

JANUARY 25, 2010

EXHIBIT A



SCOPE OF SERVICES

FOR

FINANCIAL PROJECT ID(S). 427052-1-52-01

FEDERAL PROJECT NO. 0952 143 I

DISTRICT FOUR

INDIAN RIVER COUNTY

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SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES

HIGHWAY AND BRIDGE/STRUCTURAL DESIGN

This Exhibit forms an integral part of the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT) and _____ (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project ID:	427052 1 32 01
Work Program Item No.:	
Federal Aid Project No.:	0952 143 I
County Section No.:	88081000
Description:	SR 9/I-95 from Indian River/St Lucie Co. Line to S. of SR60 M.P. 5.909 Indian River County
Bridge Nos.:	880072, 88073, 88074 & 88075

1 PURPOSE

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the DEPARTMENT in connection with the design and preparation of a complete set of construction contract plans and special provisions, if necessary, for:

Improvements to the transportation facility described herein

Major work mix include: Milling & Resurfacing

Major work groups include: 3.3

Minor work groups include: 7.1, 7.2, 9.1, 9.2, 15.0

Known alternative construction contracting methods include: N/A

The general objective is for the CONSULTANT to prepare a set of plans to be used by the contractor to build the project, and by the DEPARTMENT to ensure the project is built as designed and to specifications.

The Scope of Services establishes which items of work described in the Plans Preparation Manual and other pertinent manuals to accomplish the work are specifically included in this contract, and also which of the items of work will be the responsibility of the CONSULTANT or the DEPARTMENT.

All plans and design documents are to be prepared with Standard English values in accordance with all applicable DEPARTMENT manuals and guidelines.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original recommendation may be required. The CONSULTANT is to incorporate these refinements into the design and will consider this effort to be an anticipated and integral part of the work. This will not be a basis for any supplemental fee request(s).

The CONSULTANT shall demonstrate good project management practices while working on this project. These include communication with the DEPARTMENT and others as necessary, management of time and resources, and documentation. The CONSULTANT shall set up and maintain throughout the design of the project a contract file in accordance with DEPARTMENT procedures. It shall be the CONSULTANT's responsibility to utilize the very best engineering judgment, practices, and principles possible during the prosecution of the work commissioned under this contract.

The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and preparation of the contract plans. The DEPARTMENT will provide job-specific information and/or functions as outlined in this contract.

2 PROJECT DESCRIPTION

The CONSULTANT shall investigate the status of the projects and become familiar with concepts and commitments (typical sections, alignments, etc.) developed from prior studies. If a Preliminary Engineering Report is available from a prior or current Project Development and Environmental (PD&E) study, the CONSULTANT shall use the approved concepts as a basis for the design unless otherwise directed by the DEPARTMENT.

Milling and resurfacing the existing 4-lane divided, rural interstate roadway along SR-9/I-95 from Indian River/St Lucie Co. Line to South of SR60 (Mile Post 5.909) in Indian River County, to extend the service life of the existing roadway. Includes the analysis of existing pavement conditions, roadway slopes, geometry, clear zone, signalized intersections and appropriate implementation of analyses

2.1 Roadway (Activities 3.0, 4.0, and 5.0)

Public Involvement: CAP Level 4, one public meeting.

Joint Project Agreements: N/A

Specification Package Preparation: Workbook, Final Specifications Package (including permits and TSP's as needed)

Value Engineering: N/A

Plan Type: Plan sheets; profile sheets (as needed or directed)

Limits: SR 9/I-95 from Indian River/St Lucie Co. Line (M.P. 0.000) to South of SR60 (M.P. 5.909).

Typical Section: One Typical Section

The Typical Section consists of a four-lane, divided, rural roadway, with 12' wide lanes, 12' outside shoulders (10' paved, 2' unpaved), 4' inside paved shoulders, and 89' median.

Pavement Design: One Pavement Design expected

Access Management Classification: Limited Access right-of-way

Major Intersections/Interchanges: Two additional plan sheets required (as needed) at SR60

Level of TCP Plans: Level 1

Temporary Signals: N/A

Temporary Lighting: N/A

Temporary Drainage: N/A.

Variations/Exceptions: No anticipated variations/exceptions, but to be prepared as needed if required.

Back of Sidewalk Profiles: N/A.

2.2 Drainage (Activity 6.0)

Open drainage system, ditches, cross drains and two single barrel box culverts.

2.3 Utilities Coordination (Activity 7.0)

Utilities are to be determined by the CONSULTANT.

The CONSULTANT is responsible for clearing the utilities on this project. The CONSULTANT should coordinate with DEPARTMENT personnel to coordinate transmittals to Utility Companies and meeting schedules.

The CONSULTANT shall insure DEPARTMENT standards, policies, procedures, and design criteria are followed concerning utility coordination. The DEPARTMENT standards, policies, procedures, and design criteria are contained in the current adopted Design Standards, Standard Specifications for Road and Bridge Construction, Rule 14-46.001 (Utility Accommodation Manual), Utility User's Guide, and any Supplemental Specification, Provision, or Agreement attached to this Contract.

The CONSULTANT may employ more than one individual or utility engineering consultant to provide utility coordination and engineering design expertise. The CONSULTANT shall identify a dedicated person responsible for managing all utility coordination activities. This person shall be contractually referred to as the Utility Coordination Manager and shall be identified in the CONSULTANT proposal. The Utility Coordination Manager shall be required to satisfactorily demonstrate to the DEPARTMENT District Utilities Administrator that they have the following knowledge, skills, and expertise:

1. A minimum of 4 years of experience performing utility coordination in accordance with DEPARTMENT, FHWA, and AASHTO standards, policies, and procedures.
2. A thorough knowledge of the DEPARTMENT plans production process and District utility coordination practices.
3. A thorough knowledge of DEPARTMENT agreements, standards, policies, and procedures.

The Utility Coordination Manager shall be responsible for, but not limited to, the following:

1. Making sure Utility Coordination and design is conducted in accordance to the DEPARTMENT, FHWA, and AASHTO standards, policies, procedures, and design criteria.
2. Assisting the engineer of record in identifying all existing utilities and coordinating any new installations.
3. Scheduling and performing utility coordination meetings, keeping and distribution of minutes/action items of all utility meetings, and ensuring expedient follow-up on all unresolved issues.
4. Distributing all plans, conflict matrixes and changes to affected utility owners and making sure this information is properly coordinated.
5. Identifying and coordinating the completion of any DEPARTMENT or utility owner agreement that is required for reimbursement, or accommodation of the utility facilities associated with the project.
6. Assisting the Engineer of Record with resolving utility conflicts.
7. Review and certify to the District Utilities Administrator that all Utility Work Schedules are correct and in accordance with the Department's standards, policies, and procedures.
8. Prepare, review and process all utility related reimbursable issues inclusive of betterment and salvage determination.

9. The CONSULTANT's utility coordination work shall be performed and directed by the identified Utility Coordination Manager that was identified and approved by the DEPARTMENT District Utility Administrator. Any proposed change, of the approved Utility Coordination Manager, shall be subject to review and approval by the DEPARTMENT District Utility Administrator prior to any change being made in this contract.

2.4 Permits (Activity 8)

The St. Johns River Water Management District (SJRWMD) is the governing agency for issuing water use or surface water permits if required.

No Notice General Permit expected, as long as any additional impervious area from any new sidewalk does not exceed criteria.

2.5 Structures (Not applicable to this project)

2.6 Signing and Pavement Markings (Activity 19.0 & 20.0)

Pavement Markings by plan sheets.

Signing as needed by plan sheets.

2.7 Signals (Not applicable to this project)

2.8 Lighting (Activity 23.0 & 24.0) (Optional Services)

Existing high mast lighting at SR60 interchange.

2.9 Landscape Architecture (Activity 25.0 & 26.0) (Partial Optional Services)

Planting Plans:

Irrigation Plans: N/A

Hardscape Plans: N/A

Outdoor Advertising: Indicate if view zones of legally permitted outdoor advertising signs are within the project limits. List the number of sign structures, the number of sign faces (single, double, triple faced), and the number of sign permittees that must be contacted for coordination with the landscape architect.

2.10 Survey (Activity 27.0) (Not applicable to this project)

The Survey information for the entire project will be supplied by the DEPARTMENT to the CONSULTANT.

Design Survey: N/A

Subsurface Utility: N/A

Right of Way Survey: N/A

2.11 Photogrammetry (Not applicable to this project)

The Aerials for the entire project will be supplied by the DEPARTMENT to the CONSULTANT.

2.12 Mapping (Not applicable to this project)

The Project Network Control sheets for the entire project will be supplied by the DEPARTMENT to the CONSULTANT.

2.13 Geotechnical (Activity 30.0) (Optional Services)

2.14 Architecture (Not applicable to this project)

2.15 Noise Barriers (Not applicable to this project)

2.16 Intelligent Transportation Systems (Not applicable to this project)

2.17 Project Schedule

Within ten (10) days after the Notice-To-Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall provide a detailed project activity/event schedule for DEPARTMENT and CONSULTANT scheduled activities required to meet the current DEPARTMENT Production Date. **The current production date is August 6, 2012.** The schedule shall be accompanied by an anticipated payout and fiscal progress curve. For the purpose of scheduling, the CONSULTANT shall allow for a *four (4)* week review time for each phase review and other submittals as appropriate.

The schedule shall indicate all required submittals.

Periodically, throughout the life of the project, the schedule and curves shall be reviewed and, with the approval of the DEPARTMENT, adjusted as necessary to incorporate changes in the work concept and progress to date.

The approved schedule and schedule status report, along with progress and payout curves, shall be submitted with the monthly progress report.

The schedule shall be submitted in Suretrak, Primavera, or system-compatible format.

2.18 Submittals

The CONSULTANT shall furnish plans and documents as required by the DEPARTMENT to adequately control, coordinate, and approve the plans. The CONSULTANT shall distribute phase submittals as directed by the

DEPARTMENT. The DEPARTMENT will determine the specific number of copies required prior to each submittal.

2.19 Provisions for Work

All maps, plans and designs are to be prepared with English values in accordance with all applicable current DEPARTMENT manuals, memorandums, guidelines including but not limited to:

General

- 29 CFR, Part 1910.1101 – Asbestos Standard for Industry, U.S. Occupational Safety and Health Administration (OSHA)
- 29 CFR, Part 1926, 1101 – Asbestos Standard for Construction, OSHA
- 40 CFR, Part 61, Subpart M - National Emission Standard for Hazardous Air Pollutants (NESHAP), Environmental Protection Agency (EPA)
- 40 CFR, Part 763, Subpart E – Asbestos-Containing Materials in Schools, EPA
- 40 CFR, Part 763, Subpart G – Asbestos Worker Protection, EPA
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- Any special instructions from the DEPARTMENT
- Bicycle Facilities Planning and Design Manual,
- CADD Manual
- CADD Production Criteria Handbook
- Ch. 469, F.S. – Asbestos Abatement, Florida Department of Business and Professional Regulation (DBPR)
- Ch. 62257, F.A.C. – Asbestos Program, Florida Department of Environmental Protection (DEP)
- Code of Federal Regulations
- Design Traffic Procedure
- Equivalent Single Axle Load Guidelines
- Florida Administrative Codes
- Florida Department of Business & Professional Regulations Rules
- Florida Department of Environmental Protection Rules
- Florida Department of Transportation Basis of Estimates Manual
- Florida Department of Transportation Design Standards for Design, Construction, Maintenance, and Utility Operations on the State Highway System
- Florida Department of Transportation Handbook for Preparation of Specifications Package
- Florida Department of Transportation Materials Manual
- Florida Department of Transportation Plans Preparation Manual
- Florida Department of Transportation Project Development and Environmental Manual
- Florida Department of Transportation Standard Specifications for Road and Bridge Construction

- Florida Statutes
- Florida's Level of Service Standards and Guidelines Manual for Planning
- K-Factor Estimation Process
- Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways
- Model Guide Specifications – Asbestos Abatement and Management in Buildings, National Institute for Building Sciences (NIBS)
- Policy for Geometric Design of Highways and Streets
- Project Traffic Forecasting Guidelines
- Quality Assurance Guidelines
- Rule 61G17-6, F.A.C., Minimum Technical Standards for Professional Surveyors and Mappers
- Safety Standards
- Utility Accommodations Guidelines

Permits

- Chapter 373, F.S.
- Bridge Permit Application Guide, COMDT PUB P16591.3B
- Building Permit
- [425-000-005](#) Asbestos Management Program
- [625-020-020](#) Asbestos on Bridges

Drainage

- Cross Drain
- Drainage Handbooks
- Drainage Manual
- Erosion and Sediment Control
- Hydrology
- Optional Pipe Materials
- Storm Drain
- Stormwater Management Facility
- Temporary Drainage Handbook

Survey and Mapping

- All applicable Florida Statutes and Administrative Codes
- Applicable Rules, Guidelines Codes and authorities of other Municipal, County, State and Federal Agencies.
- FDOT Aerial Surveying Standards for Transportation Projects Topic 550-020-002
- FDOT Right of Way Mapping Handbook
- FDOT Surveying Procedure Topic 550-030-101

- Florida Department of Transportation Right of Way Procedures Manual
- Florida Department of Transportation Surveying Handbook
- Right of Way Mapping Procedure 550-030-015

Traffic Operation Manuals

- AASHTO - An Information Guide for Highway Lighting
- AASHTO - Guide for Development of Bicycle Facilities
- American Disabilities Act
- Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD)
- Federal Highway Administration Standard Highway Signs Manual
- FHWA - Roundabouts: An Informational Guide
- Florida Department of Transportation - Florida Roundabout Guide
- Florida Department of Transportation Manual on Uniform Traffic Studies (MUTS)
- Florida Department of Transportation Median Handbook
- Florida Department of Transportation Traffic Engineering Manual
- Minimum Specifications for Traffic Control Signal Devices
- National Electric Safety Code
- National Electrical Code

Structures

- AASHTO LRFD Bridge Design Specifications and Interims
- AASHTO LRFD Movable Highway Bridge Design Specifications and Interims
- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, and Interims.
- AASHTO/-AWS-D1. 5M/D1.5: An American National Standard Bridge Welding Code
- AASHTO Guide Specifications for Structural Design of Sound Barriers
- AASHTO Manual for Condition Evaluation and Load and Resistance Factor Rating (LRFR) of Highway Bridges
- Florida Department of Transportation Structures Manual
- Florida Department of Transportation Structures Design Office Temporary Design Bulletins (available on Florida Department of Transportation Structures web site only)
- Florida Department of Transportation Preferred Details (available on Florida Department of Transportation Structures web site only)
- Florida Department of Transportation Bridge Load Rating Permitting and Posting Manual.

Geotechnical

- FHWA Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Specifications

- Manual of Florida Sampling and Testing Methods
- Soils and Foundation Handbook
-

Landscape Architecture

- Florida Highway Landscape Guide
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- Architectural
- Building Codes – Latest Adopted Edition
- Florida Building Code Building
- Florida Building Code Fuel Gas
- Florida Building Code Mechanical
- Florida Building Code Plumbing
- Florida Building Code Existing Building
- Accessibility for Persons with Disabilities
- Florida Accessibility Code for Building Construction
- Florida Administrative Code Chapter 60D, Division of Building Construction
- Florida Statutes Chapter 553, Building Construction Standards
- ANSI A117.1 2003 Accessible and Usable Building and Facilities
 - Titles II and III, Americans With Disabilities Act (ADA), Public Law 101-336; and the ADA Accessibility Guidelines (ADAAG)
- Fire Codes and Rules - Latest Adopted Edition
 - NFPA 70 National Electrical Code
 - NFPA 101 Life Safety Code
 - NFPA 10 Standard for Portable Fire Extinguishers
 - NFPA 11 Standard for Low-Expansion Foam Systems
 - NFPA 11A Standard for High- and Medium-Expansion Foam Systems
 - NFPA 12 Standard for Carbon Dioxide Extinguishing Systems
 - NFPA 13 Installation of Sprinkler Systems
 - NFPA 30 Flammable and Combustible Liquids Code

- NFPA 54 National Gas Fuel Code
 - NFPA 58 LP-Gas Code
- Florida Fire Prevention Code as adopted by the State Fire Marshal
Consult with the Florida State Fire Marshal's office for other frequently used codes.
- Energy Conservation
 - Section 255.251, F.S., Florida Energy Conservation Act of 1974
 - Section 255.255, F.S., Life-Cycle Costs
- Elevators
- Chapter 61C-5, Florida Elevator Code
- Chapter 7C-5, Florida Elevator Code
- ASME A-71.1, Safety Code for Elevators and Escalators
- Flood Plain Management Criteria
- Section 255.25, F.S., Approval Required Prior to Construction or Lease of Buildings
- Rules of the Federal Emergency Management Agency (FEMA)
- Extinguishing Systems
 - NFPA 10 Fire Extinguishers
 - NFPA 13 Sprinkler
 - NFPA 14 Standpipe and Hose System
 - NFPA 17 Dry Chemical
 - NFPA 20 Centrifugal Fire Pump
 - NFPA 24 Private Fire Service Mains
 - NFPA 200 Standard on Clean Agent Fire Extinguishing Systems
- Detection and Fire Alarm Systems
- NFPA 70 Electrical Code
- NFPA 72 Standard for the Installation, Maintenance and Use of Local Protective Signaling Systems
- NFPA 72E Automatic Fire Detectors
- NFPA 72G Installation, Maintenance, and Use of Notification Appliances
- NFPA 72H Testing Procedures for Remote Station and Proprietary Systems
- NFPA 74 Household Fire Warning Equipment
- NFPA 75 Protection of Electronic Computer Equipment
- Mechanical Systems
- NFPA 90A Air Conditioning and Ventilating Systems
- NFPA 92A Smoke Control Systems

- NFPA 96 Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment
- NFPA 204M Smoke and Heating Venting
- Miscellaneous Systems

- NFPA 45 Laboratories Using Chemicals
- NFPA 80 Fire Doors and Windows
- NFPA 88A Parking Structures
- NFPA 105 Smoke and Draft-control Door Assemblies
- NFPA 110 Emergency and Standby Power Systems
- NFPA 220 Types of Building Construction
- NFPA 241 Safeguard Construction, Alteration, and Operations
- Florida Administrative Code 4A-47 Uniform Fire Safety For Elevators
- Florida Administrative Code 4A-51 Boiler Safety
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-
-
- Other

- Chapter 64E-6 FAC Standards for On Site Sewage Disposal Systems (Septic Tanks)
- Florida Administrative Code, Chapter 17-6.070 Wastewater Facilities (Treatment Plants)
- Florida Administrative Code Chapter 17-761 Underground Storage Tank Rules
- Chapter 10D-6 FAC On Site Sewage Disposal Systems (Septic Tanks)
- Chapter 17-6.070 FAC Wastewater Facilities (Treatment Plants)
- Chapter 17-761 FAC Underground Storage Tank Rules

These documents are revised periodically by the responsible agencies and adopted by authorities having jurisdiction on building projects. The design consultant and the project manager are advised to obtain applicable versions of these documents from the responsible agency prior to use.

- American Concrete Institute
- American Institute of Architects - Architect's Handbook of Professional Practice
- American Society for Testing and Materials - ASTM Standards
- Brick Institute of America
- DMS - Standards for Design of State Facilities
- Florida Building Code
- Florida Concrete Products Association
- Florida Department of Transportation - ADA/Accessibility Procedure
- Florida Department of Transportation - Asbestos Management Program Procedure

- Florida Department of Transportation - Building Code Compliance Procedure
 - Florida Department of Transportation – Design Build Procurement and Administration
 - Florida Department of Transportation - Standard Specifications for Road and Bridge Construction
 - Florida Department of Transportation - Structures Manual
 - Florida Department of Transportation - Design Standards
 - National Concrete Masonry Association
 - National Electrical Code (current edition)
 - National Fire Protection Association - Life Safety Code (current edition)
 - Portland Cement Association - Concrete Masonry Handbook
- Intelligent Transportation Systems

Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways

<http://www.dot.state.fl.us/rddesign/FloridaGreenbook/2007/2007FloridaGreenbook.pdf>

Traffic Monitoring:

FHWA Traffic Detector Handbook

FDOT General Interest Roadway Data Procedure

FHWA Traffic Monitoring Guide

FDOT's Traffic/Polling Equipment Procedures

AISC Manual of Steel Construction, referred to as "AISC Specifications"

American National Standards Institute (ANSI) RP-8-00 Recommended Practice for Roadway Lighting

AASHTO AWS D1.1/ANSI Structural Welding Code – Steel

AASHTO D1.5/AWS D1.5 Bridge Welding Code

Chapter 62-302 Florida Administrative Code - Surface Water Quality Standards

Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and Guideline Handbook

- Florida Fish and Wildlife Conservation Commission - Standard Manatee Construction Conditions 2005

2.20 Services to be Performed by the DEPARTMENT

- When appropriate the DEPARTMENT will provide project data currently on file.
- Provide numbers for field books.
- Regarding Environmental Permitting Services:

Approve all contacts with environmental agencies.

Provide general philosophies and guidelines of the DEPARTMENT to be used in the fulfillment of this contract. Objectives, constraints, budgetary limitations, and time constraints will be completely defined by the Project Manager.

Provide the appropriate signatures on application forms.

- Provide letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT in accordance with F.S. 327.274.
- Provide phase reviews of plans and engineering documents.
- Provide access for the CONSULTANT to utilize the DEPARTMENT's Information Technology Resources.
- Furnish all Department agreements with Utility Agency Owner (UAO).
- Furnish all certifications necessary for project letting.
- Building Construction Permit Coordination (Turnpike)
- Provide all information that may come to the DEPARTMENT pertaining to future improvements.

3 PROJECT COMMON and PROJECT GENERAL TASKS

Project Common Tasks

Project Common Tasks, as listed below, are work efforts that are applicable to many project activities, 4.0 Roadway Analysis through 32.0 Noise Impact Design Assessment. These tasks are to be included in the project scope in each applicable activity when the described work is to be performed by the CONSULTANT.

Cost Estimates: The CONSULTANT shall be responsible for producing a construction cost estimate and reviewing and updating the cost estimate when scope changes occur and/or at milestones of the project. Prior to *Constructability Phase* plans and completion of quantities, the DEPARTMENT's Long Range Estimate (L.R.E.) system will be used to produce a conceptual estimate, according to District policy. Once the quantities have been developed (beginning at *Constructability Phase* plans and no later than *Bidability Phase* plans) the CONSULTANT shall be responsible for inputting the pay items and quantities into TRNS*PORT PES (Proposal Estimating System) through the use of the DEPARTMENT's Designer Interface. A Summary of Pay Items sheet shall be prepared with all required *Constructability Phase*, *Bidability Phase*, and *Production Phase* Plans submittals.

Technical Special Provisions: The CONSULTANT shall provide Technical Special

Provisions for all items of work not covered by the Standard Specifications for Road and Bridge Construction and the workbook of implemented modifications.

A Technical Special Provision shall not modify the first nine sections of the Standard Specifications and implemented modifications in any way. All modifications to other sections must be justified to the appropriate District Specifications Office to be included in the project's specifications package, typically as special provisions and not as Technical Special Provisions.

The Technical Special Provisions shall be technical in nature and shall provide a description of work, materials, equipment and specific requirements, method of measurement and basis of payment. Proposed Technical Special Provisions will be submitted to the District Specifications Office for initial review at the time of the *Bidability Phase* plans review submission to the DEPARTMENT's Project Manager. This timing will allow for adequate processing time prior to final submittal. The Technical Special Provisions will be reviewed for suitability in accordance with the Handbook for Preparation of Specification Package. The District Specifications Office will forward the Technical Special Provisions to the District Legal Office for their review and comment. All comments will be returned to the CONSULTANT for correction and resolution. Final Technical Special Provisions shall be electronically signed and sealed in accordance with applicable Florida Statutes.

The CONSULTANT shall contact the appropriate District Specifications Office for details of the current format to be used before starting preparations of Technical Special Provisions.

Field Reviews: Includes all trips required to obtain necessary data for all elements of the project.

Technical Meetings: Includes meetings with DEPARTMENT and/or Agency staff, between disciplines and subconsultants, such as access management meetings, pavement design meetings, local governments, railroad companies, progress review meetings (phase review), and miscellaneous meetings. The CONSULTANT shall prepare, and submit to the DEPARTMENT's Project Manager for review, the meeting minutes for all meetings attended by them. The meeting minutes are due within five (5) days of attending the meeting.

Quality Assurance/Quality Control: It is the intention of the DEPARTMENT that design CONSULTANTS are held responsible for their work, including plans review. Detailed checking of CONSULTANT plans or assisting in designing portions of the project for the CONSULTANT is not the intent of having external design consultants. The purpose of CONSULTANT plan reviews is to ensure that CONSULTANT plans follow the plan preparation procedures outlined in the Plans Preparation Manual, that state and federal design criteria are followed with the DEPARTMENT concept, and that the CONSULTANT submittals are complete.

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of all surveys, designs, drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all maps, design drawings, specifications, and other documentation prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. *The names of the CONSULTANT's staff that will perform the quality control reviews shall be included in the Quality Control Plan. The Quality Control reviewer shall be a Florida Registered Professional Engineer.* The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project. The CONSULTANT shall submit a Quality Control Plan for approval within 10 (ten) calendar days of the written Notice to Proceed. A marked up set of prints from a Quality Control Review indicating the reviewers for each component (structures, roadway, drainage, signals, geotechnical, signing and marking, lighting, surveys, etc.) and a written resolution of comments on a point-by-point basis will be required with each phase submittal. The responsible Professional Engineer, Landscape Architect, or Professional Surveyor that performed the Quality Control review will sign a statement certifying that the review was conducted.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the designs, maps, drawings, specifications and/or other services.

Independent Peer Review: When directed by the DEPARTMENT, a subconsultant may perform Independent Peer Reviews.

Supervision: Includes all efforts required to supervise all technical design activities.

Coordination: Includes all efforts to coordinate with all disciplines of the project to produce a final set of construction documents.

Project General Tasks

Project General Tasks, described in Sections 3.1 through 3.7 below, represent work efforts that are applicable to the project as a whole and not to any one or more specific project activity. The work described in these tasks shall be performed by the CONSULTANT when included in the project scope.

3.1 Public Involvement

Public involvement includes communicating to all interested persons, groups, and government organizations information regarding the development of the project. The CONSULTANT shall provide to the DEPARTMENT drafts of all Public Involvement documents (i.e., newsletters, property owner letters, advertisements, etc.) associated with the following tasks for review and approval at least five (5) business days prior to printing and / or distribution.

3.1.1 Community Awareness Plan

Prepare a *project specific* Community Awareness Plan (CAP) *per the DEPARTMENT District Four's Community Awareness Guidelines* for review and approval by the DEPARTMENT within 30 calendar days after receiving Notice to Proceed. *The Community Awareness Plan is to be a "living" document which identifies and documents all public involvement activities throughout the project's duration. The Community Awareness Plan shall be updated and submitted with each phase submittal ensuring all meetings with the public are documented.*

3.1.2 Notifications

In addition to public involvement data collection, the CONSULTANT shall assist the DEPARTMENT in preparing notifications to elected officials and other public officials that the project is beginning.

3.1.3 Preparing Mailing Lists

At the beginning of the project, The CONSULTANT shall identify all impacted property owners and tenants (within a minimum of 300 feet of the project corridor) Prepare a mailing list of all such entities. The CONSULTANT shall update the mailing list as needed during the life of the project.

3.1.4 Median Modification Letters (Not applicable to this project)

3.1.5 Driveway Modification Letters (Not applicable to this project)

3.1.6 Newsletters (Not applicable to this project)

3.1.7 Renderings and Fly-Throughs

The CONSULTANT shall prepare renderings and fly-throughs for use in public meetings.

3.1.8 PowerPoint Presentations

The CONSULTANT shall prepare PowerPoint presentations for use in public meetings.

3.1.9 Public Meeting Preparations

The CONSULTANT shall prepare the necessary materials for use in public meetings.

3.1.10 Public Meeting Attendance and Follow-up

The CONSULTANT shall attend public meeting(s), assist with meeting setup and take down. The CONSULTANT shall also prepare a summary of the public meeting that includes all copies of all materials shown or provided at the public meeting. The summary shall also include a listing of all written comments made during or after the meeting and responses to those written comments.

The CONSULTANT will investigate potential meeting sites to advise the DEPARTMENT on their suitability. The DEPARTMENT will pay all costs for meeting site rents and insurance.

The CONSULTANT will attend the meetings with an appropriate number of personnel to assist the DEPARTMENT'S Project Manager.

It is estimated for this project there will be one Public meetings during the design.

3.1.11 MPO Meetings

In addition to scheduled public meetings the CONSULTANT may be required to participate in meetings with the local governing authorities and Metropolitan Planning Organization (MPO). The CONSULTANT's participation will be limited to participation during the meeting, note taking, and summarizing the meeting in a memo to the file. It is estimated for this project there will be two meetings during the design.

3.1.12 Web Site (Not applicable to this project)

3.2 Joint Project Agreements (Not applicable to this project)

3.3 Specifications Package Preparation

The CONSULTANT shall prepare and provide a specifications package prepared in accordance with the DEPARTMENT'S Handbook for the Preparation of Specification Packages and associated training. The specifications package shall address all items and areas of work and include any Mandatory Specifications, Modified Special Provisions, and Technical Special Provisions. The DEPARTMENT will provide the applicable workbook to be used to prepare the specifications package.

The specifications package must be submitted for review to the District Specifications Office at least 30 days prior to the contract package to Tallahassee or District due date, or sooner if required by the District Specifications Office. This submittal does not require signing and sealing and shall be coordinated through the District's Project Manager. The submittal shall consist of (1) the complete specifications package, and (2) *a copy of the final project plans*.

Final submittal of the specifications package must occur at least 10 working days prior to the contract package to Tallahassee due date. This submittal shall be electronically signed, dated, and sealed in accordance with applicable Florida Statutes.

3.4 Contract Maintenance

Contract maintenance includes project management effort for complete setup and maintenance of files, developing monthly progress reports, schedule updates, work effort to develop and execute subconsultant agreements, etc.

3.5 Value Engineering (Multi-Discipline Team) Review (Not applicable to this project)

3.6 Prime Consultant Project Manager Meetings

Includes only the Prime Consultant Project Manager's time for travel and attendance at Activity Technical Meetings and other meetings listed in the meeting summary for Task 3.6 on tab 3.0 Project General Task of the staff hour forms. Staff hours for other personnel attending Activity Technical Meetings are included in the meeting task for that specific Activity.

3.7 Plans Update

The effort needed for Plans Update services will vary from project to project, depending on size and complexity of the project, as well as the duration of time spent "on the shelf".

3.8 Post Design Services

Post Design Services may include, but not limited to, meetings, construction assistance, plans revisions, shop drawing review, survey services and load ratings. Specific services will be negotiated as necessary as a contract amendment.

Post Design Services are not intended for instances of CONSULTANT errors and/or omissions.

3.9 Electronic Delivery

The CONSULTANT shall deliver final contract plans in electronic format using the DEPARTMENT's Electronic Delivery software. The final contract plans shall be electronically signed and sealed files delivered to the DEPARTMENT on acceptable electronic media, as determined by the DEPARTMENT.

4 ROADWAY ANALYSIS

The CONSULTANT shall analyze and document Roadway Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

4.1 Typical Section Package

The CONSULTANT shall provide an approved Typical Section Package prior to the *Initial Engineering Phase* plans submittal date.

4.2 Pavement Design Package

The CONSULTANT shall provide an approved Pavement Design Package in accordance with applicable FDOT pavement design manuals prior to the *Initial Engineering Phase* plans submittal date. If required, provide an approved Pavement

Type Selection Report in accordance with the FDOT Pavement Type Selection Manual and preliminary asphalt and concrete alternative designs.

4.3 Access Management (Not applicable to this project)

4.4 Horizontal/Vertical Master Design Files

The CONSULTANT shall design the geometrics using the design standards that are most appropriate with proper consideration given to the design traffic volumes, design speed, capacity and levels of service, functional classification, adjacent land use, design consistency and driver expectancy, aesthetics, pedestrian and bicycle concerns, ADA requirements, elder road user policy, access management, PD&E documents and scope of work.

4.5 Cross Section Design Files

The CONSULTANT shall establish and develop cross section design files in accordance with the CADD manual.

4.6 Traffic Control Analysis

The CONSULTANT shall design a safe and effective Traffic Control Plan to move vehicular and pedestrian traffic during all phases of construction. The design shall include construction phasing of roadways ingress and egress to existing property owners and businesses, routing, signing and pavement markings, and detour quantity tabulations, roadway pavement, drainage structures, ditches, front slopes, back slopes, drop offs within clear zone, and traffic monitoring sites. Special consideration shall be given to the construction of the drainage system when developing the construction phases. Positive drainage must be maintained at all times. The design shall include construction phasing of roadways to accommodate the construction or relocation of utilities when the contract includes Joint Project Agreements (JPAs).

The CONSULTANT shall investigate the need for temporary traffic signals, temporary lighting, alternate detour roads, and the use of materials such as sheet piling in the analysis. The Traffic Control Plan shall be prepared by a certified designer who has completed training as required by the DEPARTMENT. Before proceeding with the Traffic Control Plan, the CONSULTANT shall meet with the appropriate DEPARTMENT personnel. The purpose of this meeting is to provide information to the CONSULTANT that will better coordinate the Preliminary and Final Traffic Control Plan efforts.

The CONSULTANT shall consider the local impact of any lane closures or alternate routes. When the need to close a road is identified during this analysis, the CONSULTANT shall notify the DEPARTMENT's Project Manager as soon as possible. Proposed road closings must be reviewed and approved by the DEPARTMENT. Diligence shall be used to minimize negative impacts by appropriate specifications, recommendations or plans development. Local impacts to consider will be local events, holidays, peak seasons, detour route deterioration and

other eventualities. CONSULTANT shall be responsible to obtain local authorities permission for use of detour routes not on state highways.

4.7 Master TCP Design Files

The CONSULTANT shall develop master Traffic Control Plan (TCP) files (for Level II and Level III only) showing each phase of the Traffic Control Plan.

4.8 Design Variations and Exceptions

If available, the DEPARTMENT shall furnish the Variation/Exception Report. The CONSULTANT shall prepare the documentation necessary to gain DEPARTMENT approval of all appropriate Design Variations and/or Design Exceptions *prior to the Initial Engineering Phase submittal*.

4.9 Design Report

The CONSULTANT shall prepare all applicable report(s) as listed in the Project Description section of this scope.

The CONSULTANT shall submit to the DEPARTMENT design notes, data, and calculations to document the design conclusions reached during the development of the contract plans.

The design notes, data, and computations shall be recorded on size 8½"x11" sheets, fully titled, numbered, dated, indexed and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to 8½"x11" size. The data shall be in a hardback folder for submittal to the DEPARTMENT.

4.10 Computation Book and Quantities

The CONSULTANT shall prepare the Computation Book and various summary of quantities sheets. This includes all efforts required to develop the Computation Book and the supporting documentation, including construction days when required.

4.11 Cost Estimate

4.12 Technical Special Provisions

4.13 Other Roadway Analysis

4.14 Field Reviews

4.15 Technical Meetings

4.16 Quality Assurance/Quality Control

4.17 Independent Peer Review (Not applicable to this project)

4.18 Supervision

4.19 Coordination

5 ROADWAY PLANS

The CONSULTANT shall prepare Roadway, Drainage, Traffic Control, Utility Adjustment Sheets, plan sheets, notes, and details. The plans shall include the following sheets necessary to convey the intent and scope of the project for the purposes of construction.

5.1 Key Sheet

5.2 Summary of Pay Items Including Quantity Input

5.3 Drainage Map

5.4 Interchange Drainage Map (Not applicable to this project)

5.5 Typical Section Sheets

5.6 General Notes/Pay Item Notes

5.7 Summary of Quantities

5.8 Box Culvert Data Sheet (Not applicable to this project)

5.9 Bridge Hydraulics Recommendation Sheets (Not applicable to this project)

5.10 Summary of Drainage Structures

5.11 Optional Pipe/Culvert Material

5.12 Project Layout

5.13 Plan/Profile Sheet (Not applicable to this project)

5.14 Profile Sheet (Not applicable to this project)

5.15 Plan Sheet

5.16 Special Profile

5.17 Back of Sidewalk Profile Sheet (Not applicable to this project)

5.18 Interchange Layout Sheet (Not applicable to this project)

5.19 Ramp Terminal Details (Plan View)

- 5.20 Intersection Layout Details (Not applicable to this project)**
- 5.21 Miscellaneous Detail Sheets**
- 5.22 Drainage Structure Sheet (Per Structure)**
- 5.23 Miscellaneous Drainage Detail Sheets**
- 5.24 Lateral Ditch Plan/Profile (Not applicable to this project)**
- 5.25 Lateral Ditch Cross Sections (Not applicable to this project)**
- 5.26 Retention/Detention Ponds Detail Sheet (Not applicable to this project)**
- 5.27 Retention Pond Cross Sections (Not applicable to this project)**
- 5.28 Cross-Section Pattern Sheet (Not applicable to this project)**
- 5.29 Roadway Soil Survey Sheet (Optional Services)**
- 5.30 Cross Sections**
- 5.31 Traffic Control Plan Sheets**
- 5.32 Traffic Control Cross Section Sheets**
- 5.33 Traffic Control Detail Sheets**
- 5.34 Utility Adjustment Sheets**
- 5.35 Selective Clearing and Grubbing**
- 5.36 Erosion Control Plan**
- 5.37 SWPPP**
- 5.38 Project Control Network Sheet (To be provided by DEPARTMENT)**
- 5.39 Environmental Detail Sheets**

Preparation of detail sheets for potential environmental issues such as, underground fuel tanks and monitoring wells, septic tanks within the proposed right-of-way. All piping and pumps in association with the above referenced issues shall also be located and identified by the survey. The CONSULTANT shall relay to the DEPARTMENT any findings of contaminated soil, monitoring wells, or any features (particularly springs or sinks) relating to contamination or hazardous material.

- 5.40 Utility Verification Sheet (SUE Data)**

5.41 Quality Assurance/Quality Control

5.42 Supervision

6 DRAINAGE ANALYSIS

The CONSULTANT shall analyze and document Drainage Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall be responsible for designing a drainage and stormwater management system. All design work shall comply with the requirements of the appropriate regulatory agencies and the DEPARTMENT's Drainage Manual.

The CONSULTANT shall coordinate fully with the appropriate permitting agencies and the DEPARTMENT's staff. All activities and submittals should be coordinated through the DEPARTMENT's Project Manager. The work will include the engineering analyses for any or all of the following:

6.1 Determine Base Clearance Water Elevation

Analyze, determine, and document high water elevations which will be used to set roadway profile grade. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent stormwater ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters.

6.2 Pond Siting Analysis and Report (Not applicable to this project)

6.3 Design of Cross Drains (Not applicable to this project)

6.4 Design of Roadway Ditches (Not applicable to this project)

6.5 Design of Outfalls (Not applicable to this project)

6.6 Design of Stormwater Management Facility (Offsite Pond) (Not applicable to this project)

6.7 Design of Stormwater Management Facility (Roadside Ditch as Linear Pond or Infield Pond) (Not applicable to this project)

6.8 Design of Flood Plain Compensation Area (Not applicable to this project)

6.9 Design of Storm Drains

Develop a "working drainage map", determine runoff, inlet locations, and spread. Calculate hydraulic losses (friction, utility conflict and, if necessary, minor losses). Determine Design Tailwater and, if necessary, outlet scour protection.

6.10 Optional Culvert Material

Determine acceptable options for pipe materials.

6.11 French Drain Design (Not applicable for this project)

6.12 Drainage Wells (Not applicable to this project)

6.13 Drainage Design Documentation Report

Prepare Mini-Drip Report in accordance with District Four guidelines.

6.14 Bridge Hydraulic Report (Not applicable to this project)

Temporary Drainage Analysis (Not applicable to this project)

6.16 Cost Estimate (Not applicable to this project)

6.17 Technical Special Provisions (Not applicable to this project)

6.18 Other Drainage Analysis (Not applicable to this project)

6.19 Field Reviews

6.20 Technical Meetings

6.21 Quality Assurance/Quality Control

6.22 Independent Peer Review (Not applicable to this project)

6.23 Supervision

6.24 Coordination

7 UTILITIES

The CONSULTANT shall identify utility facilities and secure agreements, utility work schedules, and plans from the Utility Agency Owners (UAO) ensuring no conflicts exist between utility facilities and the DEPARTMENT's construction project. The CONSULTANT shall certify all utility negotiations have been completed with arrangements made for utility work to be undertaken.

7.1 Kickoff Meeting

Prior to any contact with the UAO(s), the CONSULTANT shall meet with the District Utility Office (DUO) to receive guidance, as may be required, to assure that all necessary coordination will be accomplished in accordance with DEPARTMENT

procedures. CONSULTANT shall bring a copy of the design project work schedule reflecting utility activities.

7.2 Identify Existing UAO(s)

Identify all utilities in the corridor; check with Maintenance for Permits, Sunshine State One Call, Subsurface Utility Engineering (SUE) Report, Design Location Survey, and Existing Plans.

7.3 Make Utility Contacts

First Contact: Send letters and two sets of plans to each utility, one set for the utility office, one set each to construction and maintenance if required. Includes contact by phone for meeting coordination. Request type, size, location, easements, cost for compensable relocation, and justification for any utility exceptions. Include the meeting schedule (if applicable) and the design schedule. Include typical meeting agenda.

Second Contact: At a minimum of 4 weeks prior to the meeting, the CONSULTANT shall transmit two complete sets of *contract* plans to each UAO having facilities located within the project limits, and one set to the DEPARTMENT Offices as required by the District.

Third Contact: Identify agreements and assemble packages. Send agreements, letters and two sets of plans to the UAO(s) including all component sets, one set for the utility office, one set to construction and maintenance if required. Include the design schedule. Not all projects will have all contacts as described above.

7.4 Exception Coordination

The CONSULTANT shall be responsible for transmitting/coordinating the appropriate design reports including, but not limited to, the Resurfacing, Restoration and Rehabilitation (RRR) report, Project Scope and/or the Concept Report (if applicable) to each UAO in order to identify any condition that may require a Utility Exception. The CONSULTANT shall coordinate the processing of design exceptions involving Utilities with the UAO and the DEPARTMENT. Coordinate and process per the UAM.

7.5 Preliminary Utility Meeting

The CONSULTANT shall schedule (time and place), notify participants, and conduct a preliminary utility meeting with all affected UAO(s) for the purpose of presenting the project, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each utility, and discuss any future design issues that may impact utilities. This is also an opportunity for the UAO(s) to present proposed facilities. The CONSULTANT shall keep accurate minutes and distribute a copy to all attendees.

7.6 Individual/Field Meetings

The CONSULTANT shall meet with each UAO separately throughout the project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, optional clearing and grubbing work, and assist in the development of the UAO(s) plans and work schedules. The CONSULTANT is responsible for motivating the UAO to complete and return the necessary documents after each Utility Contact or Meeting.

7.7 Collect and Review Plans and Data from UAO(s)

Make Determinations (Compensable Interest, Easements, Coordinate, Analyze). Ensure information (utility type, material and size) is sent to the designer for inclusion in the plans. Coordinate programming of funds *with the District Utilities Office*.

7.8 Subordination of Easements Coordination (Not applicable for this project)

7.9 Utility Design Meeting

At a minimum of 4 weeks prior to the meeting, the CONSULTANT shall transmit two complete sets of *contract* plans to each UAO having facilities located within the project limits, and one set to the DEPARTMENT Offices as required by the District. The CONSULTANT shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s) *no later than six weeks before the Constructability Phase submittal*. The CONSULTANT shall be prepared to discuss drainage, traffic signalization, maintenance of traffic (construction phasing), review the current design schedule and letting date, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each utility, discuss any future design issues that may impact utilities, etc., to the extent that they may have an effect on existing or proposed utility facilities with particular emphasis on drainage and maintenance of traffic with each UAO. The intent of this meeting shall be to identify and resolve conflicts between utilities and proposed construction prior to completion of the plans, including utility adjustment details. Also recommend resolution between known utility conflicts with proposed construction plans as practical. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees.

7.10 Review Utility Markups and Work Schedules and Processing of Schedules and Agreements

Review utility marked up plans individually as they are received for content and coordinate review with the designer. Send color markups and schedules to the appropriate DEPARTMENT office(s) for review and comment if required by the District. Coordinate with the District for execution. Distribute Executed Final Documents. Prepare Work Order for UAO(s). Coordinate programming of funds *with the District Utilities Office*. *The Utility Coordinator/EOR is responsible for*

providing documented QC/QA to be submitted with each utility deliverable. This is to consist of written review comments with resolution.

7.11 Utility Coordination/Followup

This includes follow-up, interpreting plans, and assisting and the completion of the UAO(s) work schedule and agreements. Includes phone calls, face-to-face meetings, etc., to motivate and ensure the UAO(s) complete and return the required documents in accordance with the project schedule. Ensure the resolution of all known conflicts. This task can be applied to all phases of the project, *but no later than six (6) weeks prior to the Bidability Phase submittal.*

7.12 Utility Constructability Review

Review utility schedules against construction contract time, and phasing for compatibility. Coordinate with and obtain written concurrence from the *District Construction Office. Once all Utility Work Schedules are received, some form of scheduling tool that shows the relationship of the Utility Work Schedules to each other and to the construction schedule shall be provided to the DEPARTMENT's Project Manager, the District Utilities Office, and the District Construction Office no later than four (4) weeks prior to the Bidability Phase submittal.*

7.13 Additional Utility Services

This includes preparation and coordination of Utility Design Plans when the DEPARTMENT participates in cost of utility work. This item is not usually included in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified.

7.14 Processing Utility Work by Highway Contractor (UWHC) (Not applicable for this project)

7.15 Contract Plans to UAO(s)

This includes transmittal of the contract plans as processed for letting. Transmittals to UAO(s) are by certified mail, return receipt requested.

7.16 Certification/Close-Out

This includes hours for transmitting utility files to the DUO and preparation of the Utility Certification Letter. The CONSULTANT shall certify to the appropriate DEPARTMENT representative the following:

All utility negotiations (Full execution of each agreement, approved Utility Work Schedules, technical special provisions written, etc.) have been completed with arrangements made for utility work to be undertaken and completed as required for proper coordination with the physical construction schedule.

OR

An on-site inspection was made and no utility work will be involved.

OR

Plans were sent to the Utility Companies/Agencies and no utility work is required.

7.17 Other Utilites

8 ENVIRONMENTAL PERMITS, COMPLIANCE AND CLEARANCES

The CONSULTANT shall notify the DEPARTMENT Project Manager, Environmental Permit Coordinator and other appropriate personnel in advance of all scheduled meetings with the regulatory agencies to allow a DEPARTMENT representative to attend. The CONSULTANT shall copy in the Project Manager and the Environmental Permit Coordinator on all permit related correspondence and meetings.

8.1 Preliminary Project Research

The CONSULTANT shall perform preliminary project research and shall be responsible for early identification of and coordination with the appropriate regulatory agencies to assure that design efforts are properly directed toward permit requirements.

8.2 Complete Permit Involvement Form (PIF) and Permits Required Memo (PRM)

The CONSULTANT shall document proposed construction activities that may impact permit involvement by completing the Permit Involvement Form (PIF). Based on the data enumerated in the PIF, the CONSULTANT shall notify the DEPARTMENT's Project Manager and the DEPARTMENT's District Drainage Office of the permits planned for acquisition via the Permits Required Memorandum (PRM). The PIF and the PRM shall be submitted together to the DEPARTMENT's Project Manager and the DEPARTMENT's District Drainage Office at the Initial Engineering Phase submittal. When a subsequent change in project scope affecting the information provided on the PIF and/or the PRM occurs the CONSULTANT shall prepare and submit a revised PIF and/or PRM.

8.3 Establish Wetland Jurisdictional Lines and Assessments (Optional Services)

The CONSULTANT shall collect all data and information necessary to determine the boundaries of wetlands and surface waters defined by the rules or regulations of each agency processing or reviewing a permit application necessary to construct a DEPARTMENT project.

The CONSULTANT shall be responsible for, but not limited to, the following activities:

- Determine landward extent of state waters as defined in Chapter 62-340 FAC as ratified in Section 373.4211 FS

- Determine the jurisdictional boundaries of wetlands and surface waters as defined by rules or regulations of any other permitting authority that is processing a DEPARTMENT permit application.
- Prepare aerial maps showing the jurisdictional boundaries of wetlands and surface waters. Aerial maps shall be reproducible, of a scale no greater than 1"=200' and be recent photography. The maps shall show the jurisdictional limits of each agency. Xerox copies of aerials are not acceptable. All jurisdictional boundaries are to be tied to the project's baseline of survey. When necessary, a survey will be prepared by a registered surveyor and mapper.
- Acquire written verification of jurisdictional lines from the appropriate environmental agencies.
- Prepare a written assessment of the current condition and relative value of the function being performed by wetlands and surface waters. Prepare data in tabular form which includes the ID number for each wetland impacted, size of wetland to be impacted, type of impact and identify any wetland within the project limits that will not be impacted by the project. Prepare appropriate Agency Forms.

8.4 Agency Verification of Wetland Data (Optional Services)

The CONSULTANT shall be responsible for verification of wetland data identified in Section 8.3 and coordinating regulatory agency field reviews, including finalization of wetland assessments with applicable agencies.

8.5 Complete and Submit All Required Permit Applications

The CONSULTANT shall prepare permit packages as identified in the Project Description section.

The CONSULTANT shall collect all of the data and information necessary to obtain the environmental permits required to construct a project.

The CONSULTANT shall prepare each permit application for DEPARTMENT approval in accordance with the rules and/or regulations of the environmental agency responsible for issuing a specific permit and/or authorization to perform work.

The CONSULTANT will submit all permit applications, as directed by the DEPARTMENT, and be responsible for payment of all permit fees.

8.6 Prepare Dredge and Fill Sketches per Agency Criteria (Optional Services)

8.7 Prepare USCG Permit Sketches per Agency Criteria (Not applicable for this project)

8.8 Prepare Water Management District Right-of-Way Occupancy Sketches (Optional Services)

8.9 Prepare Coastal Construction Control Line (CCCL) Permit Application (Not applicable for this project)

8.10 Prepare Tree Permit Information (Not applicable for this project)

8.11 Mitigation Coordination and Meetings (Optional Services)

The CONSULTANT shall coordinate with DEPARTMENT personnel prior to approaching any environmental permitting or reviewing agencies. Once a mitigation plan has been reviewed and approved by the DEPARTMENT, the CONSULTANT will be responsible for coordinating the proposed mitigation plan with the environmental agencies.

8.12 Mitigation Design (Not applicable for this project)

8.13 Environmental Clearances, Reevaluations and Technical Support

The CONSULTANT shall provide engineering support for the District to obtain clearances for all changes to the project after the PD&E was completed. These changes include but are not limited to pond and/or mitigation sites identified, land use or environmental changes, and significant design changes.

NEPA or SEIR Reevaluation: During the development of the final design plans, the CONSULTANT shall be responsible for coordinating with the *DEPARTMENT District Planning and Environmental Management Office* to provide necessary engineering information required in the preparation of the reevaluation by the DEPARTMENT. The preparation of all environmental reevaluations on major projects include the following types of reevaluations as listed in Chapter 11, Part I of the DEPARTMENT's Project Development & Environment Manual: Preliminary Engineering, Right of Way, Design Change, and Construction Advertisement Reevaluations.

In particular, design change reevaluations are required when any design proposal that significantly changes the intent of the existing approved National Environmental Policy Act (NEPA) document. Commitments made in the approved NEPA document shall be honored by the CONSULTANT. A technical memorandum identifying the commitments and how they were addressed shall be submitted to the District Environmental Administrator by the CONSULTANT for incorporation into the reevaluation.

It is the responsibility of the CONSULTANT to provide the *DEPARTMENT District Planning and Environmental Management Office* with engineering information on major design changes including changes in typical section, roadway alignment, pond site selection, right of way requirements, bridge to box culvert, drainage, and traffic volumes that may affect noise models.

The DEPARTMENT District's Planning and Environmental Management Office will coordinate with the DEPARTMENT's Project Manager and the CONSULTANT on the pond siting information necessary for the re-evaluation. The DEPARTMENT District's Planning and Environmental Management Office shall prepare clearances for all pond and/or mitigation sites

that were not identified or have been modified since the Project Development and Environment (PD&E) Study.

Asbestos Survey: The CONSULTANT shall secure the services of a Florida Licensed Asbestos Consultant to perform a comprehensive Asbestos Containing Materials (ACM) survey of all bridges on the project. The survey shall include sampling of all suspect ACM. In the event that ACM is found on the bridge, the CONSULTANT shall prepare (in coordination with the DEPARTMENT's District Asbestos Coordinator) plans, specifications, general notes, pay item notes and an Operation and Maintenance (O&M) plan for any asbestos to remain in place. The CONSULTANT shall submit four (4) hard copies and one (1) electronic copy of the final ACM survey, and the required copies of any additional supporting documents, to the DEPARTMENT's Project Manager and to the District Asbestos Coordinator at the time of the *Initial Engineering Phase* submittal.

All work shall be in accordance with Florida Department of Transportation (Department or FDOT) Standard Specifications for Road and Bridge Construction and FDOT Procedure No. 425-000-005 & 625-020-020, Florida Statutes, Florida Administrative Code (FAC), Code of Federal Regulations and all rules, regulations, policies, and guidelines of the FDOT, the United States Environmental Protection Agency (USEPA), the Florida Department of Environmental Protection (FDEP), the Occupation Safety and Health Administration (OSHA), the Florida Department of Business and Professional Regulation (FDPR), and any other applicable Federal, State and Local governmental agency.

Archaeological and Historical Features: The DEPARTMENT District's Planning and Environmental Management Office shall collect data necessary to completely analyze the impacts to all cultural and historic resources on the project. The CONSULTANT shall coordinate with the DEPARTMENT's Project Manager and provide any engineering support necessary to complete the cultural resource assessment. After investigation and necessary agency coordination with the State Historic Preservation Office (SHPO), the DEPARTMENT District's Planning and Environmental Management Office will provide the DEPARTMENT's Project Manager with the necessary general notes, information for modified special provisions, and/or potential precautionary measures to avoid and/or minimize impacts to the resource during construction.

Wetland Impact Analysis: The DEPARTMENT District's Planning and Environmental Management Office shall collect the data necessary to analyze wetland impacts on the project. If there is anticipated wetland involvement on a project, the DEPARTMENT District's Planning and Environmental Management Office will identify and describe any wetland resources and provide options for impact avoidance, minimization or mitigation of wetlands directly or indirectly impacted by construction. The CONSULTANT shall coordinate with the DEPARTMENT's Project Manager and provide any engineering support necessary to complete the wetland impact evaluation and impact avoidance. The DEPARTMENT District's Planning and Environmental Management Office will provide the DEPARTMENT's Project Manager with the necessary general notes,

information for modified special provision, and/or precautionary measures to avoid direct or indirect impacts during construction.

Wildlife and Habitat Impact Analysis: The DEPARTMENT District's Planning and Environmental Management Office shall collect data necessary to perform an Endangered Species Biological Assessment (ESBA), and analyze the impact to wildlife and habitat. After investigation and necessary agency coordination, the DEPARTMENT District's Planning and Environmental Management Office will provide the DEPARTMENT's Project Manager with the necessary general notes, information for modified special provision or potential precautionary measure to avoid impacts to the resource during construction. The CONSULTANT shall coordinate with the DEPARTMENT's Project Manager and provide any engineering support necessary to complete the Biological Assessment and impact avoidance.

Contamination Impact Analysis: The DEPARTMENT District's Planning and Environmental Management Office shall perform the necessary analysis to complete the Contamination Screening for contamination impacts from subsurface work. The DEPARTMENT District's Planning and Environmental Management Office will identify and evaluate all potential contamination sources and recommend redesign or remediation. After investigation, the DEPARTMENT District's Planning and Environmental Management Office will provide the DEPARTMENT's Project Manager with the necessary general notes, information for modified special provisions, or potential precautionary measures to avoid and/or minimize impacts during construction. The CONSULTANT shall coordinate with the DEPARTMENT's Project Manager and provide any engineering support necessary to complete the Contamination Assessment and impact avoidance.

Section 10 Consultation: The CONSULTATANT shall provide technical information to the District's Project Manager necessary to complete a Section 10 Consultation.

8.14 Environmental Clearances and Reevaluations (Not applicable for this project)

8.15 Other Environmental Permits (Optional Services)

8.16 Technical Meetings

8.17 Quality Assurance/Quality Control

8.18 Supervision

8.19 Coordination

9 STRUCTURES - SUMMARY AND MISCELLANEOUS TASKS AND DRAWINGS
and task 9.1 – 9.15 are not applicable for this project.

10 STRUCTURES - BRIDGE DEVELOPMENT REPORT and tasks 10.1 – 10.48 are not

applicable for this project.

- 11 STRUCTURES - TEMPORARY BRIDGE and tasks 11.1 – 11.8 are not applicable for this project.**
- 12 STRUCTURES - SHORT SPAN CONCRETE BRIDGE and tasks 12.1 – 12.28 are not applicable for this project.**
- 13 STRUCTURES - MEDIUM SPAN CONCRETE BRIDGE and tasks 13.1 – 13. 52 are not applicable for this project.**
- 14 STRUCTURES - STRUCTURAL STEEL BRIDGE and tasks 14.1 – 14. 60 are not applicable for this project.**
- 15 STRUCTURES - SEGMENTAL CONCRETE BRIDGE and tasks 15.1 – 15.77 are not applicable for this project.**
- 16 STRUCTURES - MOVABLE SPAN and tasks 16.1 – 16.102 are not applicable for this project.**
- 17 STRUCTURES - RETAINING WALL and tasks 17.1 – 17.21 are not applicable for this project.**
- 18 STRUCTURES - MISCELLANEOUS and tasks 18.1 – 18.22 are not applicable for this project.**

19 SIGNING AND PAVEMENT MARKING ANALYSIS

The CONSULTANT shall analyze and document Signing and Pavement Markings Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

19.1 Traffic Data Analysis

The CONSULTANT shall review the approved preliminary engineering report, typical section package, traffic technical memorandum and proposed geometric design alignment to identify proposed sign placements and roadway markings. Perform queue analysis.

19.2 No Passing Zone Study (Not applicable for this project)

19.3 Reference and Master Design File

The CONSULTANT shall prepare the Signing & Marking Design file to include all necessary design elements and all associated reference files.

19.4 Multi-Post Sign Support Calculations

The CONSULTANT shall determine the appropriate column size from the DEPARTMENT's Multi-Post Sign Program(s).

19.5 Sign Panel Design Analysis

Establish sign layout, letter size and series for non-standard signs.

19.6 Sign Lighting/Electrical Calculations (Optional Services)

Includes the verification of photometrics on lighted, load center and voltage drop calculations.

19.7 Quantities

19.8 Computation Book

19.9 Cost Estimates

19.10 Technical Special Provisions

19.11 Other Signing and Pavement Marking Analysis

19.12 Field Reviews

19.13 Technical Meetings

19.14 Quality Assurance/Quality Control

19.15 Independent Peer Review (Not applicable for this project)

19.16 Supervision

19.17 Coordination

20 SIGNING AND PAVEMENT MARKING PLANS

The CONSULTANT shall prepare a set of Signing and Pavement Marking Plans in accordance with the Plans Preparation Manual that includes the following.

20.1 Key Sheet

- 20.2 Summary of Pay Items Including CES Input**
- 20.3 Tabulation of Quantities**
- 20.4 General Notes/Pay Item Notes**
- 20.5 Project Layout**
- 20.6 Plan Sheet**
- 20.7 Typical Details**
- 20.8 Guide Sign Work Sheet(s)**
- 20.9 Traffic Monitoring Site**
- 20.10 Cross Sections**
- 20.11 Special Service Point Details (Optional Services)**
- 20.12 Special Details**
- 20.13 Interim Standards**
- 20.14 Quality Assurance/Quality Control**
- 20.15 Supervision**
- 21 SIGNALIZATION ANALYSIS and tasks 21.1 – 21.19 are not applicable for this project.**
- 22 SIGNALIZATION PLANS and tasks 22.1 – 22.18 are not applicable for this project.**
- 23 LIGHTING ANALYSIS (Optional Services)**
 - The CONSULTANT shall analyze and document Lighting Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.
 - 23.1 Lighting Justification Report**
 - The CONSULTANT shall prepare a Lighting Justification Report. The report shall be submitted under a separate cover with the *Initial Engineering Phase* plans submittal, titled Lighting Design Analysis Report.
 - 23.2 Lighting Design Analysis Report**

The CONSULTANT shall prepare a Preliminary Lighting Design Analysis Report. The report shall be submitted under a separate cover prior to the *Initial Engineering Phase* plans submittal. The report shall provide analyses for each typical section of the mainline, typical section for the ramps (one and/or two lanes), interchanges, underdeck lighting, and arterial roads. Each lighting calculation shall be properly identified as to the area that it covers.

The report shall include the Lighting Design Criteria that will be used and shall include the evaluation of at least three lighting design alternatives and a recommendation on the alternative to use. Each alternative shall be properly described; the alternatives shall consider different pole heights, lamp wattage, and arm lengths. Each alternative shall be provided with a cost estimate that includes initial cost in addition to operations and maintenance cost for one year.

After approval of the preliminary report, the CONSULTANT shall submit a revised report including a detailed lighting design analysis for each submittal.

23.3 Aeronautical Evaluation

The CONSULTANT shall prepare an Aeronautical Evaluation/Airspace Analysis Report for those projects within 5 miles of an airport. It shall be submitted for approval by the DEPARTMENT and by FAA prior to Phase II plans submittal.

The report shall include an evaluation of the glide slope of all adjacent airport runways (including future runways) and the preparation of the required FAA forms and special lighting calculations based on NO PENETRATION of the approach or transitional surfaces and coordination with the Airport Manager.

The report shall include a profile drawing for each condition affected by the runway approach and transitional surfaces. This drawing(s) shall show the roadway profile grade line at the edge of the shoulder pavement with proper baseline stations, the FAR Part 77 - 50:1 (or 34:1) approach surface line and the 7:1 transitional surface line. The scale of this drawing shall be 1"=100' horizontal and 1"=10' vertical. The proposed location of each light pole shall be properly shown at the respective station to clearly indicate that no penetration to either the approach surface or to the transitional surface is anticipated.

23.4 Voltage Drop Calculations

The CONSULTANT shall submit voltage drop calculations showing the equation or equations used along with the number of luminaires per circuit, the length of each circuit, the size conductor or conductors used and their ohm resistance values. The voltage drop incurred on each circuit (total volts and percentage of drop) shall be calculated, and all work necessary to calculate the voltage drop values for each circuit should be presented in such a manner as to be duplicated by the District.

Load analysis calculations shall be submitted for each branch circuit breaker and main breaker.

23.5 FDEP Coordination and Report (Not applicable for this project)

23.6 Reference and Master Design Files

The CONSULTANT shall prepare the Lighting Design file to include all necessary design elements and all associated reference files.

23.7 Temporary Lighting

The CONSULTANT shall provide temporary lighting for all affected phases of construction to light all detour roadways in areas where required. The temporary lighting shall be included with the Traffic Control Plans with proper notes, quantities and details.

23.8 Design Documentation

The CONSULTANT shall submit a Roadway Lighting Design Documentation Book with each lighting plans submittal under a separate cover and not part of the roadway documentation book. At a minimum, the design documentation book shall include:

Lighting Calculations

- Back up sheet for each bid item quantity total on each lighting plan sheet (*Bidability Phase* and *Production Phase* submittals).
- Phase submittal checklist.
- Three-way quantity check list (*Bidability Phase* and IV submittals).
- Structural calculations for special conventional pole concrete foundations.
- Structural calculations for the high mast pole foundations.
- Letter to the power company requesting service.
- Power company confirmation letter on the requested services (*Bidability Phase* and *Production Phase* submittals).
- Voltage drop calculations (*Bidability Phase* and *Production Phase* submittals).
- Load analysis calculations (*Bidability Phase* and *Production Phase* submittals).

23.9 Quantities

23.10 Cost Estimate

23.11 Technical Special Provisions

23.12 Other Lighting Analysis

23.13 Field Reviews

The CONSULTANT shall collect information from the maintaining agencies and conduct a field review. The review should include but is not limited to the following:

Existing Lighting Equipment
Load Center, Capabilities and Condition/Age

Condition of Lighting Structure(s)

23.14 Technical Meetings

23.15 Quality Assurance/Quality Control

23.16 Independent Peer Review (Not applicable for this project)

23.17 Supervision

23.18 Coordination

24 LIGHTING PLANS (Optional Services)

The CONSULTANT shall prepare a set of Lighting Plans in accordance with the Plans Preparation Manual, which includes the following:

24.1 Key Sheet

24.2 Summary of Pay Item Sheet Including CES Input

24.3 Tabulation of Quantities

24.4 General Notes/Pay Item Notes

24.5 Pole Data and Legend & Criteria

24.6 Service Point Details

24.7 Project Layout

24.8 Plan Sheet

24.9 Special Details

24.10 Temporary Lighting Data and Details

24.11 Traffic Control Plan Sheets

24.12 Interim Standards

24.13 Quality Assurance/Quality Control

24.14 Supervision

25 LANDSCAPE ARCHITECTURE ANALYSIS (Partial Optional Services)

The CONSULTANT shall analyze and document Landscape Architecture Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

25.1 Data Collection

All research required to collect data necessary to complete the initial design analysis. Includes identifying local ordinances and collection of other project data.

25.2 Site Inventory and Analysis

Includes identification of opportunities and constraints for the proposed project based on existing site conditions. Summary of analysis, if required, is included in conceptual design.

25.3 Planting Design (Optional Services)

Conceptual Design: Includes delineation of all proposed planting types, scheme development and preliminary costs, and areas and reports. The design shall be submitted with the *Initial Engineering Phase* plans.

Final Design: Includes identifying the species/type, size, location, spacing, and quality of all plants.

25.4 Irrigation Design (Not applicable for this project)

25.5 Hardscape Design (Not applicable for this project)

25.6 Computation Book and Quantities

25.7 Cost Estimates

25.8 Technical Special Provisions

25.9 Other Landscape Architecture

25.10 Outdoor Advertising

Includes all work required to determine locations of all outdoor advertising permitted within the roadway project limits. Includes all work required to determine the proposed view zones and the supporting documentation.

25.11 Field Reviews

25.12 Technical Meetings

25.13 Quality Assurance/Quality Control

25.14 Independent Peer Review (Not applicable for this project)

25.15 Supervision

25.16 Coordination

26 LANDSCAPE ARCHITECTURE PLANS (Optional Services)

The CONSULTANT shall prepare a set of Landscape Plans which includes the following.

26.1 Key Sheet

26.2 Tabulation of Quantities

26.3 General Notes

26.4 Tree and Vegetation Inventory, Protection and Relocation Plans

26.5 Planting Plans for Linear Roadway Projects

26.6 Planting Plans (Interchanges and Toll Plazas)

26.7 Planting Details and Notes

The CONSULTANT shall include a written *plan* for care and maintenance of the *plant materials* after the warranty period. This Maintenance Plan will be developed *in performance based language and will be* in coordination with the local government entity who assumes the maintenance obligation.

26.8 Irrigation Plans for Linear Roadway Project (Not applicable for this project)

26.9 Irrigation Plans for Interchange and Toll Plazas (Not applicable for this project)

26.10 Irrigation Details and Notes (Not applicable for this project)

26.11 Hardscape Plans (Not applicable for this project)

26.12 Hardscape Details and Notes (Not applicable for this project)

26.13 Maintenance Plan

The CONSULTANT shall include a written plan for care and maintenance of the plants and beds, hardscape, and irrigation system after the warranty period. This maintenance plan will be developed in performance based language and will be in coordination with the local government entity who assumes the maintenance obligation.

26.14 Cost Estimate

26.15 Quality Assurance/Quality Control

26.16 Supervision

27 SURVEY (Not applicable to this project)

Limits: SR9/I-95 from Indian River/St Lucie Co. Line M.P. 0.000 to SR60 M.P. 6.160. The FM# is 427052.1. The Total distance is 6.160 miles.

The Survey information and the Aerials for the entire project will be supplied by the DEPARTMENT to the CONSULTANT.

The CONSULTANT shall perform survey tasks in accordance with all applicable statutes, manuals, guidelines, standards, handbooks, procedures, and current design memoranda.

The CONSULTANT shall submit all survey notes and computations to document the surveys. All field survey work shall be recorded in approved media and submitted to the DEPARTMENT. Field books submitted to the DEPARTMENT must be of an approved type. The field books shall be certified by the surveyor in responsible charge of work being performed before the final product is submitted.

The survey notes shall include documentation of decisions reached from meetings, telephone conversations or site visits. All like work (such as bench lines, reference points, etc.) shall be recorded contiguously. The DEPARTMENT may not accept field survey radial locations of section corners, platted subdivision lot and block corners, alignment control points, alignment control reference points and certified section corner references. The DEPARTMENT may instead require that these points be surveyed by true line, traverse or parallel offset.

Total station equipment used shall be compatible with the DEPARTMENT's Electronic Field Book processing standards. Data for review must be delivered on disk for input into the DEPARTMENT'S Electronic Field Book Software.

All work shall be accomplished in accordance with the criteria established by the Departments Highway Field Specifications, Survey Handbook (Survey Procedure Topic No. 550-030-101a) (Chapter 20, sec 23 (3)(a), F.S.), CADD Production Criteria Handbook and must comply with the Minimum Technical Standards for Land Surveyors Rule 61G17-6 F.A.C., Florida Statute 472.027, the latest's addition of the DEPARTMENT's Survey Standards and Guidelines and any special instructions.

The surveyor shall comply at all times with applicable Federal, State, local laws and provisions and policies governing safety and health. This includes Title 29, Code of Federal regulations, Parts 1910 and 1976, Occupational safety and Health Regulations, including any subsequent revisions and updates. In order to conduct the public through the work area, full compliance with the current Department Roadway and Traffic Design Standards (600 Series), Survey Safety Handbook and current Maintenance of Traffic Training D.O.T. Topic No.625-010-010-a is a minimum requirement.

It will be the aerial firm's responsibility, not the surveyors, to walk the project identifying and locating any missing items and describing the items such as sanitary sewer manholes, FPL manholes, etc. marking all of this information on the check plots. Then the surveyor can take those check plots and locate the missing items marked on the plots that the aerial cannot locate.

At the completion of all survey and aerial work it is the responsibility of the CONSULTANT to furnish to the DEPARTMENT's District Survey Office one CD or DVD with all the surveying and mapping information (GPS, topography, digital terrain model, project network control, target control, XYZ etc.) with exception of Raster Images, signed in the DEPARTMENT's Professional's Electronic Data Delivery System (PEDDS) by the Surveyor and Aerial Mapper with one hard copy of the PEDDS document.

Also, a Surveying and Mapping Report must accompany all of the above information along with an electronic copy of the report placed on the electronic information (file) supplied to the DEPARTMENT.

- 27.1 Horizontal Project Control (HPC) (Not applicable for this project)**
- 27.2 Vertical Project Control (VCP) (Not applicable for this project)**
- 27.3 Alignment and/or Existing Right of Way Lines (Not applicable for this project)**
- 27.4 Aerial Targets (Not applicable for this project)**
- 27.5 Reference Points (Not applicable for this project)**
- 27.6 Topography/DTM (3D) (Not applicable for this project)**
- 27.7 Planimetric (2D) (Not applicable for this project)**
- 27.8 Roadway Cross Sections/Profiles (Not applicable for this project)**
- 27.9 Side Street Surveys (Not applicable for this project)**
- 27.10 Underground Utilities (Not applicable for this project)**
- 27.11 Outfall Survey (Not applicable for this project)**
- 27.12 Drainage Survey (Not applicable for this project)**
- 27.13 Bridge Survey (Minor/Major) (Not applicable for this project)**
- 27.14 Channel Survey (Not applicable for this project)**
- 27.15 Pond Site Survey (Not applicable for this project)**
- 27.16 Mitigation Survey (Not applicable for this project)**

- 27.17 Jurisdiction Line Survey (Not applicable for this project)**
- 27.18 Geotechnical Support (Not applicable for this project)**
- 27.19 Sectional/Grant Survey (Not applicable for this project)**
- 27.20 Subdivision Location (Not applicable for this project)**
- 27.21 Maintained R/W (Not applicable for this project)**
- 27.22 Boundary Survey (Not applicable for this project)**
- 27.23 Water Boundary Survey (Not applicable for this project)**
- 27.24 Right of Way Staking / Right of Way Line (Not applicable for this project)**
- 27.25 Right of Way Monumentation (Not applicable for this project)**
- 27.26 Line Cutting (Not applicable for this project)**
- 27.27 Work Zone Safety (Not applicable to this project)**

Provide work zone as required by DEPARTMENT standards.

- 27.28 Miscellaneous Surveys (Not applicable to this project)**

Refer to tasks of this document, as applicable, to perform surveys not described herein. The percent for Supplemental will be determined at negotiations. This item can only be used if authorized in writing by the District Surveyor (DS) or their representative.

- 27.29 Supplemental Surveys (Not applicable to this project)**

Supplemental survey days and hours are to be approved in advance by DS. Refer to tasks of this document, as applicable, to perform surveys not described herein.

- 27.30 Document Research (Not applicable to this project)**

Perform research of documentation to support field and office efforts involving surveying and mapping.

- 27.31 Field Review (Not applicable to this project)**

Perform verification of the field conditions as related to the collected survey data.

- 27.32 Technical Meetings (Not applicable to this project)**

Attend meetings as required and negotiated by the Surveying and Mapping Department.

27.33 Quality Control/Quality Assurance (Not applicable to this project)

Establish and implement a QAQC plan. Also includes subconsultant review, response to comments and any resolution meetings if required, preparation of submittals for review, etc.

27.34 Supervision (Not applicable to this project)

Perform all activities required to supervise and coordinate project. These activities must be performed by the project supervisor, a Florida P.S.M. or their delegate as approved by the District Surveying Office.

27.35 Coordination (Not applicable to this project)

Coordinate survey activities with other disciplines. Unit is based on 3 percent of office support hours from tasks 1 through 28, where applicable.) These activities must be performed by the project supervisor, a Florida P.S.M. or their delegate as approved by the District Surveying Office.

28 PHOTOGRAMMETRY and tasks 28.1 – 28.19 are not applicable for this project.

29 MAPPING and tasks 29.1 – 29.36 are not applicable for this project.

30 GEOTECHNICAL (Optional Services)

The CONSULTANT shall, for each project, be responsible for a complete geotechnical investigation. All work performed by the CONSULTANT shall be in accordance with DEPARTMENT standards, or as otherwise directed by the District Geotechnical Engineer. The District Geotechnical Engineer will make interpretations and changes regarding geotechnical standards, policies and procedures and provide guidance to the CONSULTANT.

Before beginning each phase of investigation and after the Notice to Proceed is given, the CONSULTANT shall submit investigation plan for approval and meet with the DEPARTMENT's Geotechnical Engineer or representative to review the project scope and DEPARTMENT requirements. The investigation plan shall include, but not be limited to, the proposed boring locations and depths, and all existing geotechnical information from available sources to generally describe the surface and subsurface conditions of the project site. Additional meetings may be required to plan any additional field efforts, review plans, resolve plans/report comments, resolve responses to comments, and/or any other meetings necessary to facilitate the project.

The CONSULTANT shall notify the DEPARTMENT in adequate time to schedule a representative to attend all related meetings and field activities.

30.1 Document Collection and Review

CONSULTANT will review printed literature including topographic maps, county agricultural maps, aerial photography (including historic photos), ground water resources, geology bulletins, potentiometric maps, pile driving records, historic construction records and other geotechnical related resources. Prior to field reconnaissance, CONSULTANT shall review U.S.G.S., S.C.S. and potentiometric maps, and identify areas with problematic soil and groundwater conditions.

Roadway

The CONSULTANT shall be responsible for coordination of all geotechnical related fieldwork activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

Obtain pavement cores as directed in writing by the District Geotechnical Engineer.

If required by the District Geotechnical Engineer, a preliminary roadway exploration shall be performed before the Phase I plans submittal. The preliminary roadway exploration will be performed and results provided to the Engineer of Record to assist in setting roadway grades and locating potential problem areas. The preliminary roadway exploration shall be performed as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by project needs and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

30.2 Develop Detailed Boring Location Plan

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

30.3 Stake Borings/Utility Clearance

Stake borings and obtain utility clearance.

30.4 Coordinate and Develop MOT Plans for Field Investigation

Coordinate and develop Maintenance of Traffic (MOT) plan. All work zone traffic control will be performed in accordance with the DEPARTMENT's Roadway and Traffic Design Standards Index 600 series.

30.5 Drilling Access Permits

Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, as needed.

30.6 Property Clearances

Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT's Project Manager.

30.7 Groundwater Monitoring

Monitor groundwater, using piezometers.

30.8 LBR / Resilient Modulus Sampling

Collect appropriate samples for Limerock Bearing Ratio (LBR) testing. Deliver Resilient Modulus samples to the District Materials Office or the State Materials Office in Gainesville, as directed by the DEPARTMENT.

30.9 Coordination of Field Work

Coordinate all field work required to provide geotechnical data for the project.

30.10 Soil and Rock Classification - Roadway

Refine soil profiles recorded in the field, based on results of laboratory testing.

30.11 Design LBR

Determine design LBR values from the 90% and mean methods.

30.12 Laboratory Data

Tabulate laboratory test results for inclusion in the geotechnical report, the report of tests sheet (Roadway Soil Survey Sheet), and for any necessary calculations and analyses.

30.13 Seasonal High Water Table

Review the encountered ground water levels and estimate seasonal high ground water levels. Estimate seasonal low ground water levels, if requested.

30.14 Parameters for Water Retention Areas

Calculate parameters for water retention areas, exfiltration trenches, and/or swales.

30.15 Delineate Limits of Unsuitable Material

Delineate limits of unsuitable material(s) in both horizontal and vertical directions. Assist the Engineer of Record with detailing these limits on the cross-sections. If requested, prepare a plan view of the limits of unsuitable material.

30.16 Electronic Files for Cross-Sections

Create electronic files of boring data for cross-sections.

30.17 Embankment Settlement and Stability

Estimate the total magnitude and time rate of embankment settlements. Calculate the factor of safety against slope stability failure.

30.18 Stormwater Volume Recovery and/or Background Seepage Analysis

Perform stormwater volume recovery analysis as directed by the DEPARTMENT.

30.19 Geotechnical Recommendations

Provide geotechnical recommendations regarding the proposed roadway construction project including the following: description of the site/alignment, design recommendations and discussion of any special considerations (i.e. removal of unsuitable material, consolidation of weak soils, estimated settlement time/amount, groundwater control, high groundwater conditions relative to pavement base, etc.) Evaluate and recommend types of geosynthetics and properties for various applications, as required.

30.20 Pavement Condition Survey and Pavement Evaluation Report (Not applicable for this project)

30.21 Preliminary Roadway Report

If a preliminary roadway investigation is performed, submit a preliminary roadway report before the *Initial Engineering Phase* plans submittal. The purpose of the preliminary roadway report will be to assist in setting road grades and locating potential problems.

- Copies of U.S.G.S. and S.C.S. maps with project limits shown.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.
- Results of all tasks discussed in the previous section (Data Interpretation and Analysis).
- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.
- The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

30.22 Final Report

The Final Roadway Report shall include the following:

- Copies of U.S.G.S. and S.C.S. maps with project limits shown.
- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.
- Results of all tasks discussed in the previous section (Data Interpretation and Analysis).
- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.
- The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

30.23 Auger Boring Drafting

Draft auger borings as directed by the DEPARTMENT.

30.24 SPT Boring Drafting

Draft SPT borings as directed by the DEPARTMENT.

Structures

The CONSULTANT shall be responsible for coordination of all geotechnical related fieldwork activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by needs of project and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

The staff hour tasks for high embankment fills and structural foundations for bridges, box culverts, walls, high-mast lighting, overhead signs, mast arm signals, strain poles, buildings, and other structures include the following:

30.25 Develop Detailed Boring Location Plan

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

30.26 Stake Borings/Utility Clearance

Stake borings and obtain utility clearance.

30.27 Coordinate and Develop MOT Plans for Field Investigation

Coordinate and develop MOT plan. All work zone traffic control will be performed in accordance with the DEPARTMENT's Roadway and Traffic Design Standards Index 600 series.

30.28 Drilling Access Permits

Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, as needed.

30.29 Property Clearances

Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT's Project Manager.

30.30 Collection of Corrosion Samples

Collect corrosion samples for determination of environmental classifications.

30.31 Coordination of Field Work

Coordinate all field work required to provide geotechnical data for the project.

30.32 Soil and Rock Classification - Structures

Soil profiles recorded in the field should be refined based on the results of laboratory testing.

30.33 Tabulation of Laboratory Data

Laboratory test results should be tabulated for inclusion in the geotechnical report and for the necessary calculations and analyses.

30.34 Estimate Design Groundwater Level for Structures

Review encountered groundwater levels, estimate seasonal high groundwater levels, and evaluate groundwater levels for structure design.

30.35 Selection of Foundation Alternatives (BDR)

Evaluation and selection of foundation alternative, including the following:

- Spread footings
- Prestressed concrete piling - various sizes
- Steel H- piles

- Steel pipe piles
- Drilled shafts

Foundation analyses shall be performed using approved DEPARTMENT methods. Assist in selection of the most economical, feasible foundation alternative.

30.36 Detailed Analysis of Selected Foundation Alternate(s)

Detailed analysis and basis for the selected foundation alternative. Foundation analyses shall be performed using approved DEPARTMENT methods and shall include:

- For pile and drilled shaft foundations, provide graphs of ultimate axial soil resistance versus tip elevations. Calculate scour resistance and/or downdrag (negative skin friction), if applicable.
- CONSULTANT shall assist the Engineer of Record in preparing the Pile Data Table (including test pile lengths, scour resistance, downdrag, minimum tip elevation, etc.)
- Provide the design soil profile(s), which include the soil model/type of each layer and all soil-engineering properties required for the Engineer of Record to run the FBPIER computer program. Review lateral analysis of selected foundation for geotechnical compatibility.
- Shallow foundation bearing capacity (including soil bearing capacity, minimum footing width, and minimum embedment depth).
- Estimated maximum driving resistance anticipated for pile foundations.
- Provide settlement analysis.

30.37 Bridge Construction and Testing Recommendations (Not applicable for this project)

30.38 Lateral Load Analysis (Optional) (Not applicable for this project)

30.39 Walls

Provide the design soil profile(s), which include the soil model/type of each layer and all soil engineering properties required by the Engineer of Record for conventional wall analyses and recommendations. Review wall design for geotechnical compatibility and constructability.

Evaluate the external stability of conventional retaining walls and retained earth wall systems. For retained earth wall systems, calculate and provide minimum soil reinforcement lengths versus wall heights, and soil parameters assumed in analysis. Estimate differential and total (long term and short term) settlements.

Provide wall construction recommendations.

30.40 Sheet Pile Wall Analysis (Optional)

Analyze sheet pile walls as directed by the DEPARTMENT.

30.41 Design Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations

Provide the design soil profile(s) that include the soil model/type of each layer and all soil properties required by the Engineer of Record for foundation design. Review design for geotechnical compatibility and constructability.

30.42 Box Culvert Analysis (Not applicable for this project)

30.43 Preliminary Report - BDR (Not applicable for this project)

30.44 Final Report - Bridge and Associated Walls (Not applicable for this project)

30.45 Final Reports - Signs, Signals, Box Culvert, Walls, and High Mast Lights

The final reports shall include the following:

- Copies of U.S.G.S. and S.C.S. maps with project limits shown.
- Summary of structure background data, SCS, USGS, geologic and potentiometric data.
- The results of all tasks discussed in the previous section (Data Interpretation and Analysis).
- Recommendations for foundation installation, or other site preparation soils-related construction considerations with plan sheets as necessary.
- Any special provisions required for construction that are not addressed in the DEPARTMENT's Standard specification.
- An Appendix which includes SPT and CPT boring/sounding profiles, data from any specialized field tests, engineering analysis, notes/sample calculations, sheets showing ultimate bearing capacity curves versus elevation for piles and drilled shafts, a complete FHWA check list, pile driving records (if available), and any other pertinent information.

Final reports will incorporate comments from the DEPARTMENT and contain any additional field or laboratory test results, recommended foundation alternatives along with design parameters and special provisions for the contract plans. These reports will be submitted to the District Geotechnical Engineer for review prior to project completion. After review by the District Geotechnical Engineer, the reports will be submitted to the District Geotechnical Engineer in final form and will include the following:

- All original plan sheets (11" x 17")
- One set of all plan and specification documents, in electronic format, according to DEPARTMENT requirements
- Two sets of record prints
- Six sets of any special provisions

- All reference and support documentation used in preparation of contract plans package

Additional final reports (up to four), aside from stated above, may be needed and requested for the DEPARTMENT's Project Manager and other disciplines.

The final reports, special provisions, as well as record prints, will be signed and sealed by a Professional Engineer registered in the State of Florida.

Draft the detailed boring/sounding standard sheet, including environmental classification, results of laboratory testing, and specialized construction requirements, for inclusion in final plans.

30.46 SPT Boring Drafting

Prepare a complete set of drawings to include all SPT borings, auger borings and other pertinent soils information in the plans. Include these drawings in the Final Geotechnical Report. Draft borings, location map, S.C.S. map and U.S.D.A. map as directed by the DEPARTMENT. Soil symbols must be consistent with those presented in the latest Florida Department of Transportation Soils and Foundations Handbook.

30.47 Other Geotechnical

Define

30.48 Technical Special Provisions

30.49 Field Reviews

Identify and note surface soil and rock conditions, surface water conditions and locations, and preliminary utility conflicts. Observe and note nearby structures and foundation types.

30.50 Technical Meetings

30.51 Quality Assurance/Quality Control

30.52 Supervision

30.53 Coordination

30.54 Optional Preliminary Contamination Assessment

When required, all work shall be performed in accordance with current Florida Department of Environmental Regulation (DER) and Federal OSHA and EPA standards. The following work shall be included, but not limited to:

- A minimum of four borings will be required per site.

- Soil gas analysis will be required by use of a flame ionization detector; e.g. Organic Vapor Analyzer (OVA).
- Installation of monitoring wells may be required.
- Water sampling and laboratory analysis may be required. The State of Florida Department of Health shall certify the laboratory performing the analysis.
- Four copies of the draft PCA report will be required for review and comment by the DEPARTMENT. After comments have been addressed, six signed and sealed copies of the final PCA report shall be submitted to the DEPARTMENT. Copies of all documents will be additionally transmitted to the DEPARTMENT in electronic format in accordance with the DEPARTMENT's current standards.

31 ARCHITECTURE DEVELOPMENT and tasks 31.1 – 31.139 are not applicable for this project.

32 NOISE BARRIERS IMPACT DESIGN ASSESSMENT IN THE DESIGN PHASE and tasks 32.1 – 31.11 are not applicable for this project.

33 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS and tasks 33.1 – 33.21 are not applicable for this project.

35 PROJECT REQUIREMENTS

35.1 Liaison Office

The DEPARTMENT and the CONSULTANT will designate a Liaison Office and a Project Manager who shall be the representative of their respective organizations for the Project. While it is expected the CONSULTANT shall seek and receive advice from various state, regional, and local agencies, the final direction on all matters of this project remain with the DEPARTMENT Project Manager.

35.2 Key Personnel

The CONSULTANT's work shall be performed and directed by the key personnel identified in the proposal presentations by the CONSULTANT. Any changes in the indicated personnel shall be subject to review and approval by DEPARTMENT.

35.3 Progress Reporting

The CONSULTANT shall meet with the DEPARTMENT as required and shall provide a written *a monthly* progress report *and payout curve* that describes the work performed on each task. *Invoices shall be submitted after the DEPARTMENT approves the monthly progress report and the payout curve.* The Project Manager will make judgment on whether work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

35.4 Correspondence

Copies of all written correspondence between the CONSULTANT and any party pertaining specifically to this contract shall be provided to the DEPARTMENT for their records within one (1) week of the receipt or mailing of said correspondence.

35.5 Professional Endorsement

The CONSULTANT shall have a Registered Professional Engineer in the State of Florida sign and seal all reports, documents, and plans as required by DEPARTMENT standards.

35.6 Computer Automation

The project will be developed utilizing Computer Aided Drafting and Design (CADD) systems. The DEPARTMENT makes available software to help assure quality and conformance with policy and procedures regarding CADD. It is the responsibility of the CONSULTANT to meet the requirements in the DEPARTMENT's CADD Manual. The CONSULTANT will submit final documents and files as described therein.

35.7 Coordination with Other Consultants

The CONSULTANT is to coordinate his work with any and all adjacent and integral consultants so as to effect complete and homogenous plans and specifications for the project(s) described herein.

35.8 Optional Services

At the DEPARTMENT's option, the CONSULTANT may be requested to provide optional services. The fee for these services shall be negotiated in accordance with the terms detailed in Exhibit B, Method of Compensation, for a fair, competitive and reasonable cost, considering the scope and complexity of the project(s). Additional services may be authorized by Letter of Authorization or supplemental amendment in accordance with paragraph 2.00 of the Standard Consultant Agreement. The additional services may include Construction Assistance, Review of Shop Drawings, Final Bridge Load Rating, update (Category II) bridge plans electronically (CADD) for the Final "As-Built" conditions, based on documents provided by the DEPARTMENT (CADD Services Only) or other Services as required.

36 INVOICING LIMITS

Payment for the work accomplished will be in accordance with Method of Compensation of this contract. Invoices shall be submitted to the DEPARTMENT, in a format prescribed by the DEPARTMENT. The DEPARTMENT Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to insure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the DEPARTMENT.

The CONSULTANT will provide a list of key events and the associated total percentage of work considered to be complete at each event. This list *and percentages shall be approved by the DEPARTMENT* and will be used to control invoicing. Payments will not be made that exceed the percentage of work for any event until those events have actually occurred and the results are acceptable to the DEPARTMENT.

Project Staff Hour Summary

Name of Consultant:

TBD

Milling & Resurfacing from Enter project name & description
427052-1-32-01

		Project Staff Hours													
Activity No.	Activity	Enter Firm Name	Enter Name Sub 1	Sub 2	Sub 3	Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12	Total Hours
3	Project Common and General Tasks	0													0
4	Roadway Analysis	0													0
5	Roadway Plans	0													0
6	Drainage Analysis	0													0
7	Utilities	0													0
8	Env. Permits, Compliance & Clearances	0													0
9	Structures - Summary, Misc. Tasks, Dwgs. (N/A)	0													0
10	BDR (N/A)	0													0
11	Temporary Bridge (N/A)	0													0
12	Short Span Concrete Bridge (N/A)	0													0
13	Medium Span Concrete Bridge (N/A)	0													0
14	Structural Steel Bridge (N/A)	0													0
15	Segmental Concrete Bridge (N/A)	0													0
16	Movable Span (N/A)	0													0
17	Retaining Walls (N/A)	0													0
18	Miscellaneous Structures (N/A)	0													0
19	Signing & Pavement Marking Analysis	0													0
20	Signing & Pavement Marking Plans	0													0
21	Signalization Analysis (N/A)	0													0
22	Signalization Plans (N/A)	0													0
23	Lighting Analysis (Optional Services)	0													0
24	Lighting Plans (Optional Services)	0													0
25	Landscape Architecture Analysis (Partial Optional Services)	0													0
26	Landscape Architecture Plans (Optional Services)	0													0
27	Survey - Field and Office Support (N/A)	0													0
28	Photogrammetry (N/A)	0													0
29	Mapping (N/A)	0													0
30	Geotechnical (Optional Services)	0													0
31	Architecture Development (N/A)	0													0
32	Noise Barriers Impact Design Assessment (N/A)	0													0
33	ITS Analysis (N/A)	0													0
34	ITS Plans (N/A)	0													0
Project Total		0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	Survey Field Crew Days	0													0

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

Employee Matrix

Include ALL personnel proposed for the Prime and subconsultants

[illegible]