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June 01, 2022
Review

EXHIBIT “A”

SCOPE OF SERVICES

FOR

Financial Project ID: 448976-1-32-02 & 448974-1-32-01, 448974-1-32-02

FDOT District 1

Okeechobee

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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 or FDOT) and [*Consultant Name or leave blank until CONSULTANT is selected*] (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project ID: 448974-1-32-02

Related Financial Project ID(s): 448974-1-32-01 & 448976-1-32-02

Federal Aid Project No.:

Roadway:

RoadwayId	Begin milepost	End milepost
91020000	3.304	11.1
91020000	1.626	2.963

Project Description:
SR 15 (US 98) FROM NW 3rd ST TO NE 120th ST
SR 15 (US 98/US 441) FROM SW 23rd ST TO SW 3rd ST

Bridge No(s).:
- ***91-0087***
- ***91-0021***

Railroad Crossing No.: ***628062-L***

Context Classification:
- ***C3C-Suburban Commercial Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.***
- ***C2-Rural Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.***
- ***C2T-Rural Town Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.***

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 documents and incidental engineering services, as necessary, for improvements to the transportation facility described herein.

- Major work mix includes:
  - ***0012 - RESURFACING***

- Major work groups include:
  - ***3.1 - Minor Highway Design***
- Minor work groups include:
  - ***4.1.1 - Miscellaneous Structures***
  - ***7.1 - Signing, Pavement Marking and Channelization***
  - ***7.2 - Lighting***
  - ***7.3 - Signalization***
  - ***8.1 - Control Surveying***

Known alternative contracting methods include ***N/A***
The general objective is for the CONSULTANT to prepare a set of contract documents including plans, specifications, supporting engineering analysis, calculations, and other technical documents in accordance with FDOT policy, procedures and requirements. These Contract documents will be used by the contractor to build the project and test the project components. These Contract documents will be used by the DEPARTMENT or its Construction Engineering Inspection (CEI) representatives for inspection and final acceptance of the project. The CONSULTANT shall follow a systems engineering process to ensure that all required project components are included in the development of the Contract documents and the project can be built as designed and to specifications.

The Scope of Services establishes which items of work in the FDOT Design Manual and other pertinent manuals are specifically prescribed to accomplish the work included in this contract, and also indicate which items of work will be the responsibility of the CONSULTANT and/or the DEPARTMENT.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original concepts may be required. The CONSULTANT shall incorporate these refinements into the design and consider such refinements to be an anticipated and integral part of the work. This shall 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. CONSULTANTs are expected to know the laws and rules governing their professions and are expected to provide services in accordance with current regulations, codes and ordinances and recognized standards applicable to such professional services. The CONSULTANT shall provide qualified technical and professional personnel to perform to Department standards and procedures, the duties and responsibilities assigned under the terms of this agreement. The CONSULTANT shall minimize to the maximum extent possible the DEPARTMENT's need to apply its own resources to assignments authorized by the Department.

The DEPARTMENT will provide contract administration, management services, and technical reviews of all work associated with the development and preparation of contract documents, including Construction documents. The DEPARTMENT's technical reviews are for high-level conformance and are not meant to be comprehensive reviews. The CONSULTANT shall be

fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide job-specific information and/or functions as outlined in this contract, if favorable.

2 PROJECT DESCRIPTION

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

This is a Resurfacing, Restoration, and Rehabilitation (RRR) project that is intended to extend the service life of the existing roadway. Additional improvements will adhere to the standards set forth in the 01 FDOT Design Manual (FDM).

FM 448974-1 Begin the project at northern return of NW 3rd Street (MP 3.280) then proceed to the existing pavement joint located approximately 0.40-miles north of NE 120th Street (MP 11.100). Within these project limits is one railroad crossing at the CSX Railroad Crossing (25-ft.) that is not included in the milling and resurfacing limits, and the Taylor Creek Bridge (240-ft.) is concrete and not included in the milling and resurfacing limits. The overall project length is 7.820-miles.

FM 448976-1 SR 15 (US 98/US 441) from SW 23rd Street to SW 3rd Street. Begin the project just north of SW 23rd Street (MP 1.626) and proceed 1.337 mile to the existing pavement joint at SW 3rd Street (MP 2.963).

A 'Goes-With' project is included for construction of a signal at SW 28th Street (FPID No. 449656- 1) and consists of new mast arm signals, lighting, regulatory sign, and high emphasis crosswalk pavement marking installation.

2.1 Project General and Roadway (Activities 3, 4, and 5)

Public Involvement:
CAP Level: ***1***
Meet with County Commissioners/TPO

Other Agency Presentations/Meetings:

Agency	Number of Meetings
Okeechobee County	2

Joint Project Agreements: ***N/A***

Specifications Package Preparation:
[*List any significant effort*]

Estimated Quantities Report Preparation:

[*List any significant effort*]

Value Engineering: ***N/A***

Risk Assessment Workshop: ***N/A***

Plan Type:
Plan/Profile

Typical Section:
Number of Typical Sections: ***5***
FM 448974-1 This section of SR 15 (US 441) provides three separate typical sections. The first typical section (Figure 2a) begins at NW 3rd Street and continues to the CSX railroad crossing. This typical section consists of a four-lane divided urban typical section with two 12-ft. lanes in each direction separated by raised 19-ft. median and bordered with an 4-ft to 6.5-ft variable width shoulder, Type F curb and gutter, and sidewalk. The variable shoulder is to be converted to a buffered bike lane through milling, resurfacing, and restriping. The second typical section (Figure 2b) is a four-lane divided urban roadway with two 12-ft. lanes in each direction separated by a raise 22-ft. median and bordered with 4-ft. bike lanes, Type F curb and gutter, and sidewalk. This second typical section begins at the CSX railroad crossing and ends at NE 39th Boulevard (Cemetery Road). The third typical section (Figure 2c) consists of a two-lane undivided roadway Project Abstract Milling and resurfacing on SR 15 (US 441) from N. of NW 3rd Street to N of NE 120th Street. 4 with one 12-ft. lane in each direction bordered with a 6-ft. (5-ft. paved) shoulder. This third typical section begins approximately 1.100-ft north of NE 39th Boulevard (Cemetery Road) and continues to the project end.

448976-1 There are two typical sections along SR 15 (US 98/US 441). There are eight northbound and seven southbound left turn lanes, and two northbound right turn lanes with no bike keyhole. One of the southbound lefts is a dual left turn lane into the Walmart supercenter. The first typical section from SW 23rd Street to SW 8th Street provides a divided four-lane urban roadway with two 12-ft. lanes in each direction bordered with Type F curb & gutter and 7-foot sidewalks. A 34-foot median separates the roadway and consists of landscaping, brick pavers and intermittent Type F curb & gutter. o The second typical section from SW 8th Street to SW 3rd Street provides two 12-ft. lanes, 8-ft. additional pavement that may serve as undesignated bike lanes in each direction with Type F curb & gutter and 8-ft. sidewalks. An 18-ft. median separates the travel lanes and contains landscaping, brick pavers, Type E curb & gutter and traffic separators.

Pavement Designs: ***N/A***

Pavement Type Selection Report(s):
[*Describe level of effort required - submitted with phase reviews*]

Cross-Slope Correction: ***N/A***

Access Management Classification:

- ***Access Class 4***

- ***Access Class 5***

Transit Route Features: ***N/A***

Major Intersections and Interchanges: ***N/A***

Roadway Alternative Analysis: ***N/A***

Level of Temporary Traffic Control Plan (TTCP): ***2***

[*Level of TTCP Comments*]

Temporary Lighting: ***N/A***

Temporary Signals: ***N/A***

Temporary Drainage: ***N/A***

Design Variations:

- ***Others***

A design variation is needed to keep the existing Type F curb & gutter in the median from the beginning of the project to SW 8th Street. A design variation is needed for no inside paved shoulders in locations where the median is depressed from the beginning of the project to SW 8th Street. A design variation is needed for no keyholes at the two locations from the beginning of the project to SW 8th Street.

Back of Sidewalk Profiles: ***N/A***

Selective Clearing and Grubbing: ***N/A***

2.2 Drainage (Activities 6a and 6b)

Drainage System Type:
The existing drainage consists of a closed system with ditch conveyance of roadway runoff and minor curb and gutter at various intersections

Number of stormwater management facility sites: N/A
Number of cross drains: 6 Cross drains and 2 bridge culverts

The CONSULTANT shall visually inspect each cross drain that are scheduled to remain to help identify any concerns such as patches on the road above or excessive siltation. The CONSULTANT shall also coordinate with the local Operations Center to ascertain any known cross drain issues and obtain any existing pipe videos which are available.

The CONSULTANT shall notify the DEPARTMENT's Drainage Office of any existing cross drains within the project limits which are scheduled to remain and have been identified to potentially have issues. The DEPARTMENT will determine whether to perform desilting and pipe video inspection. The CONSULTANT shall review pipe

video inspections provided by the DEPARTMENT and incorporate any required culvert remediations into the CONSULTANT'S construction plans subject to approval by the DEPARTMENT.

2.3 Utilities Coordination (Activity 7)

The CONSULTANT is responsible to certify that all necessary arrangements for utility work on this project have been made and will not conflict with the physical construction schedule. The CONSULTANT should coordinate with DEPARTMENT personnel to coordinate transmittals to Utility Companies and meet production schedules.

The CONSULTANT shall ensure FDOT standards, policies, procedures, practices, and design criteria are followed concerning utility coordination.

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 FDOT District Utilities Administrator that they have the following knowledge, skills, and expertise:

- A minimum of 4 years of experience performing utility coordination in accordance with FDOT, Federal Highway Administration (FHWA), and American Association of State Highway and Transportation Officials (AASHTO) standards, policies, and procedures.
- A thorough knowledge of the FDOT plans production process and District utility coordination process.
- A thorough knowledge of FDOT agreements, standards, policies, and procedures.

The Utility Coordination Manager shall be responsible for managing all utility coordination, including the following:

- Assuring that Utility Coordination and accommodation is in accordance to the FDOT, FHWA, and AASHTO standards, policies, procedures, and design criteria.
- Assisting the engineer of record in identifying all existing utilities and coordinating any new installations. Assisting the Engineer of Record with resolving utility conflicts.
- 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.
- Distributing all plans, conflict matrixes and changes to affected utility owners and making sure this information is properly coordinated and documented.
- Identifying and coordinating the completion of any FDOT or utility owner agreement that is required for reimbursement, or accommodation of the utility facilities associated with the project.
- 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.

- Prepare, review and process all utility related reimbursable paperwork inclusive of betterment and salvage determination.

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

Expected Utilities:
448976-1: Comcast; Century Link; Florida Power & Light; Florida Public Utilities; Crown Castle NG; Okeechobee Utility Authority.

448974-1: Comcast; Century Link; Florida Gas Transmission; Florida Power & Light; Florida Public Utilities; Gulfstream Natural Gas; MCI; Crown Castle NG; Okeechobee Utility Authority.

2.4 Environmental Permits and Environmental Clearances (Activity 8) (N/A)

2.5 Structures (Activities 9 - 18)

Bridge:

No.	Bridge Number	Length	Description
1	91-0087	24 ft	Double cell reinforced concrete box culvert
2	91-0021	240 ft	Precast reinforced concrete flat slab

Type of Bridge Structure Work
- BDR (Activity 10): ***N/A***
- Temporary Bridge (Activity 11): ***N/A***
- Short Span Concrete (Activity 12): ***N/A***
- Medium Span Concrete (Activity 13): ***N/A***
- Structural Steel (Activity 14): ***N/A***
- Segmental Concrete (Activity 15): ***N/A***
- Movable Span (Activity 16): ***N/A***

Retaining Walls: ***N/A***
Miscellaneous Structures:
- ***Mast Arms***

- ***Box Span***

2.6 Signing and Pavement Markings (Activities 19 & 20)

No.	Type	Number	Location
1	[*Type*]	[*Number*]	[*Location*]

All existing signing should be evaluated for possible replacement to ensure signs meet current design criteria for size, placement, and reflectivity.

2.7 Signalization (Activities 21 & 22)

The CONSULTANT shall prepare signal plans in accordance with Department criteria.

Design should reflect FDOT - District One & Maintaining Agency Special Signal Requirements as maintained by the District In-House Design Traffic Group. This folder also contains additional items useful in designing Traffic Signal component plans in District One.

Intersections:

448974-1:

1. **SR 15 (US 441) at NW 9th St. / NE 9th St. (MP: 3.748, SigID: 1555)**

Basic Services:

- Replacement of signal structures if the load capacity is found to be deficient.
- Replacement of the cabinet and controller if recommended by the maintaining agency.
- Replacement of the UPS system if cabinet and controller are replaced.
- Replacement of signal heads, provide backplates with retroreflective boarders.
- Replacement of FTP-85-13 overhead signs if appropriate.
- Installation of blank-out signs to prohibit turning movements when railroad preemption is active, if appropriate.
- Replacement of internally illuminated signs with cantilevered signs attached to the mast arm uprights.
- Replacement of vehicle detection system.
- Coordination with the maintaining agencies on emergency preemption and rail preemption edits if needed.
- Replacement of power service assembly if cabinet and controller are replaced.
- Replacement of pedestrian assemblies and detectors if ADA, FDOT and MUTCD guidelines are not being met.
- Analysis of signal timings.

2. **SR 15 (US 441) at NW 23rd Ln. / High school Ent. (MP: 4.618, SigID: 996).**
   Basic Services:
   - Replacement of signal structures if the load capacity is found to be deficient.
   - Replacement of the cabinet and controller if recommended by the maintaining agency.
   - Installation of a UPS system.
   - Replacement of signal heads, provide backplates with retroreflective boarders.
   - Installation of FTP-85-13 overhead signs if appropriate.
   - Replacement of internally illuminated signs with cantilevered signs attached to the mast arm uprights.
   - Replacement of vehicle detection system.
   - Coordination with the maintaining agencies on emergency preemption installations if needed.
   - Replacement of power service assembly if cabinet and controller are replaced.
   - Relocation or replacement of pedestrian signal assemblies and detectors from mast arm uprights to stand-alone pedestrian poles.
   - Analysis of signal timings.

3. **SR 15 (US 441) at North High School Ent. (MP: 4.618, SigID: 997)**
   Basic Services:
   - Replacement of signal structures if the load capacity is found to be deficient.
   - Replacement of the cabinet and controller if recommended by the maintaining agency.
   - Installation of a UPS system.
   - Replacement of signal heads, provide backplates with retroreflective boarders.
   - Installation of FTP-85-13 overhead signs if appropriate.
   - Replacement of internally illuminated signs with cantilevered signs attached to the mast arm uprights.
   - Removal of internally illuminated sign that reads ‘Sports Complex”.
   - Replacement of vehicle detection system.
   - Coordination with the maintaining agencies on emergency preemption installations if needed.
   - Replacement of power service assembly if cabinet and controller are replaced.
   - Relocation or replacement of pedestrian signal assemblies and detectors from mast arm uprights to stand-alone pedestrian poles.
   - Analysis of signal timings.

4. ***SR 15 (US 441) at NW 36th St. / NE 39th Blvd. (Cemetery Rd.) (MP 5.516).***
   To be exempted out. Signal to be installed through previous study.

448976-1:

1. **SR 700 / SR 15 (US 441 / US 98) at SW 21st ST. / SE 21st St. (MP: 1.761, SigID: 994).**
   Basic Services:
   - Replacement of signal structures if the load capacity is found to be deficient.

- Replacement of the cabinet and controller if recommended by the maintaining agency.
- Installation of a UPS system.
- Replacement of signal heads, provide backplates with retroreflective boarders.
- Addition of FTP-85-13 overhead sign if appropriate.
- Replacement of internally illuminated signs.
- Replacement and addition of vehicle detection loops.
- Coordination with the maintaining agencies on emergency preemption installations if needed.
- Replacement of power service assembly if cabinet and controller are replaced.
- Relocation or replacement of pedestrian signal assemblies and detectors from mast arm uprights to stand-alone pedestrian poles.
- Analysis of signal timings.

2. **SR 700 / SR 15 (US 441 / US 98) at SW 6th Street (MP: 2.734).**
   A full signal warrant analysis study is being performed and will be provided when complete. If the study determine that the new signal is warranted, continue with optional services.

   Optional Services:
   - Installation of a box span configuration with concrete strain poles.
   - Installation of cabinet, controller, and UPS system.
   - Installation of signal heads based on appropriate signal operation plan, provide backplates with retroreflective boarders.
   - Installation of overhead signage if appropriate.
   - Installation of internally illuminated street name signs.
   - Installation of vehicle detection device based on the maintaining agency's preference.
   - Installation of emergency preemption if the maintaining agency requests it.
   - Installation of power service assembly.
   - Installation of pedestrian signal assemblies.
   - Analysis of signal timings.

Traffic Data Collection:
[*List all locations that will require data collection. Describe data to be collected at each location*]

2.8 Lighting (Activities 23 & 24)

Limits and Proposed Type of Lighting:

Type	Limit
[*Type*]	[*Limits*]

SR 15 (US 441) at NW 9th St. / NE 9th St. (MP: 3.748)
SR 15 (US 441) at NW 23rd Ln. / High school Ent. (MP: 4.618
SR 15 (US 441) at North High School Ent. (MP: 4.618, SigID: 997
SR 15 (US 441) at NW 36th St. / NE 39th Blvd. (Cemetery Rd.) (MP 5.516)
SR 700 / SR 15 (US 441 / US 98) at SW 21st ST. / SE 21st St. (MP: 1.761

2.9 Landscape (Activities 25 & 26) (N/A)

2.10 Survey (Activity 27)

Design Survey:
FM 448974-1 - SR 15 (US 441) from N. of NW 3rd Street to N of NE 120th Street

FM 448976-1 - SR 15 (US 98/US 441) from SW 23rd Street to SW 3rd Street

Subsurface Utility Exploration:
SUE all locations that include new underground infrastructure or earthwork excavation (i.e., drilled shafts, bridge piles, strain poles, mast arms, miscellaneous foundations, drainage structures, pipe culverts, new ditches, etc.) in areas that work will be performed. (SUE locations will be negotiated by the DUA or their Designee) (See D1 SUE Policy Direction)

Right of Way Survey: ***N/A***

Vegetation Survey: ***N/A***

2.11 Photogrammetry (Activity 28) (N/A)

2.12 Mapping (Activity 29) (N/A)

2.13 Terrestrial Mobile LiDAR (Activity 30) (N/A)

2.14 Architecture (Activity 31) (N/A)

2.15 Noise Barriers (Activity 32) (N/A)

2.16 Intelligent Transportation Systems (Activities 33 & 34) (N/A)

2.17 Geotechnical (Activity 35) (N/A)

The DEPARTMENT will provide all necessary Geotechnical and Pavement Evaluation services for this project.

The CONSULTANT shall request from the DEPARTMENT in writing all Geotechnical data and recommendations necessary for this project by such time as will support the DEPARTMENT's original project schedule or any subsequent DEPARTMENT-approved revisions thereto.

Within ten (10) days after receiving the Notice-to-Proceed, the CONSULTANT shall submit a Pavement Coring and Condition Evaluation request to the DEPARTMENT through the District 1 and 7 Materials and Research Office (DMRO) SharePoint Site.

2.18 3D Modeling (Activity 36)

[*Describe level of effort*]

2.19 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 schedule shall be based upon the ***Departments current project schedule***. The current production date is ***April 12, 2024***. 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-*** week review time for each phase submittal and any other submittals as appropriate.

The schedule shall indicate all required submittals.

All fees and price proposals are to be based on the negotiated schedule of ***17*** months for final construction contract documents. However, the contract deadline is ***60*** months from the Notice to Proceed.

Periodically, throughout the life of the contract, the project schedule and payout and fiscal progress curves shall be reviewed and, with the approval of the DEPARTMENT, adjusted as necessary to incorporate changes in the Scope of Services 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 an FDOT system-compatible format.

2.20 Submittals

The CONSULTANT shall furnish construction contract documents as required by the DEPARTMENT to adequately control, coordinate, and approve the work concepts. The CONSULTANT shall distribute submittals as directed by the DEPARTMENT. The DEPARTMENT will determine the specific number of copies required prior to each submittal.

2.21 Provisions for Work

All work shall be prepared with English units in accordance with the latest editions of standards and requirements utilized by the DEPARTMENT which include, but are not limited to, publications such as:

General:

- ***Title 29, Part 1910, Standard 1910.1001, Code of Federal Regulations (29 C.F.R. 1910.1001) - Asbestos Standard for Industry, U.S. Occupational Safety and Health Administration (OSHA)***
- ***29 C.F.R. 1926.1101 - Asbestos Standard for Construction, OSHA***
- ***40 C.F.R. 61, Subpart M - National Emission Standard for Hazardous Air Pollutants (NESHAP), Environmental Protection Agency (EPA)***
- ***40 C.F.R. 763, Subpart E - Asbestos-Containing Materials in Schools, EPA***
- ***40 C.F.R. 763, Subpart G - Asbestos Worker Protection, EPA***
- ***Americans with Disabilities Act (ADA) Standards for Accessible Design***
- ***AASHTO - A Policy on Design Standards Interstate System***
- ***AASHTO - Roadside Design Guide***
- ***AASHTO - Roadway Lighting Design Guide***
- ***AASHTO - A Policy for Geometric Design of Highways and Streets***
- ***AASHTO - Highway Safety Manual***
- ***Rule Chapter 5J-17, Florida Administrative Code (F.A.C.), Standards of Practice for Professional Surveyors and Mappers***
- ***Chapter 469, Florida Statutes (F.S.) - Asbestos Abatement***
- ***Rule Chapter 62-257, F.A.C., Asbestos Program***
- ***Rule Chapter 62-302, F.A.C., Surface Water Quality Standards***
- ***Code of Federal Regulations (C.F.R.)***
- ***Florida Administrative Codes (F.A.C.)***
- ***Chapters 20, 120, 215, 455, Florida Statutes (F.S.) - Florida Department of Business & Professional Regulations Rules***
- ***Florida Department of Environmental Protection Rules***
- ***FDOT Basis of Estimates Manual***
- ***FDOT Computer Aided Design and Drafting (CADD) Manual***
- ***FDOT Standard Plans***
- ***FDOT Flexible Pavement Design Manual***
- ***FDOT - Florida Roundabout Guide***
- ***FDOT Handbook for Preparation of Specifications Package***
- ***FDOT Standard Plans Instructions***

- ***FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways ("Florida Greenbook")***
- ***FDOT Materials Manual***
- ***FDOT Pavement Type Selection Manual***
- ***FDOT Design Manual***
- ***FDOT Procedures and Policies***
- ***FDOT Procurement Procedure 001-375-030, Compensation for Consultant Travel Time on Professional Services Agreements***
- ***FDOT Project Development and Environment Manual***
- ***FDOT Project Traffic Forecasting Handbook***
- ***FDOT Public Involvement Handbook***
- ***FDOT Rigid Pavement Design Manual***
- ***FDOT Standard Specifications for Road and Bridge Construction***
- ***FDOT Utility Accommodation Manual***
- ***Manual on Speed Zoning for Highways, Roads, and Streets in Florida***
- ***Federal Highway Administration (FHWA) - Manual on Uniform Traffic Control Devices (MUTCD)***
- ***FHWA - National Cooperative Highway Research Program (NCHRP) Report 672, Roundabouts: An Informational Guide***
- ***FHWA Roadway Construction Noise Model (RCNM) and Guideline Handbook***
- ***Florida Fish and Wildlife Conservation Commission - Standard Manatee Construction Conditions 2011***
- ***Florida Statutes (F.S.)***
- ***Florida's Level of Service Standards and Guidelines Manual for Planning***
- ***Model Guide Specifications - Asbestos Abatement and Management in Buildings, National Institute for Building Sciences (NIBS)***
- ***Quality Assurance Guidelines***
- ***Safety Standards***
- ***Any special instructions from the DEPARTMENT***

Roadway:

- ***FDOT - Florida Intersection Design Guide***
- ***FDOT - Project Traffic Forecasting Handbook***
- ***FDOT - Quality/Level of Service Handbook***
- ***Florida's Level of Service Standards and Highway Capacity Analysis for the SHS***
- ***Transportation Research Board (TRB) - Highway Capacity Manual***

Permits:

- ***Chapter 373, F.S. - Water Resources***
- ***US Fish and Wildlife Service Endangered Species Programs***
- ***Florida Fish and Wildlife Conservation Commission Protected Wildlife Permits***
- ***US Army Corps of Engineers Regulatory Programs***
- ***USCG Bridge Permit Application Guide, COMDTPUB P16591.3D***
- ***Building Permit***

Drainage:

- ***FDOT Drainage Design Guide***
- ***FDOT Drainage Manual***
- ***Florida Erosion and Sediment Control Manual***
- ***FDOT Drainage Connection Permit Handbook***
- ***FDOT Bridge Scour Manual***

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 Engineering and Operations and ITS:

- ***AASHTO - An Information Guide for Highway Lighting***
- ***AASHTO - Guide for Development of Bicycle Facilities***
- ***FHWA Standard Highway Signs Manual***
- ***FDOT Manual on Uniform Traffic Studies (MUTS)***
- ***FDOT Median Handbook***
- ***FDOT Traffic Engineering Manual***
- ***National Electric Safety Code***
- ***National Electrical Code***

Florida's Turnpike Enterprise:

- ***Florida's Turnpike Design Handbook (TDH)***
- ***Florida's Turnpike Lane Closure Policy***
- ***Florida's Turnpike Drainage Manual Supplement***
- ***Rigid Pavement Design Guide for Toll Locations with Electronic Toll Collection***
- ***Flexible Pavement Design Guide for Toll Locations with Electronic Toll Collection***
- ***Florida's Turnpike General Tolling Requirements (GTR)***
- ***Additional Florida's Turnpike Enterprise standards, guides, and policies for design and construction can be found on the FTE Design Website: https://floridasturnpike.com/business-opportunities/design/***

Traffic Monitoring:

- ***American Institute of Steel Construction (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***

- ***FHWA Traffic Detector Handbook***
- ***FDOT General Interest Roadway Data Procedure***
- ***FHWA Traffic Monitoring Guide***
- ***FDOT's Traffic/Polling Equipment Procedures***

Structures:

- ***AASHTO Load and Resistance Factor Design (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***
- ***FDOT Bridge Load Rating Manual***
- ***FDOT Structures Manual***
- ***FDOT Structures Design Bulletins (available on FDOT Structures web site only)***
- ***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 Department of Agriculture and Consumer Services Grades and Standards for Nursery Plants***

Architectural:

- ***Building Codes***
- ***Florida Accessibility Code for Building Construction***
- ***Rule Chapter 60D, F.A.C., Division of Building Construction***
- ***Chapter 553, F.S. - 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)***
- ***Florida Building Code:***
    - ***Building***
    - ***Fuel Gas***
    - ***Mechanical***
    - ***Plumbing***
    - ***Existing Building***

Architectural - Fire Codes and Rules:

- ***National Fire Protection Association (NFPA) - Life Safety Code***
- ***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***

Architectural - 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***

Architectural - 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***

Architectural - 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***

Architectural - 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***
- ***Rule Chapter 69A-47, F.A.C., Uniform Fire Safety For Elevators***
- ***Rule Chapter 69A-51, F.A.C., Boiler Safety***

Architectural - Energy Conservation:
- ***Rule Chapter 60D-4, F.A.C., Rules For Construction and Leasing of State Buildings To Insure Energy Conservation***
- ***Section 255.255, F.S., Life-Cycle Costs***

Architectural - Elevators:
- ***Rule Chapter 61C-5, F.A.C., Florida Elevator Safety Code***
- ***ASME A-17.1, Safety Code for Elevators and Escalators***
- ***Architectural - Floodplain Management Criteria***
- ***Section 255.25, F.S., Approval Required Prior to Construction or Lease of Buildings***
- ***Rules of the Federal Emergency Management Agency (FEMA)***

Architectural - Other:
- ***Rule Chapter 64E-6, F.A.C., Standards for On Site Sewage Disposal Systems (Septic Tanks)***
- ***Rule Chapter 62-600, F.A.C., Domestic Wastewater Facilities***
- ***Rule Chapter 62-761, F.A.C., Underground Storage Tank Systems***
- ***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 Concrete Products Association***
- ***FDOT - ADA/Accessibility Procedure***
- ***FDOT - Building Code Compliance Procedure***
- ***FDOT - Design Build Procurement and Administration***
- ***USGBC LEED Program (Leadership in Energy and Environmental Design) Green Building Rating System***
- ***Florida Green Building Coalition (FGBC) Certified Green Building Rating Program (Florida Green)***
- ***Green Building Initiative (GBI) Green Globes Rating Program***
- ***National Concrete Masonry Association***
- ***National Electrical Code***
- ***Portland Cement Association - Concrete Masonry Handbook***
- ***United State Green Building Council (USGBC)***

2.22 Services to be Performed by the DEPARTMENT

When appropriate or available, the DEPARTMENT will provide project data including:

- ***Numbers for field books***
- ***Preliminary Horizontal Network Control***
- ***Access for the CONSULTANT to utilize the DEPARTMENT's Information Technology Resources***
- ***All Department agreements with Utility Agency Owner (UAO)***
- ***All certifications necessary for project letting***
- ***Building Construction Permit Coordination (Turnpike)***
- ***All information that may come to the DEPARTMENT pertaining to future improvements***
- ***All future information that may come to the DEPARTMENT during the term of the CONSULTANT's Agreement, which in the opinion of the DEPARTMENT is necessary for the prosecution of the work***
- ***Available traffic and planning data***
- ***All approved utility relocations***
- ***Project utility certification to the DEPARTMENT's Central Office***
- ***Any necessary title searches***
- ***Engineering standards review services***
- ***All available information in the possession of the DEPARTMENT pertaining to utility companies whose facilities may be affected by the proposed construction***
- ***All future information that may come to the DEPARTMENT pertaining to subdivision plans so that the CONSULTANT may take advantage of additional areas that can be utilized as part of the existing right of way***
- ***Systems traffic for Projected Design Year, with K, D, and T factors***
- ***Previously constructed Highway Beautification or Landscape Construction Plans***
- ***Landscape Opportunity Plan(s)***
- ***Existing right of way maps***
- ***Existing pavement evaluation report for all RRR projects***
- ***PD&E Documents***
- ***Design Reports***
- ***Letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT in accordance with F.S. 337.274***
- ***Phase reviews of plans and engineering documents***
- ***Regarding Environmental Permitting Services:***
    - ***Approved Permit Document when available***
    - ***Approval of all contacts with environmental agencies***
    - ***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.***
    - ***Appropriate signatures on application forms***

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 (Roadway Analysis) through 36 (3D Modeling). 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 is 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 Phase II plans or completion of quantities, the DEPARTMENT's Long-Range Estimate (LRE) system will be used to produce a conceptual estimate, according to District policy. Once the quantities have been developed (beginning at Phase II plans and no later than Phase III plans) the CONSULTANT shall be responsible for inputting the category information, pay items and quantities into AASHTOWare Project Preconstruction through the use of the DEPARTMENT's Designer Interface.

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 Standard Specifications and implemented modifications in any way.

The Technical Special Provisions 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 Phase III 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 Packages. 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 digitally 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.

Modified Special Provisions: The CONSULTANT shall provide Modified Special Provisions as required by the project. Modified Special Provisions are defined in the Specifications Handbook.

A Modified 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 and Central Specifications Offices to be included in the project's specifications package.

Field Reviews: The CONSULTANT shall make as many trips to the project site as required to obtain necessary data for all elements of the project.

Technical Meetings: The CONSULTANT shall attend all technical meetings necessary to execute the Scope of Services of this contract. This includes meetings with DEPARTMENT and/or Agency staff, between disciplines and subconsultants, such as access management meetings, pavement design meetings, local governments, railroads, airports, 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) working days of attending the meeting.

Quality Assurance/Quality Control: It is the intention of the DEPARTMENT that design CONSULTANTS, including their subconsultant(s), are held responsible for their work, including plans review. The purpose of CONSULTANT plan reviews is to ensure that CONSULTANT plans follow the plan preparation procedures outlined in the FDOT Design Manual, that state and federal design criteria are followed with the DEPARTMENT concept, and that the CONSULTANT submittals are complete. All subconsultant document submittals shall be submitted by the subconsultant directly to the CONSULTANT for their independent Quality Assurance/Quality Control review and subsequent submittal to the DEPARTMENT.

It is the CONSULTANT'S responsibility to independently and continually QC their plans and other deliverables. The CONSULTANT should regularly communicate with the DEPARTMENT's Design Project Manager to discuss and resolve issues or solicit opinions from those within designated areas of expertise.

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 and their subconsultant(s) 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 Quality Control Plan shall be one specifically designed for this project. The CONSULTANT shall submit a Quality Control Plan for approval within twenty (20) business days of the written Notice to Proceed and it shall be signed by the CONSULTANT's Project Manager and the CONSULTANT QC Manager. The Quality Control Plan shall include the names of the CONSULTANT's staff that will perform the quality control reviews. The Quality Control reviewer shall be a Florida Licensed Professional Engineer fully prequalified under F.A.C. 14-75 in the work type being reviewed. 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, landscape, surveys, etc.) and a written resolution of comments on a point-by-point basis will be required, if requested by the DEPARTMENT, with each phase submittal. The responsible Professional Engineer, Landscape Architect, or Professional Surveyor & Mapper that performed the Quality Control review will sign a statement certifying that the review was conducted and found to meet required specifications.

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

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

Independent Peer Review and a Constructability/Bidability Review for design Phase Plans document submittals are required on this project. These separate reviews shall be completed by someone who has not worked on the plan component that is being reviewed. These could include, but are not limited to a separate office under the Prime's umbrella, a subconsultant that is qualified in the work group being reviewed, or a CEI. It does not include persons who have knowledge of the day to day design efforts. The Constructability/Bidability Review shall be performed by a person with experience working on Department construction projects (CEI, Contractor, etc.).

The Independent Peer Review for design Phase Plans submittals shall ensure the plans meet the FDM, Standard Plans and FDOT CADD Manual. The Constructability/Bidability Review shall ensure the project can be constructed and paid for as designed. Constructability/Bidability Reviews should be conducted prior to the Phase III and Phase IV submittals, using the Phase Review Checklist (Guidance Document 1-1-A) from the Construction Project Administration Manual (CPAM) as a minimum guideline. The CONSULTANT shall submit this checklist, as well as the "marked-up" set of plans during this review, and review comments and comment responses from any previous Constructability/Bidability reviews. These items will be reviewed by District Design and District Construction.

Supervision: The CONSULTANT shall supervise all technical design activities.

Coordination: The CONSULTANT shall 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 (e.g., newsletters, property owner letters, advertisements, etc.) associated with the following tasks for review and approval at least ***10*** business days prior to printing and / or distribution.

3.1.1 Community Awareness Plan

Prepare a Community Awareness Plan (CAP) for review and approval by the DEPARTMENT within 30 calendar days after receiving Notice to Proceed. The

objective of the plan is to notify local governments, affected property owners, tenants, and the public of the DEPARTMENT'S proposed construction and the anticipated impact of that construction. The CAP shall address timeframes for each review and shall include tentative dates for each public involvement requirement for the project. The CAP will also document all public involvement activities conducted throughout the project's duration. In addition to the benefits of advance notification, the process should allow the DEPARTMENT to resolve controversial issues during the design phase. This item shall be reviewed and updated periodically as directed by the DEPARTMENT throughout the life of the project.

3.1.2 Notifications

In addition to public involvement data collection, the CONSULTANT shall assist the DEPARTMENT or prepare notifications, flyers, and/or letters to elected officials and other public officials, private property owners, and tenants at intervals during plans production as identified by the DEPARTMENT. All letters and notices shall be reviewed by the ***DEPARTMENT*** to ensure that they are addressed to the correct and current public officials.

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) The CONSULTANT shall prepare a mailing list of all such entities and shall update the mailing list as needed during the life of the project.

3.1.4 Median Modification Letters

The CONSULTANT shall prepare a median modification letter to be sent to property owners along the corridor. In addition, the CONSULTANT shall prepare a sketch of each proposed median modification for inclusion in the letter. The letters will be sent on DEPARTMENT letterhead by the ***CONSULTANT***.

3.1.5 Driveway Modification Letters

The CONSULTANT shall prepare a driveway modification letter to be sent to property owners along the corridor. In addition, the CONSULTANT shall prepare a sketch of each proposed driveway modification for inclusion in the letter. The letters will be sent on DEPARTMENT letterhead.

3.1.6 Newsletters

The CONSULTANT shall prepare newsletters for distribution to elected officials, public officials, property owners along the corridor and other interested parties. The letters will be sent by the CONSULTANT.

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.

The CONSULTANT will investigate potential meeting sites to advise the DEPARTMENT on their suitability. The ***CONSULTANT*** will pay all costs for meeting site rents and insurance. No DEPARTMENT meetings will be held on public school system properties.

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 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 ***TBD*** Public meetings during the design.

3.1.11 Other Agency Meetings

In addition to scheduled public meetings the CONSULTANT may be required to participate in meetings with local governing authorities and/or Metropolitan Planning Organization (MPO). The CONSULTANT's participation may include, but not be limited to, presentations during the meeting, note taking, and summarizing the meeting in a memo to the file. It is estimated for this project there will be ***2*** meetings (as indicated in Section 2.1 above) with local governing authorities and/or MPOs during the design.

3.1.12 Web Site

The CONSULTANT shall create and/or maintain a web site for the project.

3.2 Joint Project Agreements (N/A)

3.3 Specifications & Estimates

3.3.1 Specifications Package Preparation

The CONSULTANT shall prepare and provide a specifications package in accordance with the DEPARTMENT'S Procedure Topic No. 630-010-005 Specifications Package Preparation and the Specifications Handbook. The CONSULTANT shall provide the DEPARTMENT names of at least two team members who have successfully completed

the Specifications Package Preparation Training and will be responsible for preparing the Specifications Package for the project. The Specifications Package shall be prepared using the DEPARTMENT's Specs on the Web application. The CONSULTANT shall be able to document that the procedure defined in the Handbook for the Preparation of Specifications Packages is followed, which includes the quality assurance/quality control procedures. The specifications package shall address all items and areas of work and include any Mandatory Specifications, Modified Special Provisions, and Technical Special Provisions.

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 CONSULTANT shall coordinate with the DEPARTMENT on the submittal requirements, but at a minimum shall consist of (1) the complete specifications package, (2) a copy of the marked-up workbook used to prepare the package, and (3) 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 digitally signed, dated, and sealed in accordance with applicable Florida Statutes.

3.3.2 Estimated Quantities Report Preparation

The CONSULTANT shall prepare an Estimated Quantities (EQ) Report in accordance with FDM 902. Includes loading category information, pay items, and quantities into Designer Interface for AASHTOWare Project Preconstruction (PrP), QA/QC efforts associated with AASHTOWare PrP and the EQ Report.

3.4 Contract Maintenance and Project Documentation

Contract maintenance includes project management effort for complete setup and maintenance of files, electronic folders and documents, developing technical monthly progress reports and schedule updates. Project documentation includes the compilation and delivery of final documents, reports or calculations that support the development of the contract plans; includes uploading files to Electronic Document Management System (EDMS) or Project Suite Enterprise Edition (PSEE).

3.5 Value Engineering (Multi-Discipline Team) Review (N/A)

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 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".

Specific services will be negotiated as necessary as a contract amendment.

3.8 Post-Design Services

Post-Design Services may include, but not limited to, meetings, construction assistance, plans revisions, shop drawing review, survey services, as-built drawings, 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 or omissions.

3.9 Digital Delivery

The CONSULTANT shall deliver final contract plans and documents in digital format. The final contract plans and documents shall be digitally signed and sealed files delivered to the DEPARTMENT on acceptable electronic media, as determined by the DEPARTMENT.

3.10 Risk Assessment Workshop (N/A)

3.11 Railroad, Transit and/or Airport Coordination

[*Provide project-specific information*]

3.11.1 Aeronautical Evaluation

The Consultant shall be responsible for complying with the requirements of Title 14 of the Code of Federal Regulations Part 77 (14 CFR Part 77), and for determining whether it is necessary to file any Notice of Proposed Construction or Alteration (FAA Form 7460-1) with the Federal Aviation Administration (FAA), utilizing the FAA Notice Criteria Tool. Place a copy of all pertinent documentation in the Project Documentation folder structure; e.g., Notice Criteria Tool inquiries and responses; FAA Form 7460-1 filed with the FAA; Letters of Determination (along with the records demonstrating compliance with the conditions and deadlines). Report any Letters of Determination, designated other than "Does Not Exceed", to the Central Office (Aviation Office, Airspace and Land Use Manager).

3.12 Landscape and Existing Vegetation Coordination

Coordinate to ensure preservation and protection of existing vegetation. Relocation of existing vegetation may be necessary in some cases. Space for proposed landscape should be preserved and conflicts with drainage, utilities, ITS, and signage should be minimized. Coordination with the District Landscape Architect may be necessary as defined in 4.12. Additionally, coordination with the Florida Scenic Highways program should be included to ensure any requirements of the FSH program are met.

3.13 Other Project General Tasks

[*Describe other project general tasks*]

4 ROADWAY ANALYSIS (TBD)

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 prepare a Typical Section Package.

4.2 Pavement Type Selection Report

Pavement Type Selection Reports are required for every project one mile or greater in length where work includes a modification to the base materials. The Pavement Type Selection decision will again be reviewed by FDOT Design at the time the pavement is designed to warrant reconsideration. A letter to the Project Design File documenting the pavement type decision is required, even if no report is performed.

4.3 Pavement Design Package

Pavement Design to include milling and resurfacing.

4.4 Cross-Slope Correction (N/A)

4.5 Horizontal/Vertical Master Design Files

The CONSULTANT shall design the geometrics using the Standard Plans 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, existing vegetation to be preserved, pedestrian and bicycle concerns, ADA requirements, Safe Mobility For Life Program, access management, PD&E documents and scope of work. The CONSULTANT shall also develop utility conflict information to be provided to project Utility Coordinator in the format requested by the DEPARTMENT.

Note: When the project includes a 3D Model deliverable, also include Activity 36 3D Modeling.

4.6 Access Management

The CONSULTANT shall incorporate access management standards for each project in coordination with DEPARTMENT staff. The CONSULTANT shall review adopted access management standards and the existing access conditions (interchange spacing, signalized intersection spacing, median opening spacing, and connection spacing). Median openings that will be closed, relocated, or substantially altered shall be shown on plan sheets and submitted with supporting documentation for review with the first plans submittal.

The DEPARTMENT shall provide access management classification information and information derived from PD&E studies and public hearings to be used by the CONSULTANT.

4.7 Roundabout Final Design Analysis

The CONSULTANT shall finalize the design of the roundabout in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall perform a final roundabout operational analysis that recommends a functional geometric layout that is cost effective, safe and meets the needs of the community. A final roundabout design will be recommended for implementation, and all geometric and operational analysis will be documented in a final roundabout report.

4.8 Cross Section Design Files

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

Note: If the Cross Sections are prepared using a 3D model, use Task 36.5 instead of Task 4.9 for the Cross Section Design Files.

4.9 Temporary Traffic Control Plan (TTCP) Analysis

The CONSULTANT shall design a safe and effective TTCP 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, transit stops, 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 highway lighting, detours, diversions, lane shifts, 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 TTCP, 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 TTCP 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.

4.10 Master TTCP Design Files

The CONSULTANT shall develop master TTCP files showing each phase of the TTCP. This includes all work necessary for designing lane configurations, diversions, lane shifts, signing and pavement markings, temporary traffic control devices, and temporary pedestrian ways.

4.11 Selective Clearing and Grubbing (N/A)

4.12 Tree Disposition Plans (N/A)

4.13 Design Variations and Exceptions

The CONSULTANT shall prepare the documentation necessary to gain DEPARTMENT approval of all appropriate Design Variation Memorandums, Formal Design Variations and/or Design Exceptions.

A Project Design Variation Memorandum (FDM Form 122-B) shall be prepared to document all non-controlling design elements for a project that do not meet Department criteria. Those elements requiring a more detailed analysis, as per FDM Section 122.2, shall be submitted as Formal Design Variations or Design Exceptions.

4.14 Design Report

The CONSULTANT shall prepare all applicable report(s) as listed in the Project Description section of this scope. Reports are to be delivered as a signed and sealed pdf file.

4.15 Quantities for EQ Report

The CONSULTANT shall determine pay items and quantities and the supporting documentation, including construction days when required.

4.16 Cost Estimate

4.17 Technical Special Provisions and Modified Special Provisions

4.18 Other Roadway Analyses

4.19 Field Reviews

4.20 Monitor Existing Structures

The CONSULTANT shall perform field observations to visually identify existing structures within the project limits which may require settlement, vibration or groundwater monitoring by the contractor during construction in accordance with FDM Chapter 307.

The CONSULTANT shall identify the necessary pay items to be included in the bid documents to monitor existing structures.

Optional Services (may be negotiated at a later date if needed): The CONSULTANT shall coordinate with and assist the geotechnical engineer and/or structural engineer to develop mitigation strategies (when applicable).

4.21 Technical Meetings

4.22 Quality Assurance/Quality Control

4.23 Independent Peer Review

4.24 Supervision

4.25 Coordination

5 ROADWAY PLANS (TBD)

The CONSULTANT shall prepare Roadway, TTCP, 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 Typical Section Sheets

5.2.1 Typical Sections

5.2.2 Typical Section Details

5.3 General Notes/Pay Item Notes

5.4 Project Layout

5.5 Plan/Profile Sheet

5.6 Profile Sheet

5.7 Plan Sheet

5.8 Special Profile

5.9 Back-of-Sidewalk Profile Sheet (N/A)

5.10 Interchange Layout Sheet

5.11 Ramp Terminal Details (Plan View)

5.12 Intersection Layout Details

5.13 Special Details

5.14 Cross-Section Pattern Sheets

5.15 Roadway Soil Survey Sheets

5.16 Cross Sections

5.17 Temporary Traffic Control Plan Sheets

5.18 Temporary Traffic Control Cross Section Sheets

5.19 Temporary Traffic Control Detail Sheets

5.20 Utility Adjustment Sheets

5.21 Selective Clearing and Grubbing Sheets (N/A)

5.22 Tree Disposition Plan Sheets (N/A)

5.23 Project Control Sheets

5.24 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.

Coordination with Permits/Environmental staff and preparing Dredge & Fill Detail sheets where applicable.

5.25 Utility Verification Sheets (SUE Data)

5.26 Quality Assurance/Quality Control

5.27 Supervision

6a 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:

6a.1 Drainage Map Hydrology

Create a (pre- and/or post-condition) working drainage basin map to be used in defining the system hydrology. This map shall incorporate drainage basin boundaries, existing survey and/or LiDAR and field observations, as necessary, to define the system. Basin delineations shall also include any existing collection systems in a logical manner to aid in the development of the hydraulic model. Include coordination hours needed to convey drainage hydrologic features onto produced drainage maps.

6a.2 Base Clearance Calculations

Analyze, determine, and document high water elevations per basin which will be used to set roadway profile grade and roadway materials. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent stormwater ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters. Document findings in a Base Clearance Report.

6a.3 Pond Siting Analysis and Report

Evaluate pond sites using a preliminary hydrologic analysis. Document the results and coordination for all the project's pond site analyses. The Drainage Manual provides specific documentation requirements.

6a.4 Design of Cross Drains

Analyze the hydraulic design and performance of cross drains. Check existing cross drains to determine if they are structurally sound and can be extended. Document the design as required. Determine and provide flood data as required.

6a.5 Design of Ditches

Design roadway conveyance and outfall ditches. This task includes capacity calculations, longitudinal grade adjustments, flow changes, additional adjustments for ditch convergences, selection of suitable channel lining, design of side drain pipes, and documentation. (Design of linear stormwater management facilities in separate task.)

6a.6 Design of Stormwater Management Facility (Offsite or Infield Pond)

Design stormwater management facilities to meet requirements for stormwater quality treatment, attenuation and aesthetics. Develop proposed pond layout (contributing drainage basin, shape, contours, slopes, volumes, tie-ins, aesthetics, etc.), perform routing, pollutant/nutrient loading calculations, recovery calculations, design the outlet control structure and buoyancy calculations for pond liners when necessary.

6a.7 Design of Stormwater Management Facility (Roadside Treatment Swales and Linear Ponds)

Design stormwater management facilities to meet requirements for stormwater quality treatment, attenuation and aesthetics. Develop proposed pond layout (contributing drainage basin, shape, contours, slopes, volumes, tie-ins, aesthetics, etc.), perform routing, pollutant/nutrient loading calculations, recovery calculations and design the outlet control structure.

6a.8 Design of Floodplain Compensation

Determine floodplain encroachments, coordinate with regulatory agencies, and develop proposed compensation area layout (shape, contours, slopes, volumes, etc.). Document the design following the requirements of the regulatory agency.

6a.9 Design of Storm Drains

Delineate contributing drainage areas, 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.

6a.10 Optional Culvert Material

Determine acceptable options for pipe materials using the Culvert Service Life Estimator.

6a.11 French Drain Systems

Design French Drain Systems to provide stormwater treatment and attenuation. Identify location for percolation tests and review these, determine the size and length of French Drains, design the control structure/weir, and model the system of inlets, conveyances, French Drains, and other outfalls using a routing program.

6a.11.1 Existing French Drain Systems

Include this task if French Drains are proposed and the existing systems must be analyzed for a pre- versus post comparison of the peak stages and/or discharges.

6a.12 Drainage Wells

Design the discharge into deep wells to comply with regulatory requirements. Identify the location of the well, design the control structure/weir, and model the system using a routing program.

6a.13 Drainage Design Documentation Report

Compile drainage design documentation into report format. Include documentation for all the drainage design tasks and associated meetings and decisions, except for stand-alone reports, such as the Pond Siting Analysis Report and Bridge Hydraulics Report.

6a.14 Bridge Hydraulic Report

Calculate hydrology, hydraulics, deck drainage, scour, and appropriate counter measures. Prepare report and the information for the Bridge Hydraulics Recommendation Sheet.

6a.15 Temporary Drainage Analysis (N/A)

6a.16 Quantities for EQ Report

The CONSULTANT shall determine pay items and quantities and the supporting documentation.

6a.17 Cost Estimate

Prepare cost estimates for the drainage components, except bridges and earthwork for stormwater management and flood compensation sites.

6a.18 Technical Special Provisions / Modified Special Provisions

6a.19 Hydroplaning Analysis

Perform a hydroplaning analysis to assist in the determination of the appropriate roadway geometry for all necessary locations (both typical sections and critical cross sections) as needed. See the FDOT Hydroplaning Guidance and FDOT Design Manual (FDM) Chapters 210 and 211 for more information.

6a.20 Existing Permit Analysis

Data gathering including desktop analysis of local, state and federal Drainage permits.

6a.21 Other Drainage Analysis

Includes all efforts for a drainage task not covered by an existing defined task.

6a.22 Noise Barrier Evaluation

N/A.

6a.23 Erosion Control Plan

Includes analysis and design of the Erosion Control Plan. Includes creating the design file.

6a.24 Field Reviews

6a.25 Technical Meetings

Meetings with Department staff, regulatory agencies, local governments such as meetings with District Drainage Engineer, the Water Management District, FDEP, etc.

6a.26 Environmental Look-Around Meetings

Convene a meeting with Department staff, regulatory agencies, local governments and other stakeholders to explore watershed wide stormwater needs and alternative permitting approaches.

6a.27 Quality Assurance/Quality Control

6a.28 Independent Peer Review

6a.29 Supervision

6a.30 Coordination

6b DRAINAGE PLANS

The CONSULTANT shall prepare Drainage 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.

6b.1 Drainage Map (Including Interchanges)

6b.2 Bridge Hydraulics Recommendation Sheets

6b.3 Drainage Structures

6b.4 Lateral Ditch Plan/Profile & Cross Sections

6b.5 Retention/Detention/Floodplain Compensation Pond Details & Cross Sections

6b.6 Erosion Control Plan

6b.7 SWPPP

6b.8 Quality Assurance/Quality Control

6b.9 Supervision

7 UTILITIES

The CONSULTANT shall identify utility facilities and secure agreements, utility work schedules, and plans from the Utility Agency Owners (UAO) ensuring all conflicts that exist between utility facilities and the DEPARTMENT's construction project are addressed. The CONSULTANT shall certify all utility negotiations have been completed and that arrangements have been made for utility work to be undertaken.

7.1 Utility Kickoff Meeting

Before 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. The Consultant shall be prepared to discuss the projects applied utility schedule logic and current UAO contact information.

7.2 Identify Existing Utility Agency Owner(s)

The Consultant shall identify all Utility Agency Owners (UAOs) in the corridor and within and adjacent to the project limits that may be impacted by the project. Identification shall include the updates UAO contact information. The Consultant shall contact Sunshine 811,

perform a field visit, and review prior FDOT utility permits, reports, existing plans, and surveys provided.

7.3 Make Utility Contacts

First Contact (Green Lines): The CONSULTANT shall prepare and transmit an initial statutory contact package to all utility companies/agencies that may have existing facilities within the project limits. This package shall include two sets of plans (hard copy, disk or electronic files) with the statutory letter. An established time frame should be allowed for the utility companies to respond back with marked plans showing the type, size and location of existing facilities, or written confirmation that they have no facilities in the project area, copies of "as built" plans, claims for reimbursement

Second Contact (Revised Phase II): The CONSULTANT shall transmit the second Statutory contact letter with the necessary agreements, and documents to each utility company/agency as required. Two complete sets of plans (hard copy, disk or electronic files) and a Conflict Matrix (if necessary) shall be furnished to each involved utility company/agency. One plan set will be color coded by the utility company showing proposed relocation and returned to the CONSULTANT with the utility work schedules and agreements as appropriate to be transmitted to the DUA or designee.

Final Contact (Phase IV): Send one set of Phase IV plans (hard copy, disk or electronic files) to each of the involved UAO(s).

Not all projects will have all contacts as described above.

7.4 Exception Processing

The CONSULTANT shall coordinate the processing of design exceptions involving utilities with the UAO and the Department. Coordinate and process per the UAM.

The CONSULTANT shall be responsible for transmitting/coordinating the appropriate design reports including, but not limited to, the Resurfacing, Restoration and Rehabilitation (RRR) report, Preliminary Engineering Report, Project Scope and/or the Concept Report (if applicable) to each UAO to identify any condition that may require a Design Alternative. The CONSULTANT shall identify and communicate to the UAO any facilities in conflict with their location or project schedule. The CONSULTANT shall assist with the processing of design alternative involving Utilities with the UAO and the DEPARTMENT. Assist with processing 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 UAO(s) having facilities located within the project limits for the purpose of presenting the project, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable property

rights from the FDOT Legal Office, 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 as necessary, separately or together, throughout the project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, standard or selective clearing and grubbing work, and assist in the development of the UAO(s) marked/RGB 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)

The CONSULTANT shall review UAO marked plans and data individually as they are received for content, accuracy, utility type, material, and size. Provide to the EOR (designer) for inclusion in the plans. Forward all requests for UAO reimbursement and supporting documentation to the DUO.

7.8 Subordination of Easements Coordination

The District Right-of-Way Office will handle processing of all subordinations of easements. The Consultant shall refer all UAOs to the DUO to address subordinations of easements when they arise.

The CONSULTANT, if requested by the DEPARTMENT, shall transmit to and secure from the UAO the executed subordination agreements prepared by the appropriate DEPARTMENT office. The CONSULTANT shall coordinate with the DUO the programming of the necessary work program funds to compensate the UAO.

7.9 Utility Design Meeting

The CONSULTANT shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s). The CONSULTANT shall be prepared to discuss impacts to existing trees/vegetation and proposed landscape, drainage, traffic signalization, temporary traffic control plans (TTCP) (construction phasing), review the current design schedule and letting date, evaluate the utility information collected, provide follow-up information on compensable property rights from FDOT Legal Office, discuss with each UAO the utility work by highway contractor option, 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 TTCP with each UAO. The intent of this meeting shall be to assist the UAOs in identifying and resolving conflicts between utilities and proposed construction before completion of the plans, including utility adjustment details. Also, to work with the UAOs to recommend potential resolution between known utility conflicts with proposed construction plans as may be deemed practical by the UAO. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees within 3 days. See Task 4.5 (Horizontal/Vertical

Master Design File) and Task 4.8 (Cross Section Design Files) for utility conflict location identification and adjustments.

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

The CONSULTANT shall review utility marked up plans and work schedules as they are received for content and coordinate review with the designer. Send color markups and schedules to the appropriate DEPARTMENT office(s) such as survey, geotechnical, drainage, structures, lighting, roadway, signals, utilities, landscape architecture, municipalities, maintaining agency, and District Traffic Operations 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). The CONSULTANT shall coordinate with the DUO the programming of necessary Work Program funds.

7.11 Utility Coordination/Follow-up

The CONSULTANT shall provide utility coordination and follow up. This includes follow-up, interpreting plans, and assisting the UAOs with completion of their work schedules 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 identified conflicts. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees. This task can be applied to all phases of the project.

7.12 Utility Constructability Review

The CONSULTANT shall review utility schedules against construction contract time, and phasing for compatibility. Coordinate with and obtain written concurrence from the construction office. See Task 4.5 (Horizontal/Vertical Master Design File) and Task 4.8 (Cross Section Design Files) for utility conflict identification and adjustments.

7.13 Additional Utility Services

The CONSULTANT shall provide additional utility services. Additional services will be determined when the services are required and requested. 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)

This includes coordination of utility design effort between the DEPARTMENT and the UAO(s). The CONSULTANT shall conduct additional coordination meetings, prepare and process the agreements, review tabulation of quantities, perform UWHC constructability and bidability review, review pay items, cost estimates and Technical Special Provisions (TSP) or Modified Special Provision (MSP) prepared by the UAO. This does not include utility the utility design effort. 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. Effort for the EOR is not included in this task, see Roadway Analysis Task Group 4.

7.15 Contract Plans to UAO(s)

If requested by the District, the CONSULTANT shall transmit the contract plans as processed for letting to the UAO(s). Transmittals to UAO(s) via electronic delivery or another agreeable format.

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 or Modified 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 Utilities

The CONSULTANT shall provide other utility services. This includes all efforts for a utility task not covered by an existing defined task. Required work will be defined in the scope and negotiated on a case-by-case basis.

8 ENVIRONMENTAL PERMITS and ENVIRONMENTAL CLEARANCES (N/A)

N/A

9 STRUCTURES - SUMMARY AND MISCELLANEOUS TASKS AND DRAWINGS

The CONSULTANT shall analyze, design, and develop contract documents for all structures in accordance with applicable provisions as defined in Section 2.19, Provisions for Work. Individual tasks identified in Sections 9 through 18 are defined in the Staff Hour Estimation Handbook and within the provision defined in Section 2. 20, Provisions for Work. Contract documents shall display economical solutions for the given conditions.

The CONSULTANT shall provide Design Documentation to the DEPARTMENT with each submittal consisting of structural design calculations and other supporting documentation developed during the development of the plans. The design calculations submitted shall adequately address the complete design of all structural elements. These calculations shall be neatly and logically presented on digital media or, at the DEPARTMENT's request, on 8 ½"x11" paper and all sheets shall be numbered. The final design calculations shall be signed

and sealed by a Florida-licensed professional engineer. A cover sheet indexing the contents of the calculations shall be included and the engineer shall sign and seal that sheet. All computer programs and parameters used in the design calculations shall include sufficient backup information to facilitate the review task.

9.1 Key Sheet and Index of Drawings

9.2 Project Layout

9.3 General Notes and Bid Item Notes

9.4 Miscellaneous Common Details

9.5 Incorporate Report of Core Borings

9.6 Standard Plans- Bridges

9.7 Existing Bridge Plans

9.8 Quantities for EQ Report

9.9 Cost Estimate

9.10 Technical Special Provisions and Modified Special Provisions

9.11 Field Reviews

9.12 Technical Meetings

9.13 Quality Assurance/Quality Control

9.14 Independent Peer Review

9.15 Supervision

9.16 Coordination

10 STRUCTURES - BRIDGE DEVELOPMENT REPORT (N/A)

N/A

11 STRUCTURES - TEMPORARY BRIDGE (N/A)

N/A

12 STRUCTURES - SHORT SPAN CONCRETE BRIDGE (N/A)

N/A

13 STRUCTURES - MEDIUM SPAN CONCRETE BRIDGE (N/A)

N/A

14 STRUCTURES - STRUCTURAL STEEL BRIDGE (N/A)

N/A

15 STRUCTURES - SEGMENTAL CONCRETE BRIDGE (N/A)

N/A

16 STRUCTURES - MOVABLE SPAN (N/A)

N/A

17 STRUCTURES - RETAINING WALLS (N/A)

N/A

18 STRUCTURES - MISCELLANEOUS

The CONSULTANT shall prepare plans for Miscellaneous Structure(s) as specified in Section 2.5.

Concrete Box Culverts

18.1 Concrete Box Culverts

18.2 Concrete Box Culverts Extensions

18.3 Concrete Box Culvert Data Table Plan Sheets

18.4 Concrete Box Culvert Special Details Plan Sheets

Strain Poles

18.5 Steel Strain Poles

18.6 Concrete Strain Poles

18.7 Strain Pole Data Table Plan Sheets

18.8 Strain Pole Special Details Plan Sheets

Mast Arms

18.9 Mast Arms

18.10 Mast Arms Data Table Plan Sheets

18.11 Mast Arms Special Details Plan Sheets

Overhead/Cantilever Sign Structure

18.12 Cantilever Sign Structures

18.13 Overhead Span Sign Structures

18.14 Special (Long Span) Overhead Sign Structures

18.15 Monotube Overhead Sign Structure

18.16 Bridge Mounted Signs (Attached to Superstructure)

18.17 Overhead/Cantilever Sign Structures Data Table Plan Sheets

18.18 Overhead/Cantilever Sign Structures Special Details Plan Sheets

High Mast Lighting

18.19 Non-Standard High Mast Lighting Structures

18.20 High Mast Lighting Special Details Plan Sheets

Noise Barrier Walls (Ground Mount)

18.21 Horizontal Wall Geometry

18.22 Vertical Wall Geometry

18.23 Summary of Quantities - Aesthetic Requirements

18.24 Control Drawings

18.25 Design of Noise Barrier Walls Covered by Standards

18.26 Design of Noise Barrier Walls not Covered by Standards

18.27 Aesthetic Details

Special Structures

18.28 Fender System

18.29 Fender System Access

18.30 Special Structures

18.31 Other Structures

18.32 Condition Evaluation of Signal and Sign Structures, and High Mast Light Poles

18.33 Condition Evaluation of Signal and Sign Structures, and High Mast Light Poles (No As built or Design Plans Available)

18.34 Analytical Evaluation of Signal and Sign Structures, and High Mast Light Poles

18.35 Ancillary Structures Report

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

The CONSULTANT shall perform all effort required for field data collection, and investigation in accordance with the DEPARTMENT's Manual on Uniform Traffic Studies.

The CONSULTANT shall submit the signed and sealed report to the DEPARTMENT for review and approval.

19.3 Signing and Pavement Marking 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

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

The CONSULTANT shall prepare a photometric analysis to be submitted as part of the Lighting Design Analysis Report. An analysis shall be provided for each new and/or modified sign panel which requires lighting.

The Consultant shall submit voltage drop calculations and load analysis for each new and/or modified sign panel which requires lighting.

19.7 Quantities for EQ Report

The CONSULTANT shall determine pay items and quantities and the supporting documentation.

19.8 Cost Estimate

19.9 Technical Special Provisions and Modified Special Provisions

19.10 Other Signing and Pavement Marking Analysis

19.11 Field Reviews

19.12 Technical Meetings

19.13 Quality Assurance/Quality Control

19.14 Independent Peer Review

19.15 Supervision

19.16 Coordination

20 SIGNING AND PAVEMENT MARKING PLANS

The CONSULTANT shall prepare a set of Signing and Pavement Marking Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums that includes the following.

20.1 Key Sheet

20.2 General Notes/Pay Item Notes

20.3 Project Layout

20.4 Plan Sheet

20.5 Typical Details

20.6 Guide Sign Work Sheets

20.7 Traffic Monitoring Site

20.8 Cross Sections

20.9 Special Service Point Details

20.10 Special Details

20.11 Interim Standards

20.12 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design 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 design drawings, specifications and other services 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 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.

20.13 Supervision

21 SIGNALIZATION ANALYSIS

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

21.1 Traffic Data Collection

The CONSULTANT shall perform all effort required for traffic data collection, including crash reports, 24 hr. machine counts, 8 hr. turning movement counts, 7 day machine counts, and speed & delay studies.

21.2 Traffic Data Analysis

The CONSULTANT shall determine signal operation plan, intersection geometry, local signal timings, pre-emption phasing & timings, forecasting traffic, and intersection analysis run.

21.3 Signal Warrant Study

21.4 Systems Timings

The CONSULTANT shall determine proper coordination timing plans including splits, force offs, offsets, and preparation of Time Space Diagram.

21.5 Reference and Master Signalization Design File

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

21.6 Reference and Master Interconnect Communication Design File

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

21.7 Overhead Street Name Sign Design

The CONSULTANT shall design Signal Mounted Overhead Street Name signs.

21.8 Pole Elevation Analysis

21.9 Traffic Signal Operation Report

[*As defined by the District*]

21.10 Quantities for EQ Report

The CONSULTANT shall determine pay items and quantities and the supporting documentation.

21.11 Cost Estimate

21.12 Technical Special Provisions and Modified Special Provisions

21.13 Other Signalization Analysis

21.14 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 Signal and Pedestrian Phasing
- Controller Make, Model, Capabilities and Condition/Age
- Condition of Signal Structure(s)
- Type of Detection as Compared with Current District Standards
- Interconnect Media
- Controller Timing Data

21.15 Technical Meetings

21.16 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design 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 design drawings, specifications and other services 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 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.

21.17 Independent Peer Review

21.18 Supervision

21.19 Coordination

22 SIGNALIZATION PLANS

The CONSULTANT shall prepare a set of Signalization Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums, which includes the following:

22.1 Key Sheet

22.2 General Notes/Pay Item Notes

22.3 Plan Sheet

22.4 Interconnect Plans

22.5 Traffic Monitoring Site

22.6 Guide Sign Worksheet

22.7 Special Details

22.8 Special Service Point Details

22.9 Mast Arm/Monotube Tabulation Sheet

22.10 Strain Pole Schedule

22.11 TTCP Signal (Temporary) (N/A)

22.12 Temporary Detection Sheet

22.13 Utility Conflict Sheet

22.14 Interim Standards

22.15 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design 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 design drawings, specifications and other services 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 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.

22.16 Supervision

23 LIGHTING ANALYSIS

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 Phase I plans submittal, titled Lighting Justification Report. The report shall provide analyses for mainlines, interchanges, and arterial roads and shall include all back-up data such that the report stands on its own. Back up data shall include current ADT's, general crash data average cost from the Florida Highway Safety Improvement Manual, crash details data from the last three years, and preliminary lighting calculations.

The report shall address warrants to determine if lighting warrants are met, and shall include a benefit-cost analysis to determine if lighting is justified. The report shall include calculations for the night-to-day crash ratio as well as a table summarizing the day-time and the night-time crashes. The report shall follow the procedures outlined in the FDOT Manual on Uniform Traffic Studies (MUTS) manual which utilize ADT, Three Year Crash Data, night/day crash ratio, percentage of night ADT, etc.

23.2 Lighting Design Analysis Report (LDAR)

The CONSULTANT shall prepare a Preliminary Lighting Design Analysis Report in accordance with the requirements of the FDOT Design Manual. The report shall be submitted under a separate cover with the Phase II plans submittal. After approval of the preliminary report, the CONSULTANT shall submit a revised report for each submittal.

23.3 Voltage Drop Calculations

The CONSULTANT shall submit voltage drop calculations showing the equation or equations used along with the number of luminaries 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.

The Voltage Drop Calculations shall be submitted as part of the Lighting Design Analysis Report.

23.4 FDEP Coordination and Report

23.5 Reference and Master Design Files

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

23.6 Temporary Highway Lighting (N/A)

23.7 Design Documentation

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

- Phase submittal checklist.
- Structural calculations for special conventional pole concrete foundations.
- Correspondence with the power company concerning new electrical service.

23.8 Quantities for EQ Report

The CONSULTANT shall determine pay items and quantities and the supporting documentation.

23.9 Cost Estimate

23.10 Technical Special Provisions and Modified Special Provisions

23.11 Other Lighting Analysis

23.12 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)
- Verification of horizontal clearances
- Verification of breakaway requirements

23.13 Technical Meetings

23.14 Quality Assurance/Quality Control

23.15 Independent Peer Review

23.16 Supervision

23.17 Coordination

24 LIGHTING PLANS

The CONSULTANT shall prepare a set of Lighting Plans in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

24.1 Key Sheet

24.2 General Notes/Pay Item Notes

24.3 Pole Data, Legend & Criteria

24.4 Service Point Details

24.5 Project Layout

24.6 Plan Sheet

24.7 Special Details

24.8 Temporary Highway Lighting Detail Sheets (N/A)

24.9 Temporary Highway Lighting Plan Sheets

24.10 Interim Standards

24.11 Quality Assurance/Quality Control

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of traffic design 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 design drawings, specifications and other services 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 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.

24.12 Supervision

25 LANDSCAPE ANALYSIS (N/A)

N/A

26 LANDSCAPE PLANS (N/A)

N/A

27 SURVEY

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.

27.1 Horizontal Project Control (HPC)

Establish or recover HPC, for the purpose of establishing horizontal control on the Florida State Plane Coordinate System or datum approved by the District Surveyor (DS) or District Location Surveyor (DLS); may include primary or secondary control points. Includes analysis and processing of all field collected data, and preparation of forms.

27.2 Vertical Project Control (VPC)

Establish or recover VPC, for the purpose of establishing vertical control on datum approved by the District Surveyor (DS) or the District Location Surveyor (DLS).; may include primary or secondary vertical control points. Includes analysis and processing of all field collected data, and preparation of forms.

27.3 Alignment and/or Existing Right of Way (R/W) Lines

Establish, recover or re-establish project alignment. Also includes analysis and processing of all field collected data, existing maps, and/or reports for identifying mainline, ramp, offset, or secondary alignments. Depict alignment and/or existing R/W lines (in required format) per DEPARTMENT R/W Maps, platted or dedicated rights of way.

27.4 Aerial Targets

Place, locate, and maintain required aerial targets and/or photo identifiable points. Includes analysis and processing of all field collected data, existing maps, and/or reports. Placement of the targets will be at the discretion of the aerial firm.

27.5 Reference Points

Reference Horizontal Project Control (HPC) points, project alignment, vertical control points, section, ¼ section, center of section corners and General Land Office (G.L.O.) corners as required.

27.6 Topography/Digital Terrain Model (DTM) (3D)

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of creating a DTM with sufficient density. Shoot all break lines, high and low points. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

27.7 Planimetric (2D)

Locate all above ground features and improvements. Deliver in appropriate electronic format. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

27.8 Roadway Cross Sections/Profiles

Perform cross sections or profiles. May include analysis and processing of all field-collected data for comparison with DTM.

27.9 Side Street Surveys

Refer to tasks of this document as applicable.

27.10 Underground Utilities

The CONSULTANT shall SUE all locations that include new underground infrastructure or earthwork excavation (i.e. drilled shafts, bridge piles, strain poles, mast arms, miscellaneous foundations, drainage structures, pipe culverts, new ditches, etc.). The expectation is for the CONSULTANT to know exactly where all existing underground utilities and infrastructure are located in areas that work will be performed to properly design for any new underground infrastructure or earthwork excavation that will be constructed on the project. **CONSULTANT shall provide electronic depths with the designates.**

A Professional Land Surveyor, registered in the State of Florida, shall sign and seal the data provided and included in the FDOT Verified Utility Locate Plan Sheets. All information shall be provided in the format requested by the DEPARTMENT.

Designation includes 2-dimensional collection of existing utilities and selected 3-dimensional verification as needed for designation. Location includes non-destructive excavation to determine size, type and location of existing utility, as necessary for final 3-dimensional verification. Survey includes collection of data on points as needed for designates and locates. Includes analysis and processing of all field collected data, and delivery of all appropriate electronic files.

27.11 Outfall Survey

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of a DTM. Survey with sufficient density of shots. Shoot all break lines, high and low points. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

27.12 Drainage Survey

Locate underground data (XYZ, pipe size, type, condition and flow line) that relates to above ground data. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

27.13 Bridge Survey (Minor/Major)

Locate required above ground features and improvements for the limits of the bridge. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

27.14 Channel Survey

Locate all topographic features and improvements for the limits of the project by collecting the required data. Includes field edits, analysis and processing of all field collected data, maps, and/or reports.

27.15 Pond Site Survey

Refer to tasks of this document as applicable.

27.16 Mitigation Survey

Refer to tasks of this document as applicable.

27.17 Jurisdiction Line Survey

Perform field location (2-dimensional) of jurisdiction limits as defined by respective authorities, also includes field edits, analysis and processing of all field collected data, preparation of reports.

27.18 Geotechnical Support

Perform 3-dimensional (X,Y,Z) field location, or stakeout, of boring sites established by geotechnical engineer. Includes field edits, analysis and processing of all field collected data and/or reports.

27.19 Sectional/Grant Survey

Perform field location/placement of section corners, 1/4 section corners, and fractional corners where pertinent. Includes analysis and processing of all field-collected data and/or reports.

27.20 Subdivision Location

Survey all existing recorded subdivision/condominium boundaries, tracts, units, phases, blocks, street R/W lines, common areas. Includes analysis and processing of all field collected data and/or reports. If unrecorded subdivision is on file in the public records of the subject county, tie existing monumentation of the beginning and end of unrecorded subdivision.

27.21 Maintained R/W

Perform field location (2-dimensional) of maintained R/W limits as defined by respective authorities, if needed. Also includes field edits, analysis and processing of all field collected data, preparation of reports.

27.22 Boundary Survey

Perform boundary survey as defined by DEPARTMENT standards. Includes analysis and processing of all field-collected data, preparation of reports.

27.23 Water Boundary Survey

Perform Mean High Water, Ordinary High Water and Safe Upland Line surveys as required by DEPARTMENT standards.

27.24 Right of Way Staking, Parcel / Right of Way Line

Perform field staking and calculations of existing/proposed R/W lines for on-site review purposes.

27.25 Right of Way Monumentation

Set R/W monumentation as depicted on final R/W maps for corridor and water retention areas.

27.26 Line Cutting

Perform all efforts required to clear vegetation from the line of sight.

27.27 Work Zone Safety

Provide work zone as required by DEPARTMENT standards.

27.28 Vegetation Survey (N/A)

27.29 Tree Survey

Locate individual trees or palms within the project limits.

27.30 Miscellaneous Surveys

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), District Location Surveyor (DLS) or their representative.

27.31 Supplemental Surveys

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

27.32 Document Research

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

27.33 Field Review

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

27.34 Technical Meetings

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

27.35 Quality Assurance/Quality Control (QA/QC)

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

27.36 Supervision

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.

27.37 Coordination

Coordinate survey activities with other disciplines. 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 (N/A)

N/A

29 MAPPING (N/A)

N/A

30 TERRESTRIAL MOBILE LiDAR (N/A)

N/A

31 ARCHITECTURE DEVELOPMENT (N/A)

N/A

32 NOISE BARRIERS IMPACT DESIGN ASSESSMENT IN THE DESIGN PHASE (N/A)

N/A

33 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS (N/A)

N/A

34 INTELLIGENT TRANSPORTATION SYSTEMS PLANS (N/A)

N/A

35 GEOTECHNICAL

The DEPARTMENT will provide all necessary Geotechnical and Pavement Evaluation services for this project.

36 3D MODELING

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

The CONSULTANT shall deliver all master design files, 3D surface design models, and all supporting digital files for the development of plans as required in the FDOT CADD Manual.

The CONSULTANT shall prepare a 3D model using the latest FDOT software in accordance with the FDOT CADD Manual. Includes all efforts required for developing files for 3D deliverables supporting automated machine guidance for design models. This includes importing survey data and creation of existing 3D surface features and models, and developing proposed corridor models with necessary detail of features to depict the proposed project in 3D to comply with the FDOT CADD Manual.

The CONSULTANT shall add detail to the corridor and design model for 3D design. Includes many elements that contribute to this including but not limited to slope transitions, typical section transitions, changes in pavement depth, berms, swales/ditches, and other feature transitions. Extra corridor structure leads to extra assemblies, extra targeting, etc.

The CONSULTANT shall create an accurate roadway design model which includes modeling the intersections.

The CONSULTANT shall submit .dgn files associated with the 3D Model and their respective components.

36.1 Phase I 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase I 3D interactive model, comprised of, but not limited to: Existing features (pavement, shoulders, sidewalk, curb/gutter, utilities-if required per scope, drainage - if required per scope) and proposed corridor(s).

36.2 Phase II 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase II 3D model, comprised of, but not limited to: Modification of the Phase I model to update the model to comply with changes based on the Phase I review comments and to include the addition of ponds, floodplain compensation sites, retaining walls, barrier walls, guardrail terminals, cross overs, gore areas, side street connections, roundabouts, and driveways.

[*List optional services to be included, e.g. 3D deliverables files for review, Curb Ramps, Closed Drainage Network, Bridge Modeling, Bridge Abutment, Overhead sign*

post/structures with foundation, Toll gantry and overhead DMS structures with foundation, proposed utilities (pressure pipe/gravity), etc.]

36.3 Phase III 3D Design Model

The CONSULTANT shall prepare, submit and present for review by the DEPARTMENT, Phase III 3D model and 3D deliverables files for review, comprised of, but not limited to: Modification of the Phase II model to update the model to comply with changes based on the Phase II review comments and to further refine areas of transition between templates, detailed grading areas, bridge approaches and end bents, median noses, shoulder transition areas, retaining walls, barrier walls and guardrail.

36.4 Final 3D Model Design

The CONSULTANT shall prepare for review by DEPARTMENT, the Phase IV 3D model and deliverables, comprised of, but not limited to: Modification of the Phase III model to update the model to comply with changes based on the phase III review comments and to accurately generate, export and otherwise prepare the final 3D deliverable files as described in the FDOT CADD Manual.

36.5 Cross Section Design Files

The CONSULTANT shall establish and develop cross section design files in accordance with the FDOT CADD manual and FDOT Design Manual. Includes all work required to establish and utilize intelligent/automated methods for creating cross sections including determining the locations for which all cross sections will be shown, existing and proposed features, cross section refinement, placement of utilities and drainage, soil boxes, R/W lines, earthwork calculations, and other required labeling.

36.6 Template and Assembly Development (Optional)

The CONSULTANT shall prepare for approval by DEPARTMENT, project specific templates/assemblies needed to develop the features required to deliver the 3D model.

36.7 Quality Assurance/Quality Control

36.8 Supervision

36.9 Coordination

37 PROJECT REQUIREMENTS

37.1 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.

37.2 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.

37.3 Progress Reporting

The CONSULTANT shall meet with the DEPARTMENT as required and shall provide a written monthly progress report with approved schedule, schedule status, and payout curve or by using the earned value method that describe the work performed on each task. The report will include assessing project risk through monthly documentation of identifying and updating the risk category and approach for monitoring those tasks. Invoices shall be submitted after the DEPARTMENT approves the monthly progress report and the payout curve or with earned value analysis. 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.

37.4 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.

37.5 Professional Endorsement

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

37.6 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 FDOT CADD Manual. The CONSULTANT shall submit final documents and files as described therein.

37.7 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.

37.8 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.

38 INVOICING LIMITS

Payment for the work accomplished shall 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 ensure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the DEPARTMENT.

The CONSULTANT shall provide a list of key events and the associated total percentage of work considered to be complete at each event. This list shall 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.