches 50 feet from the pipe or box culvert to meet the existing line and grade. If the Right-of-Way line is less than 50 feet from the pipe or box culvert, align infall and outfall ditches to the Right-of-Way line. Grade and sod any disturbed areas caused by the desilting operation.

      3) Dispose of all silt and debris removed in the desilting operations in areas meeting Federal, State and local rules and regulations.

      4) Repair or replace damage to turf, pavement, signs or structures, etc. due to negligence to the satisfaction of Engineer at no additional cost to the Department. Complete repairs prior to submission of the invoice for work accomplished.

3. Inspection.

   a. When directed by Engineer, de-water the pipe or box culvert to facilitate inspection.

   b. Re-clean culverts and structures determined to be unacceptable by Engineer within the time directed at no additional cost to the Department.

J. Method of Measurement.

1. General:

   a. The quantity to be paid for will be the number completed pursuant to these specifications that is measured and accepted by Engineer.

   b. Only items of work required by this Article that have a Contract Unit Price will be measured by Engineer for payment. All other work described in this Article that is required by the Contract Documents but does not have a Contract Unit Price is considered incidental to the Work and its costs are included among the various scheduled items of the Contract.

2. New Pipe: The quantities of storm and cross drain pipe, storm drain trench, side drain pipe and gutter drain pipe to be paid for will be quantity, measured in place and accepted by Engineer. The quantity of pipe will be measured from the inside wall of the structure, along the centerline of the pipe.

3. Mitered End Section: The quantity to be paid for will be the number completed and accepted.

4. Desilting Pipe Culverts, Box Culverts, and Inlet Structures:

   a. General:

      1) The cost of temporary removal and subsequent replacement of fence, signs, guardrail, grates or manhole covers will be included in the contract unit price for the related item.

      2) Infall and outfall ditch alignment, grading and sodding will be included in the contract unit price of the related item.

3) Pipes or structures that are impacted by the Work must be cleaned at no cost to the County and will not be measured for payment.

b. Desilting Pipe Culverts: The quantities for payment will be the length in feet of existing pipe desilted and accepted by Engineer.

c. Desilting Box Culverts: The quantities for payment will be the volume in cubic yard of material removed from the existing box culvert as measured and accepted by Engineer.

d. Desilting Inlet Structures: The quantities for payment will be the number of existing Inlet Structures desilted and cleaned as counted and accepted by Engineer.

K. Basis of Payment.

1. General:

a. Prices and payments will be full compensation for all work specified in this Article including:

1) All excavation except the volume included in the items for the grading work on the Project, and except for other items specified for separate payment in Article 120 (Earthwork And Related Operations) of these Specifications;

2) All backfilling material and compaction; disposal of surplus material; and

3) All clearing and grubbing outside of the required limits of clearing and grubbing as shown in the Plans.

2. Removing Existing Pipe: When existing pipe is removed and replaced with new pipe approximately at the same location, the cost of excavating and removing the old pipe and of its disposal will be included in the Contract unit price for clearing and grubbing.

3. Site Restoration: The cost of completely restoring the areas of the Project Site that is disturbed for the purpose of constructing pipe culvert is included in the Contract unit price for the pipe culvert, unless designated specifically to be paid for under other items.

4. Plugging Pipes:

a. The cost of temporarily plugging a pipe culvert, either proposed or existing, will be incidental to the contract unit price for new pipe culvert.

b. The cost of filling and/or plugging an existing pipe culvert that is to be permanently placed out of service will be paid for at the contract unit price for filling and plugging pipe, per cubic yard. Price and payment will be full compensation for flowable fill, masonry, concrete, mortar, and all labor and materials necessary to complete the work.

5. Payment Items:

a. Payment will be made under the items below having an awarded Contract Unit Price.

Item No.	Description	Unit
430-174-108	Pipe Culvert 8" Diameter (Round)	LF

520 CONCRETE GUTTER, CURB ELEMENTS, AND TRAFFIC SEPARATOR (SECTION 520)

A. Description:

Page 583, Article 520-1, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is expanded to include the following:

1. The work specified under this section includes any type of curb and /or gutter in accordance with FDOT Design Standards for Design and Construction Maintenance and Utility Operations on the State Highway System 2008. The curb with or without gutter, driveway curbs, Type "C" median curb and Type "A" median curb, including the necessary preparation and compaction of the subgrade in both cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.

B. Materials:

General: Meet the material requirements specified in FDOT Division III (Materials)

Page 583, Article 520-2, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

C. Basis of Payment:

Page 591 Article 520-12, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is deleted in its entirety and replaced with the following:

1. The quantity of curb or curb and gutter, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer and does not include ramp and sidewalk curb. Such price and payment shall be full compensation for all work specified under this Section, including the necessary preparation and compaction of the subgrade in both, cut and fill areas, as well as backfilling, grading, excavation and final dressing required as directed by the Engineer.
2. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
520-1-10	Concrete Curb and Gutter, Type F	LF

522 CONCRETE SIDEWALK

A. Description:

1. Page 589, Article 522-1, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is expanded to include the following:
2. The work specified under this Section consists of the forming, furnishing, placement, and finishing of concrete for the construction of concrete sidewalks, pedestrian ramps and sidewalk curbs (back of sidewalk) utilizing Class I Concrete. The width, thickness and type shall be as shown and noted in the Plans. All work will be in accordance with this Section except as modified herein.

B. Materials:

General: Meet the material requirements specified in FDOT Division III (Materials) and the following requirements:

Page 589, Article 522-2, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is amended as follows:

1. Class I Concrete shall have a minimum compressive strength of 3,000 p.s.i. at 28 days.

C. Method of Measurement:

Page 591 Article 522-9, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is expanded to include the following:

1. The quantity to be paid for under this Article shall be the area in square yards of concrete sidewalk and pedestrian ramps, measured in place, complete and accepted. Measurement shall be the final dimensions measured along the surface of the completed work within the neat lines shown on the Plans or designated by the Engineer. No deduction will be made for the area occupied by trees left within the area of sidewalks or for any area occupied by manholes, inlets or other drainage or public utility appurtenances within the sidewalk area.

D. Basis of Payment:

Page 591 Article 522-10, of the 2013 FDOT Standard Specifications for Road and Bridge Construction, is deleted in its entirety and replaced with the following:

1. The quantity, determined as provided above, shall be paid for at the Contract unit price for the quantities completed and accepted by the Engineer. Such price and payment shall be full compensation for all work specified under this Section.
2. When curb and gutter is required for the construction of pedestrian ramps and no specific pay item has been included for the construction of the curb and gutter, such

payment shall be included in the pay item for Sidewalk (including pedestrian ramps and sidewalk curbs).

3. No separate payment shall be made for the removal of forms or the filling of excavated area left by removal of forms. Contractor shall be responsible for any vandalized sidewalk until it is finally accepted by the Engineer.

4. Payment will be made at the Contract unit prices for the quantities completed and accepted by the Engineer under the following item(s) as applicable:

Item No.	Description	Unit
522-1	CONCRETE SIDEWALK (4" Thick, 3000 p.s.i. Concrete at 28 Days) (Includes the cost of Pedestrian Ramps, Sidewalk Curbs and Bike Pads)	S.Y.

527 DETECTABLE WARNINGS ON WALKING SURFACES (REV. 11-14-11)

A. Description.

1. Furnish and install Safety Yellow colored Detectable Warning devices on newly constructed and/or existing concrete or asphalt walking surfaces (curb ramps, sidewalks, shared-use paths, etc.) constructed in accordance with the FDOT Design Standards Index No. 304 and these specifications, where indicated on the Plans or directed by the Engineer.

B. Materials.

1. General:

   a. Provide Detectable Warnings in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.

   b. Provide only embedded Detectable Warning devices, set in wet concrete, for all construction except where retrofit applications of surface applied detectable warnings have been approved in writing by the Engineer.

   c. Use Detectable Warnings consisting of materials intended for exterior use subject to routine pedestrian traffic and occasional vehicular traffic.

   d. Use Detectable Warnings with size and pattern shown in the plans comprised of truncated domes aligned in parallel rows in accordance with the FDOT Design Standards, Index No. 304. Do not use detectable warnings with a diagonal pattern.

   e. Concrete stamping, field-formed materials, or methods or products used to form Detectable Warnings in wet concrete are not permitted.

2. Material Properties:

   a. Provide Detectable Warnings that meet the following minimum material property requirements when tested in accordance with the indicated Standard appropriate to the material.

PROPERTY	STANDARD	TEST VALUE
Slip Resistance	FM 3-C 1028	Dry Coefficient of Friction – 0.8 min. Wet Coefficient of Friction – 0.65 min. (include recessed areas between truncated domes)
Wear Resistance	FM 5-594	Average Volume Loss: no more than 0.06 cm3
Water Absorption*	ASTM D-570	Not to exceed 5%.
Adhesion/ Bond Strength**	FM 5-589	150 psi min. tensile adhesion strength
Non-Hazardous Classification	Submit Material Safety Data Sheet (MSDS)	Non-Hazardous, per RCRA Subtitle C
* Applies only to plastic materials. ** Applies only to surface-applied materials.		

3. Color/Contrast: Use Safety Yellow colored Detectable Warnings on concrete or asphalt walking surfaces. Acceptable Detectable Warnings must maintain a Light Reflectance Value (LRV) CAP Y of 25 – 45, as measured with a spectrophotometer, for a minimum duration of three years.

4. Qualified Products List:

   a. Use Detectable Warnings listed on the FDOT Qualified Products List (QPL) and that have been further evaluated and found acceptable by the Department. At the option of the Contractor, an "or equal" product evaluation request, for an equivalent FDOT QPL approved product that meets or exceeds the specification stipulated herein, may be submitted in writing to the Engineer for review and acceptance.

   b. The following products, subject to continued listing on the FDOT QPL, have been evaluated by the Department for use on Department projects:

SURFACE APPLIED DETECTABLE WARNING DEVICES		
Manufacturer	Product	QPL Number
Engineered Plastics, Inc.	Armor-Tile Surface Applied Inline Dome	S527-0006
EMBEDDED DETECTABLE WARNING DEVICES		
Manufacturer	Product	QPL Number
ADA Solutions, Inc.	Cast-In-Place Composite Tactile	S527-0003
Detectable Warning Systems, Inc.	EZ-Set Tile	S527-0008

ADA Solutions, Inc.	Replaceable Wet Set Composite	S527-0018
Engineered Plastics, Inc	Armor-Tile Replaceable Cast in Place	S527-0026
Engineered Plastics, Inc.	Armor-Tile Cast-In-Place Inline Dome Tile	S527-0027
Cape Fear Systems, LLC	AlertCast (Replaceable) Cast-In-Place	S527-0029
Access Products, Inc.	Access Tile Replaceable Cast in Place	S527-0033
StrongGo Industries	TekWay Dome Tile	S527-0035

C. Installation Procedures.

1. Surface Preparation and Installation: Prepare the surface in accordance with the manufacturer's recommendations. Use only products and materials appropriate for the surface on which they will be applied. Install in accordance with the manufacturer's instructions, using materials and equipment recommended and approved by the manufacturer. For surface-applied tiles or mats, use adhesives applied over the entire surface and mechanical fasteners.

D. Method of Measurement.

1. The quantity to be paid for will be the area, in square feet, of Detectable Warnings furnished and installed pursuant to these specifications, measured in place and accepted by the Engineer.

E. Basis of Payment.

1. Price and payment will be full compensation for all work specified in this Article, including all labor, surface preparation, materials and incidentals necessary to complete the work for installation of Detectable Warnings on walking surfaces.
2. Payment will be made under:

Item No.	Description	Unit
527-2	Detectable Warning On Walking Surface	SF

570 PERFORMANCE TURF

A. Description.

1. Establish a stand of grass within the specified areas, by furnishing and placing sod, and rolling, watering, and maintaining the sodded areas to ensure a healthy stand of grass.

B. Materials. Meet the material requirements specified in FDOT Division III (Materials) and the following requirements:

1. Sod FDOT 981-2
2. Water FDOT Section 983

C. Construction Methods.

1. Preparation of Ground: Scarify or loosen the areas requiring sod to a depth of 6 inches. On areas where the soil is sufficiently loose, particularly on shoulders and fill slopes, the Engineer may authorize the elimination of the ground preparation. Limit preparation to those areas that can be sodded within 72 hours after preparation. Prior to sodding, thoroughly water areas and allow water to percolate into the soil. Allow surface moisture to dry before sodding to prevent a muddy soil condition.

2. Placing Sod: Place sod immediately after ground preparation. Do not use sod which has been cut for more than 72 hours. Stack all sod that is not planted within 24 hours after cutting and maintain proper moist condition.

a. Do not sod when weather and soil conditions are unsuitable for proper results. Pre-wet the area prior to placing sod. Do not place sod on eroded or washed out sites.

b. Place the sod on the prepared surface, with edges in close contact, and embed it firmly and smoothly by light tamping with appropriate tools.

c. Place the sod to the edge of all the paving and shrub areas and 1 inch below adjoining pavement with an even surface and edge. Place rolled sod parallel with the roadway and cut any exposed netting even with the sod edge.

d. Roll using a lightweight turf roller. Provide a true and even surface without any displacement of the sod or deformation.

e. Where sodding in drainage ditches, stagger the setting of the sod pieces to avoid a continuous seam along the line of flow. Ensure that the offsets of individual strips do not exceed 6 inches. Tamp the outer pieces of sod to produce a featheredge effect.

f. Peg sod at locations where the sod may slide. Drive pegs through sod blocks into firm earth, at intervals approved by the Engineer.

g. Remove any sod as directed by the Engineer.

3. Watering: Thoroughly water the sod immediately after placing. Do not water in excess of 1 inch per week for establishment. The contractor shall water and maintain newly sodded areas as needed and adhere to the following minimum frequencies until final acceptance of the Project by the County unless otherwise approved by the Engineer:

a. Minimum Watering Schedule (3/4" to 1" per watering)

1) Every day for the first 14 days after placement, followed by

2) Three times per week for next 14 days, followed by

3) Two times per week until final acceptance of the project.

b. Mowing Schedule

1) Minimum bi-weekly after established, and

2) Immediately prior to final acceptance.

D. Maintenance.

Maintain the sodded areas in a satisfactory condition until final acceptance of the project. Include in such maintenance the filling, leveling, and repairing of any washed or eroded areas, as may be necessary. The Department will pay for resodding necessary due to factors determined by the Engineer to be beyond the control of the Contractor.

1. Monitor placed sod for growth of pest plants and noxious weeds. If pest plants and/or noxious weeds manifest themselves within 30 days of placement of the sod, treat affected areas by means acceptable to the Department at no expense to the Department. If pest plants and/or noxious weeds manifest themselves after 30 days from date of placement of sod, the Engineer, at his sole option, will determine if treatment is required and whether or not the Contractor will be compensated for such treatment. If compensation is provided, payment approved by the Engineer will be made as unforeseeable work.
2. Maintenance of sodded areas is required for no less than thirty (30) days after placement or until the sodded area is determined to be established and satisfactory by the Engineer, whichever is greater.

E. Method of Measurement.

1. The quantities to be paid for will be the area of sodding measured and accepted by the Engineer.
2. Measurement for payment shall include only areas of sodding that have established a satisfactory root system (i.e. leaf blades break before sod can be pulled from the soil by hand).

F. Basis of Payment.

1. Prices and payments for Sodding will be full compensation for all work, water, and materials required to perform the work as specified in this Article, the satisfactory disposal of excavated material, and the furnishing and application of the water.
2. The costs for watering, mowing, and maintaining the sod in a moist condition for a period of at least two weeks, shall be included in the Contract unit price for Sodding.
3. Payment will be made under:

Item No.	Description	Unit
570-1-2	PERFORMANCE TURF, SOD	SY

700 HIGHWAY SIGNING

A. 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 Department designates ground traffic signs as signs erected on the shoulders, slopes, or medians, but not extending over the traveled roadway. The Department 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 Department 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 Department's list of metal producers with an accepted quality control program, meeting the requirements of 105-3.

B. Sign Assembly Design Requirements.

1. General:

a) Sign assemblies as specified in the Plans fall into three general categories: ground sign assemblies, overhead sign assemblies, and electronic display signs.

b) 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 Engineer 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 Engineer 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.

c) Breakaway Support Mechanisms for Ground Traffic Signs:

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.
2) Slip Bases: For posts with slip base assemblies, use galvanized steel in accordance with the requirements in the Design Standards.

d) Overhead Sign Structures:

1) Shop Drawings: Submit shop drawings to the Department for approval as specified in Section 5. 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.

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 Engineer 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

Bolt Diameter (in.)	Minimum Torque (ft.-lbs.)
3/8	15
1/2	37
5/8	74
3/4	120
7/8	190
1	275
1 1/8	375
1 1/4	525

3) 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.

4) Breakaway Support Mechanisms for Electronic Display Signs: Provide posts or posts with slip bases as shown in the Plans.

C. Materials.

1. General:

a) Meet the materials requirements shown below and any additional requirements which the Plans might show.
b) Meet the material requirements specified in FDOT Division III (Materials
c) Concrete: Use concrete meeting the requirements of Section 346.
d) Reinforcing Steel: For reinforcing steel in footings, meet the requirements of Section 415.

1. Aluminum Materials:

a) General: For aluminum materials, meet the general provisions of 965-1.
b) 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.
c) Extruded Tubing: For extruded aluminum tubing, meet the requirements shown in the Plans.
d) Castings: Provide aluminum castings of the alloys shown in the Plans. For aluminum alternates the Engineer 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.
e) Channels: For aluminum channels, meet the requirements of ASTM B 308 for the alloys shown in the Plans.
f) 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.

2. Steel:

a) 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.
b) 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 Engineer will allow galvanized steel as an alternate to aluminum.

3. Bearing Pads: For bearing pads, meet the requirements of 932-2.

4. Retroretroreflective Sheeting: All retroreflective sheeting must be listed on the QPL and meet the retroreflective sheeting requirements of Section 994.

5. Process Colors: Use transparent and black opaque process colors listed on the QPL meeting the requirements of 994-4 on retroreflective and nonreflective sheeting.

6. Electronic Display Signs: Use electronic display signs and mounting hardware that meet the requirements of the MSTCSD and are listed on the Department's 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 in accordance with 5-11. Ensure Guaranties on EDS comply with Section 608.

D. Preparation of Sign Blanks.

1. De-greasing and Etching for Aluminum Sign Blanks:

a) General: Prior to the application of retroreflective sheeting, use any of the methods shown below to de-grease and etch the aluminum sign blanks.
b) 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.

c) 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 249ºF, 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 180ºF for 60 seconds. After immersion, rinse the blanks in clean water.

d) 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 180ºF 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 100ºF for three minutes. After immersion, rinse the blanks in clean water.

e) 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.

f) 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.

g) Etching Method when De-greasing is Separate Operation: If using either of the de-greasing 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 100ºF, 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.

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.

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.

E. Fabrication of Retroreflectorized Sign Faces.

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 1/16 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 Engineer will not accept nonconformance that may result in non-uniform shading and an undesirable contrast between adjacent widths of applied sheeting.
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.
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.
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.
5. Stenciling: For permanent roadway signs, mark the back of all finished panels at the bottom edge with "FDOT", 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.

F. Acceptance of Signs.

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.
2. Packaging and Shipping: Have the manufacturer package and ship the signs in a manner which will minimize possible damage.

3. Storage of Signs: If signs are stored prior to installation, store them in accordance with the manufacturer's recommendations.
4. Sign Inspection: Do not install signs until the Engineer inspects them for conformance with this Section. Provide all manufacturer certifications and recommendations prior to the Engineer's inspection. The Engineer 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 Engineer at no expense to the Department.
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 Engineer. 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 Engineer.
6. Electronic Display Signs: In addition to the requirements of this Section, meet the requirements of Section 611.

G. Foundations.

1. Footings:

a) 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 Engineer. The Department 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.

b) Mixing and Placing Concrete: For batching and mixing of concrete for footings, meet the requirements of Section 346, except that the Engineer 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.

c) Forms: The Engineer 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 Engineer, 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.

d) Finishing Concrete: Trowel the top of the concrete to a smooth finish.

2. Drilled Shafts: Meet the requirements of Section 455.

H. 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 Engineer. 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.

I. 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 Engineer a minimum of 30 days prior to removal of existing Logo sign structures.

J. 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.

K. 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.

L. 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.

1. Payment will be made under:

Item No.	Description	Unit
700-1-40	Install sign	EA.
700-1-50	Relocate Sign	EA
700-1-60	Remove Sign	EA

705 OBJECT MARKERS AND DELINEATORS (REV. 08-23-12)

A. Description.

1. Furnish and install object markers to mark obstructions within or adjacent to the roadway of the types and at the locations called for in the Contract Documents.
2. Furnish and install delineators along the side of the roadway to indicate the alignment of the roadway as indicated in the Contract Documents.
3. Meet all requirements of the FDOT Design Standards and the Contract Documents.

B. Materials.

1. General:

a. Meet the material requirements specified in FDOT Division III (Materials) and the following requirements:

Object Markers and Delineators	FDOT Section 993
Retroreflective and Nonreflective Sign Sheeting	FDOT Section 994

2. Product Acceptance on the Project:

a. Ensure that delineators, delineator posts, and markers used to delineate guardrail and barrier wall are listed on the FDOT Qualified Products List.
b. Provide to the Engineer a manufacturer's certification conforming to the requirements of Article 1.04 (Controlling Materials) of Division 1, which confirms that each product meets the requirements of this Article.

C. Installation Requirements.

1. Install delineators, object markers, and reflector units for guardrail and barrier wall and in accordance with the MUTCD, FDOT Design Standards and Contract Documents.

D. Method of Measurement.

1. The quantity to be paid for will be the number of delineators or object markers furnished, installed and accepted.

E. Basis of Payment.

1. Prices and payments will be full compensation for work specified in this Article, including the cost of labor, materials, and incidental items required to complete the work.
2. Payment will be made under:

Item No.	Description	Unit
705-11-1	DELINEATOR (Flexible Tubular)	EA.

706 RAISED RETRO-REFLECTIVE PAVEMENT MARKERS AND BITUMINOUS ADHESIVE (REV. 05-02-12)

A. Description.

1. Place raised Retro-Reflective Pavement Markers (RPMs) and adhesive, which upon installation produces a positive guidance system to supplement other reflective pavement markings.

B. Materials.

1. Meet the material requirements specified in FDOT Division III (Materials)

2. Use only Class B markers unless otherwise shown on the Plans.
3. Meet the requirements of FDOT Section 970.
4. Product Acceptance on the Project.
   a. Use only reflective pavement markers and bituminous adhesive that are listed on the FDOT Qualified Products List.
   b. Provide Engineer a producer's certification, conforming to the requirements of Article 1.04 (Controlling Materials) of the General Requirements to these Specifications, which confirms that each product meets the requirements of this Article.

C. Equipment.

1. Use equipment having either thermostatically controlled double boiler type units utilizing heat transfer oil or thermostatically controlled electric heating pots to install hot applied bituminous adhesive. Do not use direct flame melting units with flexible adhesives; however, this type of unit may be used with standard adhesive in accordance with manufacturer's recommendations. Use a melter/applicator unit suited for both melting and pumping the adhesive through heated applicator hoses.
2. Heat the adhesive to between 375 and 425ºF and apply directly to the bonding surface from the melter/applicator by either pumping or pouring. Maintain the application temperature between 375 and 425ºF. The adhesive may be reheated. Do not exceed the manufacturer's recommendations for pot life at application temperatures.

D. Application.

1. Apply RPMs to the bonding surface using bituminous adhesives only. Engineer will conduct field testing in accordance with Florida Method (FM) 5-566. Correct RPMs not applied in accordance with these requirements at no cost to the Department.
2. Prior to application of adhesive, clean the bonding surface to remove any material that would adversely affect the adhesive.
3. Apply the adhesive to the bonding surface, not the RPMs, so that 100% of the bonding area of the RPMs will be covered, in accordance with adhesive manufacturer's recommendations. Apply sufficient adhesive to ensure, that when the RPMs are pressed downward into the adhesive, adhesive will be forced out around the entire perimeter of each RPM.
4. Immediately remove excess adhesive from the bonding surface and exposed surfaces of the RPMs. Soft rags moistened with mineral spirits meeting Federal Specifications TT-T-291 or kerosene may be used to remove adhesive from exposed faces of the RPMs. Do not use any other solvent. If any adhesive, pavement marking materials or other foreign matter adheres to the reflective face of the RPM, replace the RPM at no cost to the Department.
5. Install RPMs with the reflective face of the RPM perpendicular to a line parallel to the roadway centerline. Do not install RPMs over longitudinal or transverse joints of the bonding surface.
6. Ensure that all final RPMs are in place prior to opening the road to traffic.
7. If more than 2 percent of the RPMs fail in adhesion or alignment within the first 45 days under traffic, replace all failed RPMs at no expense to the Department. If more than 5 percent of the RPMs fail in adhesion and or alignment during the initial 45 day period, Engineer will extend the replacement period an additional 45 days from the date that all replacement RPMs have been installed. If, at the end of the additional 45 day period, more than 2 percent of all RPMs (initial installation and 45 day replacements combined) fail in adhesion or alignment, replace all failed RPMs at no expense to the Department.

E. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of RPMs. At the time of notification, indicate the manufacturer and the LOT numbers of RPMs and bituminous adhesive that are intended for use. Verify that the approved LOT numbers appear on the material packages. Furnish a test report to Engineer certifying that the materials meet all requirements specified.

F. Method of Measurement.

1. Unless otherwise specified herein, the quantities to be paid for will be the number of RPMs, furnished and installed, completed and accepted.

G. Basis of Payment.

1. Lump Sum Payment: When the pay item for Painted Pavement Markings (Final Surface) is included in the Contract, price and payment for RPMs is as stipulated in Article 710 of these Specifications. RPMs will not be measured or paid for separately.
2. Payment will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s) for the completed quantities, measured and accepted by Engineer. Price and payment will be full compensation for all work specified in this Article.

Item	Description	Unit
706- 3	Retro-Reflective Pavement Marker	EA

711 THERMOPLASTIC TRAFFIC STRIPES AND MARKINGS (REV. 05-02-12)

A. Description.

1. Apply new thermoplastic traffic stripes and markings, or refurbish existing thermoplastic traffic stripes and markings, in accordance with the Contract Documents.

B. Materials.

1. Meet the material requirements specified in FDOT Division III (Materials).

2. Thermoplastic: Use only thermoplastic materials listed on the FDOT Qualified Products List (QPL). Engineer may require random samples of all material. Use materials meeting the following requirements:

Initial or Recapped Stripes and Markings:	FDOT 971-1 and 971-5
Refurbishing Existing Stripes and Markings:	FDOT 971-1 and 971-5
Preformed Stripes and Markings:	FDOT 971-1 and 971-6

3. Glass Spheres: Use only glass spheres listed on the FDOT QPL, meeting the requirements of FDOT 971-1 and 971-2. Engineer may require random samples of all glass spheres in accordance with ASTM D 1214.

4. Sand: Use materials meeting the requirements of FDOT 971-5.4.

C. Equipment.

Use equipment capable of providing continuous uniform heating of striping materials to temperatures exceeding 390ºF, mixing and agitation of the material reservoir to provide a homogeneous mixture without segregation. Use equipment that will maintain the striping material in a plastic state, in all mixing and conveying parts, including the line dispensing device until applied.

1. Use equipment which can produce varying width traffic stripes and which meets the following requirements:

   a. Capable of traveling at a uniform, predetermined rate of speed, both uphill and downhill, in order to produce a uniform application of striping material and capable of following straight lines and making normal curves in a true arc.

   b. Capable of applying glass spheres to the surface of the completed stripe by a double drop application for initial traffic striping and marking and a single drop application for recapping and refurbishing. The bead dispenser for the first bead drop shall be attached to the striping machine in such a manner that the beads are dispensed closely behind with the thermoplastic material. The second bead dispenser bead shall be attached to the striping machine in such a manner that the beads are dispensed immediately after the first bead drop application. Glass spheres dispensers shall be equipped with an automatic cut-off control that is synchronized with the cut-off of the thermoplastic material and applies the glass spheres in a manner such that the spheres appear uniform on the entire traffic stripes and markings surface with, 50 to 60 percent embedment.

   c. Equipped with a special kettle for uniformly heating and melting the striping material. The kettle must be equipped with an automatic temperature control device and material thermometer for positive temperature control and to prevent overheating or scorching of the thermoplastic material.

   d. Meet the requirements of the National Fire Protection Association, state, and local authorities.

D. Application.

1. General:

   a. Remove, by a method approved by Engineer, existing pavement markings such that scars or traces of removed markings will not conflict with new stripes and markings. Clean and dispose at an approved site all resulting debris. Use of paint to cover conflicting pavement markings is prohibited. Cost for removal of pavement markings is incidental to the work specified in this Article. Cost for removing conflicting pavement markings during maintenance of traffic operations to be included in Maintenance of Traffic.

   b. Remove any vegetation, soil, and other materials covering the pavement where the marking is to be applied.

      Before applying traffic stripes and markings remove, by a method approved by Engineer and consistent with manufacturer's specifications, any material that would adversely affect the bond of the traffic stripes.

      Before applying traffic stripes to any Portland cement concrete surface, apply a primer, sealer or surface preparation adhesive of the type recommended by the manufacturer. Offset longitudinal lines at least 2 inches from any longitudinal joints of Portland cement concrete pavement.

   c. Apply traffic stripes or markings only to dry surfaces, and when the ambient air and surface temperature is at least 50ºF and rising for asphalt surfaces and 60°F and rising for concrete surfaces.

   d. Apply striping to the same tolerances in dimensions and in alignment specified under "Tolerances in Dimension and in Alignment" below. When applying traffic stripes and markings over existing markings, ensure that not more than 2 inches on either end and not more than 1 inch on either side of the existing line is visible.

   e. Apply thermoplastic material to the pavement either by spray, extrusion or other means approved by Engineer.

   f. Conduct field tests in accordance with Florida Method (FM) 5-541. Take test readings representative of the striping performance. Remove and replace traffic stripes and markings not meeting the requirements of this Article at no additional cost to the Department.

   g. Apply all final pavement markings prior to opening the road to traffic.

   h. Preformed Thermoplastic: Apply markings only to dry surfaces and when ambient air temperature is at least 32°F. Prior to installation, follow the manufacturer's recommendations for pre-heating.

2. Thickness:

   a. Initial or Recapped Stripes and Markings:

1) Apply or recap traffic stripes or markings such that all lane lines, center lines, transverse markings and traffic stripes and markings within traffic wearing areas, will have a thickness of 0.10 to 0.15 inch when measured above the pavement surface.

2) Gore, island, and diagonal stripe markings, bike lane symbols and messages, wherever located, will have a thickness of 0.09 to 0.12 inch when measured above the pavement surface.

3) Measure, record, certify and submit to Engineer, the thickness of white and yellow pavement markings in accordance with FM 5-541.

b. Refurbishing Existing Traffic Stripes and Markings: Apply a minimum of 0.06 inch of thermoplastic material. Ensure that the combination of the existing stripe and the overlay after application of glass spheres does not exceed the maximum thickness of 0.150 inch for all lines.

3. Retroreflectivity:

a. Apply white and yellow traffic stripes and markings that will attain an initial retroreflectivity of not less than 450 mcd/lx•m^2 and not less than 350 mcd/lx•m^2, respectively for all longitudinal lines.

All transverse lines, messages and arrows will attain an initial retroreflectivity of not less than 300 mcd/lx•m^2 and 250 mcd/lx•m^2 for white and yellow respectively.

b. All pedestrian crosswalks, bike lane symbols or messages in a proposed bike lane shall attain an initial retroreflectivity of not less than 275 mcd/lx•m^2.

c. Measure, record, certify, and submit to Engineer, the retroreflectivity of white and yellow pavement markings in accordance with FM 5-541.

4. Glass Spheres:

a. Longitudinal Lines:

1) For initial traffic striping and marking, apply the first drop of Type 4 or larger glass spheres immediately followed by the second drop of Type 1 glass spheres.

2) For refurbishing, apply a single drop of Type 3 glass spheres.

3) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.

b. Transverse Stripes and Markings:

1) Apply a single drop of Type 1 glass spheres.

2) Apply reflective glass spheres to all markings at the rates determined by the manufacturer's recommendations.

3) Apply a mixture consisting of 50 percent glass spheres and 50 percent sharp silica sand to all thermoplastic pedestrian crosswalk lines and bike lane symbols at the rates determined by the manufacturer's recommendations.

c. Preformed Markings: These markings are factory supplied with glass spheres and skid resistant material. No additional glass spheres or skid resistant material should be applied during installation.

E. Tolerances in Dimensions and in Alignment.

1. Establish tack points at appropriate intervals for use in aligning stripes, and set a stringline from such points to achieve accuracy.

2. Dimensions:

a. Longitudinal Lines: Apply thermoplastic skip line segments with no more than ±12 inches variance, so that over-tolerance and under-tolerance lengths between skip line and the gap will approximately balance. Apply longitudinal lines at least 2 inches from construction joints of Portland cement concrete pavement.

b. Transverse Markings, Gore Markings, Arrows, and Messages: Apply thermoplastic in multiple passes when the marking cannot be completed in one pass, with an overall line width allowable tolerance of ±1 inch

c. Contrast Lines: Use black paint to provide contrast on concrete or light asphalt pavement, when specified by Engineer. Apply black paint in 10 foot segments following each longitudinal skip line.

3. Alignment:

a. Apply thermoplastic stripes that will not deviate more than 1 inch from the stringline on tangents and curves one degree or less.

b. Apply thermoplastic stripes that will not deviate more than 2 inches from the stringline on curves greater than one degree.

c. Apply thermoplastic edge stripes uniformly, not less than 2 inches or more than 4 inches from the edge of pavement, without noticeable breaks or deviations in alignment or width.

d. Remove and replace at no additional cost to the Department, traffic stripes that deviate more than the above stated requirements.

4. Correction Rates:

a. Make corrections of variations in width at a maximum rate of 10 feet for each 0.5 inches of correction. Make corrections of variations in alignment at a maximum rate of 25 feet for each 1 inch of correction, to return to the stringline.

F. Contractor's Responsibility for Notification.

1. Notify Engineer prior to the placement of the thermoplastic materials.

2. Furnish Engineer with the manufacturer's name and batch numbers of the thermoplastic materials and glass spheres to be used.

3. Ensure that the approved batch numbers appear on the thermoplastic materials and glass spheres packages.

G. Protection of Newly Applied Traffic Stripes and Markings.

1. Do not allow traffic onto or permit vehicles to cross newly applied pavement markings until they are sufficiently dry.
2. Remove and replace any portion of the pavement markings damaged by passing traffic or from any other cause, at no additional cost to the Department.

H. Observation Period.

1. Pavement markings are subject to a 180 day observation period under normal traffic. The observation period shall begin with the satisfactory completion and acceptance of the work.
2. The pavement markings shall show no signs of failure due to blistering, excessive cracking, chipping, discoloration, poor adhesion to the pavement, loss of reflectivity or vehicular damage. The retroreflectivity must meet the initial requirements stipulated above. The Department reserves the right to check the color and retroreflectivity any time prior to the end of the observation period.

   Replace, at no additional expense to the Department, any pavement markings that do not perform satisfactorily under traffic during the 180 day observation period.

I. Corrections for Deficiencies.

1. Recapping applies to conditions where additional striping material is applied to new or refurbished traffic stripes or markings to correct a deficiency. Recap a 1.0 mile section centered around the deficiency with additional striping material or by complete removal and reapplication at no additional cost to the Department.
2. If recapping will result in a thickness exceeding the maximum allowed, the traffic stripes or markings must be removed and reapplied.

J. Submittals.

1. Submittal Instructions: Prepare a certification of quantities, for each project in the Contract. Submit the certification of quantities and daily worksheets to Engineer. The Department will not pay for any disputed items until Engineer approves the certification of quantities.
2. Contractor's Certification of Quantities: Request payment by submitting a certification of quantities with each payment requisition, based on the amount of work done or completed. Ensure the certification of quantities includes the following:
   a. Contract Number, Certification Number, Certification Date and the period that the certification represents.
   b. The basis for arriving at the amount of the progress certification, less payments previously made and less any amount previously retained or withheld. The basis will include a detailed breakdown provided on the certification of items of payment.

K. Method of Measurement.

1. Quantities to be measured by Engineer for payment under this Article will be as follows:
   a. The length, in net miles, of 6 inch Solid Traffic Stripe, authorized and acceptably applied.
   b. The total traversed distance in gross miles of 10-30 or 3-9 skip line. The actual applied line is 25 percent of the traverse distance, for a 1:3 ratio. This equates to 1,320 feet of marking per mile of single line.
   c. The net length, in feet, of all other types of lines and stripes, authorized and acceptably applied.
   d. The area, in square feet, of Removal of Existing Pavement Markings, acceptably removed. Cost for removing conflicting pavement markings during maintenance of traffic operations is included in Maintenance of Traffic.
   e. The number of pavement messages, symbols and directional arrows, authorized and acceptably applied.

L. Basis of Payment.

1. Prices and payments will be full compensation for all work specified in this Article, including all cleaning and preparing of surfaces, furnishing of all materials, application, curing and protection of all items, protection of traffic, furnishing of all tools, machines and equipment, and all incidentals necessary to complete the work. Final payment will be withheld until all deficiencies are corrected.
2. Payment, for the completed quantities measured and accepted by Engineer, will be made under the item(s) below if provided in the Contract with awarded Contract unit price(s).

Item	Description	Unit
711-11-121	Thermoplastic (White) Solid 6"	LF
711-11-131	Thermoplastic (White), Skip, 6", 10-30 Skip	LF
711-11-151	Thermoplastic (White) Dotted/Guideline 6"	LF
711-11-160	Thermoplastic (White) Message	EA
711-11-170	Thermoplastic (White) Arrows	EA

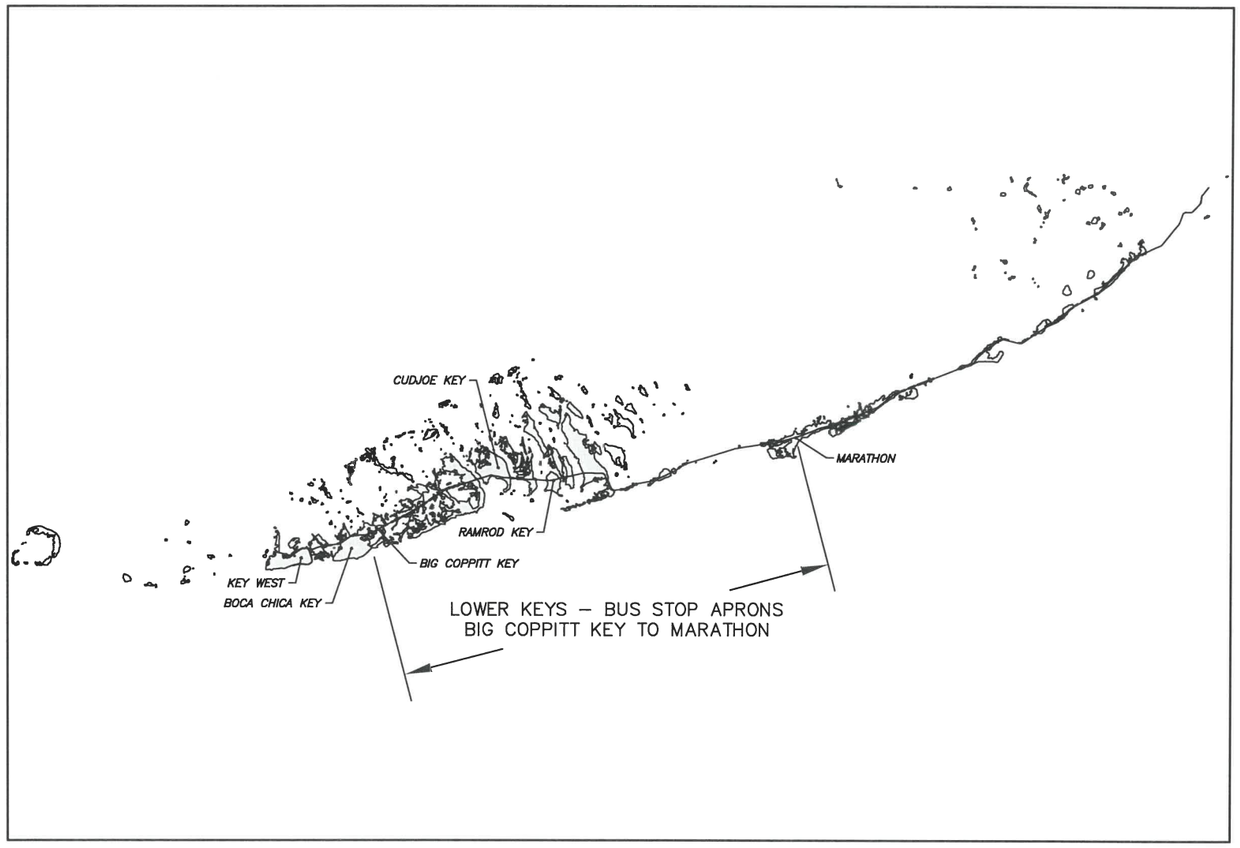
PLANS FOR PROPOSED

LOWER KEYS BUS STOP APRONS

PROJECT NO. TS 1102
FROM MARATHON TO BIG COPPIT KEY

INDEX OF ROADWAY PLANS

1



LOCATION MAP

MAYOR
CRAIG CATES

CITY COMMISSIONERS
JIMMY WEEKLEY
SAMUEL KAUFMAN
BILLY WARDLOW
RICHARD PAYNE
MARGARET ROMERO
CLAYTON LOPEZ

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS (BOOKLET DATED 2013) AND THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION 2013 EDITION, AS AMENDED BY CONTRACT DOCUMENTS

PREPARED FOR THE:

CITY OF KEY WEST

BY:

SRS ENGINEERING,INC.
CONSULTING ENGINEERS
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W..SRS-CORP.COM
EB-00007317

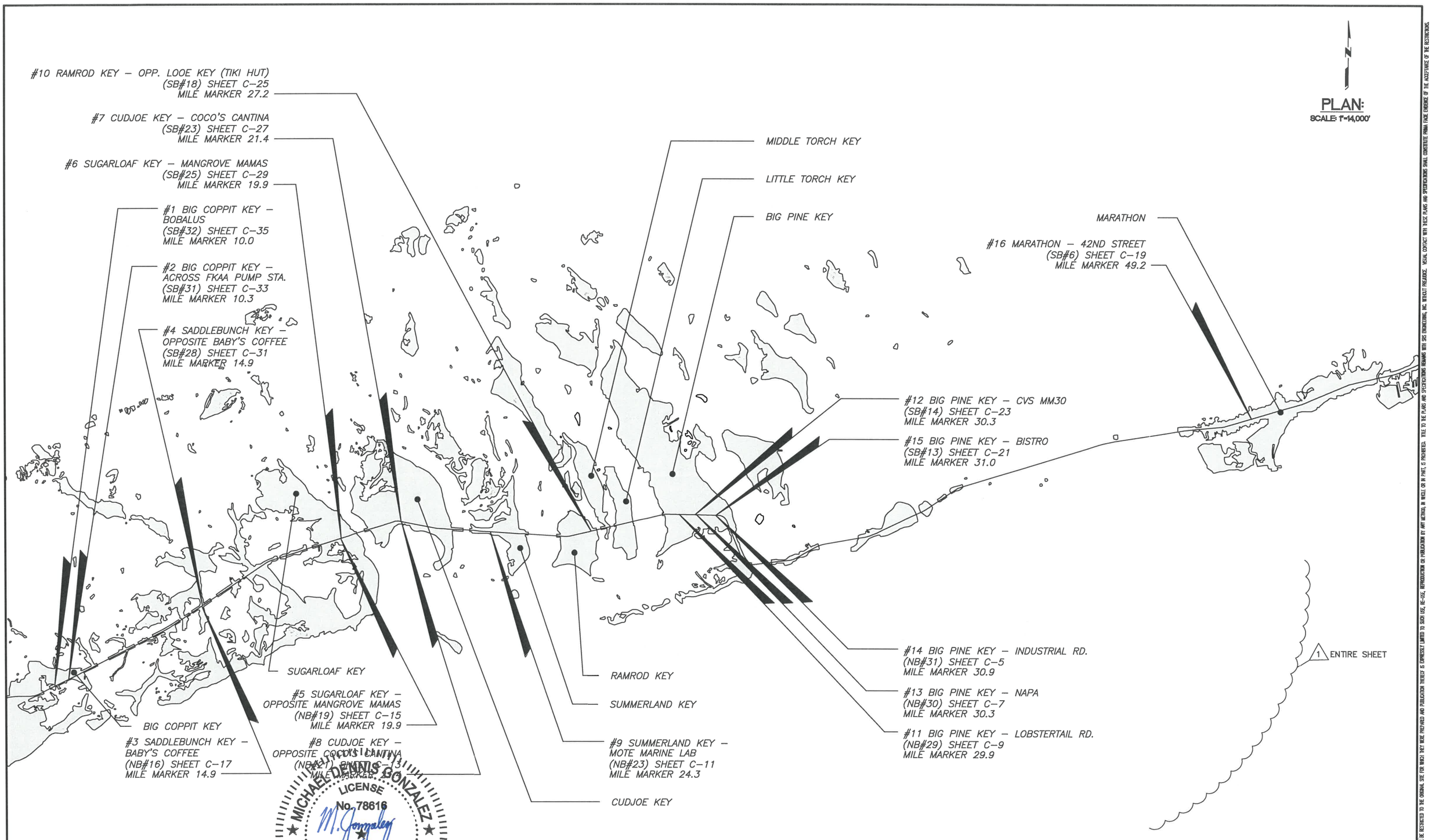
MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Sunshine811.com

PERMIT SET

"ALL WORK SHALL BE PERFORMED WITHIN THE LIMITS OF EXISTING STATE / LOCAL RIGHT OF WAY, AND ALL IMPROVEMENTS SHALL BE CONSTRUCTED AND INSTALLED WITHIN SAID LIMITS"

PROJECT #: 1504	
DATE: 09/12/2016	SHEET: C-0



PLAN:
SCALE: 1"=14,000'

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: L.M.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
08/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

SEAL OF THE CITY OF KEY WEST, FLORIDA

LOWER KEYS - MARATHON TO BIG COPPIT KEY BUS APRON LOCATION KEY MAP

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C–1
SHEET: C–1

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GENERAL NOTES:

1. EXISTING TOPOGRAPHIC INFORMATION HAS BEEN OBTAINED FROM THE SURVEY PREPARED BY AMEC FOSTER WHEELER ON 05/21/2015.
2. ALL ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND NAD83 (HORIZONTAL DATUM).
3. ALL PUBLIC LAND CORNERS AND MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED BY THE CONTRACTOR AS FOLLOWS: CORNERS AND MONUMENTS IN CONFLICT WITH THE WORK AND IN DANGER OF BEING DAMAGED, DESTROYED OR COVERED HAVE TO BE PROPERLY REFERENCED BY A PROFESSIONAL LAND SURVEYOR IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE FLORIDA BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THAT SITE. THE CONTRACTOR SHALL RETAIN THE LAND SURVEYOR OF REFERENCE, AND RESTORE UPON COMPLETION OF THE WORK, ALL SUCH CORNERS AND MONUMENTS AND SHALL FURNISH TO THE ENGINEER A SIGNED AND SEALED COPY OF THE LAND SURVEYOR'S REFERENCE DRAWING.
4. ALL BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED AND REFERENCED BY THE CONTRACTOR IN THE SAME WAY AS PUBLIC LAND CORNERS EXCEPT THAT THE LAND SURVEYOR SHALL NOT BE REQUIRED TO RESTORE THE BENCH MARK UPON COMPLETION OF THE WORK. THE CONTRACTOR SHALL PROMPTLY TRANSMIT ALL DISPLACED OR DAMAGED DISCS TO THE ENGINEER, WHO WILL NOTIFY THE GEODETIC INFORMATION CENTER.
5. ALL REFERENCE POINTS AND BENCH MARKS AS INDICATED ON THE ATTACHED PLANS SHALL BE PRESERVED BY THE CONTRACTOR. PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REESTABLISH AND MARK THOSE CONTROL POINTS IN A PERMANENT MANNER ON THE SURFACE OF THE COMPLETED WORK. ALL CONTROL POINTS REESTABLISHED AND MARKED SHALL BE CERTIFIED, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR IN A F.D.O.T. FIELD BOOK AND RETURNED TO THE ENGINEER.
6. PERMANENT TURNOUTS AND DRIVEWAYS CONNECTIONS TO PRIVATE PROPERTY THAT LIE OUTSIDE THE LIMITS OF RIGHT-OF-WAY AND WHERE ACCESS RIGHTS HAVE NOT BEEN ACQUIRED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TURNOUT DETAILS AND STANDARD SPECIFICATIONS FOR THESE PLANS. THE CONTRACTOR SHALL NOT ISOLATE ADJACENT AND/OR THE REMAINDER OF THE PROPERTY UNLESS ACCESS RIGHTS ARE ACQUIRED. ACCESS SHALL BE PROVIDED TO SUCH PROPERTY WHENEVER CONSTRUCTION INTERFERES WITH THE EXISTING MEANS OF ACCESS.
7. 48 HOURS PRIOR TO DIGGING CONTRACTOR SHALL COORDINATE WITH ALL UNDERGROUND UTILITY SERVICE COMPANIES TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES, ADDITIONALLY, CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. (811) TO ASSURE THAT ALL UTILITIES HAVE BEEN IDENTIFIED.
8. THE LOCATION AND SIZE OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES, PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION, ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS MUST BE RESOLVED BY THE ARCHITECT/ENGINEER AND THE OWNER. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
9. UNDERGROUND UTILITY INFORMATION SHOWN HEREON WAS SHOWN ON THE SURVEY PROVIDED.
10. UTILITIES NEEDED TO BE ADJUSTED WILL BE ADJUSTED BY OTHERS. CONTRACTOR WILL BE RESPONSIBLE FOR SCHEDULING THESE ADJUSTMENTS WITH THE UTILITY COMPANY.
11. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING, ESPECIALLY IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
12. ANY WATER LINES TO BE ADJUSTED SHALL BE APPROVED BY FLORIDA KEYS AQUEDUCT AUTHORITY PRIOR TO ADJUSTMENT.
13. ALL EXISTING ROCK BASE MATERIAL WHICH IS REMOVED IS TO BE INCORPORATED IN THE STABILIZED PORTION OF THE SUBGRADE, AS DIRECTED BY THE ENGINEER.
14. NONE OF THE EXISTING ROCK BASE THAT IS REMOVED IS TO BE INCORPORATED INTO THE PROPOSED LIMEROCK BASE
15. STABILIZE ALL TURNOUTS AND INTERSECTIONS TO A DEPTH OF 12" (MINIMUM L.B.R. 40) AND 12" OUTSIDE EDGE OF PAVEMENT (6" BACK OF CURB).
16. EXTEND LIMEROCK BASE 8" THICK, 6" OUTSIDE EDGES OF PAVEMENT AT ALL CONNECTIONS AND INTERSECTIONS TO ROADS AND STREETS.
17. ALL DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATED MATERIAL, DEMOLITION, VEGETATION, RUBBISH AND DEBRIS SHALL BE MADE OUTSIDE THE LIMITS OF CONSTRUCTION AT A LEGAL DISPOSAL SITE PROVIDED BY THE CONTRACTOR AT HIS/HER OWN EXPENSE, WITH THE PRIOR APPROVAL OF THE ENGINEER. MATERIAL CLEARED FROM THE SITE SHALL NOT BE DEPOSITED ON ADJACENT AND/OR NEARBY PROPERTY.
18. ANY MATERIAL TO BE STOCKPILED FOR PERIODS GREATER THAN 24 HOURS SHALL BE PROTECTED BY APPROPRIATE EROSION CONTROL DEVICES.
19. ALL DRAINAGE CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE SAFETY PRECAUTIONS DURING EXCAVATION AND TRENCHING OPERATIONS AS REQUIRED BY THE "TRENCH SAFETY ACT".
21. ALL LANDSCAPE IS DESIGNATED TO REMAIN UNLESS OTHERWISE NOTED ON PLANS.
22. ALL GRASS AREAS AFFECTED BY CONSTRUCTION SHALL BE RE-SODDED AS DIRECTED BY THE ENGINEER.
23. ALL UNSUITABLE MATERIAL UNDER THE NEW PAVEMENT SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIALS BEFORE PROCEEDING WITH CONSTRUCTION.
24. ALL MUCK AND ORGANIC MATERIALS FOUND WITHIN THE CONSTRUCTION AREA SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL IN 6 INCH LIFTS COMPACTED TO NOT LESS THAN 95% MAXIMUM DENSITY AT OPTIMUM MOISTURE IN ACCORDANCE WITH AASHTO T-99.
25. THE CONTRACTOR SHOULD TAKE SPECIAL NOTE OF THE SOIL CONDITIONS THROUGHOUT THIS PROJECT. ANY SPECIAL SHORING, SHEETING OR OTHER PROCEDURES NECESSARY TO PROTECT ADJACENT PROPERTY, EITHER PUBLIC OR PRIVATE, DURING EXCAVATION OF SUBSOIL MATERIAL AND EXFILTRATION TRENCH OR DURING THE FILING OF ANY AREA, OR FOR ANY OPERATION DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR, THE ONLY EXCEPTION WILL BE THE PROTECTION OF UTILITIES. ALL UTILITIES SHALL BE MAINTAINED BY THE OWNER OF THE UTILITY.
26. ANY EXISTING BUILDING, PAVEMENT OR OTHER EXISTING IMPROVEMENTS NOT SPECIFIED FOR REMOVAL WHICH IS TEMPORARILY DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THIS CONTRACT, SHALL BE REPAIRED, PATCHED OR REPLACED AT NO ADDITIONAL COST TO THE CITY OF KEY WEST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING APPROPRIATE SAFETY PRECAUTIONS DURING EXCAVATION AND TRENCHING OPERATIONS AS REQUIRED BY THE "TRENCH SAFETY ACT".
27. ANY FENCING DAMAGED BY CONTRACTOR AT ANY TIME DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION.
28. EXISTING CHAIN LINK FENCE, CONCRETE WALL AND METAL FENCE WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED UNLESS OTHERWISE INDICATED.
29. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY SHALL BE RESTORED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER. TRAFFIC SIGNS DAMAGED SHALL BE RESTORED IMMEDIATELY BY THE CONTRACTOR.
30. CONTRACTOR SHALL ADJUST ALL EXISTING VALVES BOXES, CATCH BASINS GRATES, MANHOLES COVERS, ETC. TO MEET NEW GRADES WHERE APPLICABLE AND COORDINATE WITH THE UTILITY OWNER PRIOR TO MAKING THE ADJUSTMENT.
31. ALL VALVES, A.R.V.'S, AND MANHOLES TO BE RAISED AND ADJUSTED TO PROPOSED ROADWAY ELEVATION.
32. ALL EXISTING UTILITIES ARE TO REMAIN UNLESS OTHERWISE NOTED.
33. PROPOSED ELEVATIONS SHOWN AT DRAINAGE STRUCTURES REFER TO EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
34. GRADES SHOWN ARE "FINISHED" GRADES.
35. PRIOR TO REMOVAL AND/OR RELOCATION OF EXISTING TREES, IF REQUIRED, THE CONTRACTOR MUST OBTAIN APPROVAL FROM ALL APPLICABLE AGENCIES. OTHERWISE CONTRACTOR SHALL PROTECT EXISTING TREES, AS PER FDOT INDEX 544. WHERE APPLICABLE WITHIN THE LIMITS OF CONSTRUCTION. ANY TREES DAMAGED BY CONTRACTOR AT ANY TIME DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION. (1)
36. WHERE NEW PAVEMENT MEETS EXISTING CONNECTION SHALL BE MADE IN A NEAT STRAIGHT LINE AND FLUSH WITH EXISTING PAVEMENT. SAW CUT AT EXISTING PAVEMENT JOINT MATCHING TO NEW PAVEMENT, IF REQUIRED.
37. WHEN DISSIMILAR MATERIAL CONNECTIONS ARE MADE, SUCH AS CONCRETE TO METAL. THE DISSIMILAR MATERIAL SHALL BE SEPARATED BY COATING THE CONTACT SURFACE WITH BITUMASTIC MATERIAL.
38. PROVIDE A SMOOTH TRANSITION WHERE NEW PAVEMENT, SIDEWALK, OR CURB MEETS EXISTING GRASS AREAS.
39. RADII ON CURB RETURNS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
40. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING EXISTING AND NEW INLETS CLEAN OF MILLING MATERIAL, LIMEROCK, DEBRIS, ETC. DURING THE CONSTRUCTION AT NO ADDITIONAL COST. ALL LINES AND STRUCTURES SHALL BE CLEANED PRIOR TO FINAL INSPECTION AND ACCEPTANCE.
41. EXISTING TREES LOCATED WITHIN THE CONSTRUCTION LIMITS OF EACH SITE ARE TO REMAIN UNLESS NOTED OTHERWISE ON PLAN.
42. NO STAGING OF EQUIPMENT SHOULD OCCUR WITHIN THE DRIPLINE/ROOT ZONE OF TREES. NO STAGING OF EQUIPMENT SHOULD OCCUR ON THE FLORIDA KEYS OVERSEAS HERITAGE TRAIL (1)
43. AS WITH FDOT, DEP MUST BE NOTIFIED 14 DAYS IN ADVANCE OF ANY M.O.T. OPERATIONS AFFECTING TRAIL USERS AND THE TRAIL MUST REMAIN OPEN, PER REROUTING IF NECESSARY, AT ALL TIMES. DEP MUST ALSO BE NOTIFIED 14 DAYS IN ADVANCE OF ANY PRECONSTRUCTION MEETING, SUBSTANTIAL COMPLETION INSPECTION, AND FINAL COMPLETION INSPECTION. PLEASE CALL JIM POST, FKOHT CONSTRUCTION MANAGER, AT 305-853-3571.

UTILITY OWNERS:

A T & T/ DISTRIBUTION	(305) 296-9077
CITY OF MARATHON	(305) 289-5008
COMCAST CABLE	(954) 447-8405
FLORIDA DEPARTMENT OF TRANSPORTATION 6 ITS	(305) 470-5757
FLORIDA KEYS AQUEDUCT AUTHORITY AREA	(305) 295-2154
FLORIDA KEYS AQUEDUCT AUTHORITY WASTEWATER	(305) 295-2154
FLORIDA KEYS ELECTRIC COOPERATIVE ASSOC.	(305) 852-0134
INFRASTRUCTURE CORP OF AMERICA	(305) 619-1608
KEYS ENERGY SERVICES	(305) 295-1055
SPRINT NEXCOM	(800) 372-1125

ADDITIONAL CONTACTS

FKOHT PARK MANAGER	(305) 853-3571

EXISTING LEGEND:

℄	CENTERLINE OF PAVEMENT
Ⓦ	WATER METER
⊖	WATER VALVE COVER
Ⓢ	SANITARY MANHOLE
⊖	SANITARY VALVE COVER
	POWER POLE
	LIGHT POLE
•	3" PVC WITH REFLECTORS
	SIGN
Ⓣ	TELEPHONE UTILITY MANHOLE
MBX	MAILBOX

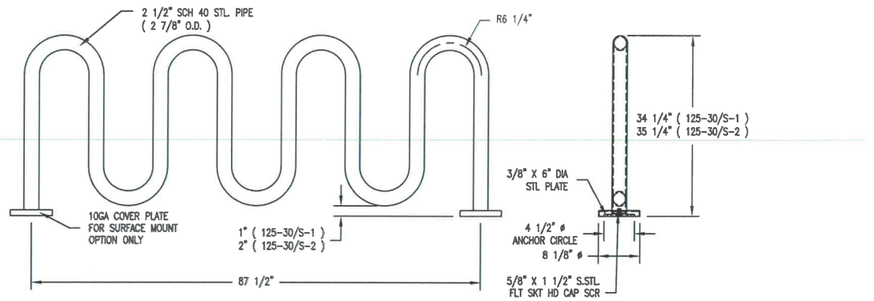
ABBREVIATION LEGEND:

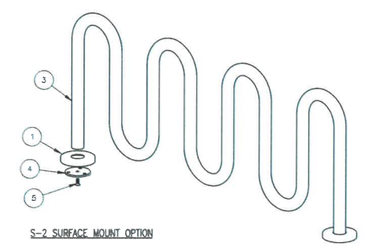
BE	BURIED ELECTRIC
EOP	EDGE OF PAVEMENT
FM	FORCE MAIN
FO	FIBER OPTIC
MEG	MATCH EXISTING GRADE
OUL	OVERHEAD UTILITY LINE
RPM	REFLECTIVE PAVEMENT MARKERS
SP	SUPERPAVE (ASPHALT)
SS	SANITARY SEWER LINE
WM	WATER MAIN

NOTE:
1. SAT THE BEGINING AND END OF FRICTION COURSE CONSTRUCTION FOR ASPHALTIC CONCRETE FRICTION COURSES. THE EXISTING PAVEMENT SHALL BE SAW CUT TO AN APPROXIMATE DEPTH OF 1" TO MAKE A CLEAN BUTT JOINT AND REMOVE ENOUGH MATERIAL FOR A SMOOTH TIE-IN.

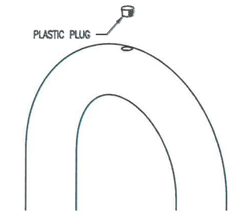
NOTE:

– CONTRACTOR TO NOTIFY ENGINEER IF UNSUITABLE SOIL MATERIAL AND OR ORGANIC MATERIAL IS FOUND WITHIN SITE.





S-2 SURFACE MOUNT OPTION



HOT-DIPPED GALV. BIKE RACK ONLY

INSTALLATION FOR SURFACE MOUNT

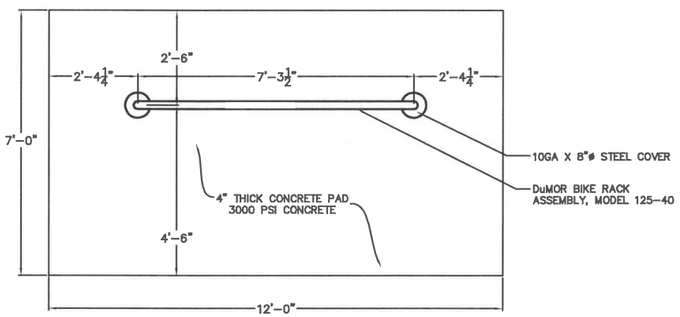
INSTALLATION FOR SURFACE MOUNT

STEP 1:
USE 1 – PC. BIKE LOOP, SURFACE MOUNT (3)
2 – PCS. 3/8" THK SURFACE MOUNT PLATE (4)
2 – PCS. 10 GA X 8" DIA ANCHOR PLATE COVER (1)
2 – PCS. 5/8" X 1 1/2" SS FLT SKT HD CAP SCREW (5)
SLIDE 10 GA X 8" DIA ANCHOR COVER (1) OVER BIKE LOOP, SURFACE MOUNT (3) LEGS. ATTACH 3/8" THK. SURFACE MOUNT PLATE (4) TO BIKE LOOP, SURFACE MOUNT (3) USING HARDWARE (5).

STEP 2:
ANCHOR ACCORDINGLY.

INSTALLATION FOR PLASTIC PLUG HOT-DIPPED GALV ONLY	ITEM	QTY	PART NO	DESCRIPTION
(S-2 OPTION)	1	2	0-125-04	10 GA X 8" DIA STL COVER W/ 3 1/8" DIA HOLE
(S-1 OPTION)	2	2	0-125-09/S-1	EMBEDMENT EXTENSION
	3	1	0-125-40/S-2	4-PEAK LOOP BIKE RACK FOR SURF MT
INSERT PLASTIC PLUG INTO HOLE ON TOP OF EACH LOOP				
(S-2 OPTION)	5	2	1-12-102	5/8" X 1 1/2" SS FLT SKT HD CAP SCR

DUMOR INC. BIKE RACK ASSEMBLY 125-40



BIKE RACK CONCRETE PAD DETAIL
(SEE PAVING AND GRADING PLAN FOR LOCATIONS)
N.T.S.

STATE OF FLORIDA
DENNIS GONZALEZ
LICENSE
No. 78613
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.M.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

GENERAL NOTES AND DETAILS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-2
SHEET: C-2

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TABULATION OF QUANTITIES

BID ITEM No.	DESCRIPTION	UNIT	SHEET NUMBER															
			C-5		C-7		C-9		C-11		C-13		C-15		C-17		C-19	
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	–		–		–		–		–		–		–		8	
711-11-121	THERMOPLASTIC, WHITE, SOLID, 6"	L.F.	243		110		180		282		354		292		257		351	
711-11-131	STANDARD, WHITE, SKIP, 6", 10-30	L.F.	–		–		–		–		–		–		–		300	
711-11-51	THERMOPLASTIC, WHITE DOTTED/GUIDELINE 6"	L.F.	115				50		160		160		160		40		140	
711-11-160	THERMOPLASTIC, WHITE, MESSAGE	EA	2		2		2		2		2		2		2		3	
711-11-170	THERMOPLASTIC, WHITE, ARROWS	EA	–		–		–		–		–		–		–		1	

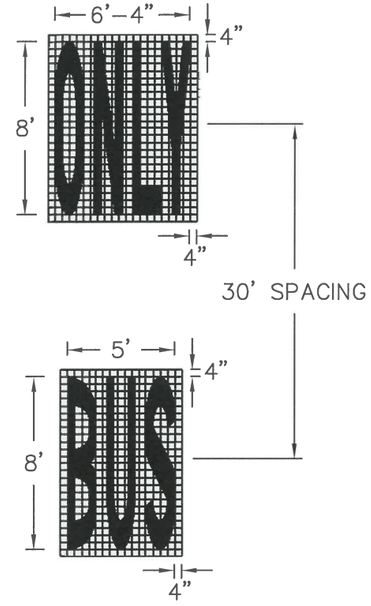
TABULATION OF QUANTITIES CONTINUED

BID ITEM No.	DESCRIPTION	UNIT	C-21		C-23		C-25		C-27		C-29		C-31		C-33		C-35		TOTAL PROJECT QUANTITIES	
			PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
706-3	RETRO-REFLECTIVE PAVEMENT MARKERS	EA	–		–		–		–		–		–		–		–		8	
711-11-121	THERMOPLASTIC, WHITE, SOLID, 6"	L.F.	282		260		282		200		243		262		287		243		4128	
711-11-131	STANDARD, WHITE, SKIP, 6", 10-30	L.F.	–		–		–		–		–		–		–		–		300	
711-11-51	THERMOPLASTIC, WHITE DOTTED/GUIDELINE 6"	L.F.	160		140		160		97		160		160		160		120		1982	
711-11-160	THERMOPLASTIC, WHITE, MESSAGE	EA	2		2		2		2		2		2		2		2		35	
711-11-170	THERMOPLASTIC, WHITE, ARROWS	EA	–		–		–		–		–		–		–		–		1	

2

SIGNAGE AND PAVEMENT MARKING NOTES:

1. ALL SIGNING AND PAVEMENT MARKINGS INSTALLED AS PART OF THESE PLANS SHALL CONFORM TO THE 2009 EDITION OF THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL OF UNIFORM CONTROL DEVICES FOR STREET AND HIGHWAYS AND FLORIDA DEPARTMENT OF TRANSPORTATION ROADWAY AND TRAFFIC DESIGN STANDARDS (2013). ALL SIGNS PANELS SHALL BE FABRICATED TO COMPLY WITH THE MOST RECENT EDITION OF THE FEDERAL HIGHWAY AND ADMINISTRATION STANDARD HIGHWAY SIGNS.
2. CAUTION SHOULD BE EXCERCISED WHILE RELOCATING EXISTING SIGNS TO PREVENT UNNECESSARY DAMAGE. IF SIGNS ARE DAMAGED BEYOND USE, AS DETERMINED BY THE ENGINEER, THEY WILL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
3. MATCH EXISTING PAVEMENT MARKINGS AT THE BEGINNING AND THE END OF THE PROJECT AND AT ALL SIDE STREETS WITHOUT JOGS AND OFFSETS.
4. INCORRECTLY PLACED THERMOPLASTIC MARKINGS OVER FRICTION COURSE WILL BE REMOVED BY MILLING AND REPLACING THE FRICTION COURSE A MINIMUM WIDTH OF 18 INCHES AT THE CONTRACTOR'S EXPENSE. AN ALTERNATIVE METHOD MAY BE APPROVED BY THE ENGINEER IF IT CAN BE DEMOSTRATED TO COMPLETELY REMOVE THE MARKINGS WITHOUT DAMAGING THE ASPHALT.
5. SIGN ASSEMBLY LOCATIONS SHOWN ON PLANS WHICH ARE IN CONFLICT WITH LIGHTING, UTILITIES, DRIVEWAYS, WHEELCHAIR RAMPS ETC. MAY BE ADJUSTED SLIGHTLY AS DIRECTED BY THE ENGINEER. EXTREME LOCATION CHANGES MUST BE APPROVED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION.
6. REMOVAL OF EXISTING THERMOPLASTIC PAVEMENT MARKINGS IS A CONTINGENT QUANTITY TO BE USED TO TIE-IN NEW AND EXISTING MARKINGS AS DIRECTED BY THE ENGINEER.
7. CONTRACTOR'S SPECIAL ATTENTION IS ADVISED WITH REGARD TO PAVEMENT ARROW AND MESSAGE DETAIL MEASUREMENTS.
8. PERMANENT RPM'S AS REQUIRED FOR MAINLINE EDGE, CENTER AND EDGE LINES WILL BE PLACED WITHIN 72 HOURS OF COMPLETION OF THE FRICTION COURSE AT NO ADDITIONAL COST. OTHER LOCATIONS FOR RPM PLACEMENT MAY BE DESIGNATED BY THE ENGINEER.
9. THE CONTRACTOR SHALL SUBMIT A LIST OF THE EXISTING SIGNS TO THE PROJECT ENGINEER AT THE PRECONSTRUCTION CONFERENCE. ANY SIGNS LOST OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT NO ADDITIONAL COST.
10. THE CONTRACTOR SHALL RELOCATE ALL EXISTING POST MOUNTED STREET NAME AND STOP SIGNS TO A VISIBLE AREA UNDISTURBED BY THE CONSTRUCTION SO AS TO MINIMIZE DAMAGE TO THE SIGNS DURING CONSTRUCTION. THE STREET NAME SHALL BE REATTACHED TO THE TOP OF THE NEW STOP SIGNS ON MINOR SIDE STREETS AT THE END OF CONSTRUCTION. THE NEW STOP SIGNS SHOULD HAVE ADEQUATE LENGTH TO ACCOMMODATE THE EXISTING STREET NAMES AT THE TOP.
11. EXTRUDED ALUMINUM SIGN SUPPORT CLAMPS ARE NOT ACCEPTABLE. ALL RELOCATED SIGNS MUST COMPLY WITH THE STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND ROADWAY DESIGN AND TRAFFIC STANDARDS AS WELL AS IF THEY WERE NEW SIGNS.
12. THE CONTRACTOR AND HIS SUBCONTRACTOR ARE ADVISED TO REVIEW NOTES ON ALL COMPONENT SET OF PLANS.
13. ALL PAVEMENT MARKING SHALL BE THERMOPLASTIC
14. ALL SIGNS ARE TO BE INSTALLED PER FDOT STANDARD INDEX 11860.



PAVEMENT MARKING DETAILS

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/12/2016

REV.	DATE	BY:	DESCRIPTION
2	6/29/16		FDEP Comments – Sites Removed
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: I.S.
DRAWN BY: I.S.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
CONSULTING ENGINEERS
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Miami, Florida 33155-6453
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W.W.W..SRS-CORP.COM
EB-0007317

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

PAVEMENT MARKING NOTES AND DETAILS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-3
SHEET: C-3

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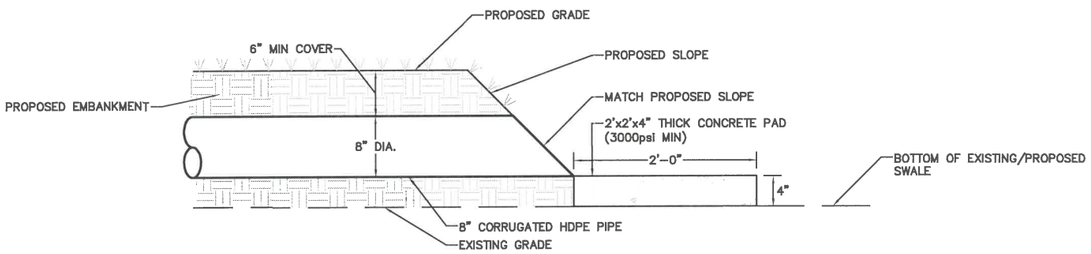


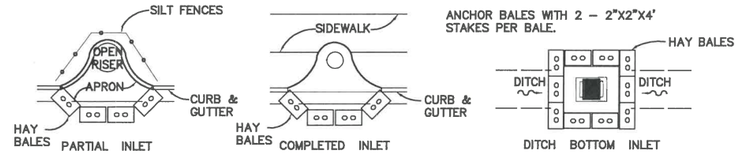
CROSS DRAIN OUTLET DETAIL

N.T.S.

1

POLLUTION PREVENTION NOTES:

1. TEMPORARY EROSION AND TURBIDITY CONTROL SHALL BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION, AND PERMANENT CONTROL MEASURES, IF REQUIRED, SHALL BE COMPLETED WITHIN 7 DAYS OF ANY CONSTRUCTION ACTIVITY.
2. TURBIDITY BARRIERS AND/OR BALED HAY OR STRAW BARRIERS AND SILT FENCES SHALL BE INSTALLED AND MANTAINED AT ALL LOCATIONS AS INDICATED ON PLANS. TURBIDITY BARRIERS AND/OR BALED HAY OR STRAW BARRIERS AND SILT FENCES SHALL REMAIN IN PLACE IN ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND SOILS ARE, STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
3. HAY BALES SHALL BE TRENCHED 3" TO 4" AND ANCHORED WITH 2 – 1" X 2" (OR 1" DIAM.) X 4" WOOD STAKES. STAKES OF OTHER MATERIAL OR SHAPE PROVIDING EQUIVALANT STRENGTH MAY BE USED IF APPROVED BY THE ENGINEER.
4. ADJACENT BALES SHALL BE BUTTED FIRMLY TOGETHER. UNAVOIDABLE GAPS SHALL BE PLUGGED WITH HAY OR STRAW TO PREVENT SILT FROM PASSING.
5. SILT FENCES SHALL BE INSTALLED AS INDICATED ON PLANS.
6. HAY BALES & FILTER FABRIC SHALL BE INSTALLED AT ALL NEW INLETS DURING CONSTRUCTION.
7. HAY BALES & FILTER FABRIC SHALL BE INSTALLED AT EXISTING INLETS LOCATED IN SWALE AREA
8. SILT FENCES SHALL BE PROVIDED ON EXIST INLETS LOCATED IN C&G, OR VALLEY GUTTER
9. FOR ADDITIONAL STRENGTH FILTER FABRIC MATERIAL CAN BE ATTACHED TO A 6" (MAX.) MESH WIRE SCREEN WHICH HAS BEEN FASTENED TO THE POSTS.
10. THE FABRIC MATERIAL AND THE WIRE MESH SHALL NOT EXTEND MORE THAN 36" (90 CM) ABOVE THE ORIGINAL GROUND SURFACE.
11. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND REMOVE SEDIMENT WHEN NECESSARY.
12. REMOVE SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF–SITE AND CAN BE PERMANENTLY STABILIZED
13. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY



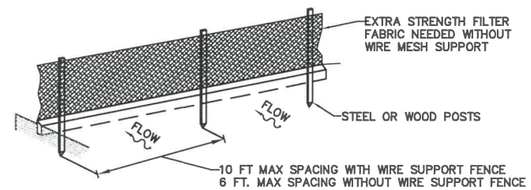
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

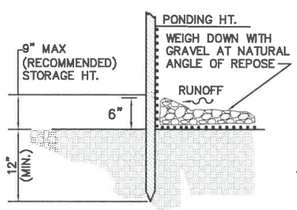
N.T.S.

LEGEND:

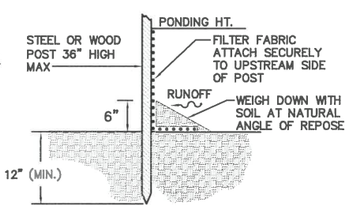
HAY BALES (TEMP. EROSION CONTROL).

SILT FENCE, FDOT TYPE III (TEMP. EROSION CONTROL).

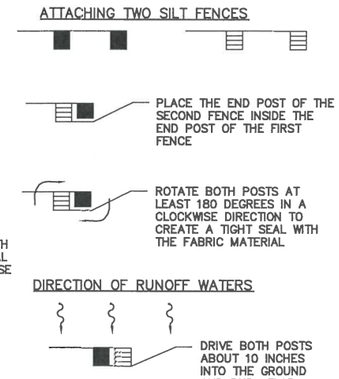




ALTERNATE DETAIL
TRENCH WITH GRAVEL



STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL



TEMPORARY EROSION AND TURBIDITY CONTROL DETAILS

N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING,INC.
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5001 Southwest 74 Court, Suite 201
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

DRAINAGE DETAILS AND POLLUTION PREVENTION NOTES AND DETAILS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C–4
SHEET: C-4

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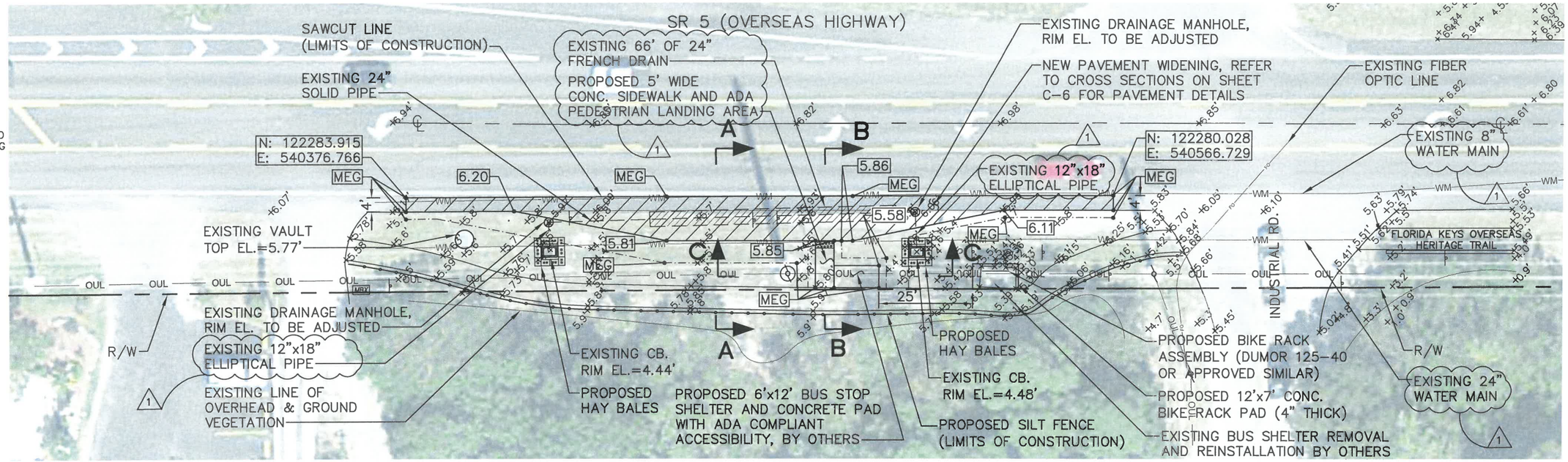
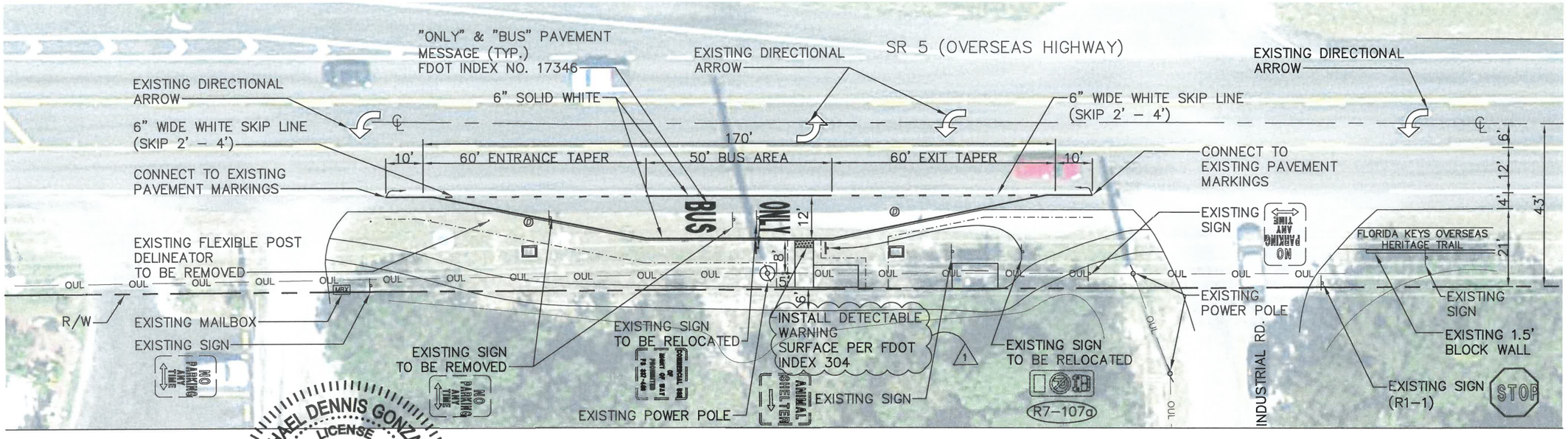
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PAVING AND GRADING PLAN

PLAN:
SCALE: 1"=30'



PAVEMENT MARKING AND SIGNAGE PLAN

PLAN:
SCALE: 1"=30'

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
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CITY OF KEY WEST

LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#14 BIG PINE KEY - INDUSTRIAL RD. (NB #31)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-5
SHEET: C-5

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SECTION NOTES:

(A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

(B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

(C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

(D) EXISTING BASE COURSE

(E) EXISTING STABILIZED SUBGRADE

(F) EXISTING ASPHALT PAVEMENT TO REMAIN

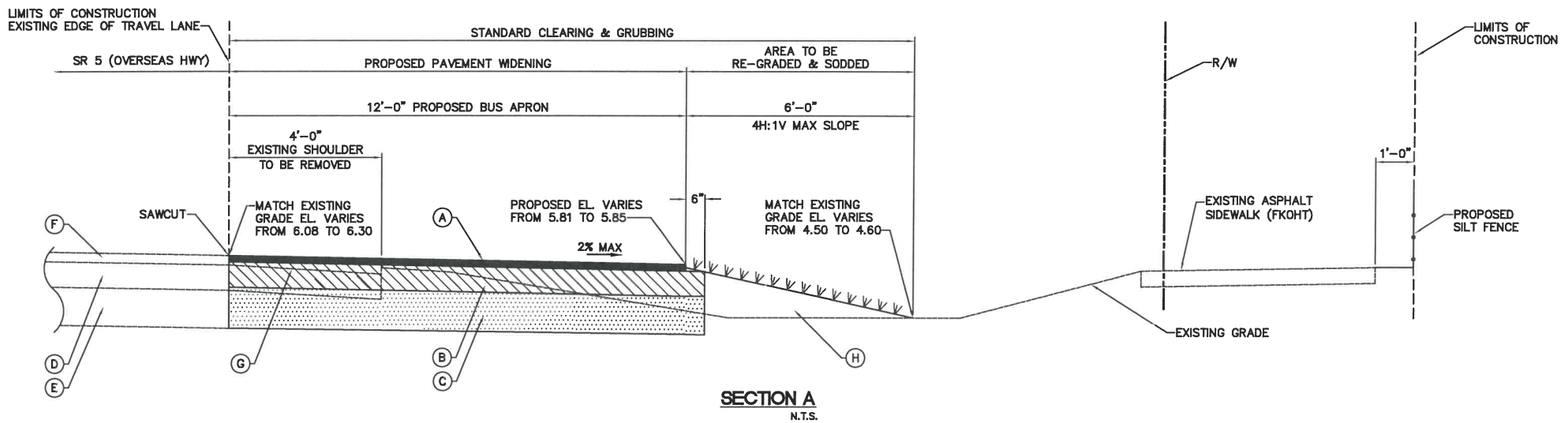
(G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

(H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

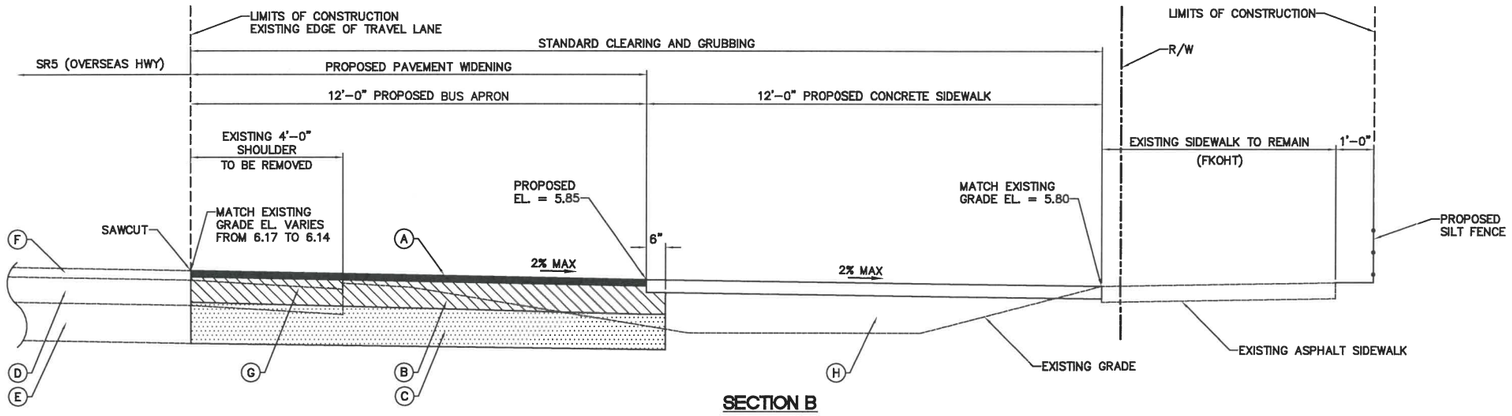
(J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

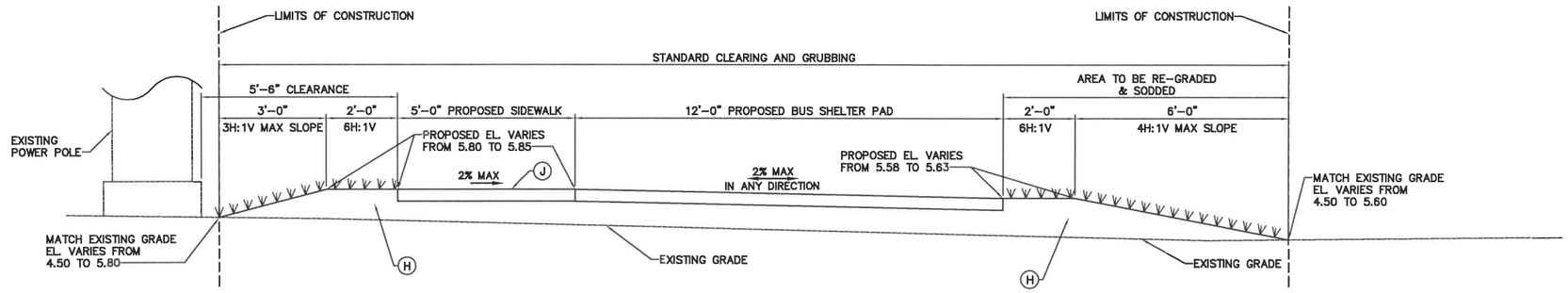
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
CONSULTING ENGINEERS
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W..SRS-CORP.COM
EB-00007317

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#14 BIG PINE KEY - INDUSTRIAL RD. (NB #31)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-6
SHEET: C-6

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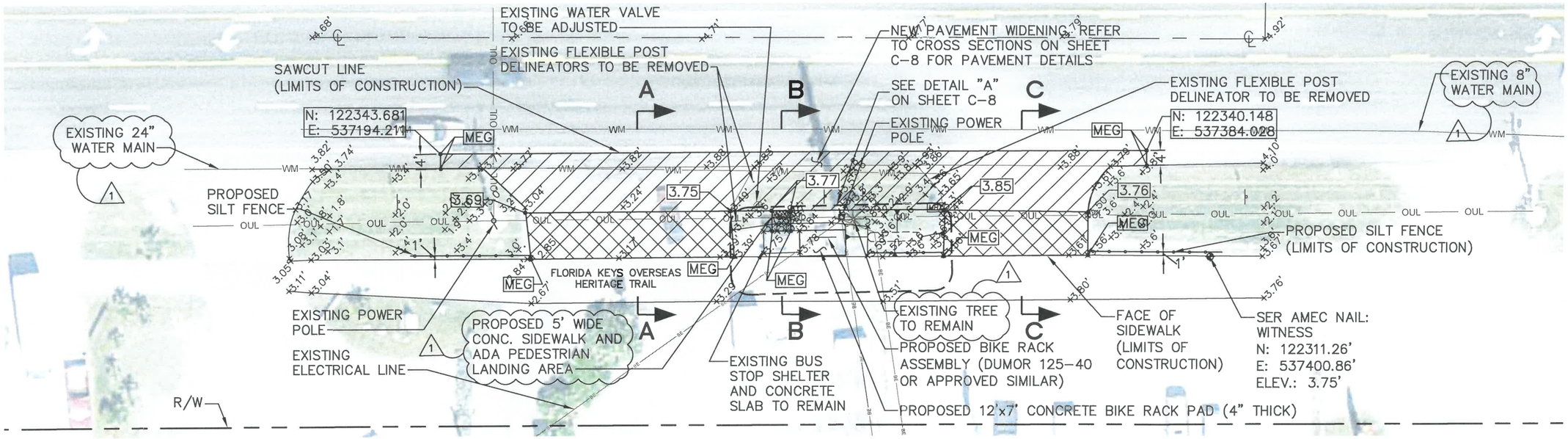
LEGEND:

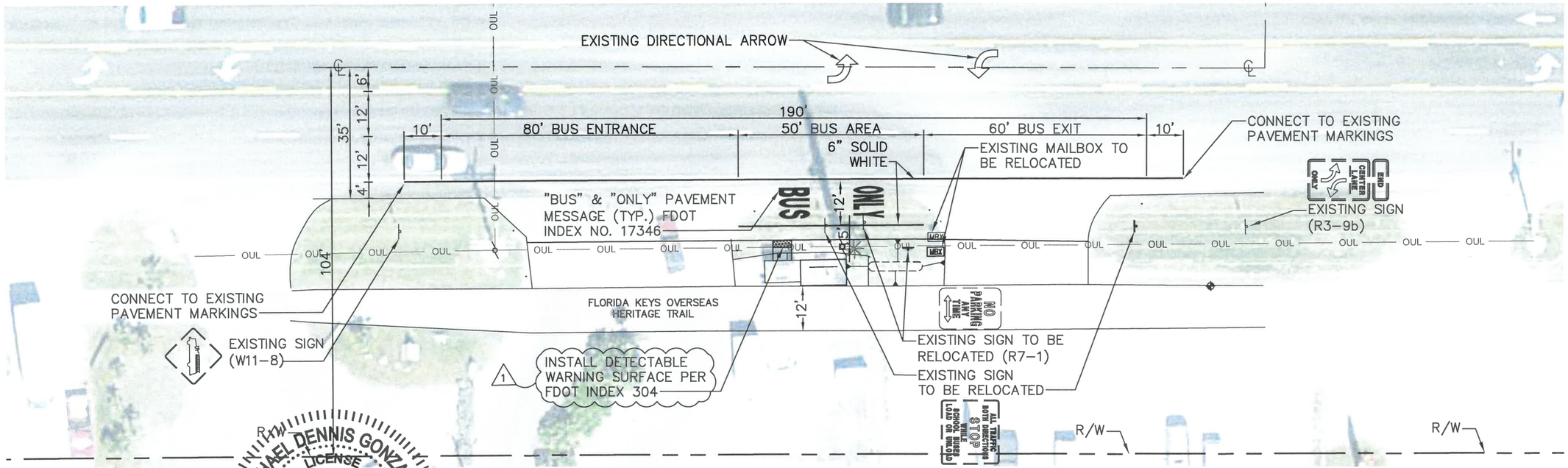
DENOTES PROPOSED PAVEMENT WIDENING

PROPOSED PAVED TURNOUT



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.D.G.
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

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5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#13 BIG PINE KEY - NAPA (NB #30)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-7
SHEET: C-7

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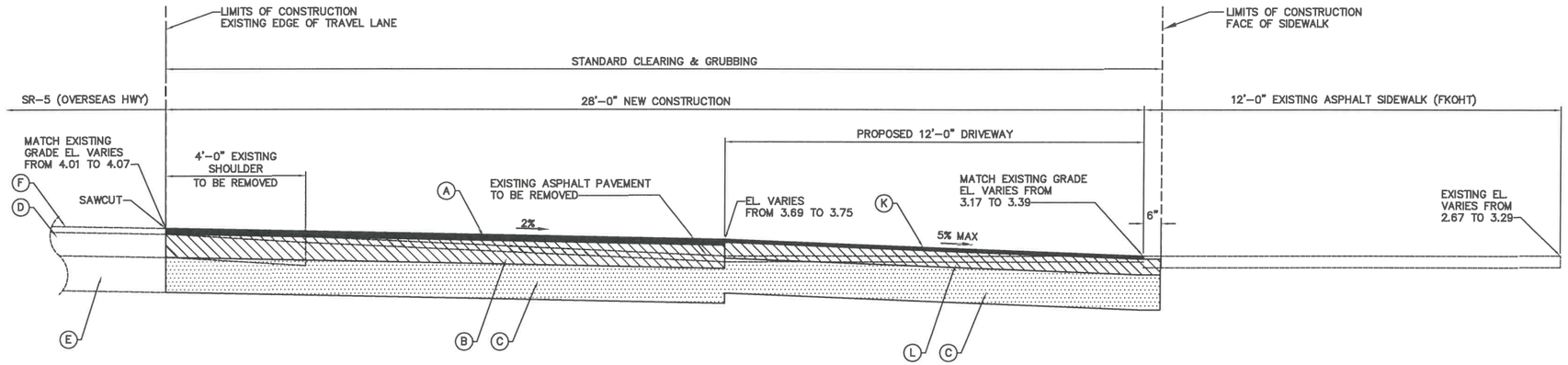
SECTION NOTES:

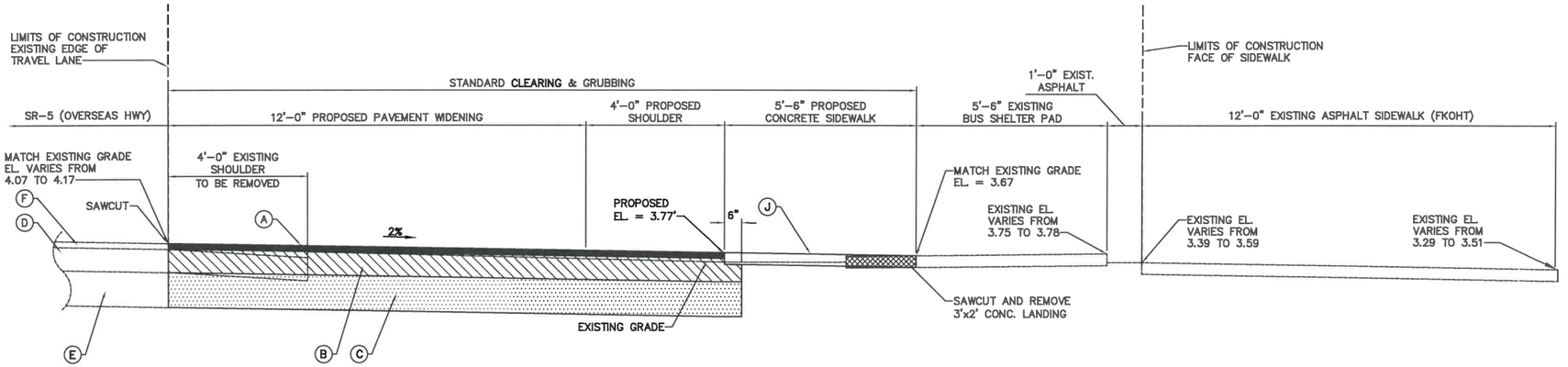
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED ASPHALTIC CONCRETE SURFACE, 1-1/2" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C)
- (L) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 3 (THICKNESS = 5½") COMPACTED TO 98% OF THE AASHTO T-180

GENERAL NOTES:

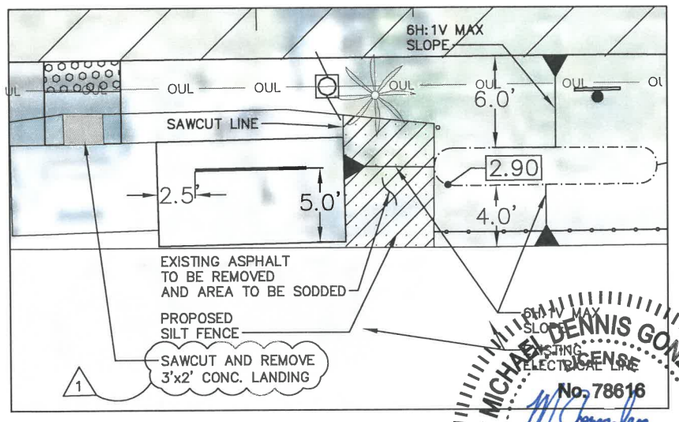
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



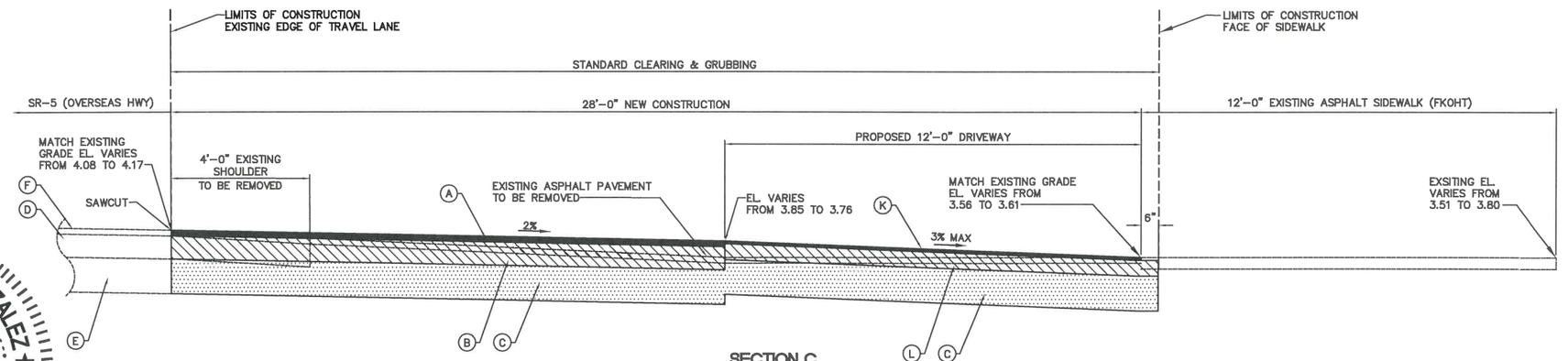
SECTION A
N.T.S.



SECTION B
N.T.S.



DETAIL "A"



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
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W.W.W.-SRS-CORP.COM
EB-00007317

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

SEAL OF THE CITY OF KEY WEST, FLORIDA

#13 BIG PINE KEY - NAPA (NB #30)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-8
SHEET: C-8

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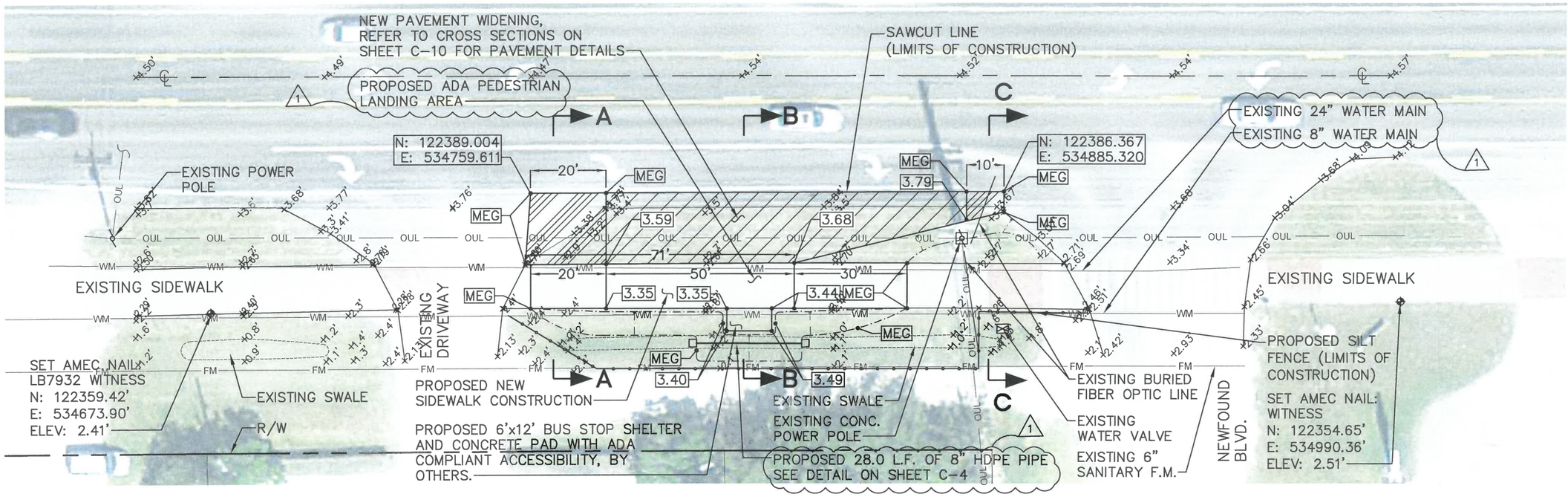
LEGEND:

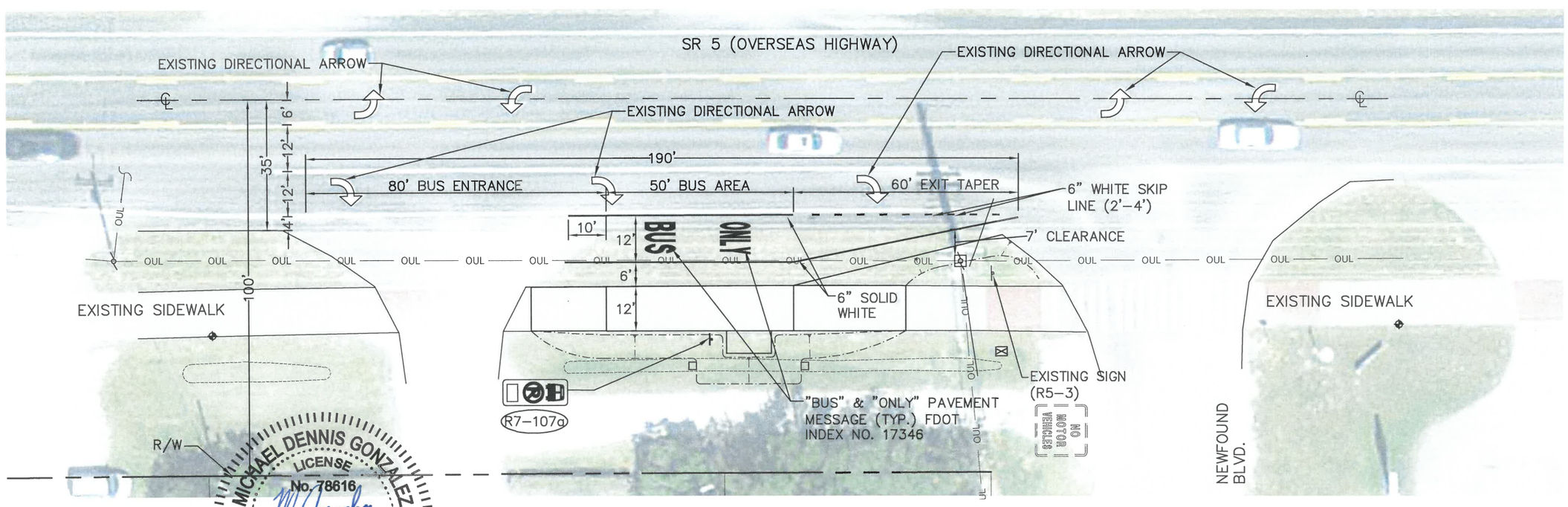
DENOTES PROPOSED PAVEMENT WIDENING

DENOTES ASPHALT SLOPE TRANSITION AREA



PAVING AND GRADING PLAN

PLAN:
SCALE: 1"=30'



PAVEMENT MARKING AND SIGNAGE PLAN

PLAN:
SCALE: 1"=30'

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: L.F.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
CONSULTING ENGINEERS EB-0000731
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

SEAL OF THE CITY OF KEY WEST, FLORIDA

#11 BIG PINE KEY - LOBSTERTAIL RD. (NB #29)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-9
SHEET: C-9

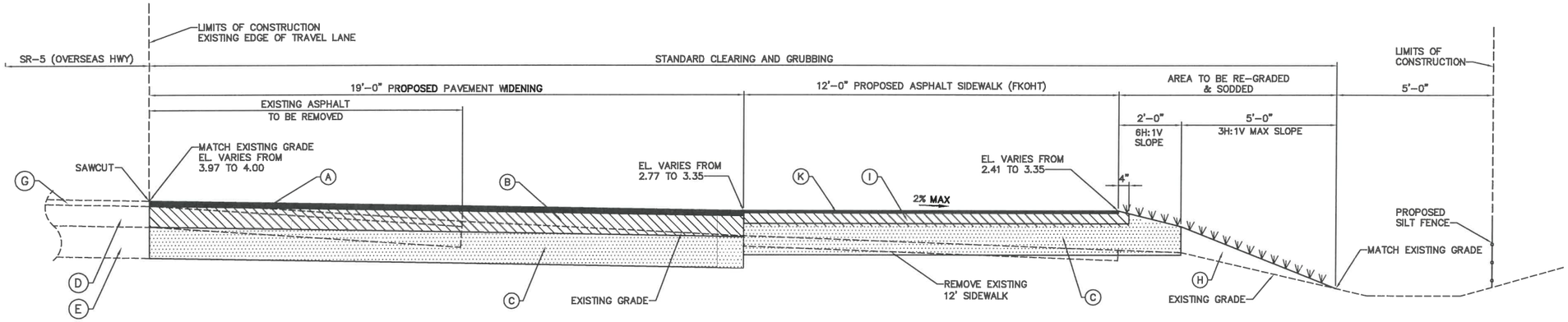
THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. RE-USE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH SRS ENGINEERING, INC. WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THE RESTRICTIONS.

SECTION NOTES:

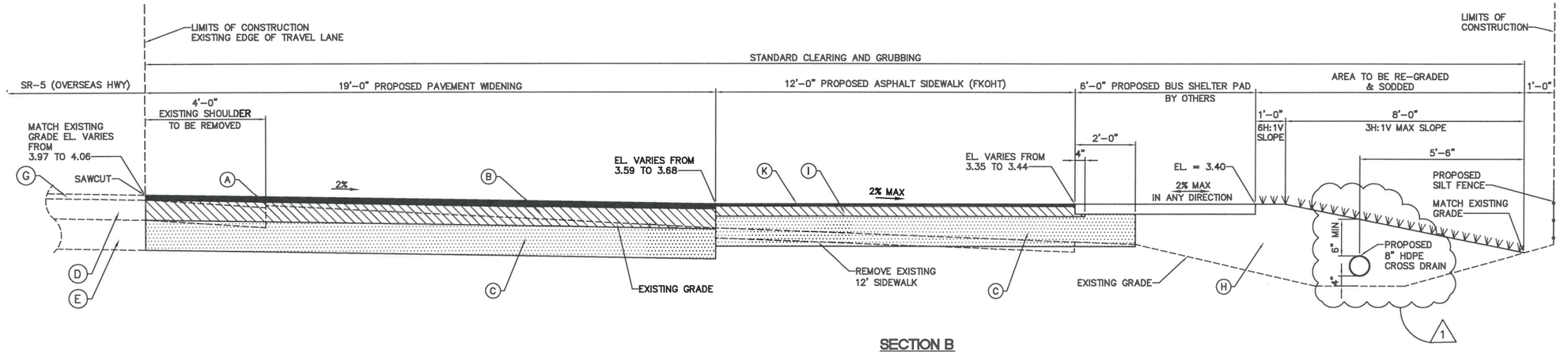
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP–12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC–9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T–180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T–180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T–99 METHOD C TEST
- (I) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 1 (THICKNESS =4") COMPACTED TO 95% OF THE AASHTO T–180
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED TYPE SP–9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP–12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC–9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. PAVEMENT DESIGN FOR ASPHALT SIDEWALK: CONSTRUCT OPTIONAL BASE GROUP 1 WITH TYPE SP–9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
3. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
4. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
5. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
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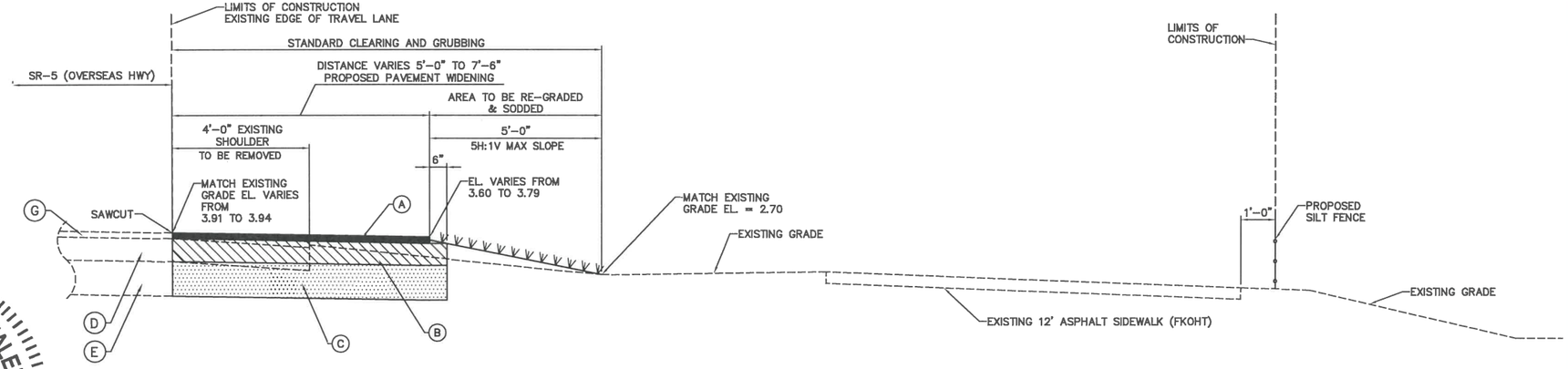

SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#11 BIG PINE KEY - LOBSTERTAIL RD. (NB #29)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C–10
SHEET: C–10

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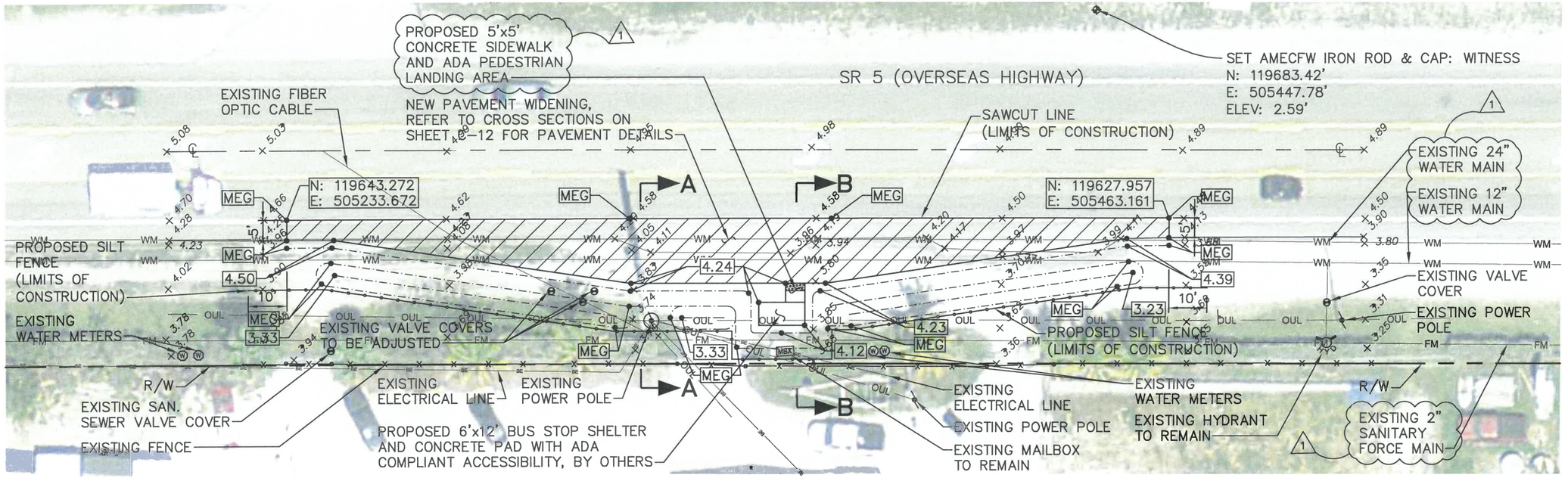
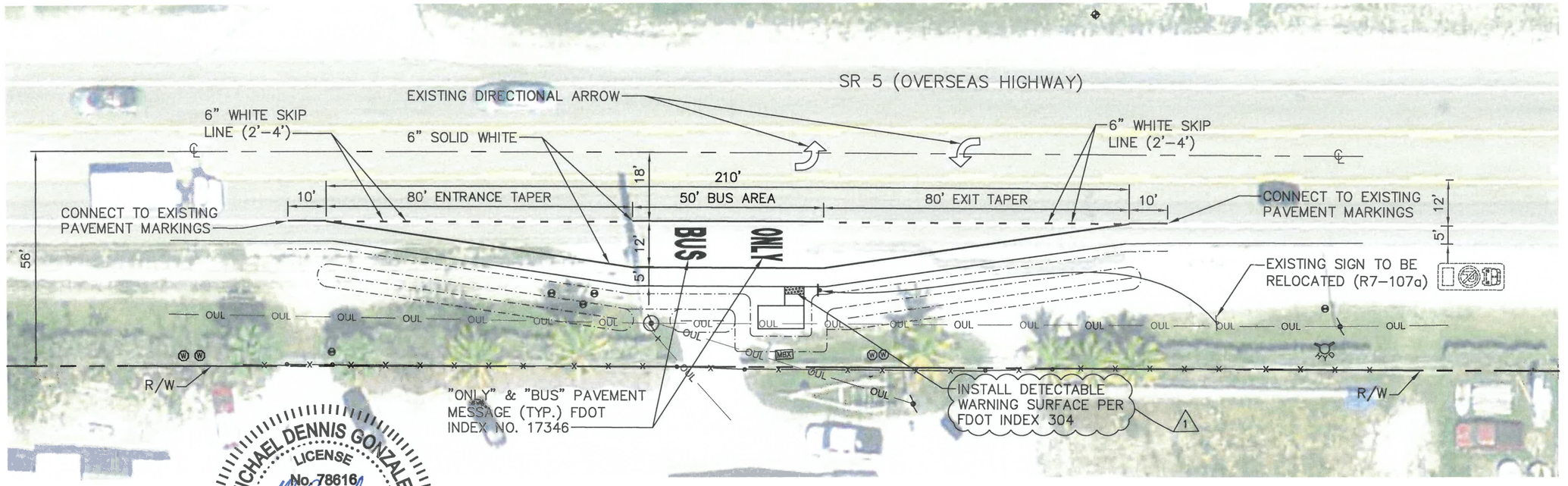
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#9 SUMMERLAND KEY - MOTE MARINE LAB (NB #23)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-11
SHEET: C-11

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SECTION NOTES:

(A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

(B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

(C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

(D) EXISTING BASE COURSE

(E) EXISTING STABILIZED SUBGRADE

(F) EXISTING ASPHALT PAVEMENT TO REMAIN

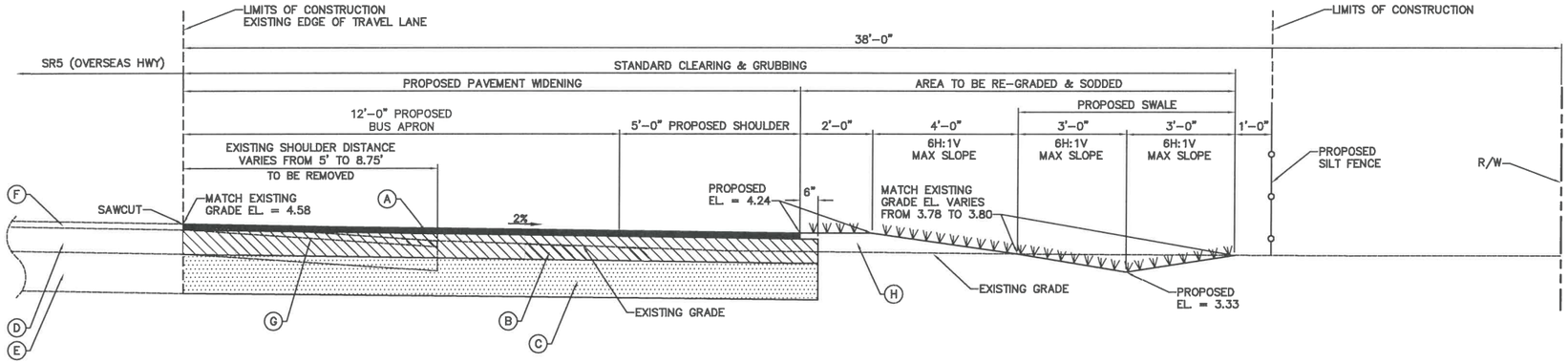
(G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

(H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

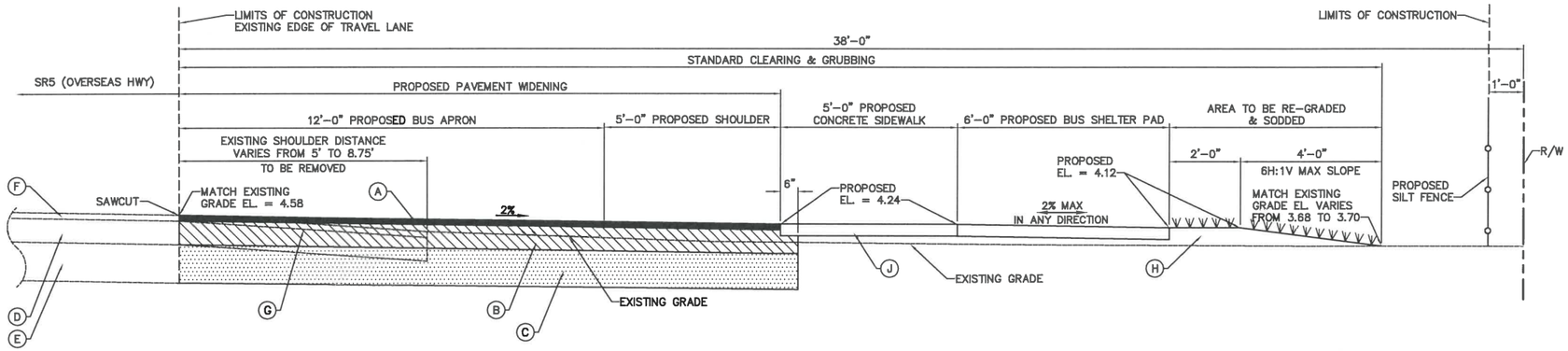
(J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/12/2018

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#9 SUMMERLAND KEY - MOTE MARINE LAB (NB #23)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-12
SHEET: C-12

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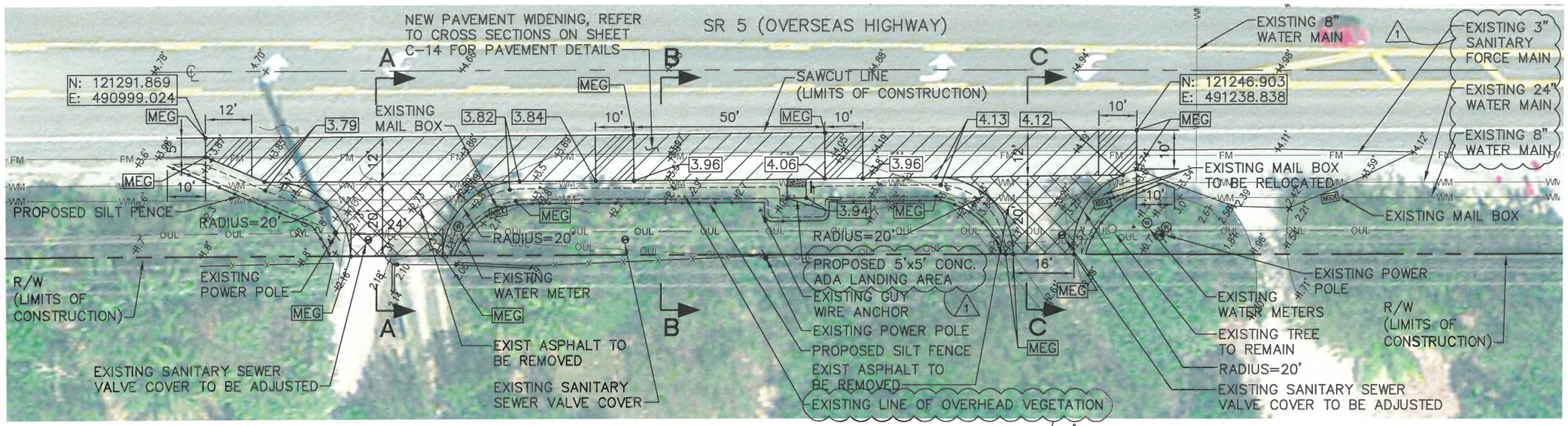
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING

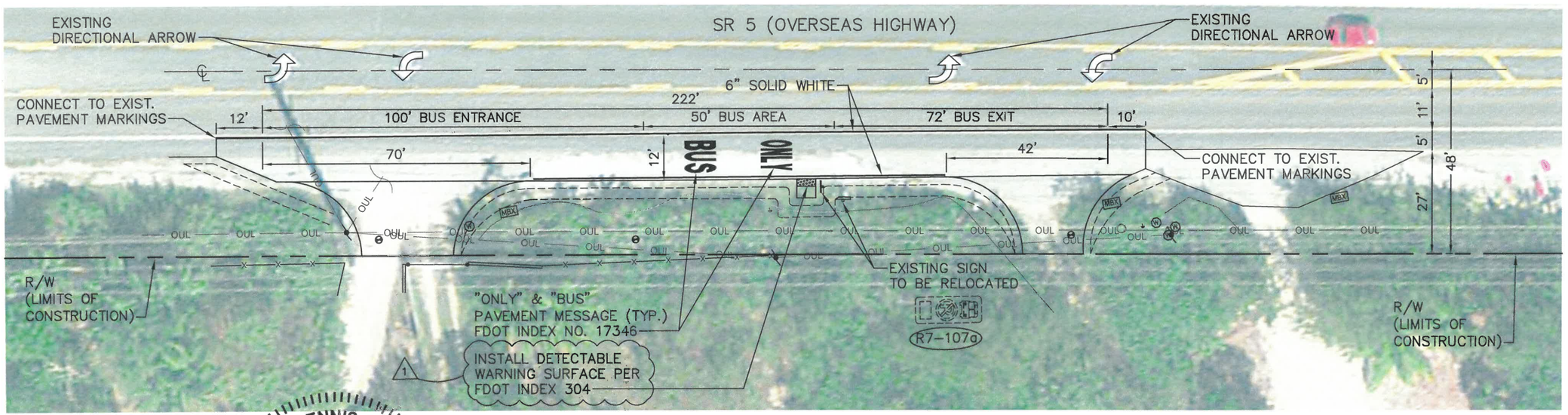
DENOTES ASPHALT SLOPE TRANSITION AREA

PROPOSED PAVED TURNOUT



PAVING AND GRADING PLAN

PLAN:
SCALE: 1"=30'



PAVEMENT MARKING AND SIGNAGE PLAN

PLAN:
SCALE: 1"=30'

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST

LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#8 CUDJOE KEY - OPP. COCO'S CANTINA (NB #21)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-13
SHEET: C-13

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SECTION NOTES:

(A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

(B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

(C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

(D) EXISTING BASE COURSE

(E) EXISTING STABILIZED SUBGRADE

(F) EXISTING ASPHALT PAVEMENT TO REMAIN

(G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

(H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

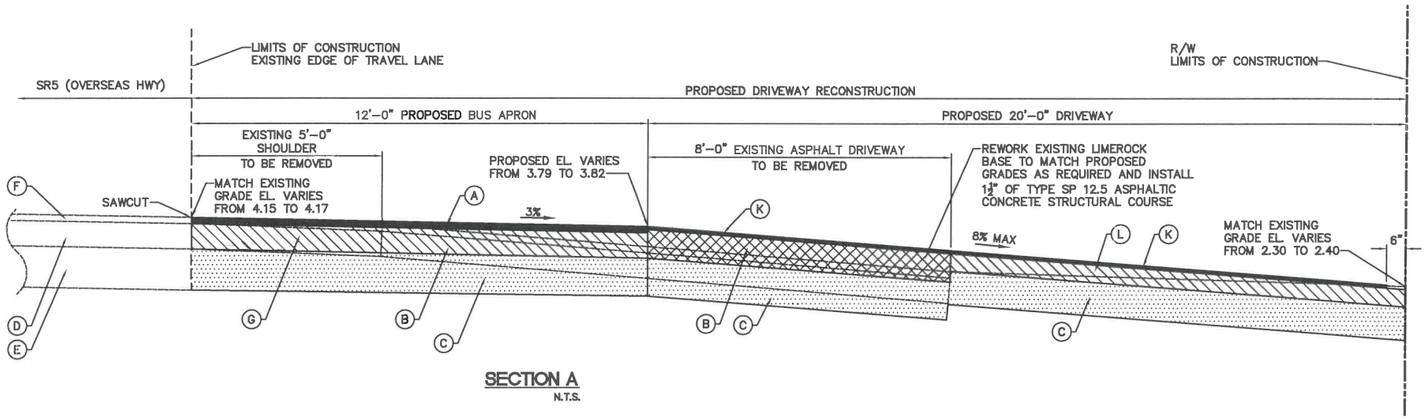
(J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

(K) PROPOSED ASPHALTIC CONCRETE SURFACE, 1-1/2" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C)

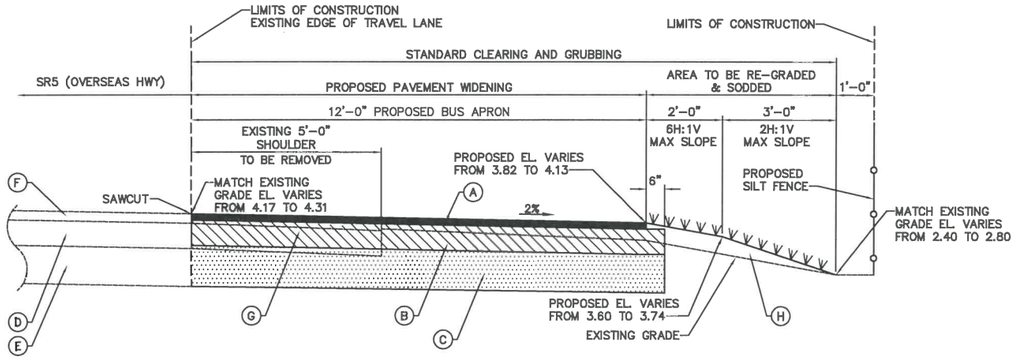
(L) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 3 (THICKNESS = 5½") COMPACTED TO 98% OF THE AASHTO T-180

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
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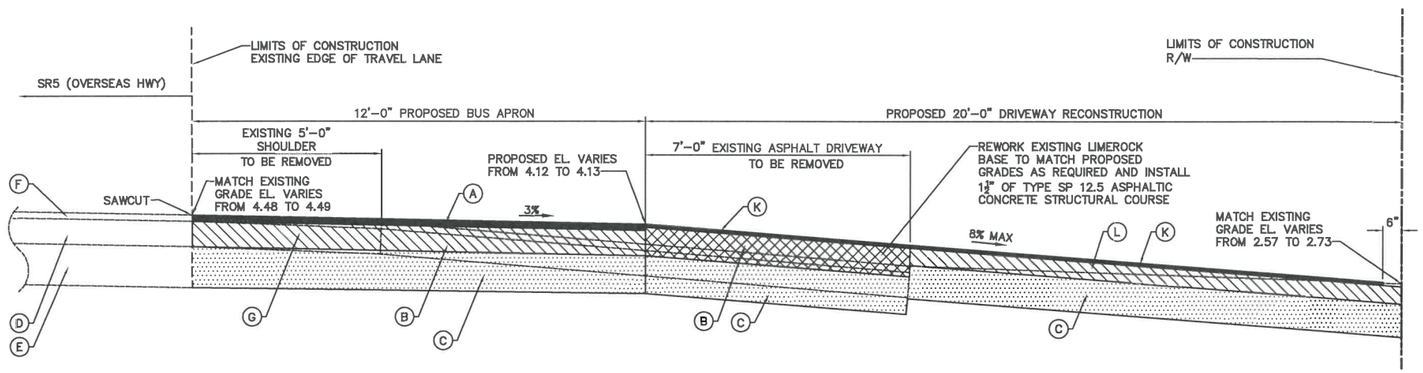

SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.R.
CHECKED BY: I.S.
DATE: 6/29/2016

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Miami, Florida 33155-4453
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EB-0000731

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#8 CUDJOE KEY - OPP. COCO'S CANTINA (NB #21)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-14
SHEET: C-14

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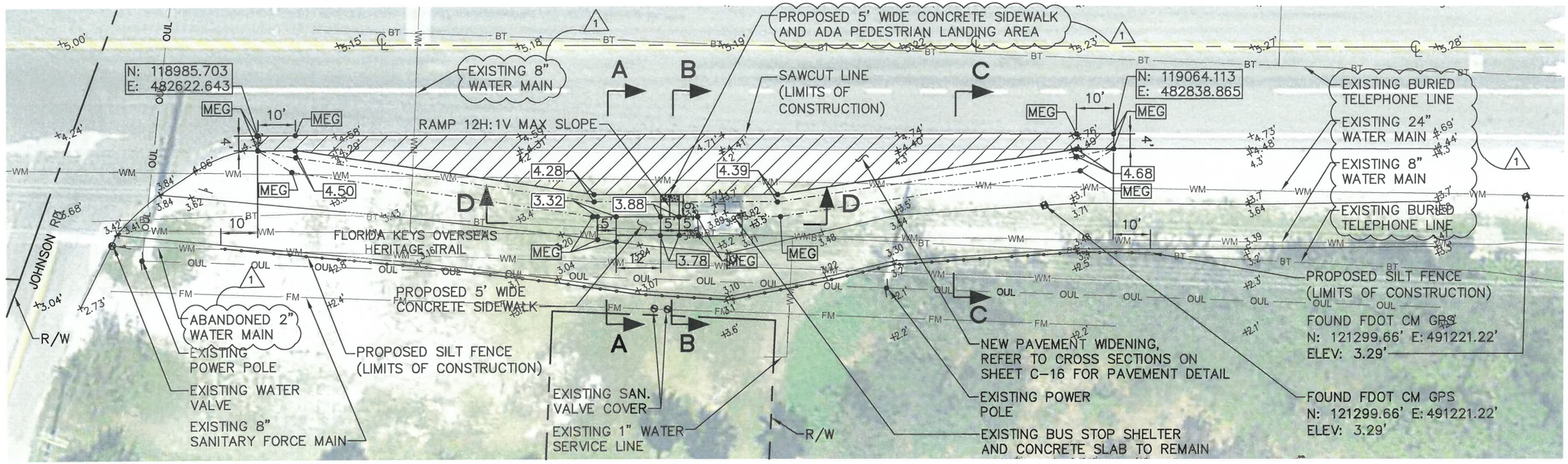
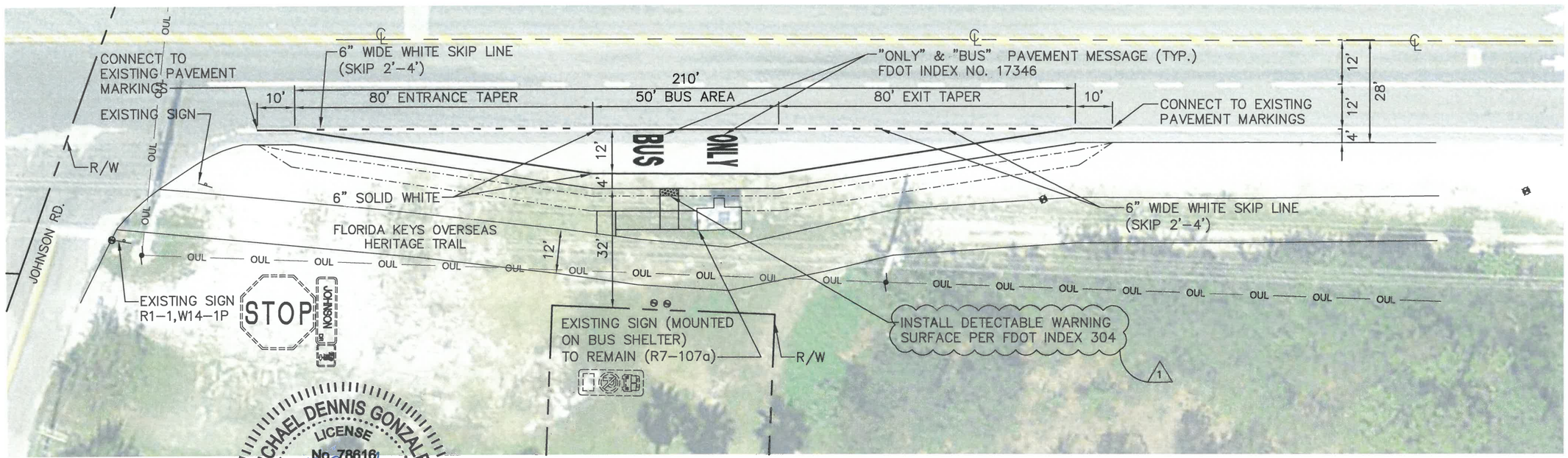
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#5 SUGARLOAF KEY - OPP. MANGROVE MAMAS (NB #19)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-15
SHEET: C-15

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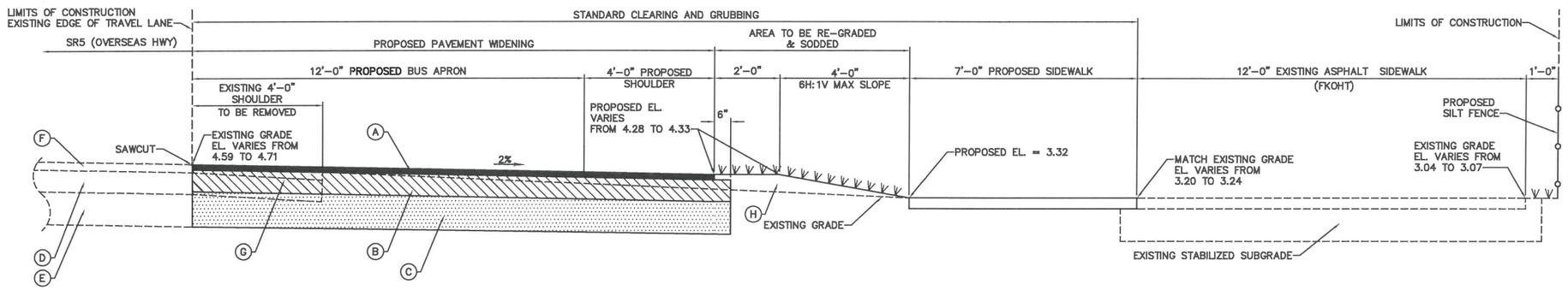
SECTION NOTES:

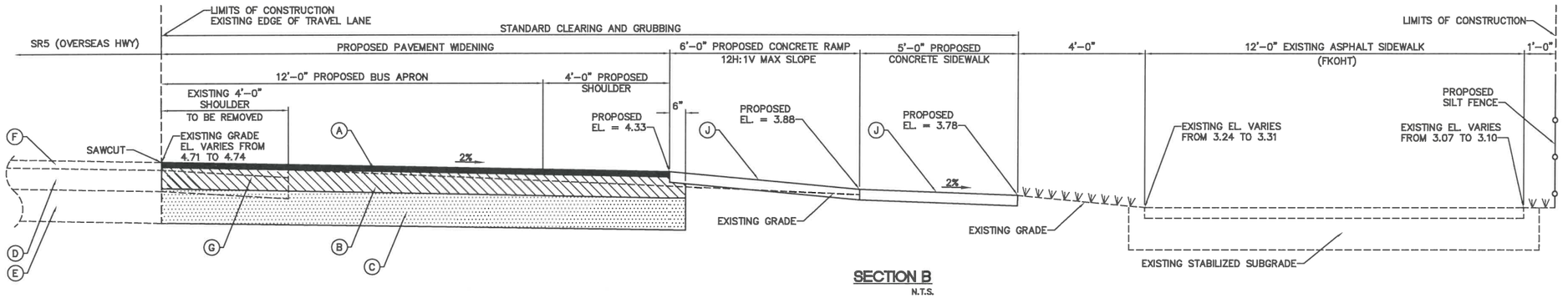
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

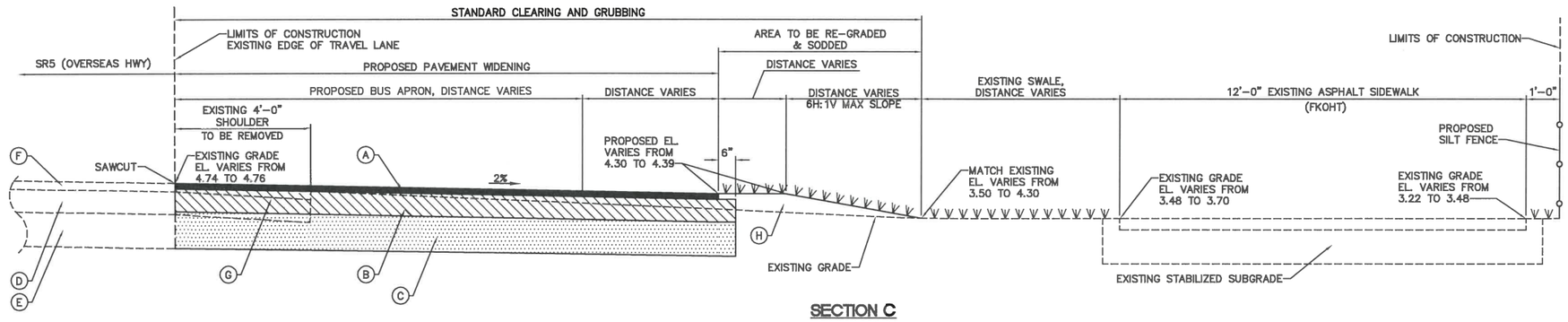
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



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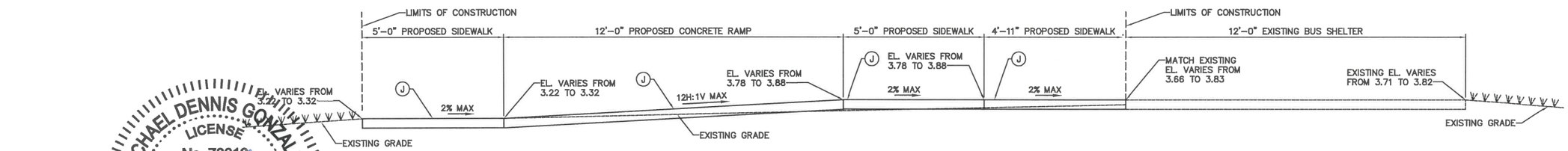

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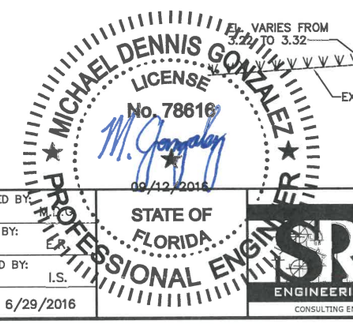

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

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W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#5 SUGARLOAF KEY - OPP. MANGROVE MAMA'S (NB #19)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-16
SHEET: C-16

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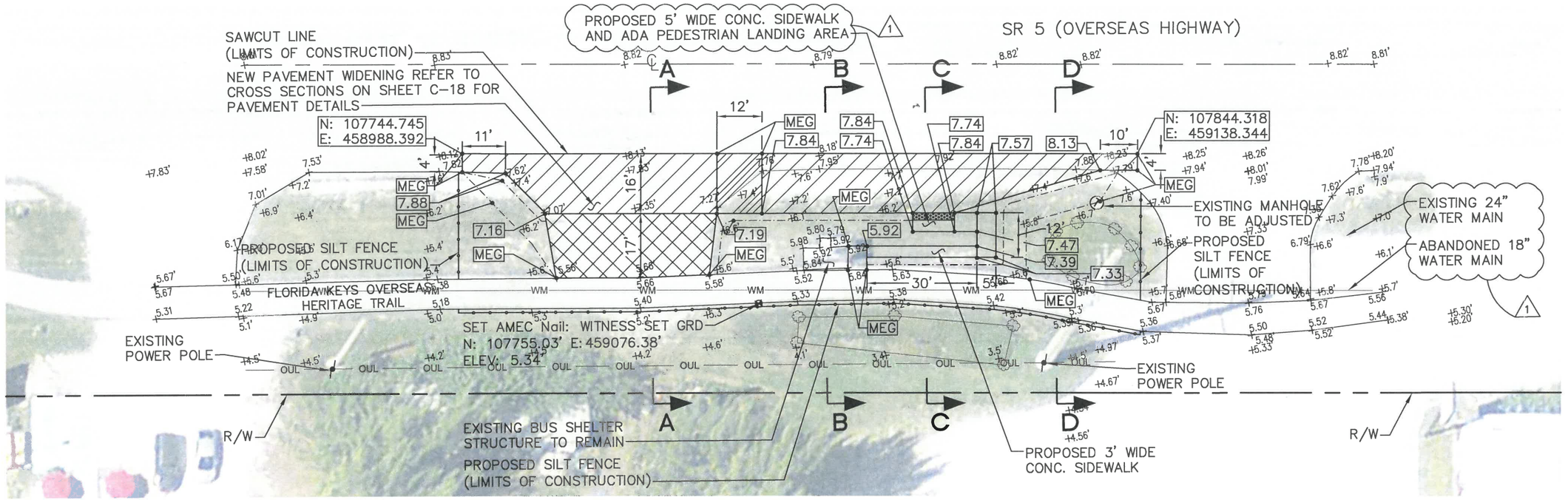
LEGEND:

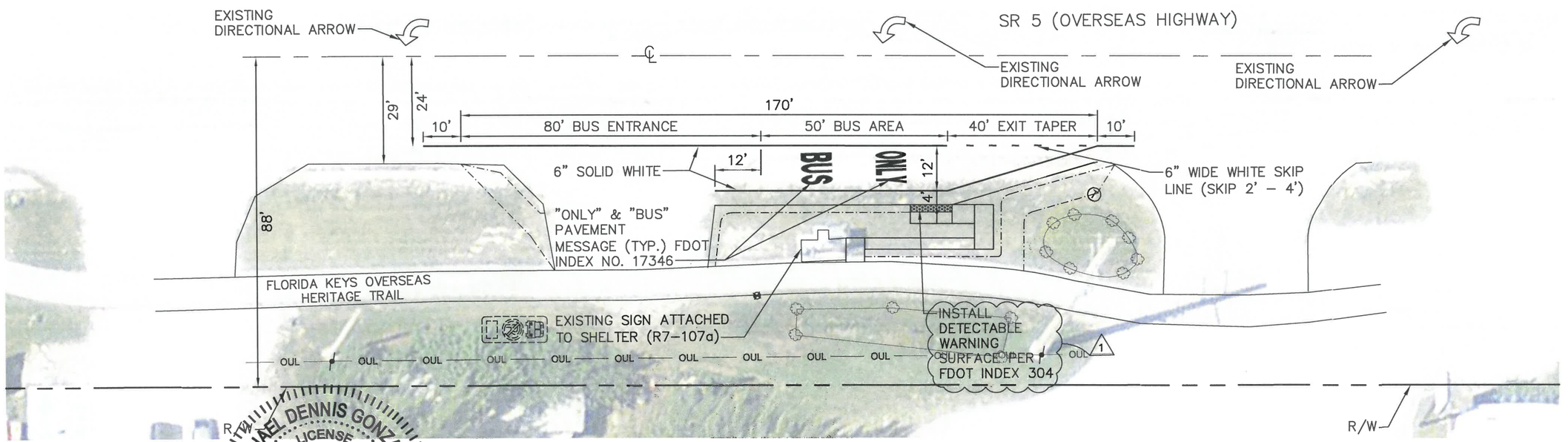
DENOTES PROPOSED PAVEMENT WIDENING

DENOTES ASPHALT SLOPE TRANSITION AREA

PROPOSED PAVED TURNOUT



PAVING AND GRADING PLAN



PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#3 SADDLEBUNCH KEY - BABY'S COFFEE (NB #16)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-17
SHEET: C-17

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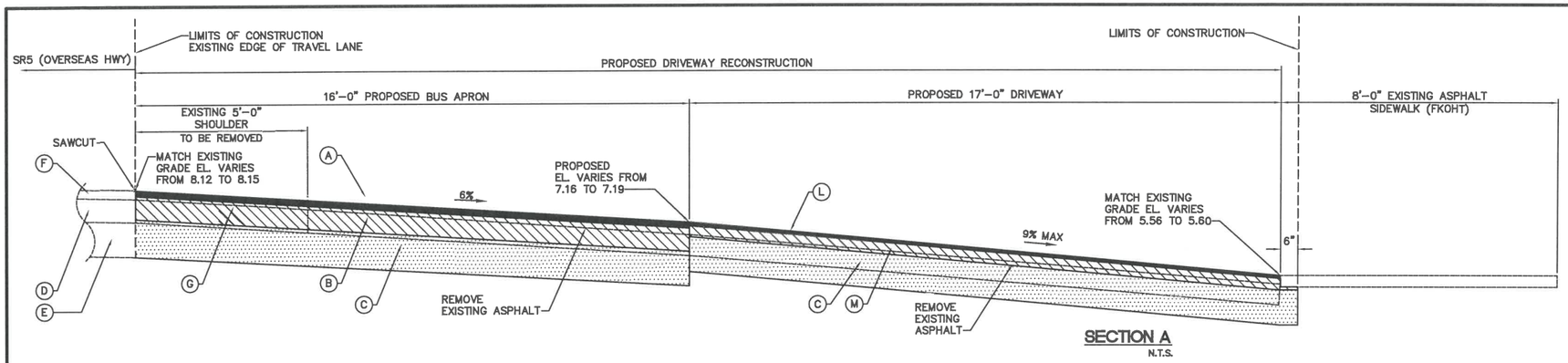
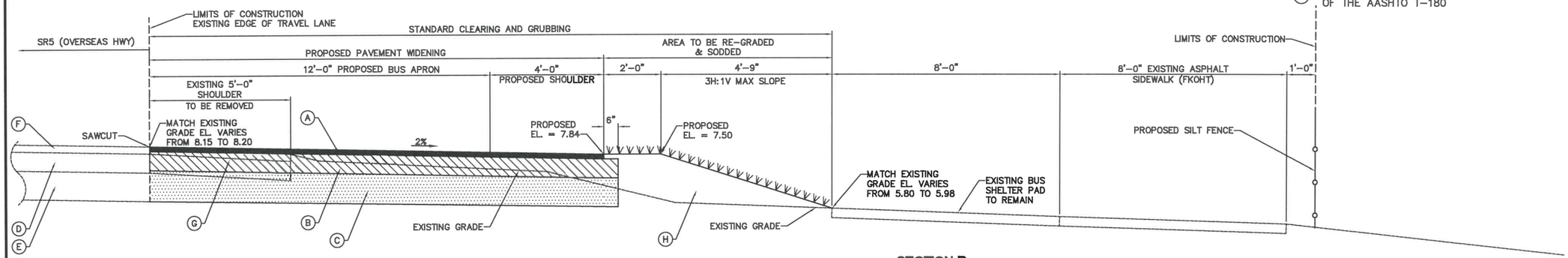


SECTION A
N.T.S.



SECTION B
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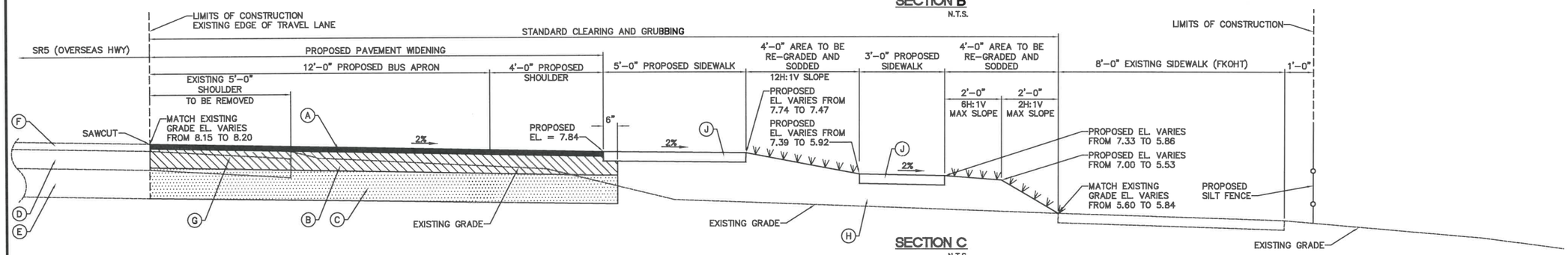

SECTION C
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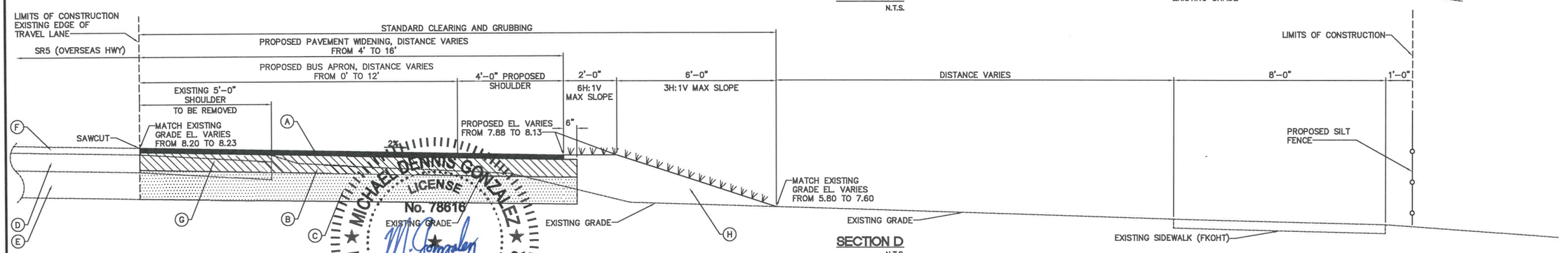

SECTION D
N.T.S.

SECTION NOTES:

- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (I) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 1 (THICKNESS =4") COMPACTED TO 95% OF THE AASHTO T-180
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
- (L) PROPOSED ASPHALTIC CONCRETE SURFACE, 1-1/2" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C)
- (M) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 3 (THICKNESS = 5½") COMPACTED TO 98% OF THE AASHTO T-180

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. PAVEMENT DESIGN FOR ASPHALT SIDEWALK: CONSTRUCT OPTIONAL BASE GROUP 1 WITH TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
3. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
4. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
5. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

MICHAEL DENNIS GONZALEZ
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PROFESSIONAL ENGINEER
STATE OF FLORIDA
09/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#3 SADDLEBUNCH KEY - BABY'S COFFEE (NB #16)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-18
SHEET: C-18

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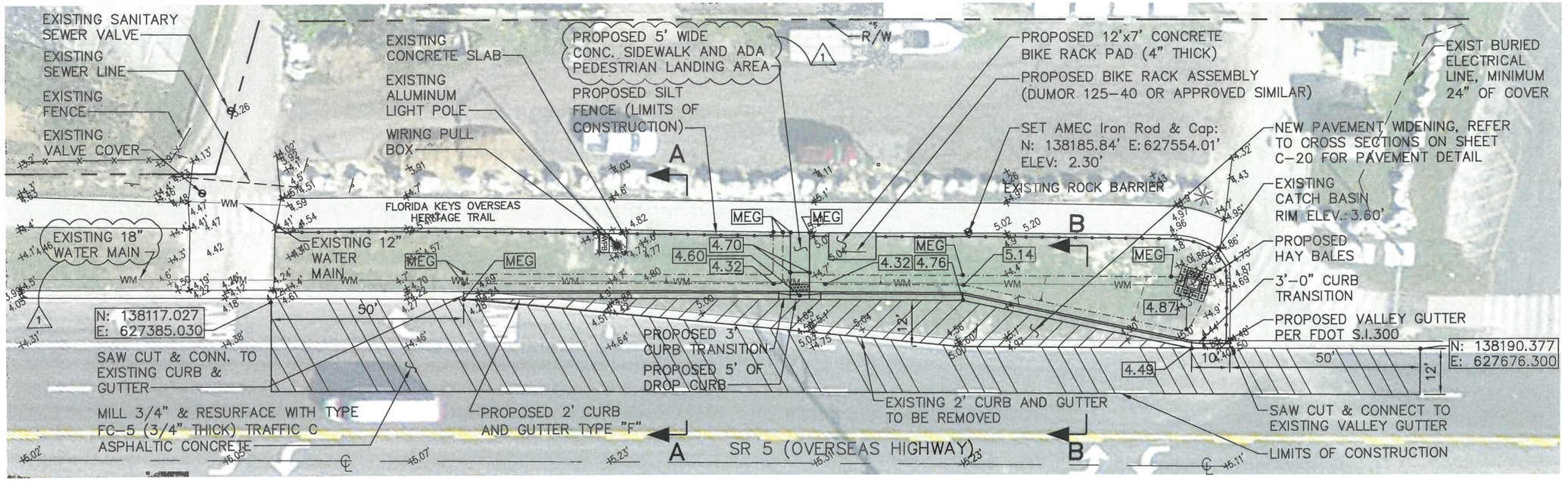
LEGEND:

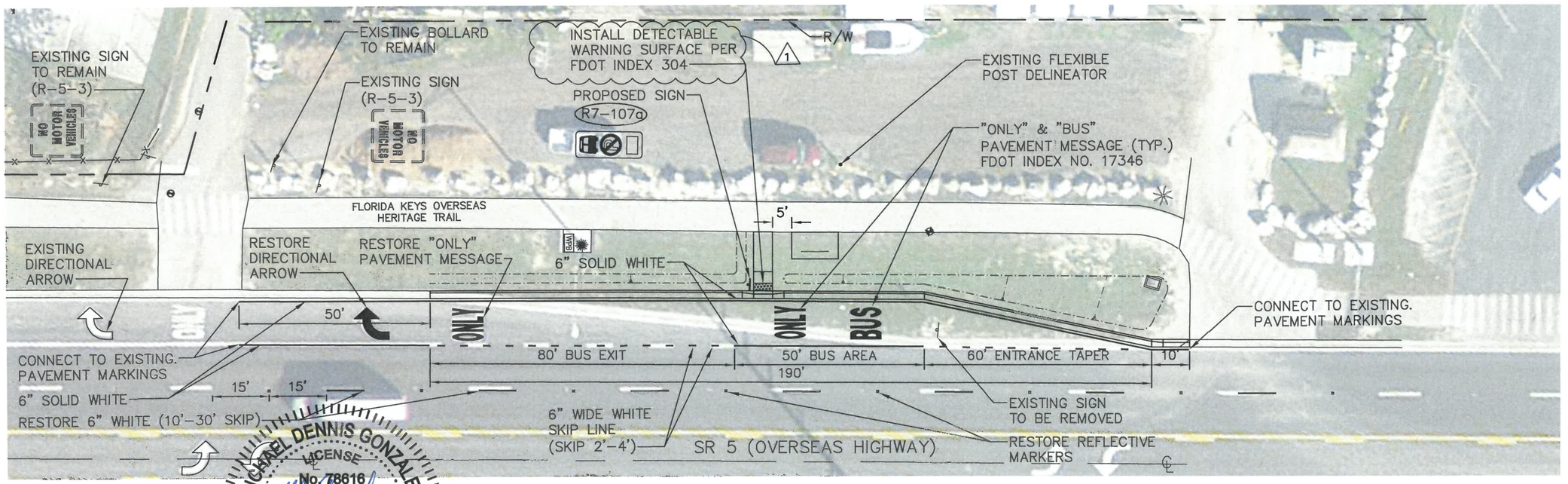
DENOTES PROPOSED PAVEMENT WIDENING

DENOTES MILLING AND RESURFACING



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY:
CHECKED BY: I.S.
DATE: 6/29/2016

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EB-00007317

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#16 MARATHON - 42ND ST. AT HOBBS COUNTY PARK (SB #6)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-19
SHEET: C-19

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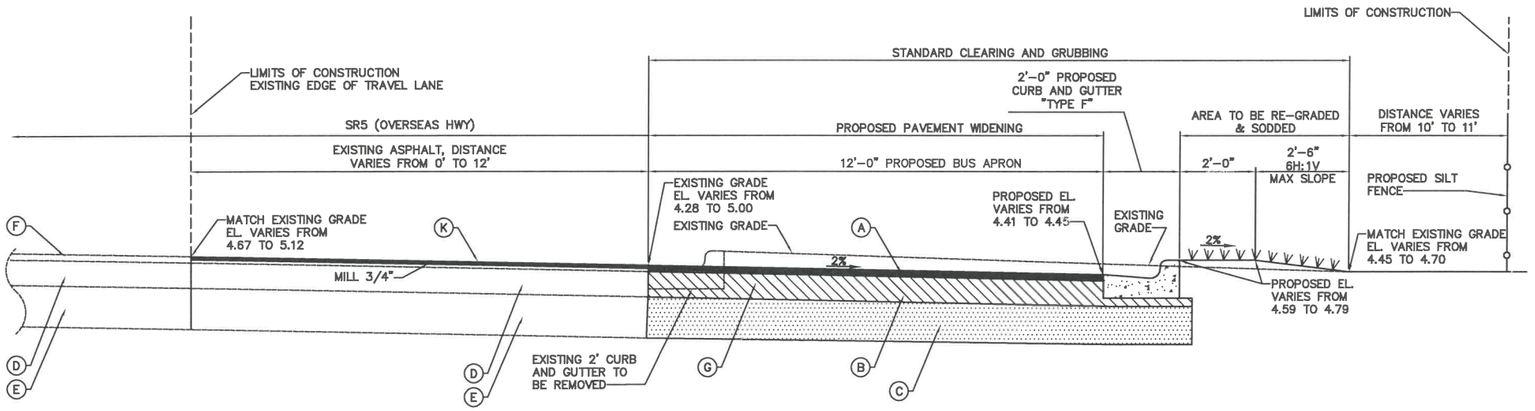
SECTION NOTES:

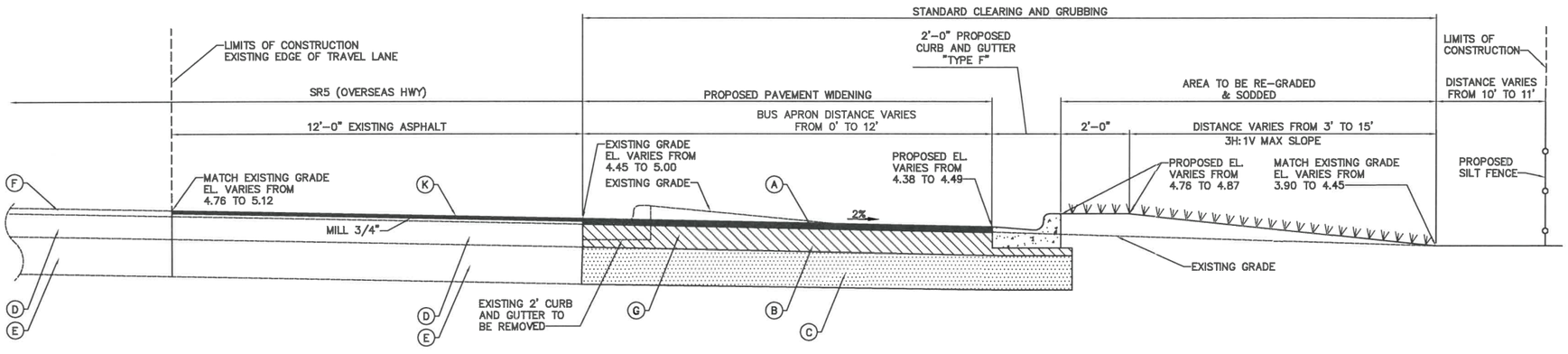
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED MILL 3/4" AND RESURFACE WITH 3/4" FC-5 ASPHALTIC CONCRETE FRICTION COURSE

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#16 MARATHON - 42ND ST. HOBBS PARK (SB #6)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-24
SHEET: C-20

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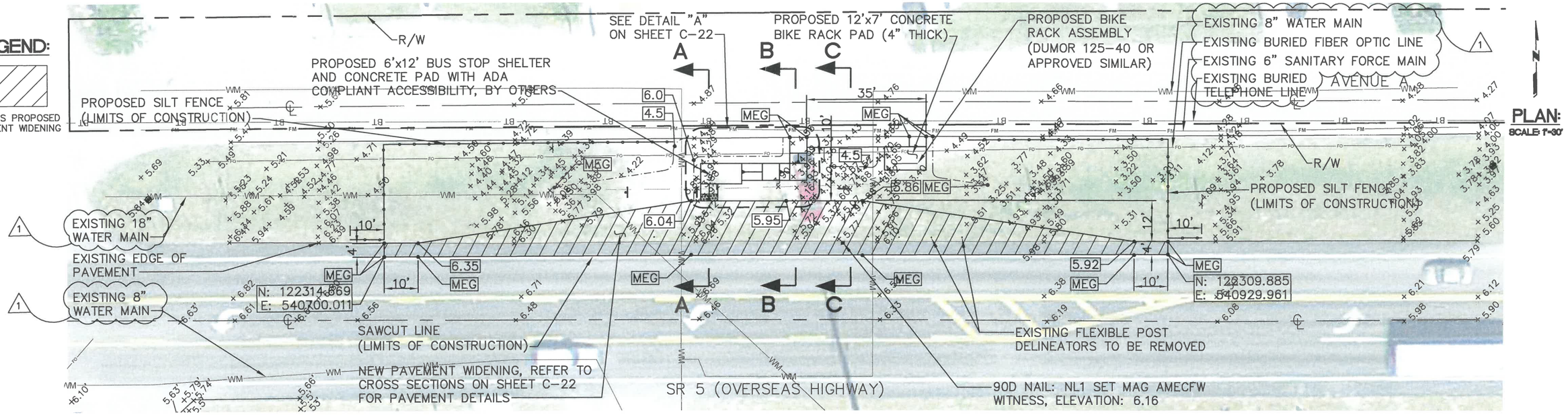
LEGEND:

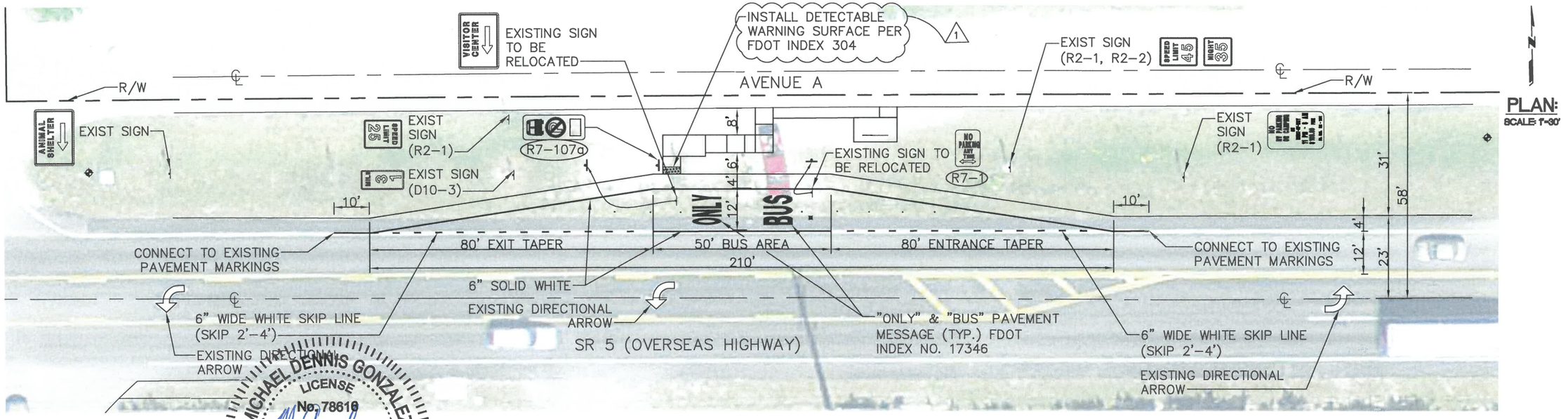
DENOTES PROPOSED PAVEMENT WIDENING



NOTE:

EXISTING BUS SHELTER WEST OF SITE
REMOVAL BY OTHERS
REMOVE EXISTING BUS SHELTER CONCRETE PAD WEST OF SITE AND REGRADE AND SOD DISTURBED AREA

PAVING AND GRADING PLAN



PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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DESIGNED BY: I.S.
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CITY OF KEY WEST

LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#15 BIG PINE KEY - BISTRO (SB #13)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-21
SHEET: C-21

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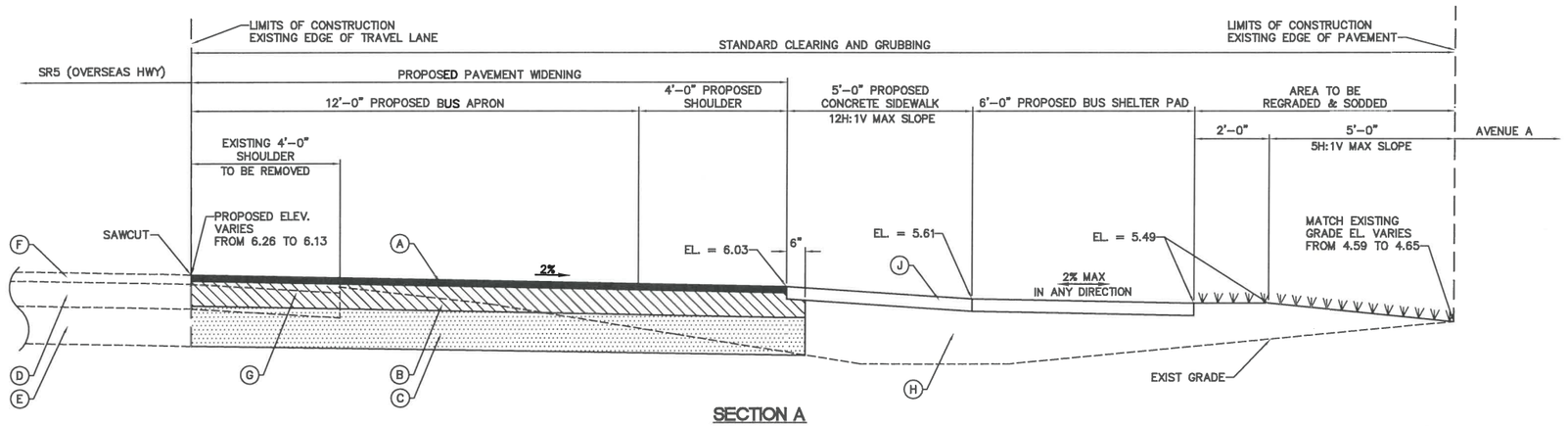
SECTION NOTES:

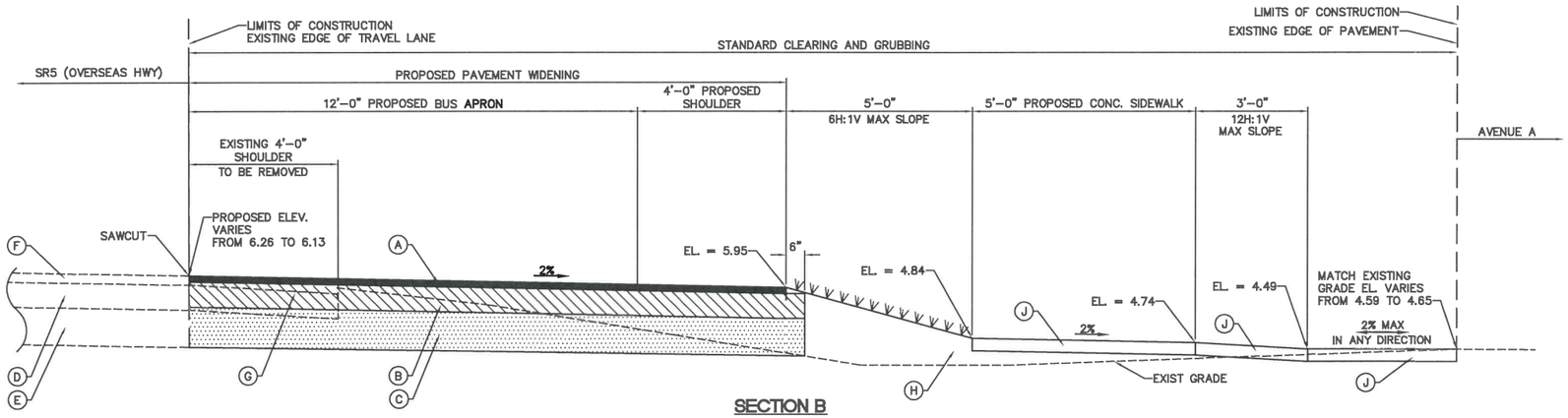
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT & AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

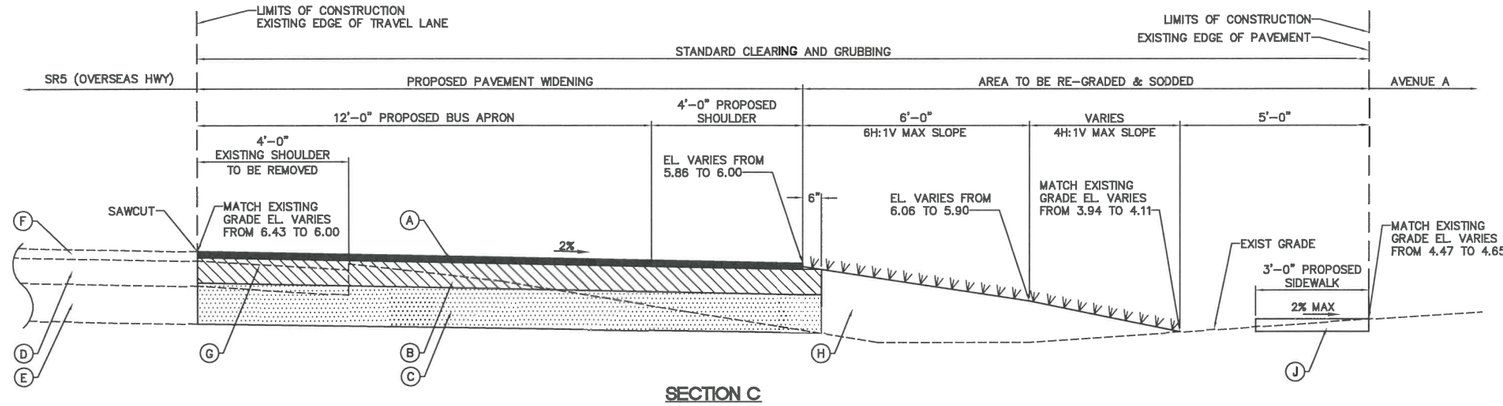
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



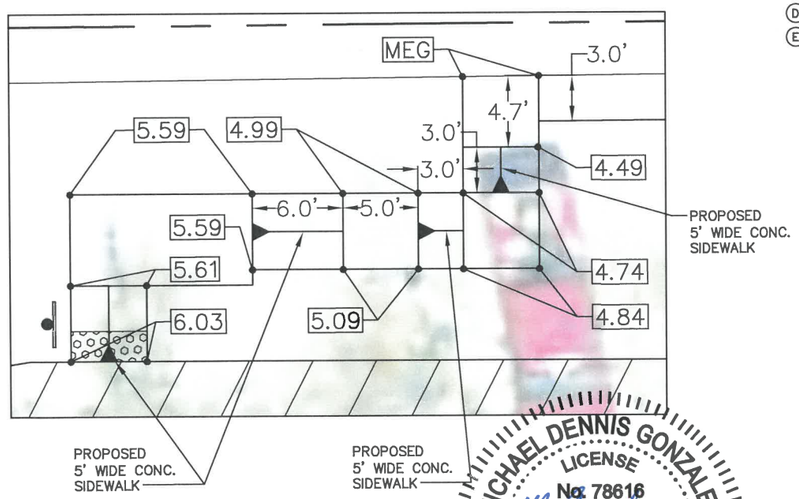
SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.



DETAIL "A"

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#15 BIG PINE KEY - BISTRO (SB #13)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-22
SHEET: C-22

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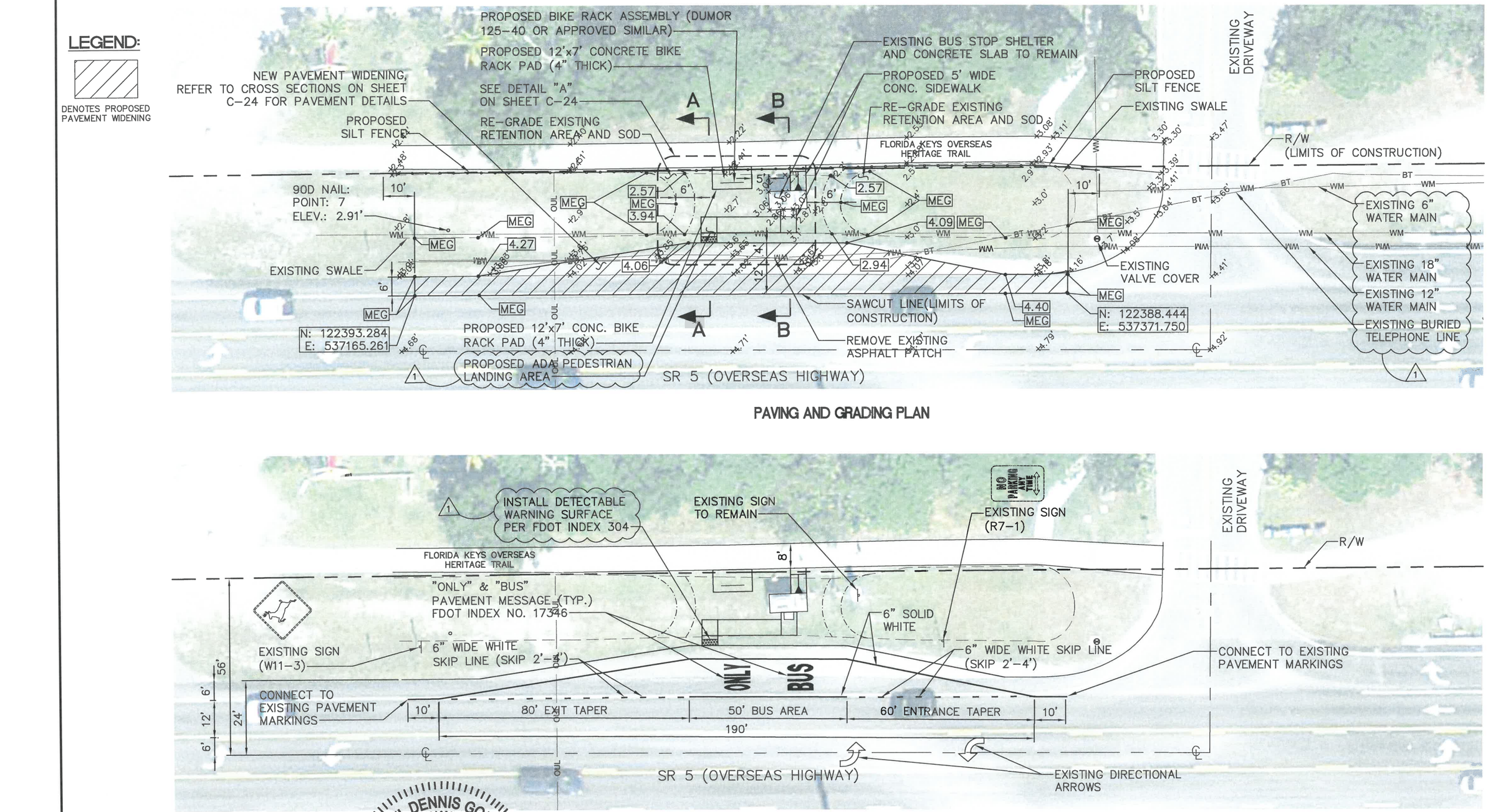


PAVING AND GRADING PLAN

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: E.F.
DRAWN BY: E.F.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
CONSULTING ENGINEERS EB-0000717
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#12 BIG PINE KEY - CVS (SB #14)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-23
SHEET: C-23

THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. RE-USE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH SRS ENGINEERING, INC. WITHOUT PREJUDICE. NEGLIGENCE TO CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THE RESTRICTIONS.

SECTION NOTES:

Ⓐ PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

Ⓑ PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

Ⓒ PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

Ⓓ EXISTING BASE COURSE

Ⓔ EXISTING STABILIZED SUBGRADE

Ⓕ EXISTING ASPHALT PAVEMENT TO REMAIN

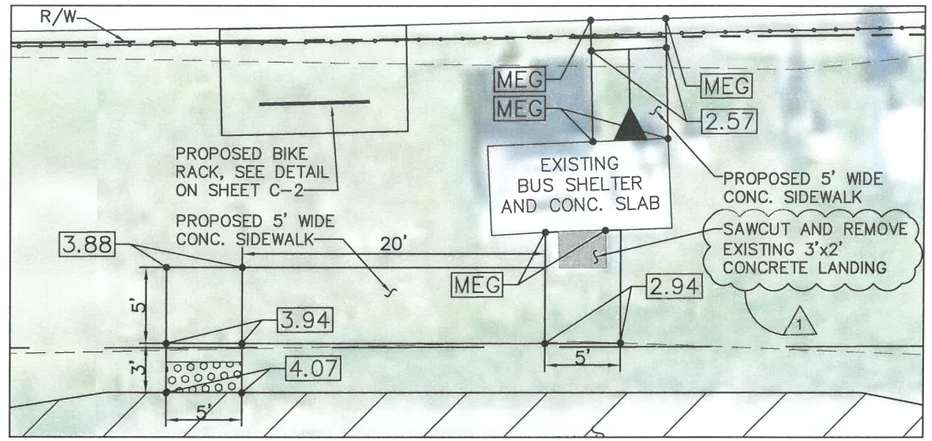
Ⓖ EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

Ⓗ FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

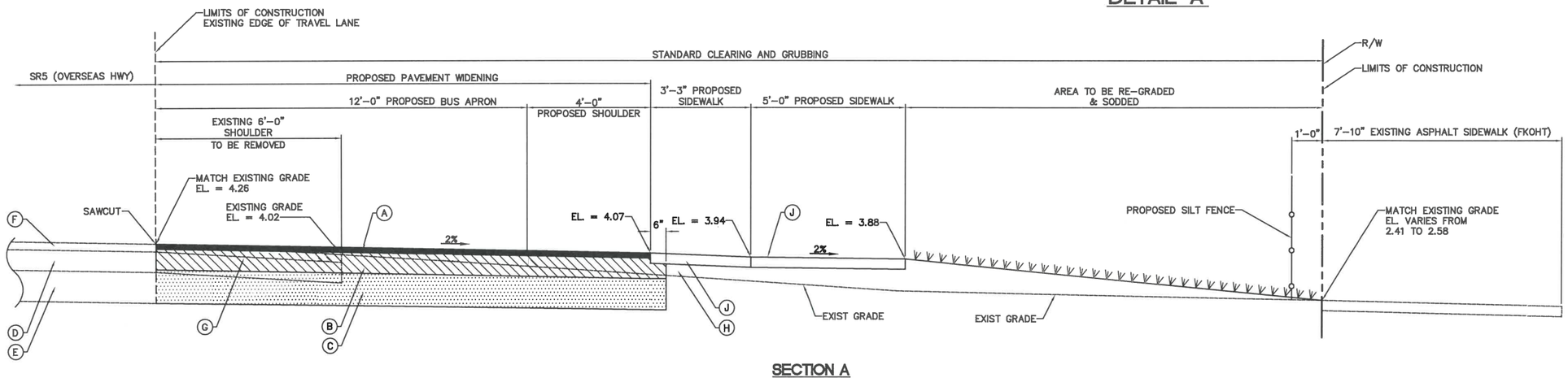
Ⓙ PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.

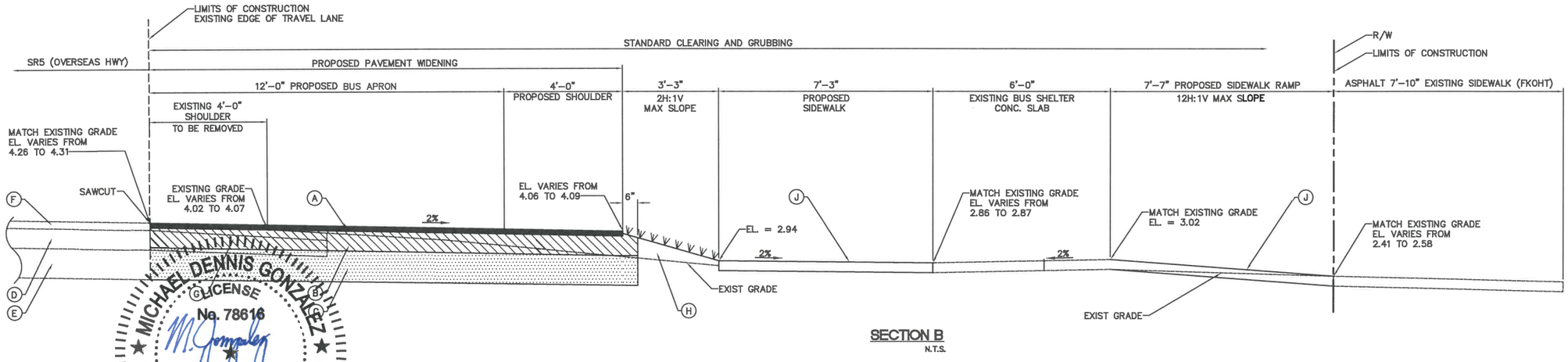


DETAIL "A"



SECTION A

N.T.S.



SECTION B

N.T.S.

MICHAEL DENNIS GONZALEZ LICENSE No. 78616 STATE OF FLORIDA PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#12 BIG PINE KEY - CVS (SB #14)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-24
SHEET: C-24

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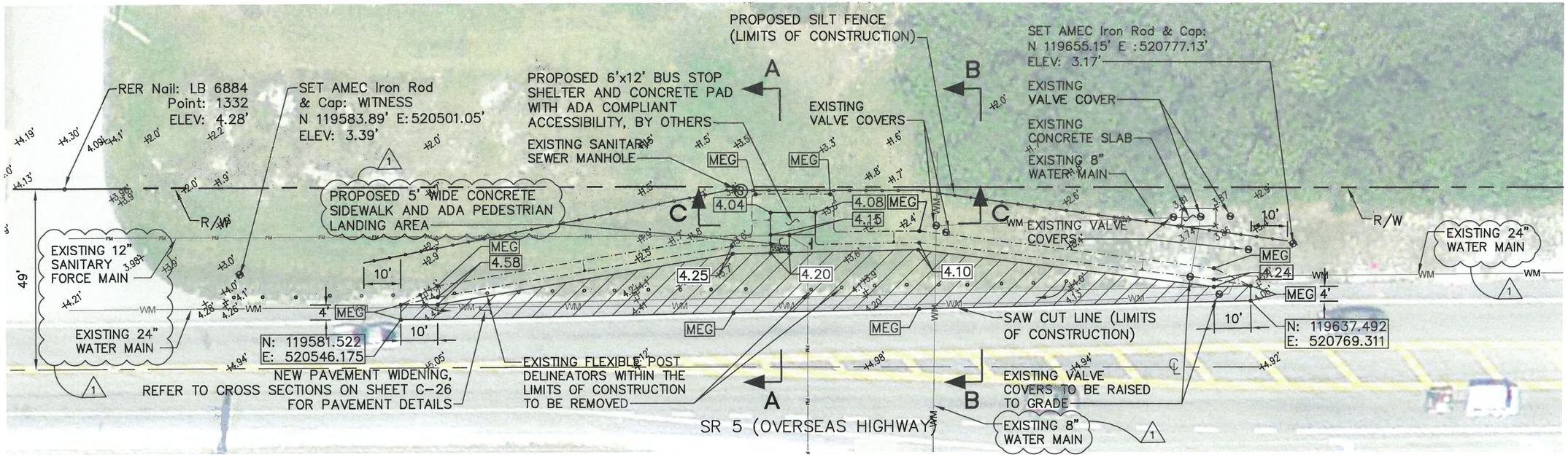
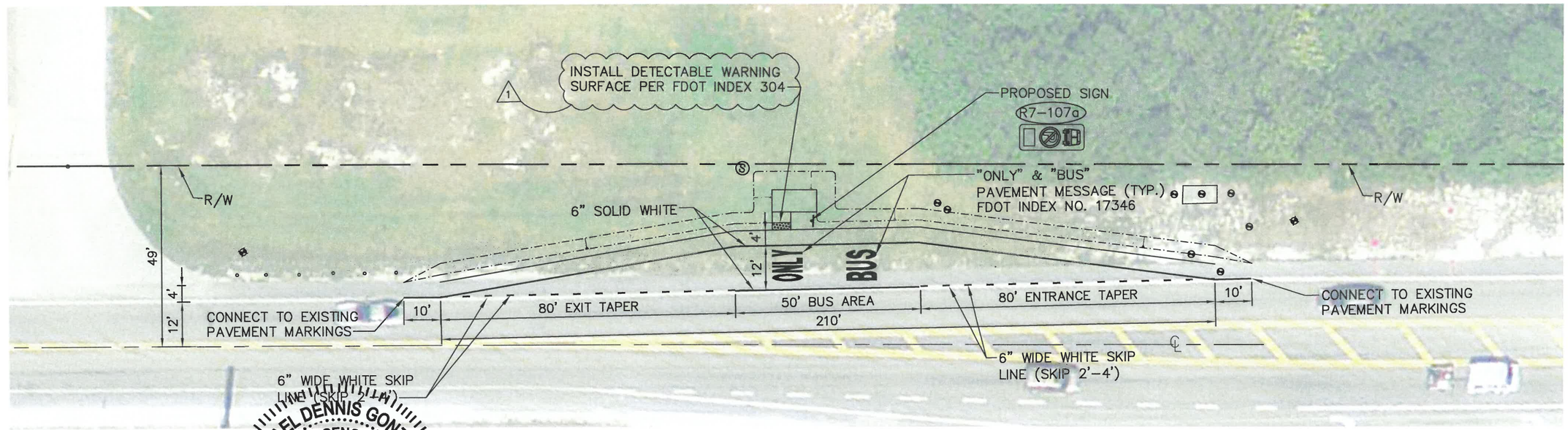
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
PROFESSIONAL ENGINEER
STATE OF FLORIDA
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#10 RAMROD KEY - OPP. LOOE KEY (TIKI HUT) (SB #18)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-25
SHEET: C-25

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SECTION NOTES:

(A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

(B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

(C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

(D) EXISTING BASE COURSE

(E) EXISTING STABILIZED SUBGRADE

(F) EXISTING ASPHALT PAVEMENT TO REMAIN

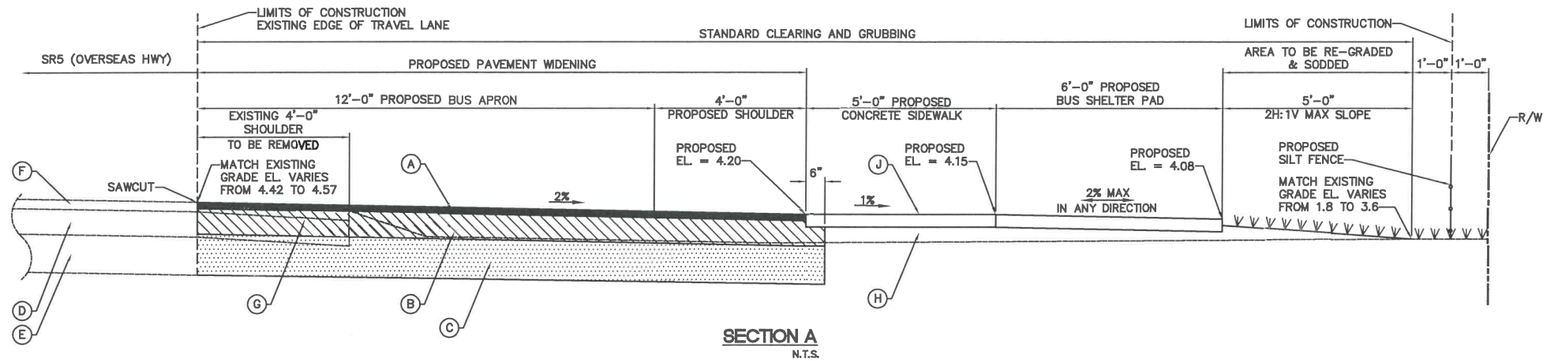
(G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

(H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

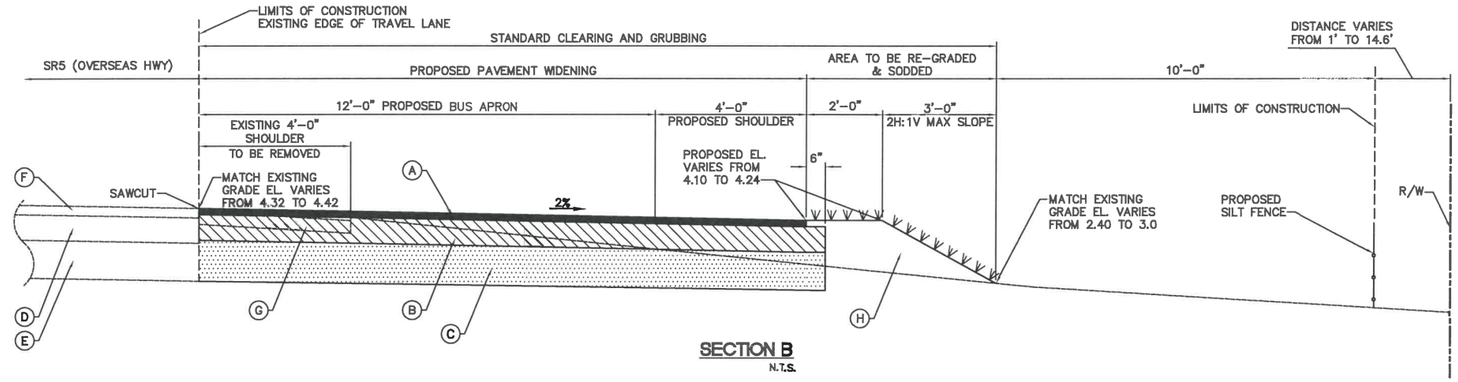
(J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

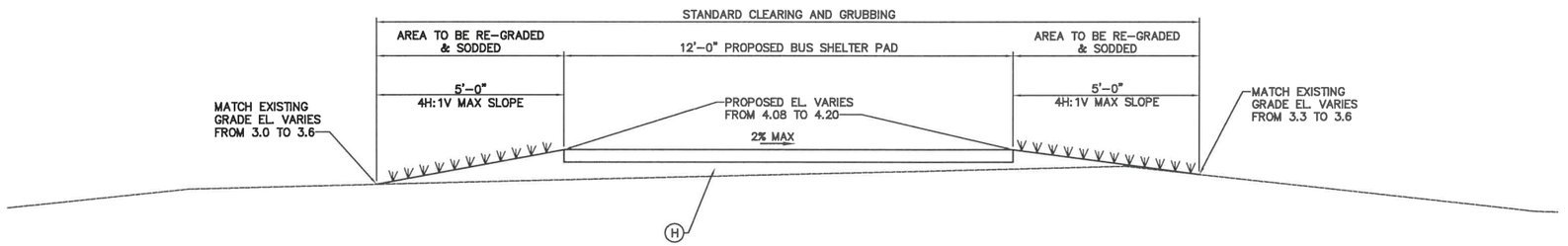
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.D.G.
DRAWN BY: E.R.
CHECKED BY: I.S.
DATE: 6/29/2016

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W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#10 RAMROD KEY - OPP. LOOE KEY (TIKI HUT) (SB #18)
CROSS SECTIONS

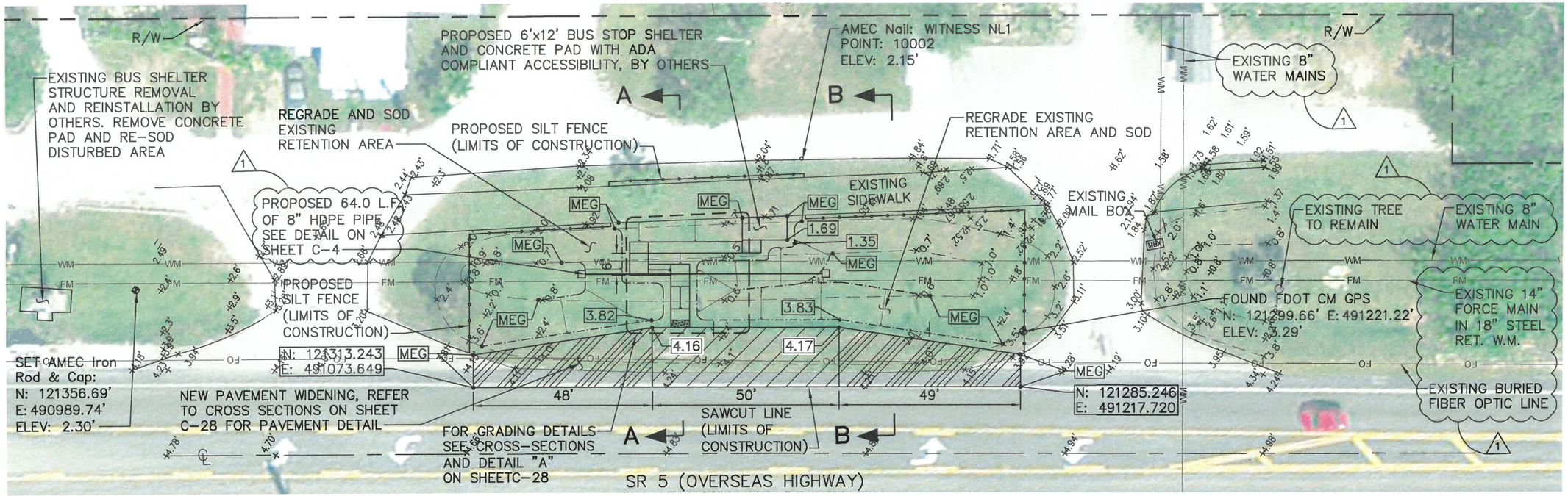
SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-26
SHEET: C-26

THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. RE-USE, REPRODUCTION OR PUBLICATION BY ANY MEANS, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH SRS ENGINEERING, INC. WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THE RESTRICTIONS.

LEGEND:

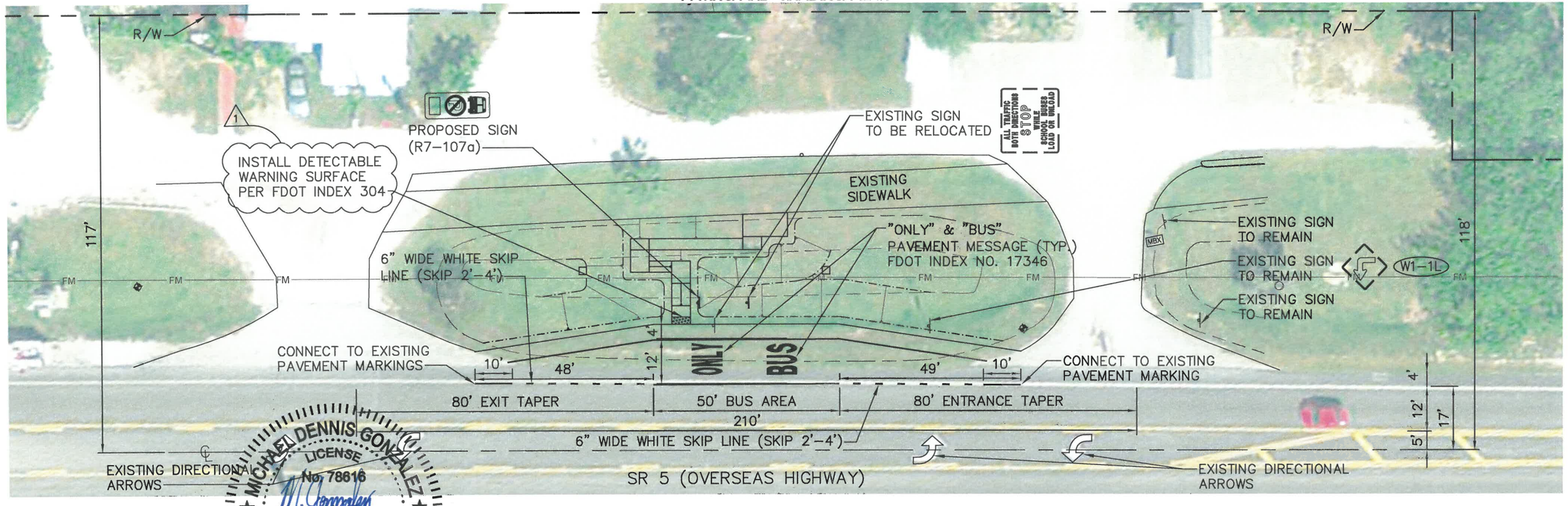
DENOTES PROPOSED PAVEMENT WIDENING

DENOTES ASPHALT SLOPE TRANSITION AREA



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78816
PROFESSIONAL ENGINEER
STATE OF FLORIDA
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY: E.M.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#7 CUDJOE KEY - COCO'S CANTINA (SB #23)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-27
SHEET: C-27

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SECTION NOTES:

Ⓐ PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

Ⓑ PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

Ⓒ PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

Ⓓ EXISTING BASE COURSE

Ⓔ EXISTING STABILIZED SUBGRADE

Ⓕ EXISTING ASPHALT PAVEMENT TO REMAIN

Ⓖ EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

Ⓗ FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

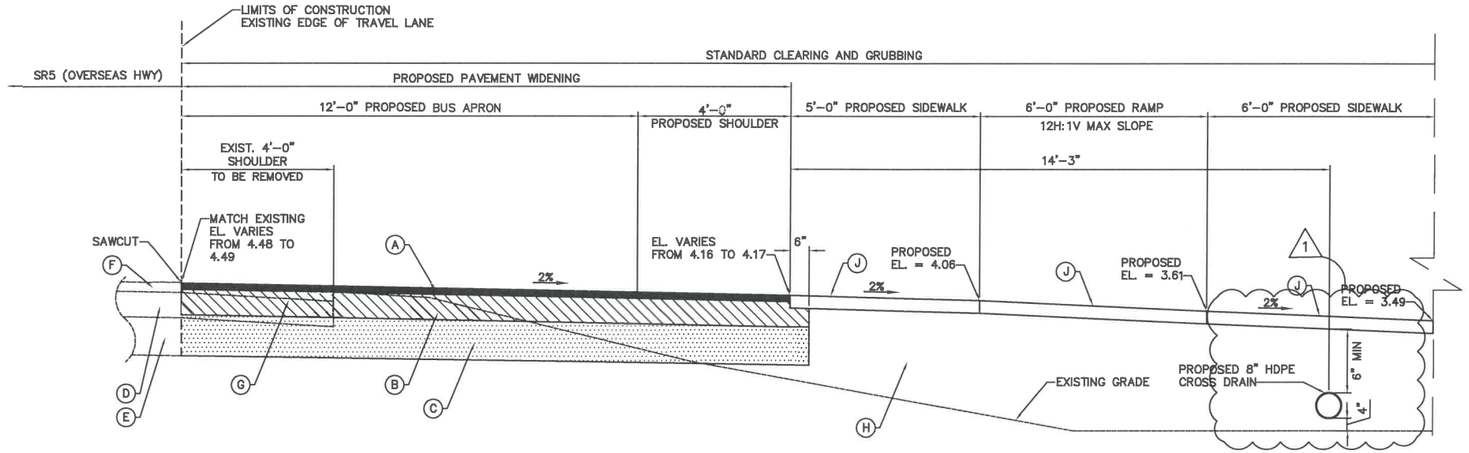
Ⓘ PROPOSED BASE COURSE, OPTIONAL BASE GROUP 1 (THICKNESS =4") COMPACTED TO 95% OF THE AASHTO T-180

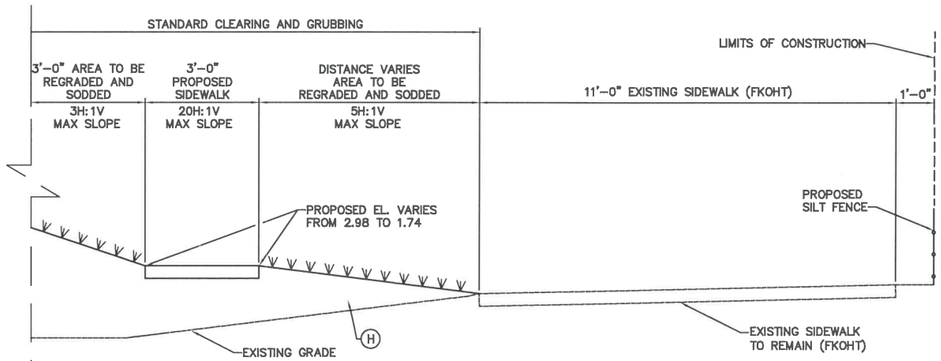
Ⓙ PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

Ⓚ PROPOSED TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)

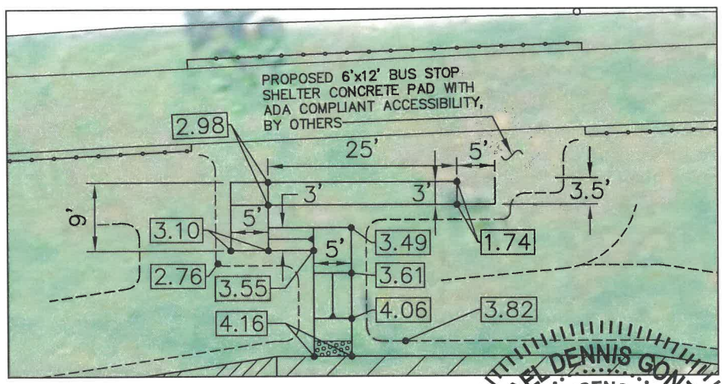
GENERAL NOTES:

1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. PAVEMENT DESIGN FOR ASPHALT SIDEWALK: CONSTRUCT OPTIONAL BASE GROUP 1 WITH TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
3. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
4. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
5. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.

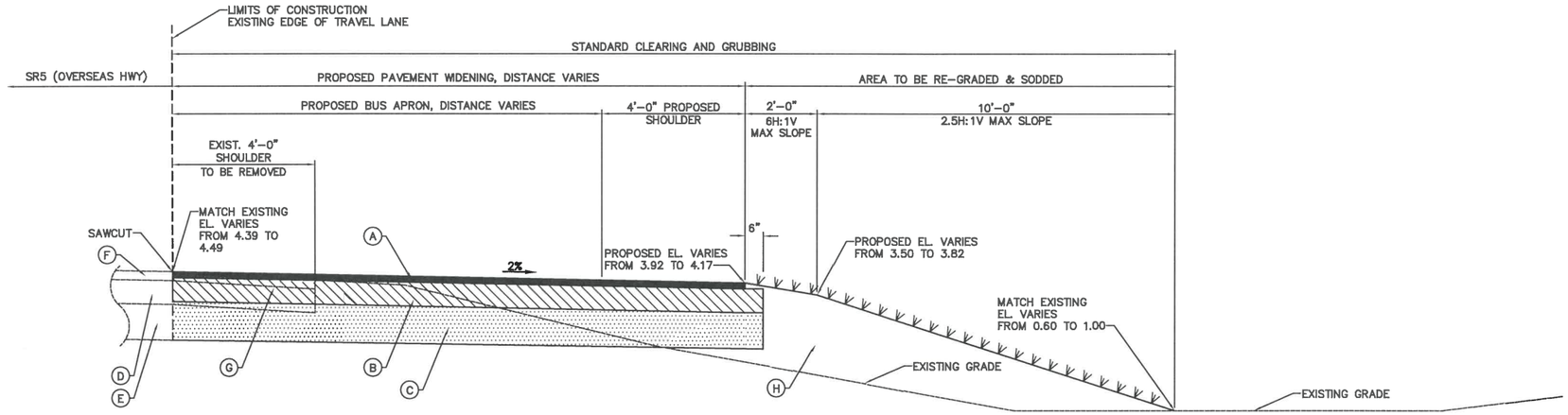




SECTION A
N.T.S.



DETAIL "A"



SECTION B
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

SEAL OF THE CITY OF KEY WEST, FLORIDA

#7 CUDJOE KEY - COCO'S CANTINA (SB #23)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-28
SHEET: C-28

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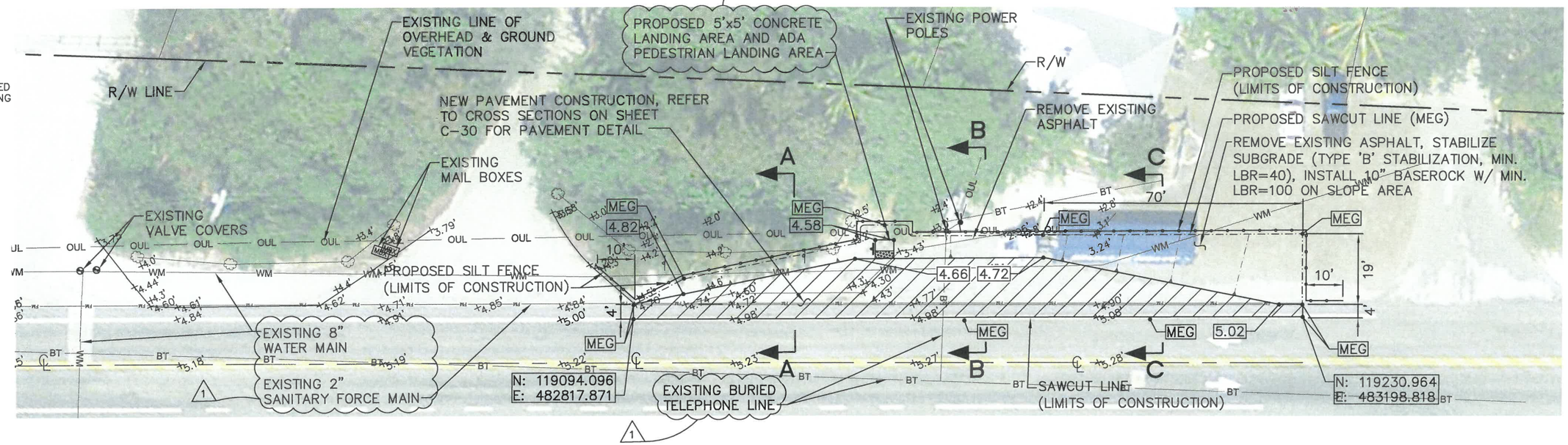
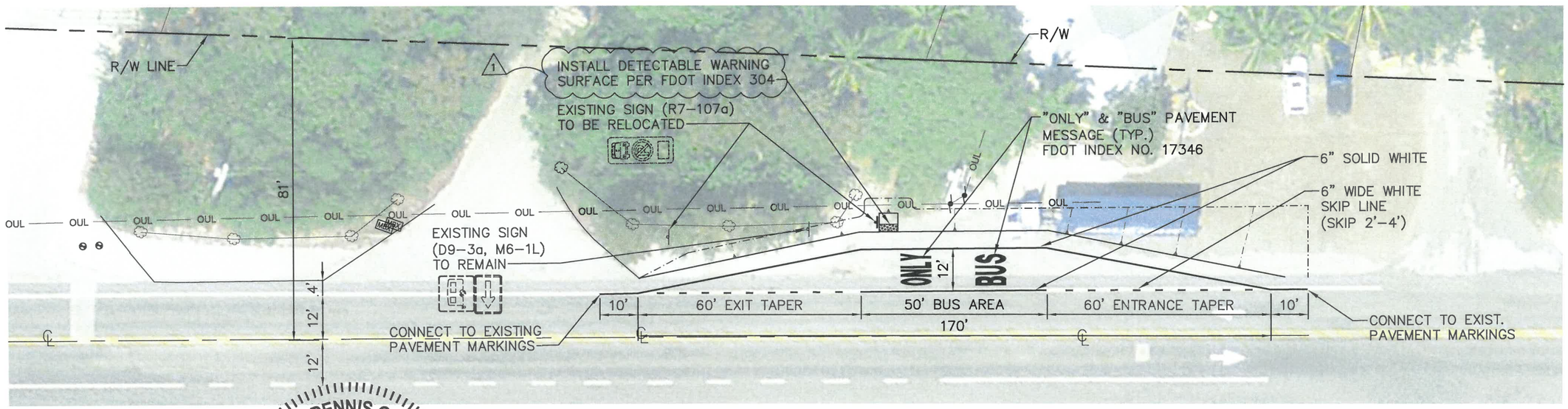
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PAVING AND GRADING PLAN

PLAN:
SCALE: 1"=30'



PAVEMENT MARKING AND SIGNAGE PLAN

PLAN:
SCALE: 1"=30'

MICHAEL DENNIS GONZALEZ
LICENSE No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: I.S.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#6 SUGARLOAF KEY - MANGROVE MAMA'S (SB #25)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-29
SHEET: C-29

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SECTION NOTES:

(A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337

(B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180

(C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180

(D) EXISTING BASE COURSE

(E) EXISTING STABILIZED SUBGRADE

(F) EXISTING ASPHALT PAVEMENT TO REMAIN

(G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.

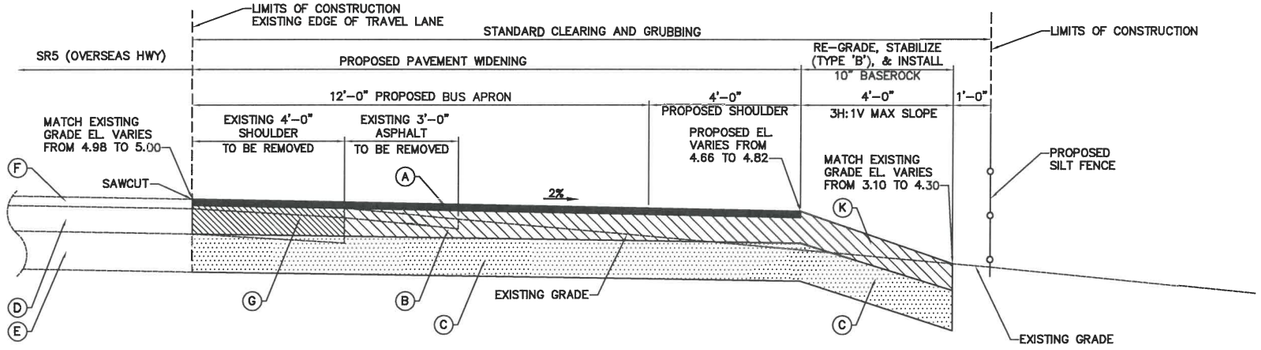
(H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST

(J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

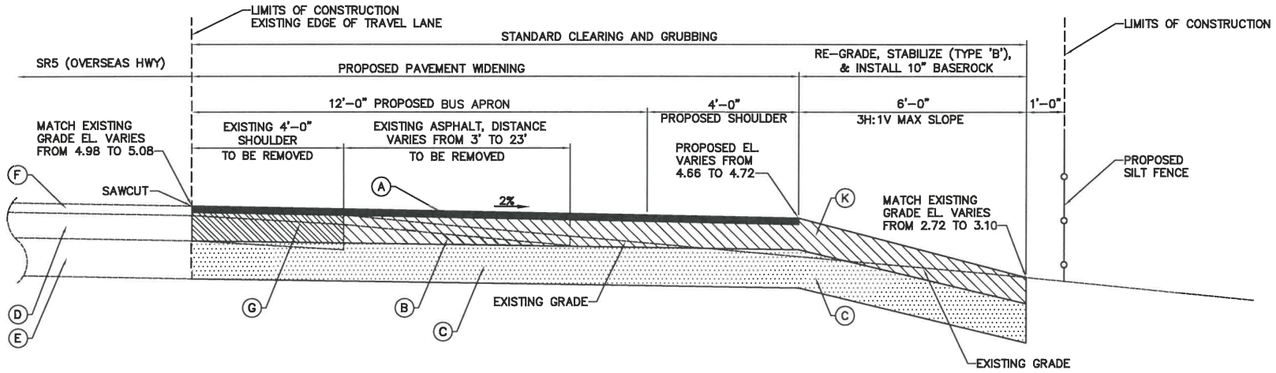
(K) PROPOSED 10" THICK LIMEROCK BASE (MIN. LBR=100) COMPACTED TO 98% OF THE AASHTO T-180

GENERAL NOTES:

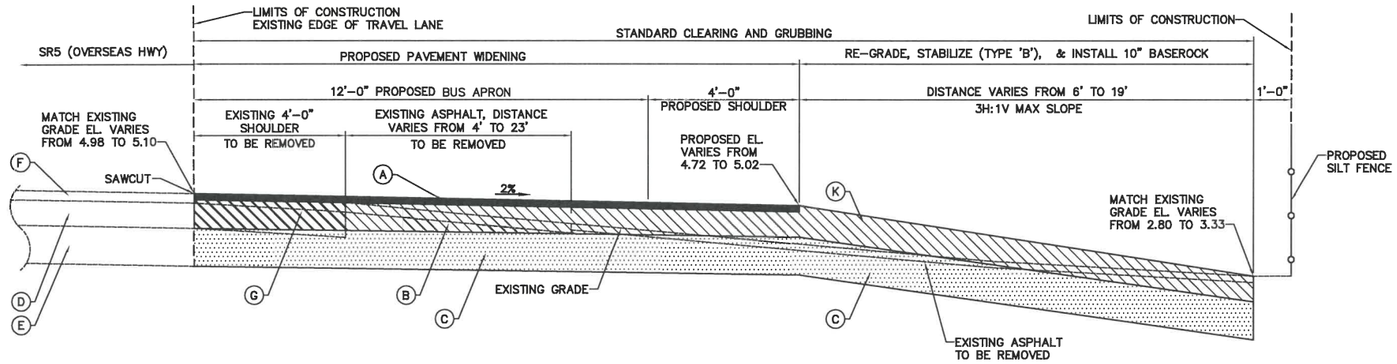
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78618
PROFESSIONAL ENGINEER
STATE OF FLORIDA
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
CONSULTING ENGINEERS EB-00007317
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W..SRS-CORP.COM

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

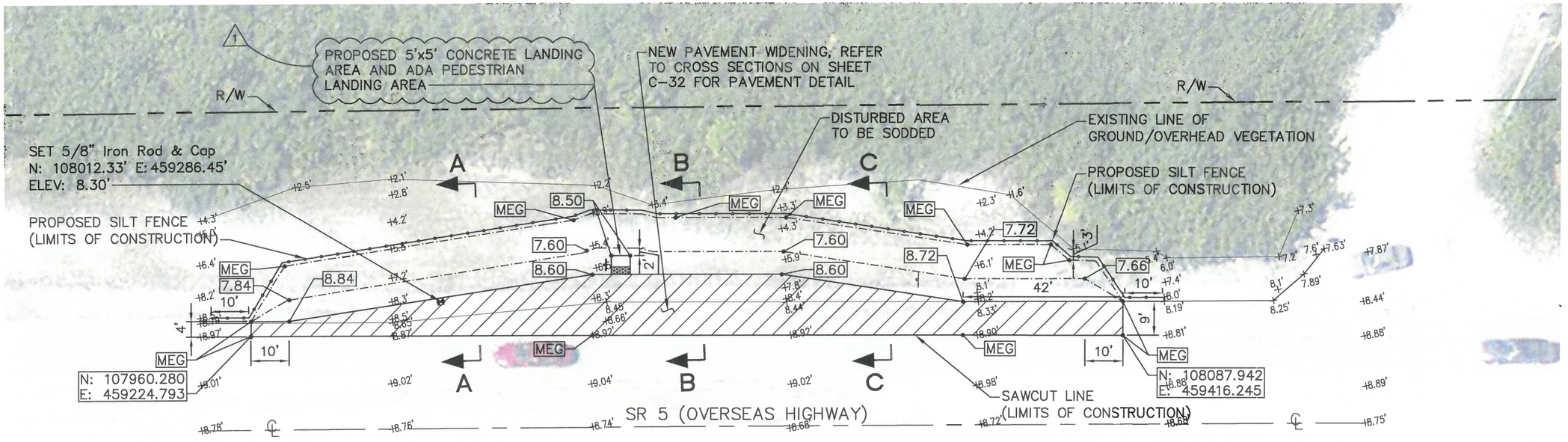
#6 SUGARLOAF KEY - MANGROVE MAMAS (SB #25)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-30
SHEET: C-30

THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. RE-USE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THE PLANS AND SPECIFICATIONS REMAINS WITH SRS ENGINEERING, INC. WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THE RESTRICTIONS.

LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING

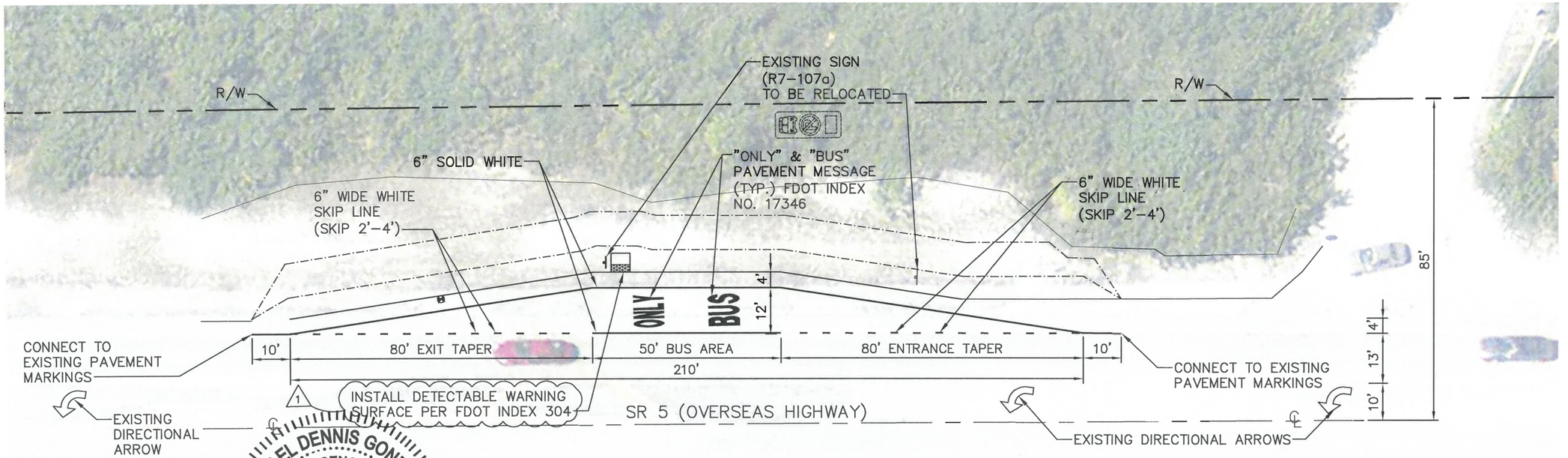


PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN

NOTE:

1. NO IMPACT TO WETLANDS ARE PROPOSED.
2. ALL AREAS DISTURBED BY CONSTRUCTION ARE TO BE SODDED TO PROVIDE PERMANENT EROSION CONTROL.



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY:
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#4 SADDLEBUNCH KEY - OPP. BABY'S COFFEE (SB #28)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-31
SHEET: C-31

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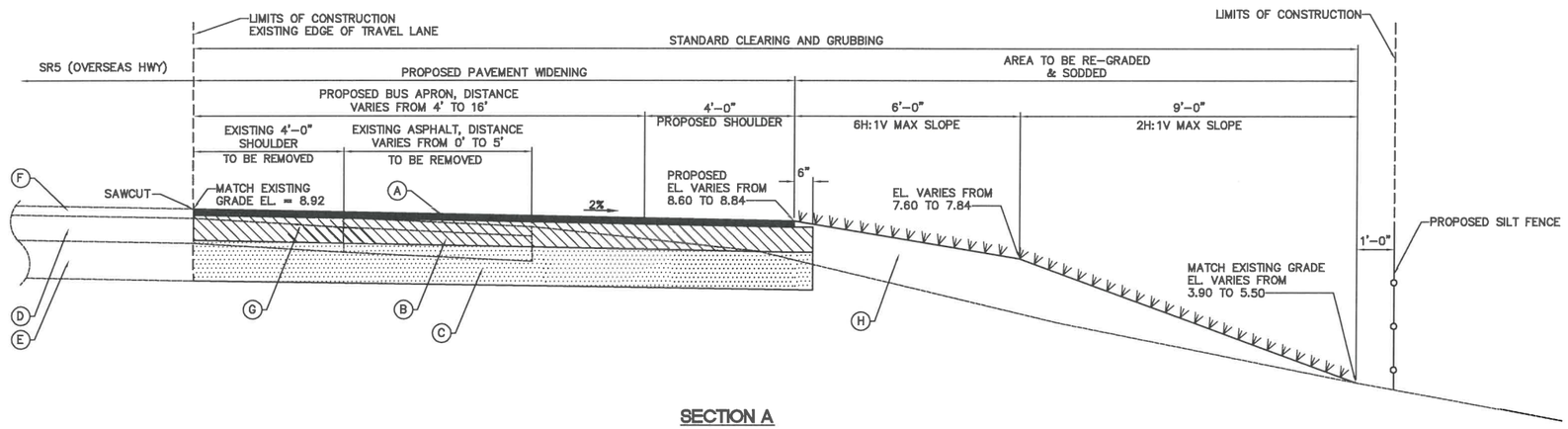
SECTION NOTES:

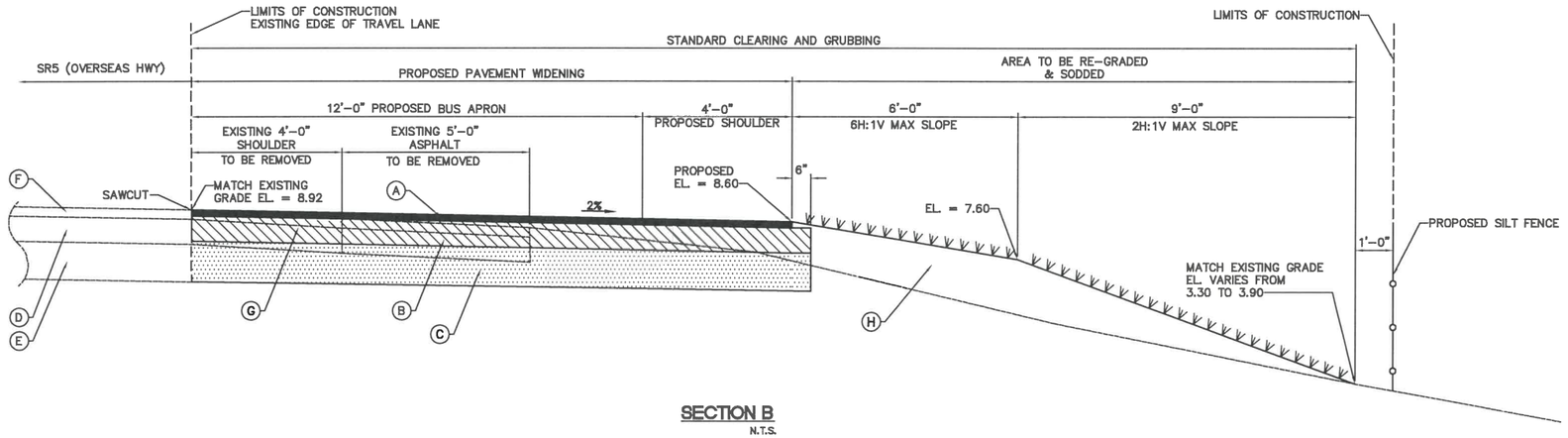
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310

GENERAL NOTES:

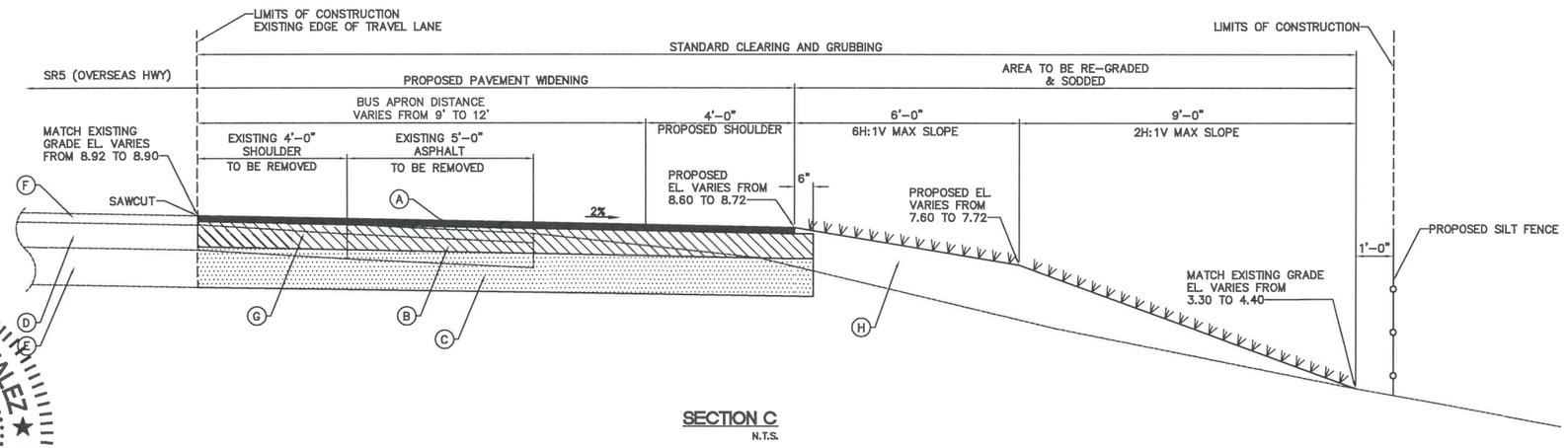
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
3. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
4. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: I.S.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING, INC.
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EB-00007317

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#4 SADDLEBUNCH KEY - OPP. BABY'S COFFEE (SB #28)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-32
SHEET: C-32

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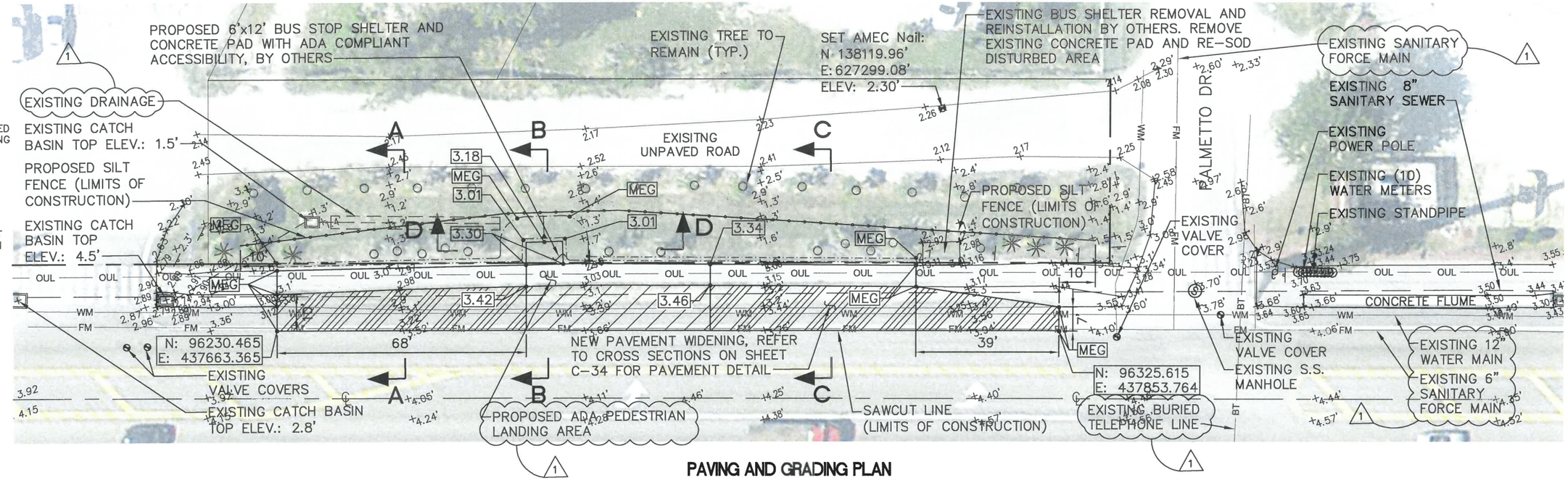
LEGEND:

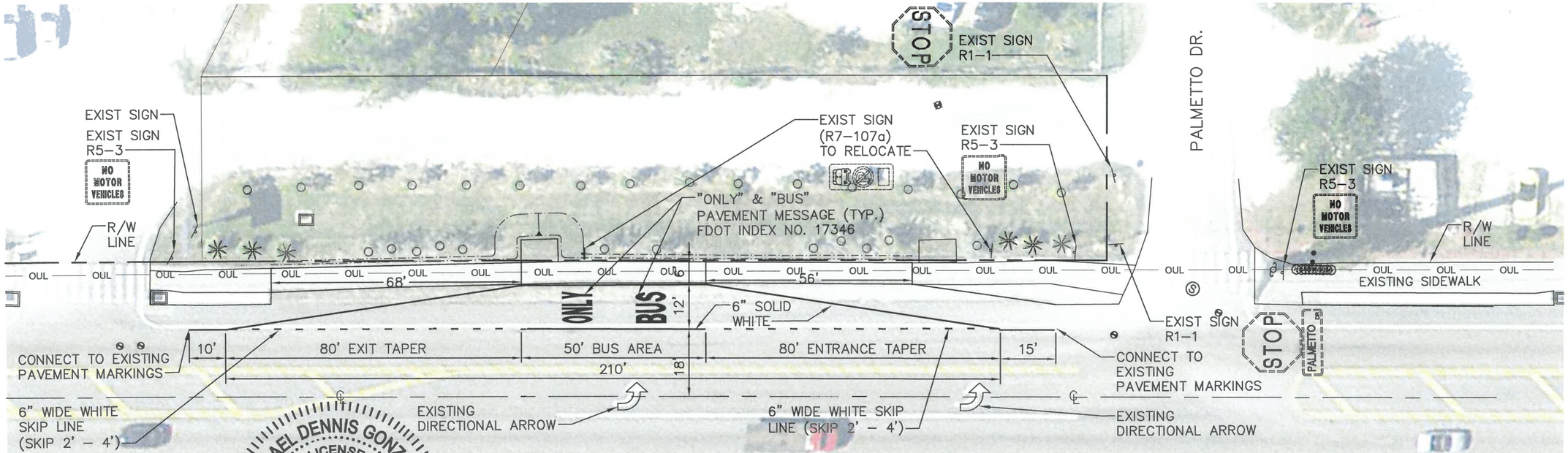
DENOTES PROPOSED PAVEMENT WIDENING

DENOTES ASPHALT SLOPE TRANSITION AREA



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: I.S.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#2 BIG COPPIT KEY - ACROSS FKAA PUMP STA. (SB #31)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-33
SHEET: C-33

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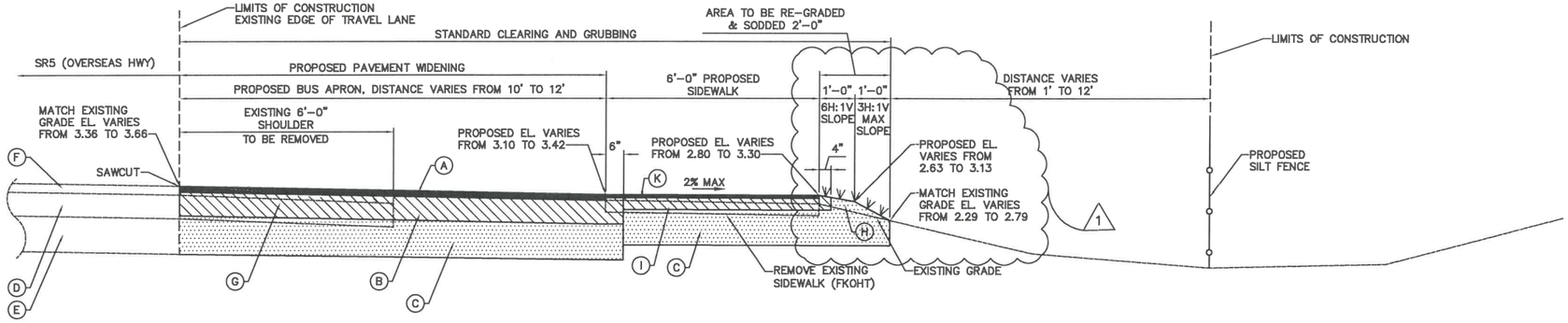
SECTION NOTES:

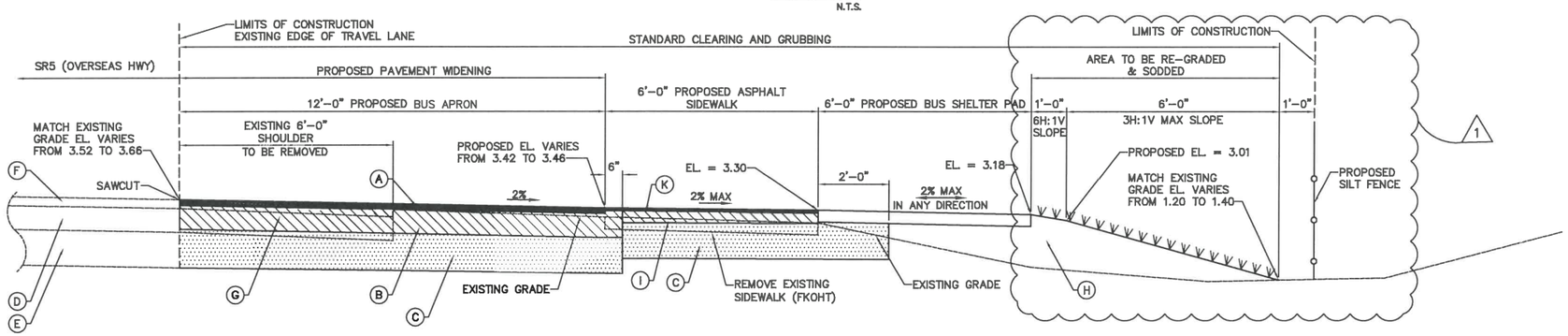
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (I) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 1 (THICKNESS =4") COMPACTED TO 95% OF THE AASHTO T-180
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)

GENERAL NOTES:

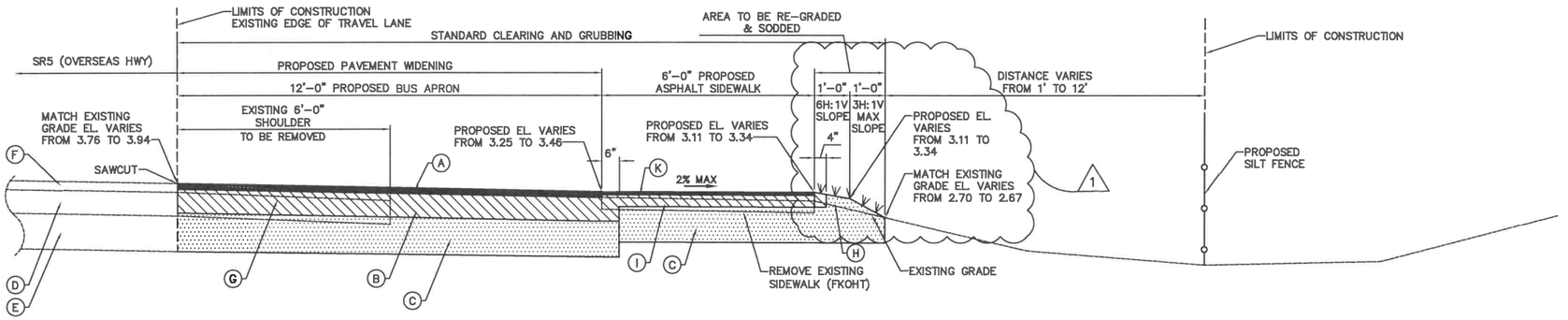
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. PAVEMENT DESIGN FOR ASPHALT SIDEWALK: CONSTRUCT OPTIONAL BASE GROUP 1 WITH TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
3. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
4. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
5. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



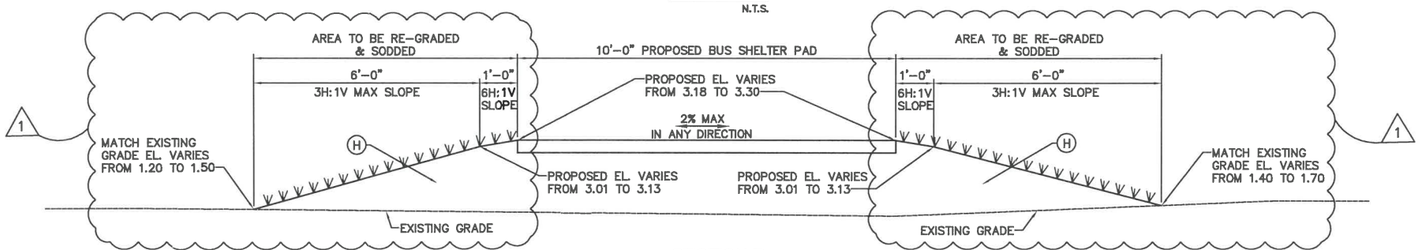
SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.



SECTION D
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.T.
CHECKED BY: I.S.
DATE: 6/29/2016

SRS ENGINEERING,INC.
CONSULTING ENGINEERS
5001 Southwest 74 Court, Suite 201
Miami, Florida 33155-4453
TEL. 305-662-8887, FAX 305-662-8858
W.W.W.:SRS-CORP.COM
EB-0000737

CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

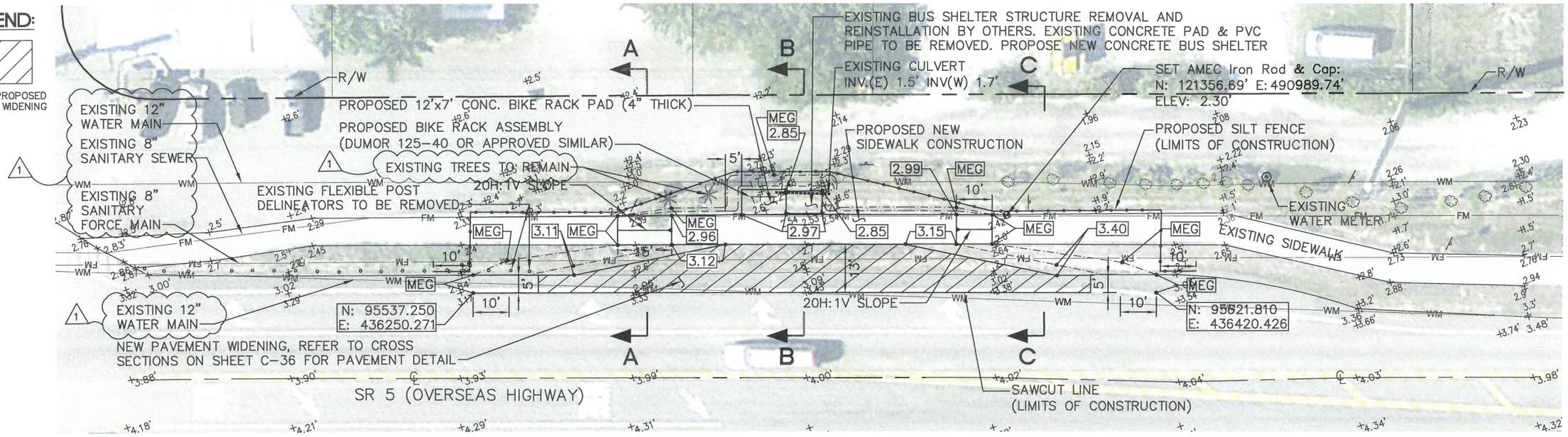
#2 BIG COPPIT KEY - ACROSS FKAA PUMP STA. (SB #31)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-34
SHEET: C-34

THE USE OF THESE PLANS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE, RE-USE, REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THESE PLANS AND SPECIFICATIONS REMAINS WITH SRS ENGINEERING, INC. WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THE RESTRICTIONS.

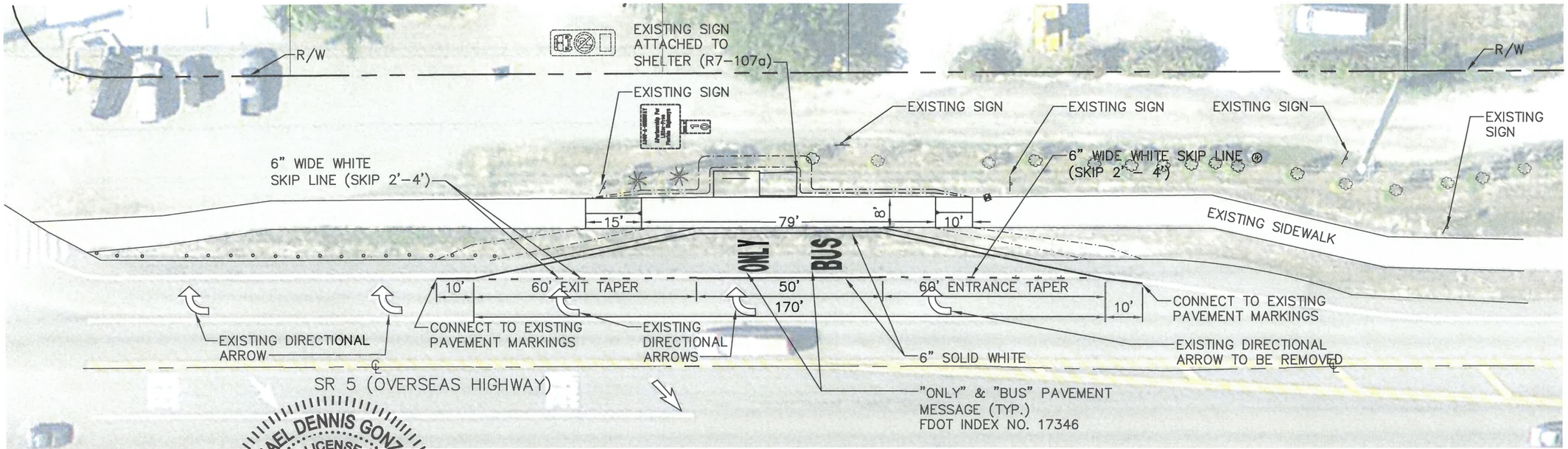
LEGEND:

DENOTES PROPOSED PAVEMENT WIDENING



PLAN:
SCALE: 1"=30'

PAVING AND GRADING PLAN



PLAN:
SCALE: 1"=30'

PAVEMENT MARKING AND SIGNAGE PLAN

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
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DATE: 6/29/2016

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CITY OF KEY WEST

LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#1 BIG COPPIT KEY - BOBALU'S (SB #32)
PAVING AND GRADING PLAN
PAVEMENT MARKING AND SIGNAGE PLAN

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-35
SHEET: C-35

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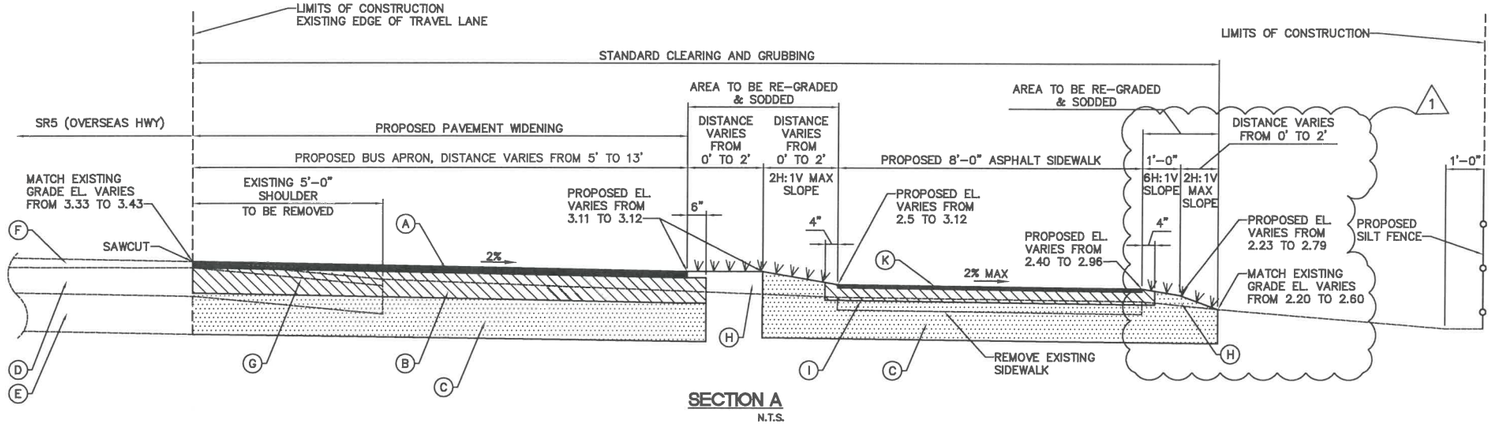
SECTION NOTES:

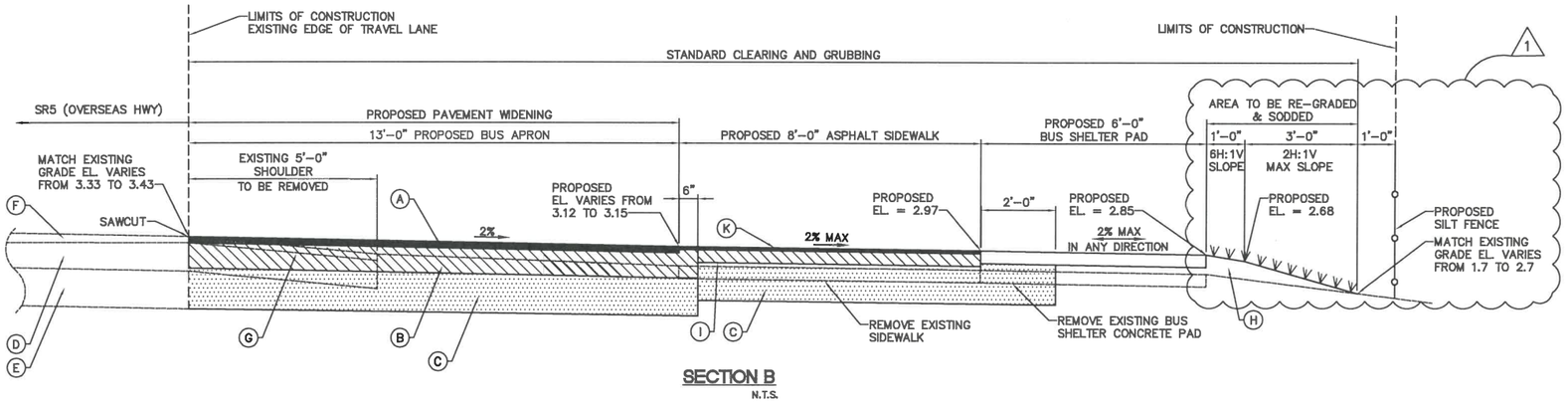
- (A) PROPOSED ASPHALTIC CONCRETE SURFACE, 4" TYPE SP-12.5 STRUCTURAL COURSE (TRAFFIC C) & 1" FC-9.5 FRICTION COURSE (TRAFFIC C) AS PER FDOT SECTION 334 & 337
- (B) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 9 (THICKNESS = 10") COMPACTED TO 98% OF THE AASHTO T-180
- (C) PROPOSED STABILIZED SUBGRADE TYPE B (MIN. LBR=40) (MIN THICKNESS = 12") COMPACTED TO 98% OF THE AASHTO T-180
- (D) EXISTING BASE COURSE
- (E) EXISTING STABILIZED SUBGRADE
- (F) EXISTING ASPHALT PAVEMENT TO REMAIN
- (G) EXISTING SHOULDER PAVEMENT AND SHOULDER BASE TO BE REMOVED.
- (H) FILL WITH SUITABLE MATERIAL (MIN. LBR=40) IN 6" LIFTS AND COMPACTED TO 95% OF THE AASHTO T-99 METHOD C TEST
- (I) PROPOSED BASE COURSE, OPTIONAL BASE GROUP 1 (THICKNESS =4") COMPACTED TO 95% OF THE AASHTO T-180
- (J) PROPOSED 4" THICK CONCRETE SIDEWALK PER FDOT S.I. 310
- (K) PROPOSED TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)

GENERAL NOTES:

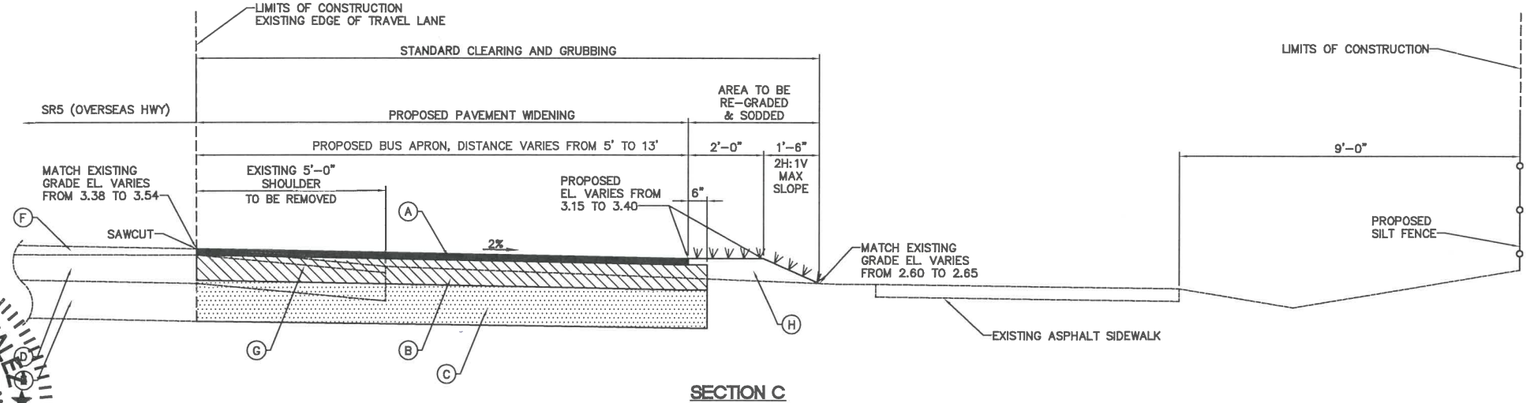
1. PAVEMENT DESIGN FOR WIDENING: CONSTRUCT OPTIONAL BASE GROUP 9 WITH TYPE SP-12.5 (4" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE TRAFFIC LEVEL C AND TYPE FC-9.5 (1" THICK) ASPHALTIC CONCRETE FRICTION COURSE.
2. PAVEMENT DESIGN FOR ASPHALT SIDEWALK: CONSTRUCT OPTIONAL BASE GROUP 1 WITH TYPE SP-9.5 (1" THICK) ASPHALTIC CONCRETE STRUCTURAL COURSE (TRAFFIC A)
3. EXISTING LIMEROCK BASE THAT IS REMOVED CAN BE INCORPORATED INTO THE STABILIZED PORTION OF THE SUBGRADE BUT IS NOT TO BE USED IN CONSTRUCTION OF THE PROPOSED BASE.
4. EXTEND LIMEROCK BASE, 6" OUTSIDE EDGES OF PAVEMENT AND AT ALL CONNECTIONS TO LOCAL ROADS AND STREETS.
5. BAHIA SOD TO BE USED AT LOCATIONS WHERE INDICATED AND WHERE EXISTING SOD IS DISTURBED, AS APPROVED BY THE ENGINEER.



SECTION A
N.T.S.



SECTION B
N.T.S.



SECTION C
N.T.S.

MICHAEL DENNIS GONZALEZ
LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
06/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

#1 BIG COPPIT KEY - BOBALU'S (SB #32)
CROSS SECTIONS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-36
SHEET: C-36

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TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROLS SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS, THE CURRENT EDITION OF THE FLORIDA DOT DESIGN STANDARDS (600 SERIES), THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS MINIMUM CRITERIA.
2. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ALL POTHOLES THAT DEVELOP WITHIN THE PROJECT LIMITS AND WILL MAINTAIN A SUPPLY OF COLD MIX ON THE PROJECT SITE TO EXPEDITE THOSE REPAIRS.
3. NOTIFICATION OF LANE CLOSURES OR TEMPORARY DETOURS SHALL BE ACCOMPLISHED 14 WORKING DAYS PRIOR TO CLOSURE. DETOUR OR MOT PHASE CHANGE BY SUBMITTING THE REQUIRED LANE CLOSURE FORM. SKETCHES. CALCULATIONS. AND OTHER DATA THROUGH THE ENGINEER TO THE DISTRICT TRAFFIC OPERATIONS OFFICE.
4. AT THE DISCRETION OF THE ENGINEER, IF A LANE CLOSURE CAUSES EXTENDED CONGESTION OR DELAY, THE CONTRACTOR SHALL BE DIRECTED TO REOPEN THE CLOSED LANE(S) UNTIL SUCH TIME THAT THE TRAFFIC FLOW HAS RETURNED TO AN ACCEPTABLE LEVEL.
5. THE TRAFFIC AND TRAVEL WAYS SHALL NOT BE ALTERED BY THE CONTRACTOR TO CREATE A WORK ZONE UNTIL ALL LABOR AND MATERIAL ARE AVAILABLE FOR THE CONSTRUCTION IN THAT AREA.
6. LANE CLOSINGS SHALL OCCUR ONLY DURING NON–PEAK HOURS. NON–PEAK HOURS ARE:

   8:00P.M.TO 6 A.M. SUNDAY THROUGH THURSDAY.

   NO EXISTING LANES SHALL BE CLOSED ON SATURDAY, SUNDAY, OR ANY HOLIDAY. NO EXISTING LANES SHALL BE CLOSED ON A FRIDAY PRECEDING A SATURDAY HOLIDAY OR THE MONDAY FOLLOWING A SUNDAY HOLIDAY. NO EXISTING LANE SHALL BE CLOSED DURING KEYS SPECIAL EVENT DATES AS DETERMINED BY THE ENGINEER. THE ENGINEER MAY ADJUST LANE CLOSURE TIMES IF CONDITIONS WARRANT.
7. REGULATORY SPEED ESTABLISHED WITHIN WORK ZONE TRAVEL WAYS SHALL BE THE POSTED SPEED (45 MPH DURING THE DAY AND 35 MPH DURING THE NIGHT). REDUCED SPEED AND REGULATORY SPEED SIGNS SHALL BE INSTALLED ON SEPARATE POSTS IN ACCORDANCE WITH THE STANDARD INDEXES.
8. AS DETERMINED BY THE ENGINEER,THE CONTRACTOR SHALL COVER WORK ZONE SIGNS WHEN CONDITIONS NO LONGER WARRANT THEIR USE.
9. CONTRACTOR SHALL REMOVE, RELOCATE OR COVER ANY EXISTING OR PROPOSED SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLANS. WHEN THE CONFLICT NO LONGER EXISTS, THE CONTRACTOR SHALL RESTORE THE SIGNS TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY REMOVING.RELOCATING.COVERING AND RESTORING THE SIGNS SHALL BE INCLUDED IN PAY ITEM 102–1, MAINTENANCE OF TRAFFIC.
10. LANE CLOSURES SHALL NOT BE PERMITTED DURING SCHOOL SPEED ZONE HOURS WHERE SUCH CLOSURES WILL AFFECT TRAFFIC FLOW IN THE VICINITY OF THE SCHOOL SPEED ZONES.
11. EACH EXISTING STREET NAME AND STOP SIGN AFFECTED BY CONSTRUCTION SHALL BE RELOCATED AND MAINTAINED IN AN APPROPRIATE LOCATION FOR THE DURATION OF THE PROJECT. WHEN NO LONGER AFFECTED BY CONSTRUCTION, THESE SIGNS SHALL BE RESTORED TO THEIR ORIGINAL POSITION. COST OF TEMPORARILY RELOCATING AND RESTORING THE SIGNS SHALL BE INCLUDED IN PAY ITEM 102–1. MAINTENANCE OF TRAFFIC.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF STORM WATER FROM ROADWAYS UTILIZED FOR MAINTAINING TRAFFIC IN A MANNER APPROVED BY THE ENGINEER. COST FOR REMOVING THE WATER SHALL BE INCLUDED IN PAY ITEM 102–1. MAINTENANCE OF TRAFFIC.

MARKINGS:

1. COST OF REMOVAL OF WORK ZONE PAVEMENT MARKINGS (INCLUDING PAINT, REMOVABLE TAPE AND MARKERS), REGARDLESS OF METHOD, TO BE INCLUDED IN THE RELATED PAVEMENT MARKING/MARKERS PAY ITEMS. COST OF REMOVAL OF PAVEMENT MARKINGS AND MARKERS, EXISTING PRIOR TO CONSTRUCTION, TO BE INCLUDED IN MAINTENANCE OF TRAFFIC, I.S. USE OF BLACK PAINT TO COVER EXISTING AND/OR TEMPORARY PAVEMENT MARKINGS IS PROHIBITED. GRINDING OR MILLING SHALL ONLY BE PERMITTED IN NON–TRAFFIC AREAS.
2. TEMPORARY LANE TRANSITIONS, SHIFTS, AND CROSSOVERS SHALL HAVE SOLID LANE AND EDGE LINES FOR THE LENGTH OF THE TRANSITION, SHIFT OR CROSSOVER. IN ADDITION. SOLID LANE AND EDGE LINES SHALL EXTEND 100FT ON TANGENT BEYOND EACH END OF THE TRANSITION. SHIFT. OR CROSSOVER. EXCEPTION SHALL BE THROUGH INTERSECTIONS WHERE 2–4FT SKIP LINES WILL BE PLACED.
3. ALL TEMPORARY STRIPES AND MARKINGS SHALL BE PAINT ONLY, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER.
4. TEMPORARY RAISED PAVEMENT MARKERS (RPMS) SHALL BE INSTALLED ON THE EDGE. CENTER. AND LANE LINES OF ALL CROSSOVERS, TRANSITIONS. AND TANGENT SECTIONS WITHIN THE WORK ZONE WHERE THE VEHICLE PATHS ARE ALTERED.THE SPACING FOR THESE RPMS SHALL BE 40FT ON CENTERS FOR TANGENT SECTIONS AND 5 FT FOR TRANSITIONS, CURVES. AND CROSSOVERS. THE RPMS SHALL EXTEND 100FT ON THE TANGENT SECTION BEYOND EACH END OF THESE CROSSOVERS OR TRANSITION AREAS.

SIGNALS:

1. CONTRACTOR SHALL NOTIFY THE MONROE COUNTY PUBLIC WORKS DEPARTMENT LOCATED AT 1100 SIMONTON STREET. KEY WEST. FLORIDA 33040 AND PHONE NO. 305–292–4560, 48 HOURS PRIOR TO ANY MODIFICATION OF AN EXISTING TRAFFIC SIGNAL SYSTEM. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR THE MAINTENANCE OF THE EXISTING OR TEMPORARY TRAFFIC SIGNAL(S) WITHIN THE PROJECT LIMITS. COST OF RELOCATING TRAFFIC SIGNAL HEADS. PROVIDING AND REMOVING TEMPORARY SIGNALS. AND MAINTAINING THE EXISTING OR TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED IN PAY ITEM 102–1, MAINTENANCE OF TRAFFIC.

WORK ZONE LIMITS:

1. ALL MILLED SURFACES SHALL BE PAVED PRIOR TO OPENING TO TRAFFIC.
2. THE LENGTH OF AN OPEN TRENCH SHALL NOT EXCEED 500 FT. PROPERTY ACCESS SHALL BE MAINTAINED IN ACCORDANCE TO ARTICLE 102– 5.5 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

INTERSECTIONS:

1. ADJACENT INTERSECTIONS SHALL NOT BE CONSTRUCTED SIMULTANEOUSLY UNLESS DIRECTED BY THE ENGINEER.
2. INTERSECTIONS SHALL BE RECONSTRUCTED WORKING ON A CONTINUOUS DAILY BASIS UNTIL COMPLETE AND UNTIL THE STRUCTURAL COURSE IS PLACED.
3. M.O.T. TRANSITIONS AND TEMPORARY INTERSECTION CROSSOVERS WHERE CONSTRUCTION HAS CAUSED GRADE DIFFERENCES BETWEEN THE EXISTING AND NEW ROADWAYS SHALL BE CONSTRUCTED USING A 1:20 TYPE SP ASPHALT CONCRETE SLOPE TO ACCOMMODATE VEHICULAR TRAFFIC FROM ANY DIRECTION. ALL MATERIAL AND WORK. INCLUDING ITS REMOVAL. SHALL BE INCLUDED IN PAY ITEM 102–1. MAINTENANCE OF TRAFFIC.

PEDESTRIANS, BICYCLES AND WHEELCHAIRS:

1. AT THE END OF EACH WORK DAY OR WHENEVER THE WORK ZONE BECOMES INACTIVE. ANY DROP OFF GREATER THAN 6 IN ADJACENT TO THE PEDESTRIAN, BICYCLE, AND WHEELCHAIR TRAVEL PATHS SHALL BE BACKFILLED FLUSH WITH THE SAID PATHS OR PROTECTED WITH TEMPORARY FENCE, CONCRETE BARRIER WALL OR APPROVED HANDRAIL. COST SHALL BE INCLUDED IN PAY ITEM 102–1. MAINTENANCE OF TRAFFIC.
2. TRANSIT–KWDOT OPERATES BUS ROUTES THROUGH THE PROJECT AREA. THERE MAY BE SOME LOCATIONS IN THE PROJECT AREA WHERE THE BUS MAY NORMALLY STOP. SOME OF THE TCP PHASES MIGHT LIMIT ACCESSIBILITY TO BUS SERVICE. IF COORDINATION IS NEEDED WITH KWDOT PLEASE CALL 305–809–3910.
3. AS WITH FDOT, DEP MUST BE NOTIFIED 14 DAYS IN ADVANCE OF ANY M.O.T. OPERATIONS AFFECTING TRAIL USERS AND THE TRAIL MUST REMAIN OPEN, PER REROUTING IF NECESSARY, AT ALL TIMES. PLEASE CALL JIM POST, FKOHT CONSTRUCTION MANAGER, AT 305–853–3571 FOR COORDINATION.

DROP OFFS:

1. THE CONTRACTORS ATTENTION IS DIRECTED TO STANDARD INDEX No.600 9 OF 12 FOR DROP OFF CONDITIONS IN WORK ZONES.

1

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LICENSE
No. 78616
STATE OF FLORIDA
PROFESSIONAL ENGINEER
09/12/2016

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1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: I.S.
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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

TRAFFIC CONTROL NOTES

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C–37
SHEET: C–37

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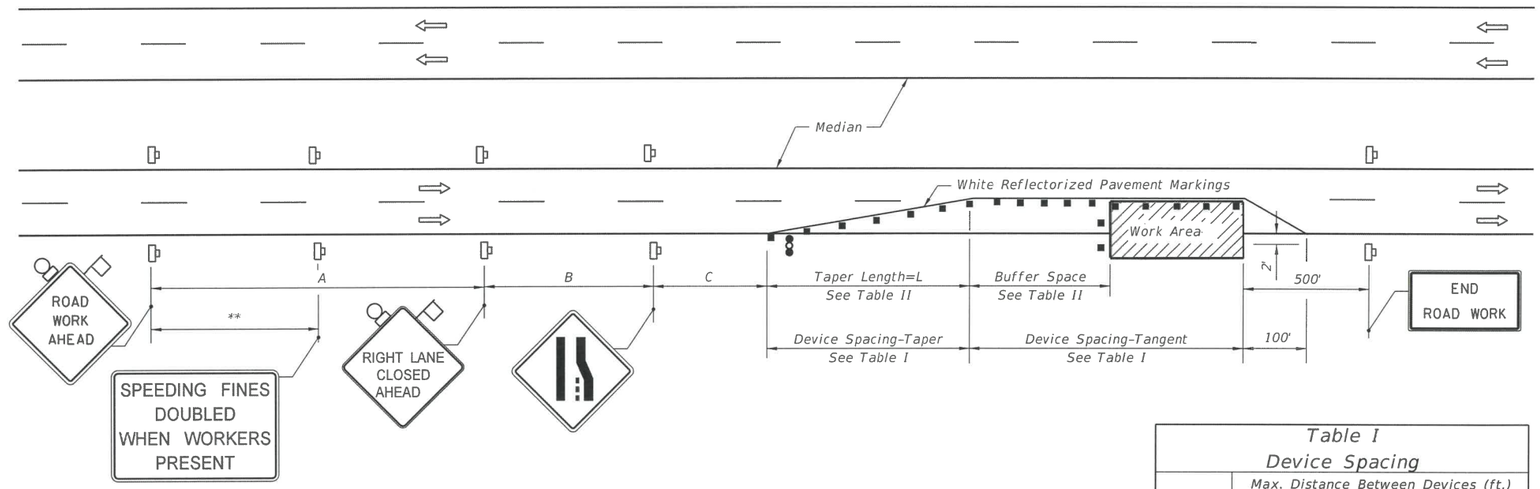

DISTANCE BETWEEN SIGNS			
Speed	Spacing (ft.)		
	A	B	C
40 mph or less	200	200	200
45 mph	350	350	350
50 mph	500	500	500
*55 mph or greater	2640	1640	1000

* The ROAD WORK 1 MILE sign may be used as an alternate to the ROAD WORK AHEAD sign and the RIGHT LANE CLOSED ½ MILE sign may be used as an alternate to the RIGHT LANE CLOSED AHEAD sign.

** 500' beyond the ROAD WORK AHEAD sign or midway between signs whichever is less.

SYMBOLS

- Work Area
- Sign With 18"x 18" (Min.) Orange Flag And Type B Light
- Channelizing Device (See Index No. 600)
- Work Zone Sign
- Advance Warning Arrow Board

GENERAL NOTES

1. Work operations shall be confined to one traffic lane, leaving the adjacent lane open to traffic.
2. On undivided highways the median signs as shown are to be omitted.
3. When work is performed in the median lane on divided highways, the channelizing device plan is inverted and left lane closed and lane ends signs substituted for the right lane closed and lane end signs.

   The same applies to undivided highways with the following exceptions:
   a. Work shall be confined within one median lane.
   b. Additional barricades, cones, or drums shall be placed along the centerline abutting the work area and across the trailing end of the work area.

   When work on undivided highways occurs across the centerline so as to encroach on both median lanes, the inverted plan is applied to the approach of both roadways.
4. Signs and traffic control devices are to be modified in accordance with INTERMITTENT WORK STOPPAGE details (sheet 2 of 2) when no work is being performed and the highway is open to traffic.
5. The two channelizing devices directly in front of the work area may be omitted provided vehicles in the work area have high-intensity rotating, flashing, oscillating, or strobe lights operating.
6. When paved shoulders having a width of 8 ft. or more are closed, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the travel way. See Index No. 612 for shoulder taper formulas.
7. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
8. This TCZ plan does not apply when work is being performed in the middle lane(s) of a six or more lane highway. See Index No. 614.
9. For general TCZ requirements and additional information, refer to Index No. 600.

Table I Device Spacing				
Speed (mph)	Max. Distance Between Devices (ft.)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II Buffer Space and Taper Length			
Speed (mph)	Buffer Space	Taper Length (12' Lateral Transition)	
	Dist. (ft.)	L (ft.)	Notes (Merge)
25	155	125	$L = \frac{WS^2}{60}$
30	200	180	
35	250	245	
40	305	320	
45	360	540	L = WS
50	425	600	
55	495	660	
60	570	720	
65	645	780	
70	730	840	

When Buffer Space cannot be attained due to geometric constraints, the greatest attainable length shall be used, but not less than 200 ft.

For lateral transitions other than 12', use Where:

L = Length of taper in feet
W = Width of lateral transition in feet
S = Posted speed limit (mph)

DURATION NOTES

1. Temporary white edgeline may be omitted for work operations less than 3 consecutive calandar days.
2. For work operations up to approximately 15 minutes, signs, channelizing devices, arrow board, and buffer space may be omitted if all of the following conditions are met:
   a. Speed limit is 45 mph or less.
   b. No sight obstructions to vehicles approaching the work area for a distance equal to the buffer space and the taper length combined.
   c. Volume and complexity of the roadway has been considered.
   d. The closed lane is occupied by a class 5 or larger, medium duty truck(s) with a minimum gross weight vehicle rating (GWVR) of 16,001 lb with high-intensity, rotating, flashing, oscillating, or strobe lights mounted above the cab height and operating.
3. For work operations up to 60 minutes, arrow board and buffer space may be omitted if conditions a, b, and c in DURATION NOTE 2 are met, and vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

CONDITIONS

WHERE ANY VEHICLE, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCROACH ON THE LANE ADJACENT TO EITHER SHOULDER AND THE AREA 2' OUTSIDE THE EDGE OF TRAVEL WAY.

MICHAEL DENNIS GONZALEZ
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No. 78616
09/12/2016
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

TRAFFIC CONTROL NOTES

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-38
SHEET: C-38

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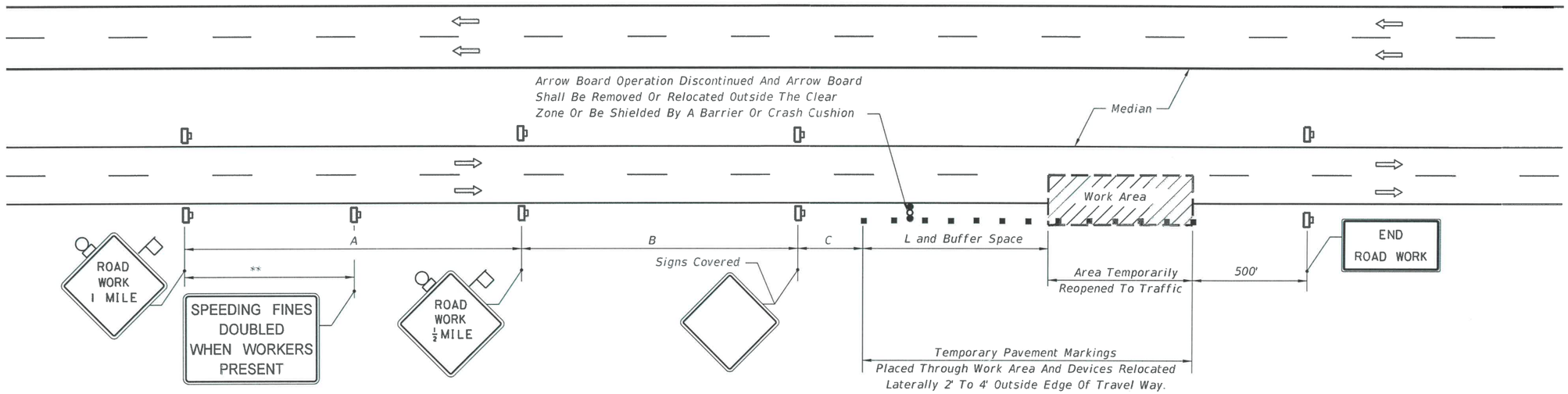
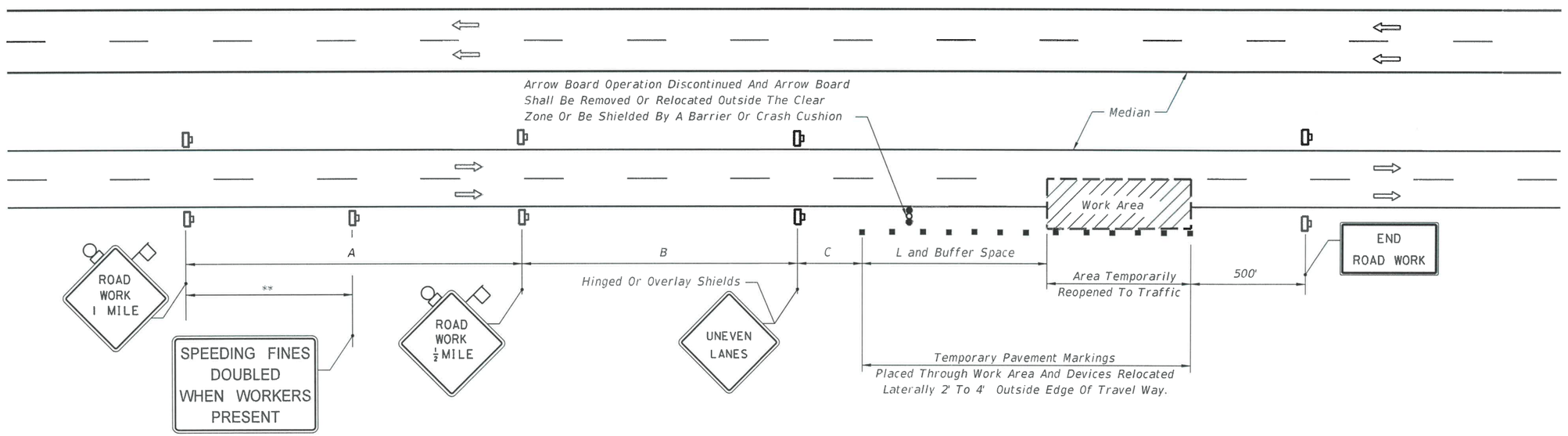


EVEN PAVEMENT



UNEVEN PAVEMENT

INTERMITTENT WORK STOPPAGE - LANE REOPENED TO TRAFFIC

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09/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
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TRAFFIC CONTROL NOTES

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-39
SHEET: C-39

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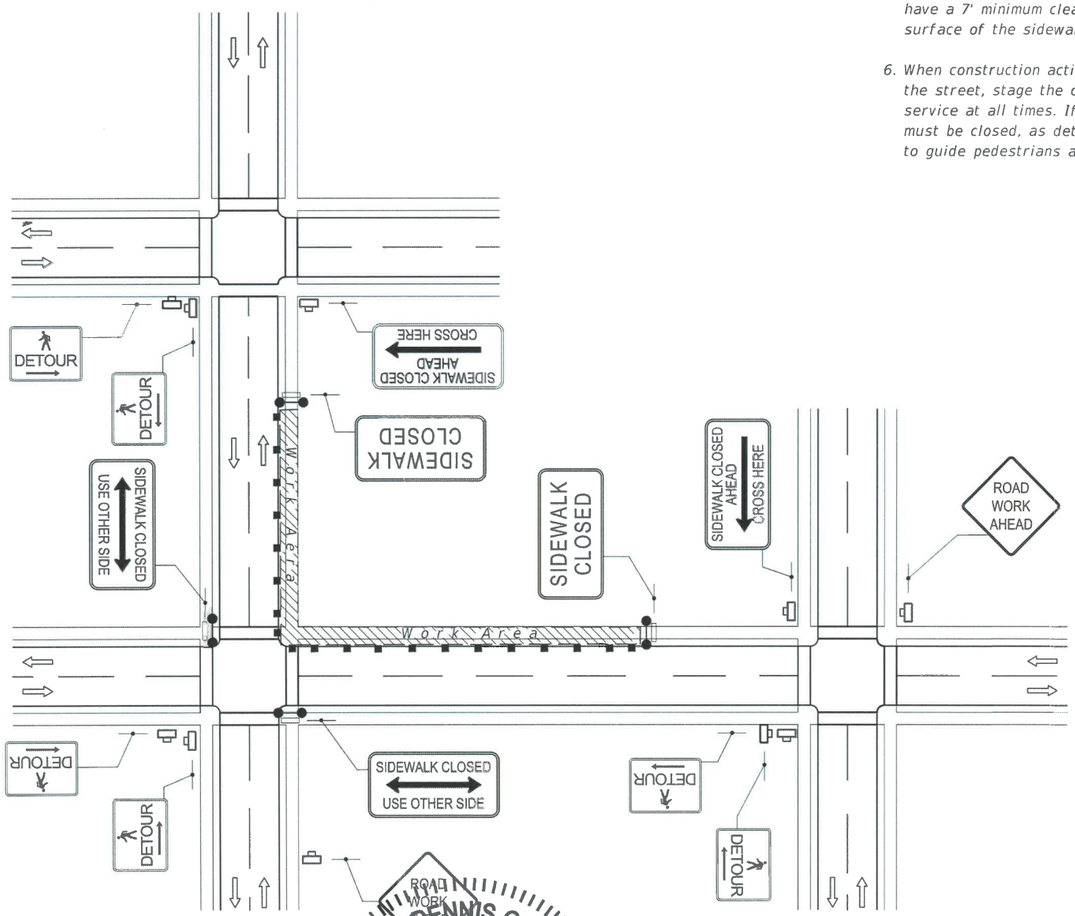
SYMBOLS

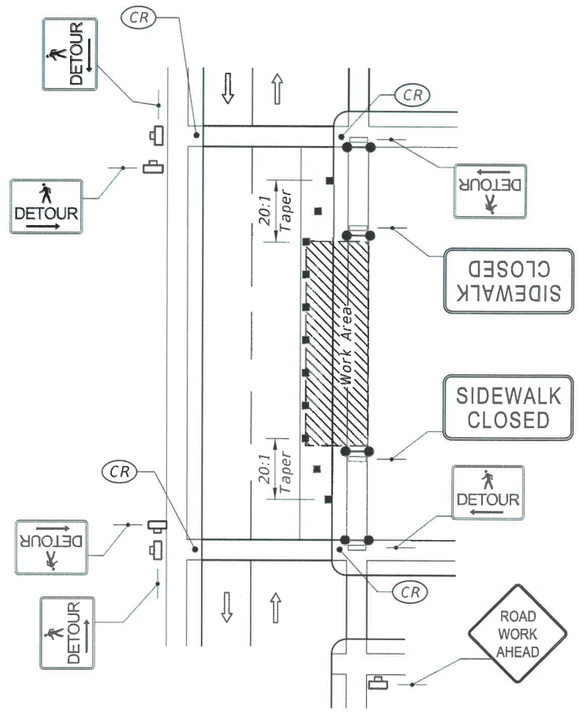
- Work Area
- Channelizing Device (See Index 600)
- Work Zone Sign
- CR — Required Locations For Either Temporary Or Permanent Curb Ramps.
- Lane Identification + Direction of Traffic
- Pedestrian Longitudinal Channelizing Device (LCD) with Mounted Work Zone Sign
- Pedestrian Longitudinal Channelizing Device (LCD)

GENERAL NOTES

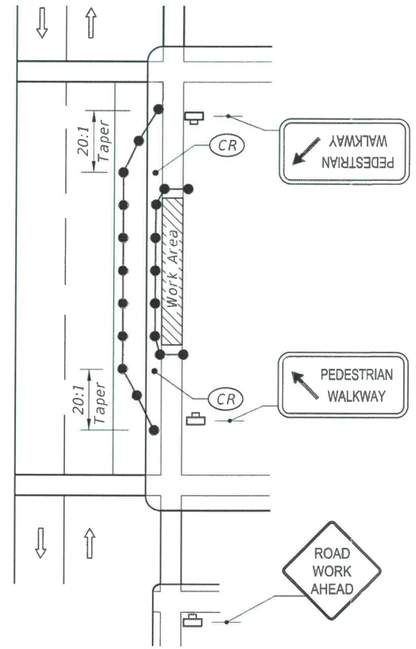
1. Route pedestrian traffic around work areas when construction activities encroach on the sidewalk for more than 60 minutes using the devices and remedies shown on this Index. Use project specific designs for scenarios not included on this Index.
2. For spacing of traffic control devices and general TCZ requirements refer to Index 600. The maximum spacing between barricades, vertical panels, drums or tubular markers is 25'.
3. Use delineators on longitudinal channelizing devices separating the work area from vehicular traffic.
4. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.
5. Post mounted signs located near or adjacent to a sidewalk must have a 7' minimum clearance from the bottom of sign to the surface of the sidewalk.
6. When construction activities involve sidewalks on both sides of the street, stage the construction so that one sidewalk is in service at all times. If this is not feasible and both sidewalks must be closed, as determined by the Engineer, provide a detour to guide pedestrians around the construction zone.
7. Provide a 5' wide temporary walkway, except where space restrictions warrant a minimum width of 4'. Provide a 5' x 5' passing space for temporary walkways less than 5' in width at intervals not to exceed 200'.
8. Provide a cross-slope with a maximum value of 0.02 for all temporary walkways.
9. Temporary walkway surfaces and ramps must be stable, firm, slip resistant, and kept free of any obstructions and hazards such as holes, debris, mud, construction equipment and stored materials.
10. Remove temporary walkways immediately after reopening of the sidewalk, unless otherwise noted in the plans.
11. Meet the requirements of Index 304 for temporary curb ramps.
12. Place pedestrian longitudinal channelizing device(s) across the full width of the closed sidewalk. For temporary walkways, similar to the Sidewalk Diversion, place LCD's to delineate both sides of the temporary walkway.



CROSSWALK CLOSURE AND PEDESTRIAN DETOUR



SIDEWALK DETOUR



SIDEWALK DIVERSION

MICHAEL DENNIS GONZALEZ — LICENSE No. 78516 — PROFESSIONAL ENGINEER — STATE OF FLORIDA — 06/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

TRAFFIC CONTROL NOTES

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-40
SHEET: C-40

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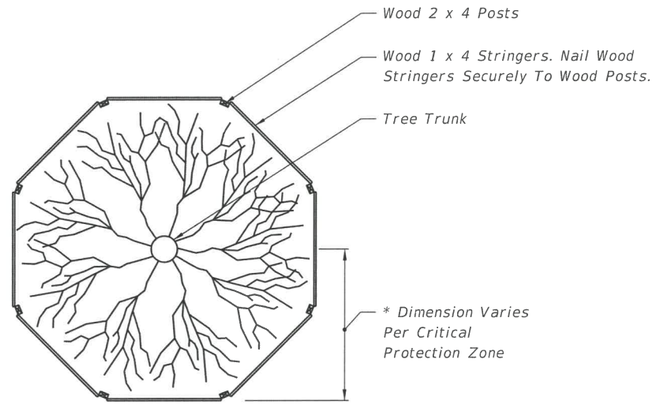
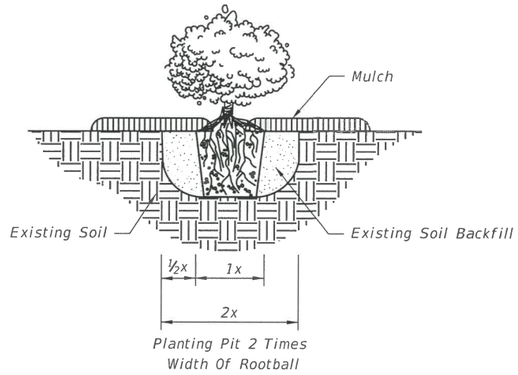
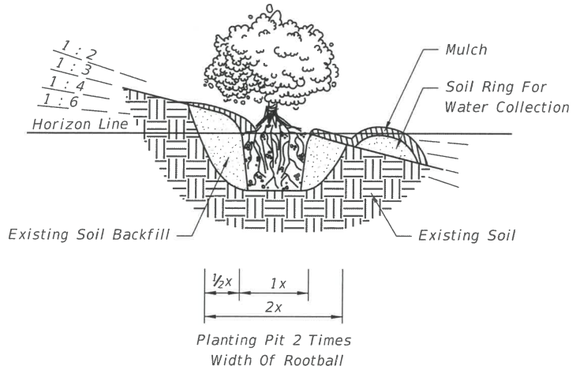


NOTE: For Groups Of Trees, Place Barricades Between Trees And Construction Activity.

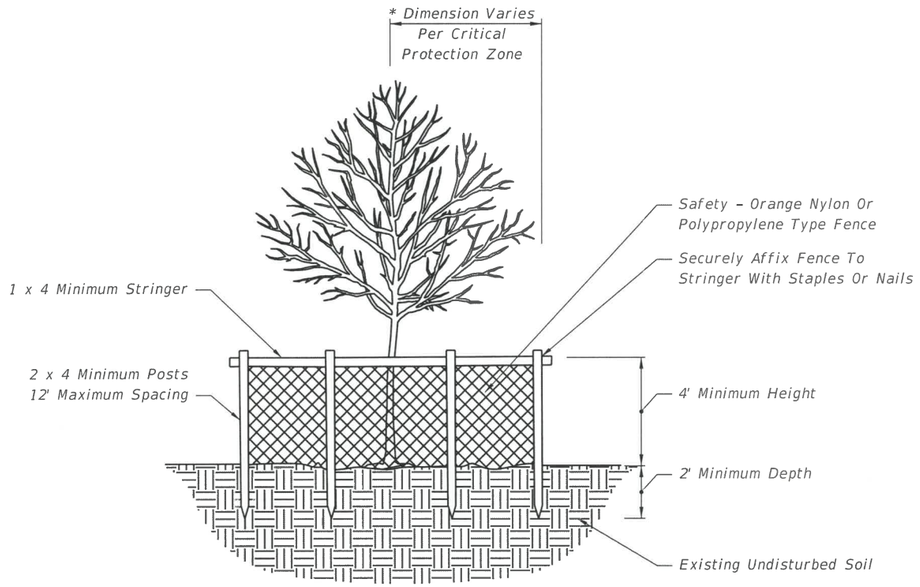


GROUND COVER/SHRUB PLANTING



NOTE: Slope Provided As Rise:Run.

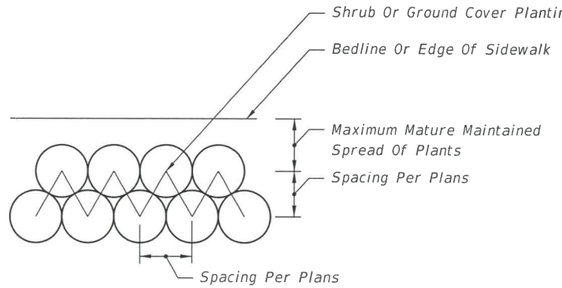
GROUND COVER/SHRUB PLANTING ON SLOPE



NOTES: Critical Protection Zone: The Area Surrounding A Tree Within A Circle Described By A Radius Of One Foot For Each Inch Of The Tree Trunk Diameter At 54" Above Finished Grade. For Groups Of Trees, Place Barricades Between Trees And Construction Activity.

* Tree Protection Barricades Shall Be Located To Protect A Minimum Of 75% Of The Critical Protection Zone.

TREE PROTECTION BARRICADE



GROUND COVER/SHRUB LAYOUT DETAIL

PRINCIPAL DENNIS GONZALEZ LICENSE No. 78616 STATE OF FLORIDA PROFESSIONAL ENGINEER
09/12/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

LANDSCAPING DETAILS

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-41
SHEET: C-41

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DROP-OFF CONDITION NOTES

1. These conditions and treatments can be applied only in work areas that fall within a properly signed work zone.

2. A drop-off is defined as a drop in elevation, parallel to the adjacent travel lanes, greater than 3" with slope (A:B) steeper than 1:4 and an algebraic difference in slopes greater than 0.25 (See Drop-off Condition Detail). When drop-offs occur within the clear zone due to construction or maintenance activities, protection devices are required (See Table 1).

3. Drop-offs may be mitigated by placement of slopes with optional base material per Specifications Section 285. Slopes shallower than 1:4 may be required to avoid algebraic difference in slopes greater than 0.25. Include the cost for the placement and removal of the material in Maintenance of Traffic, LSD. Use of this treatment in lieu of a barrier is not eligible for CSIP consideration. Conduct daily inspections for deficiencies related to erosion, excessive slopes, rutting or other adverse conditions. Repair any deficiencies immediately.

4. Distance X is to be the maximum practical under project conditions.

5. For Clear Zone widths, see Index No. 600, Sheet 3.

6. For Setback Distance, refer to the Standard Index drawing of the selected barrier for the required deflection space.

7. Distance from the travel lane to the barrier or warning device should be maximum practical for project conditions.

8. For Conditions 1 and 3 provided in Table 1, any drop- off condition that is created and restored within the same work period will not be subject to the use of barriers; however, warning devices will be required.

9. When permanent curb heights are ≥ 6", no warning device will be required. For curb heights < 6", see Table 1.

10. Where a barrier is specified, any of the types below may be used in accordance with the applicable Index:

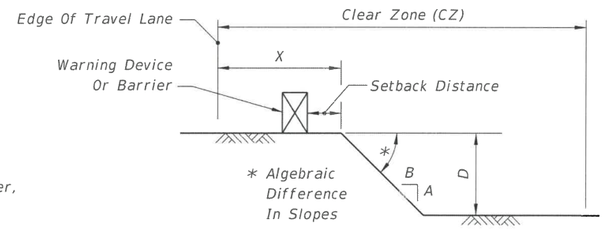
Index No.	Description
400	Guardrail
412	Low Profile Barrier
414	Type K Temporary Concrete Barrier System
415	Temporary Concrete Barrier

For other types of temporary barriers see the APL.

11. Drop- off condition and protection requirements apply to all speeds.

Table 1
Drop-off Protection Requirements

Condition	X (ft)	D (in.)	Device Required
1	0-12	> 3	Barrier (See Note 8)
2	12-CZ	> 3 to ≤ 5	Warning Device
3	0-CZ	> 5	Barrier (See Note 8)
4	Removal of Bridge or Retaining Wall Barrier		Barrier
5	Removal of portions of Bridge Deck		Barrier



DROP-OFF CONDITION DETAIL

WARNING DEVICE NOTES

1. The following are defined as acceptable warning devices:
   a. Vertical panel
   b. Type I Or Type II barricades
   c. Drum
   d. Cone (where allowed)
   e. Tubular marker (where allowed)

2. Use the warning device spacing shown in Table 2.

Table 2
Warning Device Spacing

Speed (mph)	Max. Distance Between Devices (ft)			
	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

TRAVEL LANE TREATMENT FOR MILLING OR RESURFACING NOTES

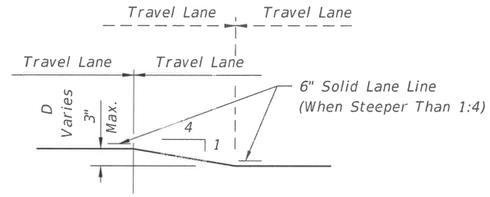
1. This treatment applies to resurfacing or milling operations between adjacent travel lanes.

2. Whenever there is a difference in elevation between adjacent travel lanes, the W8-11 sign with "UNEVEN LANES" is required at intervals of ½ mile maximum.

3. If D is 1½" or less, no treatment is required.

4. Treatment allowed only when D is 3" or less.

5. If the slope is steeper than 1:4 (not to be steeper than 1:1), the R4-1 and MOT-1-06 signs shall be used as a supplement to the W8-11; this condition should never exceed 3 miles in length.



TRAVEL LANE TREATMENT FOR MILLING OR RESURFACING DETAIL

PEDESTRIAN AND/OR BICYCLIST WAY DROP-OFF CONDITION NOTES

1. A pedestrian and/or bicyclist way drop-off is defined as:

   a. a drop in elevation greater than 10" that is closer than 2' from the edge of the pedestrian or bicyclist way

   b. a slope steeper than 1:2 that begins closer than 2' from the edge of the pedestrian or bicyclist way when the total drop-off is greater than 60"

2. Protect any drop-off adjacent to a pedestrian or bicyclist way with warning devices, temporary barrier wall, or approved handrail.

DROP-OFFS IN WORK ZONES

MICHAEL DENNIS GONZALEZ LICENSE No. 78616 STATE OF FLORIDA PROFESSIONAL ENGINEER
09/12/2016

REV.	DATE	BY:	DESCRIPTION
1	2/9/16		FDOT 151130 Submittal Comments

DESIGNED BY: M.G.
DRAWN BY: E.P.
CHECKED BY: I.S.
DATE: 6/29/2016

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CITY OF KEY WEST
LOWER KEYS BUS STOP APRONS
PROJECT NO. TS 1102
MARATHON TO BIG COPPITT KEY

DROP OFFS IN WORK ZONES

SCALE: AS SHOWN
PROJECT NO.: 1504
DWG. NO.: 1504C-42
SHEET: C-42

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