

EXHIBIT A



**SCOPE OF SERVICES
FOR
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E)
CONTINUING SERVICES CONTRACT
STAGE II – June 2019
FDOT District Five**

This Scope of Services is an attachment which is incorporated into the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT or FDOT) and [Consultant Name] (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project ID: 241152-1-22-01

Federal Aid Project No.: TBD

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1.0 SCOPE OF SERVICES PURPOSE

The Scope of Services describes the responsibilities of the CONSULTANT and the Florida Department of Transportation (FDOT or DEPARTMENT) when conducting Project Development and Environment (PD&E) Studies, Preliminary Engineering (Conceptual Design), and Environmental Studies necessary to comply with DEPARTMENT procedures and underlying laws and regulations and to obtain FL Department of Transportation approval of the Environmental Document.

The Project development process and all tasks identified in this Scope of Services must follow the guidance provided in the DEPARTMENT's current version of the **PD&E Manual** and **FDOT Design Manual (FDM)**. As discussed in **Part 1, Chapter 1**, of the **PD&E Manual**, the **PD&E Manual** satisfies state and federal processes and incorporates the requirements of the National Environmental Policy Act (NEPA); federal law, regulations, and Executive Orders included in the FHWA Federal-Aid Policy Guide; and applicable state laws and regulations including Section 339.155 of the Florida Statutes and Rule Chapter 14 of the Florida Administrative Code. As such, Project documents prepared by the CONSULTANT must comply with all applicable state and federal laws, regulations, and Executive Orders.

The Scope of Services defines the Project tasks to be performed consistent with the **PD&E Manual** and other pertinent manuals as specifically prescribed in Section 2. The Scope of Services also outlines work activities that will be the responsibility of the CONSULTANT and / or the DEPARTMENT.

The CONSULTANT must demonstrate good project management practices while working on this Project, including effective communication with the DEPARTMENT and others as necessary, effective management of time and resources, and quality of documentation. Throughout the PD&E Study, the CONSULTANT shall set up and maintain a contract file in accordance with DEPARTMENT procedures. The CONSULTANT and any subconsultants are expected to know the laws and rules governing their profession and are expected to provide professional services in accordance with current and applicable regulations, codes, ordinances, and standards.

The DEPARTMENT will provide contract administration and management, as well as technical reviews of all work associated with the development of this Project and performed under this Scope of Services. The DEPARTMENT's technical reviews will focus on high-level conformance and are not meant to substitute CONSULTANT quality reviews of deliverables. The CONSULTANT is fully responsible for all work performed and work products developed under this Scope of Services. The DEPARTMENT may provide task-specific information as outlined in this Scope of Services.

2.0 PROJECT DESCRIPTION AND OBJECTIVES

2.1 PROJECT OBJECTIVES

This CONSULTANT may be required to provide public involvement, engineering and environmental services necessary to support the Department in compliance with Department procedures and to obtain FHWA approval of proposed improvements to transportation facilities.

2.2 PROJECT REQUIREMENTS AND PROVISIONS FOR WORK

The CONSULTANT will conduct the appropriate level of engineering and environmental analyses related to the anticipated Class of Action for this Project, as outlined in the **PD&E Manual**, the **FDM**, and directed by the Project objectives. The level of analysis depends on complexity of the Project, level of controversy, potential for significant impacts, and degree and quality of information / data available. If the Class of Action for the Project was not determined during ETDM screening, the Lead Agency will determine it after completion of the environmental analyses.

The CONSULTANT upon direction from DEPARTMENT will assist with updating data, technical studies or Environmental Document to ensure compliance with NEPA, other federal laws, regulations and Executive Orders.

The CONSULTANT will maximize the use of existing information available from State, regional, local agencies, private sources, and its own files. Examples include the Programming Screen Summary Report, Concept Reports, previously completed planning products, listed species reports, Florida Department of Environmental Protection OCULUS Electronic Document Management System, and other sources as appropriate.

The DEPARTMENT will allow the CONSULTANT to use the DEPARTMENT's computer facilities upon proper authorization as described in DEPARTMENT **Procedure No. 325-060-401**.

2.2.1 Governing Regulations

Services performed by the CONSULTANT must comply with all applicable DEPARTMENT Manuals and Guidelines. The CONSULTANT will use the latest editions of the following Manuals and Guidelines to perform work for this Project.

- Florida Statutes
- Florida Administrative Codes
- Applicable Federal Regulations, U.S. Codes, and Technical Advisories
- PD&E Manual
- ETDM Manual
- Sociocultural Effects Evaluation Handbook

- Public Involvement Handbook
- FDOT Design Manual (FDM)
- Interchange Access Request User's Guide
- Highway Capacity Manual (HCM)
- Manual on Uniform Traffic Studies (MUTS)
- Manual of Uniform Traffic Control Devices (MUTCD)
- Minimum Standards for Design, Construction, and Maintenance Streets and Highways (Florida Greenbook)
- A Policy on Geometric Design of Highways and Streets
- AASHTO Guide for the Development of Bicycle Facilities
- AASHTO Guide for the Development of Pedestrian Facilities
- Highway Safety Manual (HSM)
- Right of Way Mapping Handbook
- Right of Way Procedures Manual
- Survey and Mapping Handbook
- Soils and Foundation Handbook
- Electronic Field Book (EFB) User Handbook
- Drainage Manual
- FDOT Drainage Design Guide
- Structures Manual
- CADD Manual
- Quality / Level of Service Handbook
- Project Traffic Forecasting Handbook & Project Traffic Forecasting Procedure No. 525-030-120
- Traffic Analysis Handbook
- Florida Highway Landscape Guide
- Basis of Estimates Manual
- Federal Transit Administration (FTA) and Federal Rail Administration (FRA) Program Guidance
- Project Management Handbook
- FDOT Traffic Engineering Manual

2.2.2 Liaison Office

The DEPARTMENT and the CONSULTANT will designate their respective Liaison Offices for this Project.

2.2.3 Personnel

The DEPARTMENT will designate a Project Manager to represent the DEPARTMENT for this Project. The DEPARTMENT Project Manager shall be responsible for coordination with the CONSULTANT pertaining to all contractual matters, invoicing and reporting. The DEPARTMENT Project Manager shall also be responsible for approval of any additional staffing to be provided (approval must be coordinated with the Procurement Office), and shall give approval of all products and services. The CONSULTANT will assign a Project Manager who will communicate regularly with the DEPARTMENT Project Manager regarding development of this Project. Final direction on all matters of this Project remains with the DEPARTMENT Project Manager.

The CONSULTANT must maintain staffing levels and personnel qualifications necessary to complete the required activities for this Scope of Services. The CONSULTANT's work must be performed to DEPARTMENT standards and procedures by personnel identified in the contract. Any changes in the identified personnel will be subject to review and approval by the DEPARTMENT. To the extent possible, the CONSULTANT must minimize the DEPARTMENT's need to apply its own resources to the Scope of Services activities unless otherwise identified.

The CONSULTANT shall assign only competent technical and professional personnel qualified by the necessary experience and education to perform assigned work. The CONSULTANT is responsible for ensuring that staff assigned to work under this Agreement has the training established by the DEPARTMENT as a prerequisite for CONSULTANT staff to perform work. If the required training is such that it can be applied by the trainee to work on other contracts, (regardless of whether or not the trainee would work on other agreements), the cost of the trainee's time and expenses associated with the training is not directly billable to the DEPARTMENT on this contract, and shall only be recoverable through overhead for the CONSULTANT firm.

The CONSULTANT must request approval from the DEPARTMENT's Project Manager for any modifications or additions to the list of available staff prior to the initiation of any work by that individual. If applicable, new job classifications may be added to the contract via contract amendment and must be approved by Procurement. The CONSULTANT shall submit a copy of the resume and payroll register before new staff can be added.

The CONSULTANT must have a Licensed Professional Engineer in the State of Florida to sign and seal all engineering reports, documents, technical special provisions, and plans as required by DEPARTMENT standards.

The CONSULTANT and its employees, agents, representatives, or subconsultants are not employees of the DEPARTMENT and are not entitled to the benefits of State of Florida employees. Except to the extent expressly authorized herein, CONSULTANT and its employees, agents, representatives, or subconsultants are not agents of the DEPARTMENT or the State for any purpose or authority such as to bind or represent the interests thereof, and shall not represent that it is an agent or that it is acting on the behalf of the DEPARTMENT or the State. The DEPARTMENT shall not be bound by any unauthorized acts or conduct of CONSULTANT.

2.2.4 Subconsultant

Services assigned to any subconsultants must be approved in writing and in advance by the DEPARTMENT Project Manager, Procurement Office, and the CONSULTANT Project Manager in accordance with this Scope of Services. All

subconsultants must be technically qualified by the DEPARTMENT to perform all work assigned to them. Additional subconsultants with specialized areas of expertise may be required to complete specific assignments. Any subconsultants to be hired and all work assignments to be performed, and all rates of compensation shall be agreed to by the DEPARTMENT Project Manager, Procurement Office and the CONSULTANT Project Manager and documented in the contract file prior to any work being performed by the subconsultants.

2.2.5 Lead Agency, Cooperating Agencies and Participating Agencies

The CONSULTANT Project Manager will support The DEPARTMENT Project Manager in coordination with the Lead Agency, Cooperating Agencies and Participating Agencies.

2.2.6 Meetings and Presentations

Led by the DEPARTMENT Project Manager, the CONSULTANT will attend the Notice to Proceed Meeting, where DEPARTMENT representatives will outline relevant contract and Project information provided by the DEPARTMENT Project Manager.

The CONSULTANT shall attend meetings necessary to undertake the activities of this Scope of Services. This includes meetings with DEPARTMENT staff and /or resources agency staff, other consultants, or other miscellaneous meetings.

The CONSULTANT will attend meetings or make presentations at the request of the DEPARTMENT with at least five (5) business days' notice. The CONSULTANT will prepare meeting notes for all meetings identified in this Exhibit and submit within five (5) working days to the DEPARTMENT's Project Manager for review.

2.2.7 Communication

The DEPARTMENT Project Manager will be the representative of the DEPARTMENT for the Project. The CONSULTANT must regularly communicate with the DEPARTMENT Project Manager to discuss and resolve issues or solicit opinions regarding this Project. The CONSULTANT must include the DEPARTMENT when seeking and receiving advice from various State, regional, local agencies, and citizen groups. The final direction on all matters for this Project remains with the DEPARTMENT Project Manager.

All written correspondence between the CONSULTANT and any party pertaining specifically to this Project must be reviewed and approved by the DEPARTMENT. The CONSULTANT must respond to information requests relative to the PD&E Study from third parties at the direction, and with the approval, of the DEPARTMENT. The CONSULTANT will assist the

DEPARTMENT in preparing the content of the letters from DEPARTMENT personnel to other agencies, public officials, and others as needed or requested.

2.2.8 Quality Control

The DEPARTMENT requires that all Project documents, technical studies, calculations, maps, reports, conceptual plans, design, and the Environmental Document are correct and complete, appropriate for the intended purposes, and conform to requirements of this Scope of Services. The CONSULTANT, is responsible for the quality of all (including the subconsultants) deliverables. The CONSULTANT will independently and continually review deliverables for accuracy and completeness. The CONSULTANT must develop and follow an internal Quality Control (QC) process. The QC process is intended to ensure that quality is achieved through checking, reviewing, and verifying work activities and deliverables by qualified individuals who were not directly responsible for performing the initial work.

Within twenty (20) business days from the Notice to Proceed, the CONSULTANT must submit its QC Plan to the DEPARTMENT Project Manager for approval. The QC Plan will identify the deliverables, the personnel to perform the reviews, and the method of documentation. The QC Plan will be signed by the CONSULTANT Project Manager and the CONSULTANT QC Manager.

The CONSULTANT must include document reviews and written resolution of comments with each submittal or deliverable to show the QC process was followed. At a minimum, a quality review checklist must be provided and should include letters, exhibits, technical studies, reports, design calculations, Environmental Document or any documents used or referenced in the QC Plan. The CONSULTANT must maintain documentation which show the QC Plan process was followed. The DEPARTMENT Project Manager may request from the CONSULTANT document reviews and written resolution of comments at any time during the PD&E Study.

2.2.9 Schedule

Within ten (10) business days after the Notice to Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall submit a detailed Project activity / event schedule to the DEPARTMENT. The schedule must indicate all required submittals, critical path activities, and key project milestones / activity codes. When applicable, the CONSULTANT Project Manager will receive a Statewide Acceleration and Transformation (SWAT) preliminary Project schedule from the DEPARTMENT Project Manager during the Notice to Proceed meeting. The Project schedule shall contain at a minimum, the following information for each schedule activity: project FPID, project description, FDOT activity id with correct Project Schedule Management (PSM) codes, activity

description, original duration, remaining duration, start date, finish date, activity percent complete and total float. Only two open-ended activities (the first and the last) are allowed. The project schedule must include a column displaying each activity's Predecessor and Successor. The schedule must be based on the DEPARTMENT's expected production date and must be approved by the DEPARTMENT. The schedule must be based upon consideration of the Project's environmental issues (social, cultural, natural and physical resources) and regulatory requirements, and in coordination with the DEPARTMENT's District Environmental Management Office (DEMO).

The schedule must be accompanied by an anticipated payout and fiscal progress curve. For the purpose of scheduling, the CONSULTANT shall allow for a review period of at least 30 days for each draft technical report or memorandum submitted for District reviews.

In developing the schedule for this Project, the CONSULTANT, in coordination with the DEPARTMENT, must include adequate time to meet regulatory reviews and formal consultations timeframes.

Periodically throughout the life of the contract, the CONSULTANT must review the project schedule, payout, and fiscal progress curves to monitor the progress of the project. The CONSULTANT shall submit monthly progress reports with the approved schedule and schedule status report, which includes critical-path review and progress and payout curves, to the Department Project Manager. Any adjustments or changes to the approved schedule must be approved by the DEPARTMENT Project Manager.

2.2.10 Submittals

The CONSULTANT will compile and transmit draft documents identified in this Scope of Services to the DEPARTMENT for review. For each submittal, the CONSULTANT will include a Transmittal Cover Letter that includes, at a minimum, the file name and format of each electronic file and the number of hardcopies (if any) as directed by the DEPARTMENT Project Manager.

The CONSULTANT will also submit to the DEPARTMENT 2 hard copies of each draft document submitted electronically to the DEPARTMENT for review.

The DEPARTMENT will review draft submittals and provide the CONSULTANT with review comments. The CONSULTANT will address comments, prepare a matrix of comments and responses as applicable, and submit revised documents. The CONSULTANT will assist the DEPARTMENT in resolving the comments received from the Lead Agency, Cooperating Agencies, resource agencies and the public, including preparation of individual responses.

The required documents may include the following:

PD&E Provisions for Work:

- Quality Control Plan
- Project Schedule
- Transit Project Management Plan

Public Involvement:

- Public Involvement Plan
- Advance Notification
- Public Hearing Transcript
- Public Involvement Summary Report
- Meeting Agendas, Handouts, Notes, and Summaries
- Advance Notification Package
- EIS Scoping Summary Report
- Public Involvement Comment Database
- Agency Coordination Meeting Summaries
- Notice of Intent
- Transit Coordination Plan
- Comment and Coordination Report

PD&E Engineering:

- Project Traffic Analysis Report
- Interchange Justification Report
- Interchange Modification Report
- Interchange Operation Analysis Report
- Traffic Analysis Methodology Technical Memorandum
- Preliminary Engineering Report
- Safety Analysis Memorandum
- Location Hydraulics Report
- Pond Siting Report
- Conceptual Design Plan Set
- Geotechnical Report
- Typical Section Package
- Conceptual Drainage Report
- Roundabout Evaluation Technical Memorandum
- Utilities Assessment Package
- Utility Request Package
- Value Engineering Information Report
- Design Variations and Exceptions Package
- Sufficient Transit Design, Engineering, Design Criteria, and Specification Plans
- Bridge Hydraulic Report
- Bridge Development Report
- Traffic and Revenue Technical Memorandum
- Risk Analysis Report
- Interchange Access Request Report (Specify)

- Transit Operations and Service Plan Report
- Transit Ridership Forecast and Estimation Report
- Transit Stations and Facilities Concepts
- Transit Safety, Security, and Collision Hazard Plan
- Transit Capital, Fleet, Operating, and Maintenance Cost Estimates (FTA SCC Worksheet)
- Transit Annualized Capital, Fleet, Operating, and Maintenance (FTA SCC Worksheet)
- Transit Financial Plan
- Transit Project Delivery Method and Contracting Plan
- Federal Transit Grant Documentation
- Alternative Corridor Evaluation Methodology Memorandum (ACE MM)
- Alternative Corridor Evaluation Report (ACER)
- Project Management Plan and Initial Financial Management Plan (for major projects only)

Environment:

- Type II Categorical Determination Exclusion Form
- Sociocultural Effects Evaluation (SCE)
- Noise Study Report
- Air Quality Technical Memorandum
- Level I Contamination Assessment Report (Contamination Screening Evaluation Report)
- Natural Resource Evaluation (Wetlands, Species and EFH)
- Water Quality Impact Evaluation
- Cultural Resource Assessment Survey
- Cumulative Effects Evaluation Report
- Environmental Determination Form
- State Environmental Impact Report (SEIR)
- Final Environmental Assessment/ Finding of No Significant Impact
- Final Environmental Impact Statement (FEIS)
- Record of Decision (ROD)
- Transit Air Quality, Noise, and Vibration Report
- Conceptual Stage Relocation Plan
- Wild and Scenic Rivers, Navigable Waterways, and Coastal Zone Management Assessment
- Cultural Resource Assessment Survey Addendum
- Section 4(f) "de minimus" Documentation
- Individual Section 4(f) Evaluation
- Section 4(f) Determination of Applicability (DOA)
- Section 106 Evaluation Report
- Programmatic Section 106 Evaluations

General:

- Project Commitments Record
- Planning Consistency Form

The CONSULTANT will submit to the DEPARTMENT final reports and other deliverables identified in this section. The CONSULTANT will submit to the DEPARTMENT two (2) sets of CDs/DVDs or other portable storage drives such as flash drives or USB drives containing PDFs of all submittals outlined in this section.

Upon completion of the Project, the CONSULTANT will transfer to the DEPARTMENT, in an organized manner, all project electronic files, data, maps, sketches, worksheets, and other materials used or generated during the PD&E Study in an acceptable portable storage drive.

Additionally, the CONSULTANT will upload all final submittals and appropriate supporting project files to the Statewide Environmental Project Tracker (SWEPT) upon completion of technical studies and Environmental Document and as directed by the DEPARTMENT.

2.2.11 Computer Automation

The CONSULTANT shall develop concept plans and alternative designs utilizing Computer Aided Drafting and Design (CADD) systems. The DEPARTMENT makes software available to help assure quality and conformance with the policy and procedures regarding CADD. It is the responsibility of the CONSULTANT to meet the CADD production requirements in the **FDOT CADD Manual**. The CONSULTANT must submit final documents and files as described in the **FDOT CADD Manual**. Additional related information is found in the **FDM**. Concept plans and alternatives designs shall also be displayed using Google Earth-ready KMZ files. The concept plans must have both existing and proposed engineering and environmental features.

Upon DEPARTMENT approval, the CONSULTANT may also use computer tools and software to conduct some of the engineering and environmental analyses. Prior to using these tools, the CONSULTANT must agree to provide original electronic files in a format and standard consistent with the DEPARTMENT's policies and procedures.

All electronic files must be scanned for viruses prior to submitting to the DEPARTMENT. Failure to scan for viruses may result in a lower CONSULTANT work performance evaluation.

2.2.12 Conflict of Interest

The CONSULTANT or any affiliate is not eligible to pursue advertised work in the CONSULTANT's area of oversight or any project for which the CONSULTANT developed the Scope of Services. Subconsultants are also ineligible to pursue projects where they participated in the development of the Scope of Services, or have an oversight responsibility. The term "affiliate" is

defined in **FDOT Procedure No. 375-030-006, Conflict of Interest Procedure for Department Contracts.**

The CONSULTANT and its subconsultants will not enter into another contract during the term of the Contract for this Project which would create or involve a conflict of interest with the services herein. The CONSULTANT and its subconsultants must comply with **FDOT Procedure No. 375-030-006, Conflict of Interest Procedure for Department Contracts.**

2.3 COORDINATION WITH OTHER CONSULTANTS AND ENTITIES

The CONSULTANT will coordinate work activities with any ongoing and / or planned DEPARTMENT projects that may affect this Project. The DEPARTMENT and CONSULTANT shall coordinate with local governmental entities to ensure Project concepts are compatible with local improvements and right of way activities. The CONSULTANT will inform the DEPARTMENT Project Manager of all coordination activities with other agencies or entities prior to holding such activities. The DEPARTMENT Project Manager shall be included in all such coordination activities.

2.4 CONTRACT MANAGEMENT

The CONSULTANT is responsible for maintaining Project files, including copies of submittals and underlying data, calculations, information and supporting project documentation. The CONSULTANT is responsible for preparing monthly progress reports and schedule updates. Progress reports will be delivered to the DEPARTMENT in a format prescribed by the DEPARTMENT Project Manager with the corresponding invoice.

The CONSULTANT will regularly communicate the status of the project with the DEPARTMENT while managing subconsultant efforts and executing subconsultant agreements.

2.5 ADDITIONAL SERVICES

The CONSULTANT may be requested to provide the following additional services for this Project.

2.5.1 Alternative Corridor Evaluation

2.5.2 Advance Notification

2.5.3 Scoping

2.5.4 Notice of Intent

2.5.5 Transit Coordination Plan

2.5.6 Feasibility and Planning Studies

The CONSULTANT shall perform Feasibility and Planning Studies for the project. This will include evaluating and developing preliminary alternatives and concept alternatives. In addition, environmental constraints, and avoidance and minimization of impacts will further define any fatal flaws.

2.5.7 Scenic Highway Support Services

The CONSULTANT will work in conjunction with the District Scenic Highways Coordinator, Corridor Advocacy Groups, and Corridor Management Entities, to create scenic highway corridor eligibility applications, corridor management plans, corridor masterplans, interpretive plans, marketing plans, corridor wayfinding/wayshowing signing plans, scenic highway evaluations as per PD&E manual Chapter 29, grant applications, technical assistance to develop best management practices (www.FL-D5-Accreditation.com) and incidental scenic highway tasks.

2.5.8 Context Sensitive Solutions Analysis

2.5.9 Complete Streets Analysis

Based on the *Florida Design Manual* guidelines, the CONSULTANT shall support the District to evaluate and determine the appropriate context classification either at a project level or a systemwide level. This shall include a review of findings with the appropriate Departmental units and local governmental stakeholders, as required, and will lead to the determination of the appropriate design standards to be applied.

2.5.10 Concept Development

The CONSULTANT may be requested to prepare Concept Development plans utilizing planning studies or other information available to support further analysis. Concept Development should follow guidance provided by the DEPARTMENT. The concept development process should include developing alternatives, comparing and evaluating alternatives, stakeholder buy-in,

alternative selection, developing final concept plans and development of implementation strategy for programming subsequent phase. CONSULTANT maybe requested to propose remedial measures and projects.

2.5.11 Design-related Activities

Additional Services include design-related activities required to support project evaluations and/or to accelerate project development. Cases where additional services may be needed include (not limited to): Need to develop more detail to identify impacts including right-of-way. Special project feature(s) (bridge structures, roadway, drainage, geotechnical, etc.) that require engineering analysis beyond the PD&E Study level of detail.

2.5.12 PD&E Plan and Document Submittals

Assist with PD&E plan and document submittals that may include the FDOT ERC and SWEPT Systems for District and OEM reviews.

2.5.13 Review of Local Government Comprehensive Plan (LGCP) amendments

CONSULTANT may be requested to review LGCP amendments. Review of LGCP amendments must be performed in accordance with the laws and rules which are in place at the time of the review, currently found in Chapter 163, F.S., Chapter 73C-40.0256, F.A.C., FDOT Topic Number 525-010-101, and other District procedures that may be formulated during the contract period. The CONSULTANT will be requested to prepare the agency comments for DEPARTMENT submittal to local governments and the Florida Department of Economic Opportunity (DEO) in response to the local government proposed action for comprehensive plan amendments. The CONSULTANT review should identify and provide comments on issues within the DEPARTMENT'S jurisdiction related to state transportation resources and facilities of state importance that will be adversely impacted by the plan amendment if adopted. The CONSULTANT may need to attend meetings with the Project Manager and the local government staff to discuss issues/concerns.

CONSULTANT may be required to assist DEPARTMENT staff in various community outreach or coordination efforts as part of this task.

2.5.14 Transportation Impact Assessment Review

The DEPARTMENT may be requested by a local government to review transportation studies associated with land use proposals. This involves review of technical data and analysis and preparation of comments. Technical data may include review of trip generation estimates, trip distributions, estimates for modal split based on qualitative and quantitative methodologies, operational analysis of

facility and intersections, the identification of appropriate transportation mitigation and strategies.

Comments will be developed in consideration of the DEPARTMENT's authority, transportation impact assessment best practices, and consistency with provisions of the local government's comprehensive plan, land development regulations, and codes and ordinances. The CONSULTANT will be expected to monitor and understand changes in legislative requirements that may affect the DEPARTMENT's authority or local government requirements regarding provision of necessary transportation infrastructure.

2.5.15 Functional Classification of Roadways and Jurisdictional Transfers

The CONSULTANT may be requested to functionally classify all public highways based on federal and/or state functional classification systems. In addition, the preparation of documentation for the transfer of roadway sections to or from the State Highway System may be requested. This documentation package normally includes location maps, right-of-way maps, roadway construction plans, and related correspondence. The CONSULTANT would be required to coordinate with local government agencies and may be required to assist DEPARTMENT staff in various community outreach efforts as part of this task. In addition, the CONSULTANT would be required to integrate or assist DEPARTMENT staff in the integration of this data into the DEPARTMENT's databases such as the Roadway Characteristics Inventory (RCI) and/or its GIS initiatives.

2.5.16 Strategic Intermodal System (SIS) Support

The CONSULTANT may be requested to provide general assistance to the DEPARTMENT as related to the SIS (and the Florida Interstate Highway System) through a variety of transportation planning tasks. Tasks may include, but are not limited, to the coordination of SIS projects between the DEPARTMENT and various stakeholders, completion of studies, or review of reports and documents for SIS facilities. The work may also involve the coordination of SIS projects and collection and analysis of data.

2.5.17 Review of Developments of Regional Impact (DRIs) and Florida's Quality Development (FQDs)

The CONSULTANT may be requested to review various DRI and FQD related documents. Review of DRIs and FQDs must be performed in accordance with the laws and rules which are in place at the time of the review, currently found in Chapter 380, Florida Statutes (FS), Chapter 73C-40, Florida Administrative Code (F.A.C.), and FDOT Topic Number 525-030-115, and other District guidance that may be formulated during the contract period. Additionally, the most recent edition of the DEPARTMENT's *Transportation Impact Handbook* should be used

as a reference. The CONSULTANT may be required to assist DEPARTMENT staff in various community outreach efforts as part of this task.

2.5.18 Review Sector Plans

The CONSULTANT may be requested to review Sector Plans and provide comments to the Department of Economic Opportunity (DEO) through the state coordinated review process as described in Chapter 163.3184, F.S. The CONSULTANT review may include attending scoping meetings held by the applicable regional planning council, coordination with the regional planning council and applicable local government(s), and evaluating impacts to transportation resources and facilities of state importance. The CONSULTANT may be requested to provide support to the DEPARTMENT to provide information to the DEO regarding the location, capacity, and design and phasing or staging of major transportation facilities in the planning area.

2.5.19 Corridor Plans and Sub-Area Analysis

The CONSULTANT may be requested to prepare various corridor plans and sub-area transportation analysis that includes evaluation of the transportation system and the surrounding land uses and land use plans that impact the corridor. Corridor Studies should follow guidance provided by FDOT. The planning process should include defining the problem, defining the guiding principles, then defining & selecting alternatives. The CONSULTANT may be requested to collect existing transportation data, perform stakeholder outreach, identify a vision, evaluate existing and future characteristics and operating conditions, define a purpose and need, define performance measures, identify deficiencies, define alternatives, evaluate and compare alternatives, select alternatives, and determine the next steps. CONSULTANT maybe requested to propose remedial measures and projects.

2.5.20 Access Management Support

The CONSULTANT may be required to participate in the classification or reclassification of the State Highway System, in accordance with the guidelines and regulations set forth in Rule Chapter 14-97, F.A.C. and any other supporting documentation. The CONSULTANT may be required to perform public involvement duties, as needed, to support this task. In addition, the CONSULTANT may be required to conduct field inventories of the State Highway System, to confirm access management classification.

2.5.21 Project Development

The CONSULTANT may be requested to prepare various Project Development plans utilizing planning studies or other information available to support further analysis. Project Development should follow guidance provided by the

DEPARTMENT. The project development process should include developing alternatives, comparing and evaluating alternatives, stakeholder buy-in, alternative selection, developing final concept plans and development of implementation strategy for programming subsequent phase. CONSULTANT may be requested to propose remedial measures and projects.

2.5.22 Project Traffic Studies Preparation and Review

The CONSULTANT may be asked to prepare project traffic reports (following guidance generally described in the DEPARTMENT's Project Traffic Forecasting Handbook) for PD&E, Design, or Interchange Justification/Modification Reports. The CONSULTANT may be required to identify, evaluate, and recommend transportation improvements that meet performance measures and accommodate the forecasted demand for travel. Key study elements include data collection, volume development, and LOS analysis. Related study types include the evaluation of transportation systems management strategies, and congestion management strategies.

The CONSULTANT may be tasked to review project traffic reports previously completed by the DEPARTMENT or support peer review of other studies. This may involve review of these documents for completeness and technical accuracy. The CONSULTANT may be requested to provide an evaluation of previously completed work including review of the age of the collected data, significant changes in travel patterns or demand volumes, land use, or changes in other key study assumptions.

2.5.23 Transit Access and Pedestrian Safety Review

The DEPARTMENT desires to integrate the evaluation and inclusion of potential Transit-Pedestrian and Safety enhancements/improvements within projects included in the District's Work Program. The CONSULTANT may be asked to review the corridor for the pedestrian crash history, existing / planned transit service, or other criteria. The CONSULTANT may be asked to coordinate with the various stakeholders during the study, including issue identification and evaluation of recommendations. It is anticipated that some of all of the following data may be collected by the CONSULTANT as part of the transit-pedestrian safety integration process:

- Crash History
- Traffic Characteristics
- Traffic Operations
- Existing and Planned Transit Service and Facilities
- Roadway Horizontal Alignment

Based on the data collected above, transit, pedestrian, safety and ADA issues and opportunities may be identified and documented. The issue identification process and resulting recommendations should also consider traffic operational impacts, overall traffic safety objectives and Americans with disabilities, and will

reference the Manual on Uniform Traffic Control Devices (MUTCD), Manual on Uniform Traffic Studies (MUTS), Plans Preparations Manual (PPM), Americans with Disabilities Act Accessibility Guidelines (ADAAG) and Traffic Engineering Manual (TEM) as appropriate. It is anticipated that recommended countermeasures by the CONSULTANT may include mid-block crossing, signalized intersection, or corridor-wide countermeasures. Proposed recommendations will be considered by the corridor stakeholders in order to evaluate the feasibility of individual recommendations, implementation method for feasible recommendations, and funding sources.

2.5.24 Scope and Staff Hours

Preparation of scope and staff hours for the additional services will involve reference to the Standard Scope of Services, Staff Hour Estimation Forms, and Staff Hour Estimation Basis for Highway and Bridge/Structures Design.

2.5.25 Permitting Services

The CONSULTANT shall prepare, assist, and/or review the following: estimate environmental impacts (wetland and wildlife), prepare wetland dredge/fill sketches, and finalize estimated wetland and protected species mitigation. This task may include wetland and/or surface water flagging, protected species surveys, wetland and wildlife habitat assessments, mitigation options, and permit agency coordination and meetings.

Permitting services may include consideration of the following sections of the Standard Design Scope of Services:

4. Roadway Analysis
5. Roadway Plans
6. Drainage Analysis
8. Environmental Permits
27. Survey
28. Photogrammetry
29. Mapping
30. Geotechnical

2.5.26 Advance Notification

The CONSULTANT shall assist and/or prepare Advance Notifications for upcoming PD&E Studies.

2.5.27 Efficient Transportation Decision Making (ETDM)

The CONSULTANT shall assist and/or prepare the following the Efficient Transportation Decision Making (ETDM) items: Planning Screening, Program Screening, Screening Summary Reports, and ETDM reviews.

2.6 SERVICES TO BE PERFORMED BY THE DEPARTMENT

The DEPARTMENT will provide the following services and materials:

- Lead and participate in coordination efforts with the Public Transit Office, Office of Environmental Management, Federal Transit Administration, environmental resource and regulatory agencies, the public, and other stakeholders, as appropriate.
- Provide project data currently on file and available from study partners, such as:
 - Travel market analysis or ridership forecasting;
 - Planned new development or redevelopment including Developments of Regional Impact (DRIs) data, Community Reinvestment Act (CRA) plans, streetscape, landscape, road diet, or context sensitive design efforts;
 - Efficient Transportation Decision Making (ETDM) Programming Summary Report;
 - Recently completed roadway studies for the study area including PD&E studies, access management, intersection plans, design files, and capacity improvements;
 - Multimodal or small area studies including freight, interchange, intersection, transit, pedestrian, bicycle, land use, and signal priority, Transportation Management Plan;
 - Traffic analyses for the study area/corridors;
 - All information in its the possession of the DEPARTMENT pertaining to prior and on-going studies that may affect the project such as existing construction and as-built plans, bridge inspection reports and load ratings, prior environmental studies, existing permit information, existing drainage and geotechnical reports and any agreements with third parties related to the Project corridor
 - 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 is in possession or may become available 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;
 - Advance Notification and all environmental and engineering documents including the Permit Coordination Packages;
 - Coordination with the State Historic Preservation Officer;
 - Existing FDOT right of way maps and information on existing surplus right of way under ownership by the DEPARTMENT or participating local agency (counties and cities partnering with FDOT for the PD&E Study);
 - FDOT crash data;
 - Available traffic and planning data;
 - Proposed right of way cost data;
 - Construction cost database, as applicable;

- Project Electronic File Root Directory Structure for delivery of project design files to the DEPARTMENT;
- All applicable DEPARTMENT agreements with Utility Agency Owners;
- Letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT to enter lands, waters, and premises of another in the performance of duties in accordance with **Section 337.274, F.S.**;
- Reviews of technical reports and Environmental Documents;
- Existing Horizontal Network Control;

2.7 OPTIONAL SERVICES

At the DEPARTMENT'S option, the CONSULTANT may be requested to provide professional services not explicitly outlined in this Exhibit. These services may include but are not limited to re-evaluation of previous PD&E Studies, environmental analysis not specifically listed in this Scope of Services, final design services, expert witness services for right of way acquisition, additional design analysis, and design plan preparation for utilities review. CONSULTANT may also be requested to provide services for Request for Proposal (RFP) development for Design-Build Procurement and / or support the DEPARTMENT in the acquisition of a Design-Build contract. The fee for such 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. A supplemental agreement for the optional services shall be executed in accordance with Section 2 of the Standard Professional Services Agreement Terms.

3.0 PUBLIC INVOLVEMENT

Public involvement includes communicating to and receiving input from all interested and affected persons, groups, business owners, and government organizations regarding the development of the project. The CONSULTANT will coordinate and perform the appropriate level of public involvement for this Project as outlined in **Part 1, Chapter 11**, and **Part 2, Chapter 4** of the **PD&E Manual**, and the **FDOT Public Involvement Handbook**.

The CONSULTANT will provide the DEPARTMENT drafts of all public involvement materials (e.g., newsletters, property owner letters, advertisements, handouts, exhibits) associated with the following tasks for review and approval at least 20 business days prior to printing and / or distribution.

3.1 PUBLIC INVOLVEMENT

3.1.1 Public Involvement Plan

The CONSULTANT is responsible for creating the PIP using existing work developed by the DEPARTMENT as a starting reference. The PIP must include a public involvement schedule and identify potentially affected stakeholders and communities in the vicinity of the project to establish the appropriate outreach methods. This includes consideration of the demographics of the Study Area and

any reasonable accommodations including, but not limited to, disabled, transit-dependent, limited English proficient (LEP), elderly, low income, or minority. The CONSULTANT will review and attach the Sociocultural Data Report (SDR) to the PIP. A sample template for the PIP is located in **Part 1, Chapter 11** of the **PD&E Manual**. The PIP should include public engagement strategies to gain and maintain project support. It is a living document that requires updating throughout the life of the project. At a minimum, the PIP must include the following:

- Project background
- Project goals
- Identification of elected officials and agencies
- Identification of affected communities and stakeholders
- Identification of media (e.g. television, radio, newspaper) for news and/or advertisement
- Proposed involvement activities
- Anticipated schedule of involvement activities
- Methodology for collecting and responding to public comments
- Discussion of public comments will be analyzed and incorporated, as appropriate

As part of the Project's PIP the CONSULTANT will develop public involvement materials using the DEPARTMENT's approved template and submit the information to be uploaded to the DEPARTMENT's project website. The website will be created and maintained by the CONSULTANT and maintained by the DEPARTMENT. The website must meet FDOT requirements.

The DEPARTMENT requires that the CONSULTANT create and submit a Project Plan that demonstrates how the creation and maintenance of the application will be carried out. The Project Plan template may be found at http://www.dot.state.fl.us/ois/PDM/2_Planning/Project%20Plan_Template.docx

No work may begin prior to the submission and approval of the Project Plan. After the Project Plan is approved, the CONSULTANT shall keep the Project Plan updated as necessary or upon notification by the DEPARTMENT of a deficiency in the Project Plan. Any change to the Project Plan must be approved by the DEPARTMENT.

3.1.2 Public Involvement Data Collection

The CONSULTANT will assist the DEPARTMENT with collecting data specific to the public involvement process and preparing responses to any public inquiries received throughout the Project. The CONSULTANT will maintain and regularly update both an electronic and paper public involvement project file, which will document a record of all public involvement activities for this project.

The CONSULTANT is responsible for identifying and maintaining the Project mailing list that may include officials and interested parties (any person or institution expressing an interest in the project), affected parties, and potential permit and review agencies.

The CONSULTANT will work with the DEPARTMENT to generate or obtain mailing labels of property owners using the ETDM Environmental Screening Tool (EST) or the County Property Appraisers' Offices.

The CONSULTANT will investigate potential meeting locations to advise the DEPARTMENT of their suitability. The DEPARTMENT will ultimately approve the meeting location. The CONSULTANT will pay all costs for meeting location rental and insurance (if required). The CONSULTANT will be responsible for logistics associated with setting up the meeting.

3.2 SCHEDULED PUBLIC MEETINGS

The CONSULTANT will actively support the DEPARTMENT in conducting various public meetings, which may be conducted during weekends or after normal working hours. The CONSULTANT will support the DEPARTMENT in preparation, scheduling, attendance, note taking, documentation, and follow-up services for each meeting, which may include:

- Project Kick-off Meeting(s)
- Presentations to Local MPO's (includes associated technical and citizen committees, as applicable)
- Coordination Meetings with Key Agencies
- Corridor Workshop(s) or Public Informational Meeting(s)
- Alternatives Public Information Meeting(s)
- Additional Coordination and Consensus Building Meeting(s)
- Community / Stakeholder Forum(s)
- Environmental Forum(s)
- Other Public and Agency Meetings (Specify) or informal meetings

For any of the listed meetings, the CONSULTANT will prepare and/or be responsible for the following:

- Agenda
- Presentation scripts
- Handouts
- Display boards (paper/static boards and large electronic display monitors)
- Graphics for presentation, may include VR goggles
- Meeting equipment set-up and tear-down
- Display advertisements (The CONSULTANT will pay the cost of publishing)

- Letters for notification of elected and appointed officials, property owners, and other interested parties (the CONSULTANT will pay the cost of first class postage)
- News releases or project fact sheets. The DEPARTMENT must review new releases and fact sheets at least two (2) weeks before the meeting or mail out
- Meeting summaries provided to the DEPARTMENT no later than five (5) business days after the meeting
- Preparation of response letters for DEPARTMENT signature on public comments

Any materials prepared by the CONSULTANT for such meetings as listed above are subject to review and approval by the DEPARTMENT. The CONSULTANT shall provide the DEPARTMENT with a draft of any proposed materials at least two weeks prior to the meeting.

The CONSULTANT will assist the DEPARTMENT when facilitating the public information meeting / workshop to present Project results and obtain comments related to the Project and / or Project alternatives.

The meeting format will be developed by the CONSULTANT and approved by the DEPARTMENT upon review. The CONSULTANT will participate in briefing and debriefing meetings with the DEPARTMENT staff related to the public meeting.

The CONSULTANT will attend the meetings with a suitable number of personnel with appropriate technical expertise (based on project issues), as authorized by the DEPARTMENT Project Manager, to assist the DEPARTMENT in such meetings.

The DEPARTMENT may request the CONSULTANT to identify the effect of the Project to individual properties on aerial maps or plans in response to requests from property owners. The DEPARTMENT may also request the CONSULTANT to meet with individual property owners.

3.3 PUBLIC HEARING

The CONSULTANT will send notifications to the Lead Agency, local governments, and regulatory agencies at least 25 but no more than 30 calendar days prior to the Public Hearing date.

The CONSULTANT will prepare the Public Hearing notifications on the DEPARTMENT's letterhead for DEPARTMENT review and signature 15 days prior to mailing or as directed by the DEPARTMENT. The CONSULTANT will first prepare an initial sample draft notification for review and approval by the DEPARTMENT prior to submitting all notifications for review.

Notifications to elected officials will be signed by the District Secretary. All other notifications may be signed by the DEPARTMENT Project Manager. The notification letters must have the DEPARTMENT's return address. After the DEPARTMENT signs

the notifications, the CONSULTANT will send them by First Class US Mail. The DEPARTMENT Project Manager will also send the notification letters by email.

The CONSULTANT will prepare the Public Hearing notifications to property owners on the DEPARTMENT's letterhead for DEPARTMENT review and signature 15 days prior to mailing or as directed by the DEPARTMENT. After the DEPARTMENT Project Manager signs the letters, the CONSULTANT will send them by First Class US Mail. The CONSULTANT will obtain a list of names and addresses of property owners from the Environmental Screening Tool (EST) and/or Property Appraisers' Offices. The letters must have the DEPARTMENT's return address. The CONSULTANT will send notification letters to property owners at least 17 to 24 calendar days prior to the Public Hearing.

The CONSULTANT will provide the following:

- Public Hearing Notice and publication in the Florida Administrative Register (FAR)
- Notification on the Department's Public Notices webpages through the District Public Information Officer (PIO)
- Identification of the website(s) and/or locations where the technical reports and Environmental Documents will be available for public view
- Presentation with script
- Proposed typical sections and aerials depicting alternative corridors and alternative alignments, as specified by the DEPARTMENT
- Meeting location signs
- Brochures or handouts
- Title VI compliance signs
- NEPA Assignment compliance signs
- Security (off-duty law enforcement), if needed
- Display advertisements; any press releases and / or advertisements will indicate that the meeting is a DEPARTMENT activity; the CONSULTANT will pay the cost of publishing
- Expenses associated with arranging for a court reporter to be present and obtaining transcripts of comments made during the Public Hearing
- Response to public comments

The CONSULTANT will participate in briefing and debriefing meetings with the DEPARTMENT related to the Public Hearing. The CONSULTANT will prepare response letters for DEPARTMENT signature for all public comments. Any such response letters would need to be reviewed and approved by the DEPARTMENT Project Manager.

3.4 COMMENTS AND COORDINATION REPORT

The CONSULTANT will prepare Comments and Coordination Report containing transcript, errata, and signed certification, as well as documentation for all public involvement activities conducted throughout the project in accordance with **Part 1, Chapter 11** of the **PD&E Manual**.

3.5 NOTIFICATION OF APPROVED ENVIRONMENTAL DOCUMENT

The CONSULTANT shall prepare a display advertisement for the notification of the Approved Environmental Document. The CONSULTANT will pay for the cost of publishing. The DEPARTMENT must review and approve the notice prior to publication.

3.6 ADDITIONAL PUBLIC INVOLVEMENT REQUIREMENTS

The DEPARTMENT will identify and list any special or additional public involvement requirements.

- General Public Correspondence
- Frequent Asked Questions (FAQs)
- Videos, Rendering, Fly-Through, 3-Dimensional Visualization, including VR goggles
- Microsimulation
- Display boards (paper/static boards and large electronic display monitors)
- Internal sufficiency review meetings
- Management review meetings

4.0 ENGINEERING ANALYSES AND CONSIDERATIONS

CONSULTANT activities to conduct and prepare engineering analyses and reports shall be done under the direction of the DEPARTMENT Project Manager. The CONSULTANT shall perform engineering activities essential to developing and evaluating Project alternatives as outlined in **Part 2, Chapter 3** of the **PD&E Manual** and as specified in this section. The CONSULTANT will gather and review existing data from the DEPARTMENT, such as transportation planning data developed for long range plans or any previously completed technical studies within the project area. The CONSULTANT will collect additional data necessary to supplement existing data. The CONSULTANT will use data to evaluate the Location and Design Concept for this project.

The CONSULTANT will verify the purpose and need for the Project based on the information obtained from the existing data, safety analysis, evaluation of existing conditions, evaluation of traffic projections, input received through the public involvement process and from the Programming Screen Summary Report.

The CONSULTANT shall develop and analyze conceptual design alternatives to address the Project needs and objectives. Development of the conceptual design alternatives will follow Context Sensitive Solution and Complete Streets approaches. Based on engineering analysis, the public involvement process, and environmental analysis, the DEPARTMENT will recommend a proposed design concept to advance to the Design Phase.

4.1 REVIEW OF PREVIOUS PLANNING STUDIES

The CONSULTANT shall review and summarize previous completed (or concurrent) planning studies and other studies that are related to this Project and appropriately incorporate their results in the analysis of the Project as described in the **PD&E Manual**.

4.2 EXISTING CONDITIONS ANALYSIS

The CONSULTANT will conduct field observations to review existing field conditions, verify desktop data, and obtain additional data required to understand the Project area, assess Project needs, identify physical and environmental constraints, develop and analyze Project alternatives, and assess constructability issues.

The CONSULTANT will collect data describing existing conditions and characteristics of the Project including roadway geometrics, typical section elements, signalization and other operational features, access features, right of way requirements, and other data applicable to modes and sub-modes of transportation, including walking/pedestrians, bicyclists, public transit users (including transit vehicles and riders), paratransit users (carpools, vanpools, taxis, shuttles, jitneys, school buses, coach buses), and freight (including loading/unloading and parking, emergency response vehicles, service vehicles, and freight handler vehicles).

The CONSULTANT will analyze existing conditions to identify and verify current transportation deficiencies as they relate to the needs and objectives of this Project.

The CONSULTANT will furnish necessary exhibits for use in this Project, such as a Project Location Map, Corridor Maps, and Concept Plans.

4.3 SURVEY

The CONSULTANT will coordinate with the DEPARTMENT Project Manager and Surveying and Mapping Office staff regarding Project survey requirements, review of existing survey data, and scheduling of additional survey efforts. The CONSULTANT will request existing project control, benchmarks and reference points for the Project baseline from the DEPARTMENT's Surveying and Mapping Office. The CONSULTANT will also collect elevation data required to perform the noise study for this Project.

4.4 GEOTECHNICAL INVESTIGATION

The CONSULTANT shall coordinate with the DEPARTMENT's geotechnical staff regarding Project requirements, review of existing geotechnical data, and need for additional data. The CONSULTANT will review the US Department of Agriculture soil data, Geological Survey, and Natural Resource Conservation Service (NCRS) maps, US Coast and Geodetic Survey (USGS) maps, and summarize the findings.

The CONSULTANT will perform a review of previously completed geotechnical surveys and compile available boring data from previous projects within the project limits. The CONSULTANT will perform field reconnaissance of the Project area to determine conditions that may affect development of Project alternatives. The CONSULTANT will prepare a Geotechnical Technical Memorandum summarizing the geotechnical investigation that will be used to facilitate the data for final design.

4.5 TRAFFIC ANALYSIS

4.5.1 Traffic Analysis Methodology

The CONSULTANT **will perform traffic analysis** for the limits of this project.

The analysis will be performed in accordance with guidance from the **PD&E Manual, Traffic Analysis Handbook, and Project Traffic Forecasting Handbook**. The CONSULTANT will prepare a forecast and analysis methodology which must be agreed upon by the DEPARTMENT prior to beginning any analysis. The methodology must state the type of documentation, Project Study Area to be analyzed, and method and assumptions that will be used to analyze existing and future traffic conditions. The development of future forecast data must use the: TBD by the DEPARTMENT. The CONSULTANT will validate the travel demand model at a subarea level. The area contained in the subarea will be drafted by the CONSULTANT and reviewed by the DEPARTMENT for comments and concurrence. All analyses in Sections 4.5 through 4.10 shall assume an opening year of 2030, and a design year of 2050.

Capacity analysis will be based on the latest Highway Capacity Manual procedures. Use of microsimulation traffic analysis software such as SimTraffic, CORSIM, and/or VISSIM is anticipated for this Project. Calibration and validation are required when a microsimulation approach is used. Data should be gathered in accordance with the **Traffic Analysis Handbook**.

Traffic analysis methodology will include an approach or procedure to evaluate safety performance of the project alternatives.

All traffic analysis documentation must be written in plain language and in a format, that can be easily followed. The CONSULTANT must submit all traffic analysis files for assumptions, inputs, outputs, network data, calculations, and results to the DEPARTMENT, including but not limited to: travel demand model files, microsimulation files, maps, figures, etc.

4.5.2 Traffic Counts

The DEPARTMENT will provide all traffic data.

4.5.3 Vehicle Classification Counts on Roadway Segments and Ramps

The DEPARTMENT will provide all traffic data.

4.5.4 Pedestrian, Bicycle, and Other Multimodal Data

The DEPARTMENT will provide multimodal data for this Project.

4.5.5 Calibration and Validation Data Collection

The CONSULTANT will collect calibration and validation data for the Project analysis in accordance with the **PD&E Manual** and the **Traffic Analysis Handbook**.

4.5.6 Existing Traffic Operational Analysis

The CONSULTANT will conduct an existing (2019) traffic operational analysis and report the operational performance measures as agreed upon in the analysis methodology. The analysis must include bicycle, pedestrian, and transit (if applicable) operations. The manual count data will be used to obtain the existing design hourly volumes using historical and seasonal adjustments as appropriate. All existing design hourly volumes must be balanced before being used in the analysis. Oversaturated conditions and locations with complex geometry or operations might require microsimulation.

4.5.7 Calibration and Validation

The CONSULTANT will calibrate and validate the microsimulation model using data and methodology as agreed upon in the analysis methodology.

4.5.8 Future Demand Forecasting

No Build Volumes: The CONSULTANT will develop opening year and design year design hourly volumes for the No Build Alternative in accordance with the **Project Traffic Forecasting Procedure, Topic No. 525-030-120**. The need for interim year analysis will be determined in the traffic analysis methodology.

Build Alternatives Volumes: The CONSULTANT will develop opening year and design year design hour volumes only for viable or feasible Build Alternatives. The CONSULTANT must make sure the future year turning movement volumes are reasonably balanced at each intersection.

4.5.9 No Build Analysis

The CONSULTANT will analyze the operational performance of the No Build Alternative for the analysis years to identify deficiencies related to the purpose

and need for the project. The CONSULTANT will evaluate the operational effectiveness of the No Build Alternative using agreed upon performance measures of effectiveness (MOEs). The analysis should include multimodal evaluation for pedestrian, bicycle, freight, and transit modes, as appropriate.

4.5.10 Development and Screening of Alternatives

The CONSULTANT will identify, develop, assess, and screen preliminary potential Project alternatives that would meet the purpose and need for this Project in accordance with **Part 2, Chapter 3** of the **PD&E Manual**. Development of alternatives will consider previously completed planning products.

By considering project goals and objectives, purpose and need, and results of ETDM Programming screen event, the CONSULTANT in consultation with the DEPARTMENT, will identify and document alternatives to be eliminated from further detailed study. Only viable or feasible alternatives should be carried forward for detailed study.

4.5.11 Operational Evaluation of Build Alternatives

The CONSULTANT will analyze the operational performance of viable or feasible alternative(s) for opening and design years and any interim years as appropriate. The analysis must include multimodal evaluation for pedestrian, bicycle, and transit modes as appropriate. The analysis will also include evaluation of access management in relation to traffic safety and operational efficiency within the Study Area. The CONSULTANT will evaluate the operational effectiveness of Build Alternatives using agreed upon performance MOEs.

4.5.12 Project Traffic Analysis Report

As described in **Part 2, Chapters 2 and 3** of the **PD&E Manual**, the CONSULTANT will prepare the Project Traffic Analysis Report to document development of design traffic volumes and results of the traffic analysis for No Build and Build Alternatives, which includes the transit, bicycle, and pedestrian analysis. The results must be shown on diagrams for each alternative and discussed in the report. The Project Traffic Analysis Report will also summarize the comparison of the operational and safety performance of all alternatives evaluated in detail and how they perform against each other.

4.5.13 Interchange Access Request

The CONSULTANT will prepare an Interchange Access Request to modify the following interchanges in accordance with the **Interchange Access Request (IAR) User's Guide**. The DEPARTMENT shall develop and have an approved

Methodology Letter of Understanding (MLOU) for this project prior to the Notice to Proceed (NTP) for this project. The MLOU will establish the Area of Influence (AOI) for the project IAR, the type of IAR document needed, as well as the delegation of authority for final approval. The CONSULTANT shall prepare the IAR concurrent with the PD&E study following the parameters established in the MLOU.

4.5.14 Traffic Data for Noise Study

The DEPARTMENT will provide all traffic data.

4.5.15 Traffic Data for Air Analysis

The DEPARTMENT will provide all traffic data.

4.5.16 Signalization Analysis

In coordination with the DEPARTMENT's Traffic Operations, the CONSULTANT shall perform signalization analysis and/or signal warrant studies at the intersections in accordance with all applicable manuals, procedures, guidelines, and current design memorandums. The CONSULTANT will propose preliminary signal timing plan and signal operation plan for each intersection that requires signalization on the recommended alternative. The CONSULTANT shall coordinate with the local stakeholders before proposing any new system in their jurisdiction and define their roles and responsibilities in the Concept of Operations (ConOps).

4.6 SIGNAGE

The CONSULTANT will evaluate existing signing and signage requirements for the project. The CONSULTANT will prepare a Conceptual Signing Plan for this Project.

4.7 TOLLING CONCEPTS

The CONSULTANT will perform the following activities to support development of tolling alternatives/concepts:

- Review sketch level and/or planning level traffic and revenue studies performed for the corridor.
- Work with Florida's Turnpike Enterprise to evaluate the tolling concepts along the corridor for both mainline general purpose lanes and express lanes.
- Prepare preliminary "sketch" level improvement alternatives capable of meeting the travel options and mobility needs.
- Perform high-level analysis of the cost and other impacts associated with each alternative, including input from key stakeholders, as compared to the No-Build Alternative.

- Review the impacts the proposed mainline and interchange improvements will have on ramp and mainline toll facilities.
- Prepare recommended alternatives for location of tolling points along the corridor to address tolling equity throughout the corridor.
- The dynamic signing concept for active traffic management and incident management purposes, if the corridor is part of the District's detour routes.
- Evaluate the dynamic signing concept for active traffic management and incident management purposes, if the corridor is part of the District's detour routes.

4.8 SAFETY

4.8.1 Crash Data

The CONSULTANT will obtain the most recent five (5) years of available data from the DEPARTMENT's crash database and other local sources for this Project. The crash data will include the number and type of crashes, crash locations, number of fatalities and injuries, and estimates of property damage and economic loss.

4.8.2 Safety Analysis

The CONSULTANT will perform predictive safety analysis in accordance with the **Highway Safety Manual (HSM) User Guide**. Based on the information obtained from the crash data, the CONSULTANT will identify project safety needs associated with the existing and future conditions. The CONSULTANT will use the HSM procedures to estimate the safety performance of the Project alternatives as agreed upon in the Traffic Analysis Methodology.

4.8.3 Documentation of Safety Analysis

The CONSULTANT will document the results of the safety analysis in the PTAR or a stand-alone Safety Analysis Memorandum.

4.9 UTILITIES AND RAILROAD

The CONSULTANT will obtain information regarding utilities and railroad in accordance with **Part 2, Chapter 21** of the **PD&E Manual**.

4.9.1 Utilities

Prior to starting utility coordination, the CONSULTANT and the DEPARTMENT Project Manager shall meet with the District Utility Office (DUO) for guidance to ensure that all necessary utility coordination will be accomplished in accordance with DEPARTMENT procedures.

It is anticipated that the following Utility Agency Owners (UAOs) are within or adjacent to the Project, but it is the responsibility of the CONSULTANT to determine the final list of UAOs within the project area.

The CONSULTANT will prepare a Utility Assessment Package. The Utility Assessment Package must contain items specified in **Part 2, Chapter 21** of the **PD&E Manual**. The CONSULTANT will provide a PD&E Request Package to the District Utility Office.

The CONSULTANT will notify the UAOs within the Project area and request existing and planned utility information for major above ground and subsurface facilities within the Project area.

The CONSULTANT, DEPARTMENT Project Manager and DUO will meet with each UAO as necessary, separately or together, to understand utility conflicts and project potential impacts on utilities. The CONSULTANT will evaluate and consider potentially significant utility conflicts as they may affect the chosen corridor and/or alignment. While evaluating potential impacts and recommending mitigation strategies, the CONSULTANT should refrain from making any compensability determinations in any of the documentation/assessments that they create.

4.9.2 Railroads

The CONSULTANT will also address impacts to existing and proposed railroads.

4.10 ROADWAY ANALYSIS

4.10.1 Design Controls and Criteria

The CONSULTANT will prepare design controls and criteria for developing Project alternatives and designing initial geometrics and other roadway elements according to the DEPARTMENT standards.

4.10.2 Typical Section Analysis

The CONSULTANT will develop conceptual typical sections for the Project alternatives which address transportation needs and context. Development of typical sections must consider Context Sensitive Solutions and Complete Streets approaches and the needs of all Project users.

4.10.3 Geometric Design

The CONSULTANT will perform geometric design using the established Project design controls and criteria. The CONSULTANT will also use Project traffic data and results of traffic analysis to design appropriate roadway elements. The

CONSULTANT will establish both preliminary vertical profile and horizontal alignments of the mainline. The design of Project alternatives must consider environmental constraints, physical constraints, Context Sensitive Solutions, Complete Streets, and any additional information, as required. See **Part 2, Chapter 3** of the **PD&E Manual** for more engineering and design considerations.

For each alternative evaluated in detail, the CONSULTANT shall prepare sketches of plan, profile, and typical sections as appropriate to show existing features, proposed geometry, and location of any environmental and geometric design constraints.

4.10.4 Intersections and Interchange Evaluation

The CONSULTANT will propose appropriate intersection control based on the results of project traffic analysis to establish an overall intersection/interchange footprint.

The CONSULTANT will evaluate the operational effectiveness of three (3) Build Alternatives for the above listed intersections using agreed upon performance Measures of Effectiveness (MOEs) set forth in the MLOU in Section 4.5.13.

Perform Stage 1 ICE Analysis

The CONSULTANT shall perform Stage 1 Capacity Analysis for Planning of Junctions (CAP-X) and Safety Performance for Intersection Control Evaluation (SPICE). This will be used to verify the planning level capacity (from CAP-X) and safety (from SPICE) results for each of the three intersection alternatives.

Perform Stage 2 ICE Analysis

The CONSULTANT shall perform the Stage 2 analysis. This involves the following tasks:

- Update Stage 1 SPICE for Stage 2
 - Highway Safety Manual (HSM) Crash Modification Factor (CMF) updates.
 - Isolate/manipulate crash data for the intersection and input into SPICE.
- Perform SYNCHRO analysis for AM and PM opening and design years for each of the 3 alternatives. This would include modifying the current template for alternative #1. For Alternatives #2 and #3, the DLT template developed by FDOT will be utilized and modified for the intersection specific characteristics.
- Prepare ICE Tool using safety results from SPICE and delay results from the SYNCHRO analysis.

The results of the Stage 2 analysis will produce a Benefit/Cost and Net Present Value for each of the alternatives, from which a preferred alternative may be selected.

Perform Detailed Impacts Assessment

The CONSULTANT will develop intersection and interchange concepts/layouts based on the results of traffic operational analysis. The layouts will include turn lanes, ramp, auxiliary lanes, storage lengths, ramp terminals, ramp junctions, and other geometric details.

4.10.5 Access Management

The CONSULTANT will review the DEPARTMENT'S State Highway System Access Management Classification System and Standards and evaluate their application to the project. The CONSULTANT will recommend the proper access classification and standard to be applied to the Project.

The proposed access management plan will be presented as part of the public involvement process. If an Access Management Classification / Reclassification Public Hearing is required, it will be combined with the PD&E Study Public Hearing.

4.10.6 Multimodal Accommodations

The CONSULTANT will review, evaluate, and document the location and condition of existing pedestrian, bicycle, and public transit accommodations and freight services in the Study Area. This activity includes reviewing existing plans, reports, and studies that outline strategies or define projects associated with alternative modes of travel.

The CONSULTANT will consider freight, pedestrian, bicycle, and transit in the development and evaluation of Project alternatives commensurate with the context with a goal of improving overall mobility, access, connectivity, safety and efficiency. Multimodal accommodation may include analysis of on-street parking and loading zone modifications and/or removal, park and ride needs, as necessary. The CONSULTANT will consider and evaluate the existing and anticipated future use of the Project by bicyclists and pedestrians, the potential impacts of the Project alternatives on bicycle and pedestrian travel, and propose measures to avoid or reduce adverse impacts to bicyclists and pedestrians that would use the Project.

The CONSULTANT will also consider supportive Transportation Demand Management and parking management strategies consistent with the transportation context and the needs of all users of the project. The CONSULTANT will assist the DEPARTMENT with coordination with local

agencies, transit operators and Metropolitan Planning Organizations (MPOs) as appropriate.

4.10.7 Maintenance of Traffic

The CONSULTANT will evaluate alternatives for constructability and the ability to maintain traffic during construction according to **Part 2, Chapter 3** of the **PD&E Manual**. The CONSULTANT will include the estimated cost to maintain traffic in the construction cost estimate for the Project alternative.

4.10.8 Lighting

The CONSULTANT will evaluate the need for lighting in accordance with applicable manuals, guideline, standards and current design memorandums. The CONSULTANT will include the estimated cost for lighting in the construction cost estimate for the Project alternative.

4.11 IDENTIFY CONSTRUCTION SEGMENTS

The CONSULTANT will identify project segments and/or construction segments along with a definition of implementation phasing. This will include reviewing financing, staging, and sequencing plans that were created by others. If required, the CONSULTANT will identify shorter (i.e., minimum operable segment) intermediate-cost alternatives in the segment determination.

4.12 TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS

The CONSULTANT will study or investigate a broader range of systems as it relates to the PD&E study such as traffic signal system, communication system, travel time systems, Transit Signal Priority (TSP), Adaptive Traffic Control System (ATCS) and other systems referenced in the ITS Architecture. The CONSULTANT will use a Systems Engineering approach for determining the Transportation System Management and Operations (TSM&O) Systems and required systems engineering documents for the Project.

The CONSULTANT will develop a Preliminary Systems Engineering Management Plan (PSEMP). The ConOps must be reviewed by the District TSM&O engineer. The ConOps document template can be found at the following location:

http://www.dot.state.fl.us/trafficoperations/its/projects_deploy/sempt.htm

The CONSULTANT will evaluate the need for improvements, preservations, or modifications to the existing TSM&O system in relation to the alternatives being considered. This includes reviewing the existing as-built information provided by the DEPARTMENT, identifying impacts to the existing TSM&O infrastructure due to the other project work, identifying opportunities to preserve or enhance TSM&O infrastructure, and developing a high-level cost estimate for the changes necessary to the

infrastructure in order to meet project TSM&O needs and goals. The CONSULTANT shall utilize the TSMO Strategy Guide¹ for preliminary screening. The CONSULTANT will review existing master plans from the MPO, FDOT, and municipality (where applicable) to determine existing and planned Intelligent Transportation Systems (ITS) infrastructure and studies. Engineering judgment and corridor knowledge shall be applied to develop a recommended list of TSMO strategies to complement, postpone, or replace roadway improvements. Subsequently, the CONSULTANT shall meet with FDOT TSMO for review and concurrence. Alternatives will then be coordinated with the County Traffic Engineer and the City Transportation Engineer concerning existing and proposed ITS and Advanced Traffic Management System (ATMS) infrastructure. Roles and responsibilities shall be determined during this coordination and shall be documented within the Concept of Operations (ConOps).

The CONSULTANT will identify the delivery method for both equipment and technology and prepare implementation schedule that includes engineering, design, construction, and Project activation (testing and start-up).

The CONSULTANT shall complete the Systems Engineering documentation in accordance with Code of Federal Regulations Rule (CFR) 940² and Department Systems Engineering Management Plan (SEMP) guidance³, and a Project Concept of Operations according to **Part 2, Chapter 3** of the **PD&E Manual**. As part of the Systems Engineering process, the CONSULTANT will assess the risk for proposed strategies, using the Project Risk Assessment and Regulatory Compliance Checklist (Form 750-040-05).⁴ For low-risk elements, the completed Project Risk Assessment document will satisfy the systems engineering documentation requirement. For high-risk elements, the Systems Engineering Project Checklist (Form 750-040-06)⁵ shall be completed, including a Project Systems Engineering Management Plan (PSEMP) along with the ConOps and Architecture updates, to satisfy CFR Rule 940 requirements. Architecture updates shall be completed by the CONSULTANT on the District's then-current software.

The CONSULTANT will evaluate the need for improvements or modifications to the existing TSMO system in relation to the alternatives being considered. This includes reviewing TSMO alternatives in combination with capacity improvements. The CONSULTANT will develop a high-level cost estimate for the changes necessary to the infrastructure in order to meet project TSMO needs and goals. Cost shall include operations and maintenance phases. These items will be documented in the ConOps.

¹ TSM&O Strategy Guide located at http://www.cflsmartroads.com/projects/technical_docs.html

² CFR Rule 940 guidance located at <http://www.cflsmartroads.com/projects/local/docs/Implementation%20of%20Rule%20940%20in%20Florida.pdf>

³ SEMP Guidance located at http://www.fdot.gov/traffic/ITS/Projects_Deploy/SEMP.shtm

⁴ Project Risk Assessment Checklist located at <http://www.cflsmartroads.com/projects/local/docs/Project%20Risk%20Assessment%20and%20Regulatory%20Compliance%20Checklist.docx>

⁵ Systems Engineering Project Checklist located at <http://www.cflsmartroads.com/projects/local/docs/Systems%20Engineering%20Project%20Checklist.docx>

4.13 STRUCTURES

4.13.1 Existing Structures

The CONSULTANT will collect the existing structures data as identified in **Part 2, Chapter 3** of the **PD&E Manual**.

4.13.2 Structure Typical Sections

The CONSULTANT will develop typical sections options for the bridges. These will include the DEPARTMENT's standard typical sections, and any typical sections that may result in minimizing right of way and environmental impacts. Coordination with the District's Structures Design Engineer is required.

4.13.3 Structure Design Alternatives

The CONSULTANT will evaluate conceptual vertical and horizontal geometry and clearance requirements for the bridges. The CONSULTANT will document structural design calculations and design assumptions used in the analysis.

4.14 DRAINAGE

The CONSULTANT will perform Drainage analysis in accordance with the **Drainage Manual** and **Part 2, Chapters 11 and 13** of the **PD&E Manual**. The CONSULTANT shall incorporate/consider the Contamination Screening Evaluation Report and any other related report findings into the Drainage Reports.

4.14.1 Floodplain and Environmental Permit Data Collection

The CONSULTANT will gather floodplain data from FEMA Flood Insurance Rate Maps, and other drainage related data needed to obtain permits from relevant sources including local government, local agencies, and regulatory agencies.

4.14.2 Drainage Analysis

The CONSULTANT will perform drainage analysis by delineating the basin boundaries by using LiDAR information, existing survey data, and field observations. The CONSULTANT will analyze and determine high water

elevations in each basin and use the information to establish the preliminary roadway profile. Drainage analysis will also include checking the capacity and structural adequacy of existing cross drains, preliminary design of potential cross drains and outfall structures and identifying the recommended conceptual drainage design for the Project.

4.14.3 Floodplain Compensation Analysis

For each roadway alternative, the CONSULTANT will determine base floodplain elevations and estimate encroachments and appropriate compensation provisions, including incorporating floodplain compensation site requirements into the Pond Siting Report.

4.14.4 Stormwater Management Analysis

The CONSULTANT will calculate the stormwater quality and attenuation requirements, and estimate the stormwater management facility needs for each roadway alternative.

The CONSULTANT will schedule an Environmental Look-Around (ELA) meeting (See **Part 2, Chapter 11** of the **PD&E Manual**) with DEPARTMENT staff, regulatory agencies, local governments, and other stakeholders to discuss regional stormwater needs and design and permitting approaches that benefit the watershed as a whole. During the meeting, the CONSULTANT will document the meeting notes in the project file.

If the ELA reveals no regional pond sites within the Study Area, the CONSULTANT will identify practical pond sites in each basin for each project alternative, estimate construction cost, compare the sites, and identify (in coordination with the DEPARTMENT) a preferred pond site for each basin. Additionally, the CONSULTANT will identify inflow or outfall easement requirements for each pond site. If additional pond sites are revealed, they will be used as a potential option.

The CONSULTANT will prepare a Pond Siting Report or Conceptual Drainage Design Report in accordance with the **Drainage Manual** and the **FDOT Drainage Design Guide**.

4.14.5 Drainage Design

As directed by the DEPARTMENT, the CONSULTANT will conduct the following design services and submittals. Refer to the Roadway and Bridge Standard Design Scope of Services.

- Total Maximum Daily Loads (TMDLs)
- Basin Management Action Plans (BMAPs)

4.14.6 Location Hydraulics Report

The CONSULTANT will prepare a Location Hydraulics Report for the project in accordance with **Part 2, Chapter 13** of the **PD&E Manual**.

4.14.7 Bridge Hydraulic Evaluation

The CONSULTANT will evaluate bridge hydraulics to determine the hydraulic length of the bridge or the length necessary to meet the hydraulic requirement and document in the Location Hydraulics Report. The Consultant will coordinate with the District's Structures Design Engineer and District Drainage Engineer.

4.15 LANDSCAPING ANALYSIS

The CONSULTANT will research and collect data necessary to complete initial landscaping design and analysis of the preferred alternative. The research and data collection must include identification of opportunities and constraints of the proposed Project based on existing site conditions.

4.16 CONSTRUCTION AND RIGHT OF WAY COST ESTIMATES

4.16.1 Construction Cost Estimates

The CONSULTANT will develop construction cost estimates using the Department's Long Range Estimate (LRE) program. The CONSULTANT will be responsible for reviewing and updating the cost estimate when scope changes occur, at project milestones, and during the DEPARTMENT's annual Work Program update cycle. Construction costs must include traffic management and right of way costs.

4.16.2 Right of Way Cost Estimates

Based on typical section analysis and DEPARTMENT design standards, the CONSULTANT will establish construction limits and determine the minimum (proposed) right of way requirements throughout the limits of the Project. Establishment of construction limits will consider location drainage features, the transportation management plan, utility relocations, stormwater pond requirements, and identified environmental issues, among other factors.

The CONSULTANT will compare the existing right of way width with the proposed right of way requirements to estimate the amount of right of way that the DEPARTMENT must acquire.

The DEPARTMENT will estimate the cost for right of way acquisition, and cost estimates for relocations and business damages, if any. The CONSULTANT will submit concept plans for the Build Alternative that include the parcel

identification number, existing right of way lines, proposed right of way lines and acreage of property required. Additionally, the CONSULTANT will provide a spreadsheet with the following parcel information: owner, address, acreage of parent parcel and required amount of property for the Project, estimated business damages and right of way property costs.

The DEPARTMENT's Right of Way Office staff and CONSULTANT will conduct an interactive field trip to review conditions in the corridor as they pertain to actual conditions that might impact the cost of right of way acquisition for the Project.

The CONSULTANT will jointly meet with the District Roadway Engineer, Traffic Operations staff, Right of Way Office staff, and DEPARTMENT's Office of General Counsel staff prior to the development of right of way cost estimates. The purpose of the meeting is to jointly review the proposed design parameters, the proposed alternative alignments to identify those alternatives for which right of way cost estimates will be developed by the DEPARTMENT. The goal is to evaluate the alternatives necessary to comply with PD&E requirements and to satisfy the evaluation needed for eminent domain considerations for each alternative.

The DEPARTMENT's Right of Way Office will estimate the cost for right of way acquisition, as well as cost estimates for relocations and business damages, if any.

The CONSULTANT shall identify the impacted parcels and provide the DEPARTMENT with an estimate of the area impact, parcel number and other information as requested by the DEPARTMENT.

4.17 ALTERNATIVES EVALUATION

4.17.1 Comparative Alternatives Evaluation

The CONSULTANT will establish evaluation criteria at the beginning of the Project, which must be agreed upon with the DEPARTMENT before use in the comparative evaluation of alternatives. After developing the viable alternatives, analyzing alternatives and estimating costs, the CONSULTANT will prepare a matrix which compares the impacts, performance, and costs of the alternatives evaluated in detail in the PD&E Study. The matrix will include the performance of the No Build Alternative as the baseline for comparison.

4.17.2 Selection of Preferred Alternative

The DEPARTMENT will select a preferred alternative based on review and analysis of engineering, environmental, and public involvement issues related to this Project.

4.17.3 Value Engineering

The DEPARTMENT will conduct a Value Engineering (VE) study for the Project according to **Value Engineering Program, Topic No. 625-030-002**. The CONSULTANT will prepare relevant project information and submit to the VE team. The information will be logically organized to facilitate the VE team's understanding of the Project development.

The CONSULTANT will submit to the VE team the following minimum information, if available:

- Project traffic report
- Environmental studies reports
- Environmental document
- Engineering analysis documentation
- Copies of all alternative concept plans/drawings
- Drainage analysis documentation
- Bridge hydraulics report and location hydraulics report
- Typical section package
- Other miscellaneous reports prepared for this project

At the request of the DEPARTMENT, the CONSULTANT will meet with the VE team to explain development of Project alternatives and rationale of selecting the recommended alternative. The CONSULTANT will be available to the VE team for clarification of the information used during the VE study. The CONSULTANT will respond to questions or proposals developed as part of the VE and recommend inclusion or denial of the VE proposals into the project.

The CONSULTANT will include VE study recommendations concerning modified or additional concepts, into the comparative evaluation of the alternatives.

4.18 CONCEPT PLANS

The CONSULTANT will prepare concept plans for all viable Project alternatives in appropriate scales overlaid on the base map.

4.18.1 Base Map

The CONSULTANT will produce a base map of the project area using DEPARTMENT's CADD standards. The base map will contain an aerial photo and existing characteristics for the project. The base map must show environmental issues that are specific to the Study Area such as cemeteries, wetlands, historic properties, high-risk contamination sites, public parks, and property lines.

The CONSULTANT will prepare base maps for the following uses (at noted scales):

- Overall Project Location Map 1: 2000
- Overall Drainage Map 1: 500
- Corridor Maps (Roll Plots) 1: 200 or 1:100, as appropriate

4.18.2 Alternatives Concept Plans

The CONSULTANT will prepare and overlay alternative concept plans on the base map. The concept plan must show potential location of bridges, culverts, retaining walls, right of way lines (existing and proposed), major utility facilities, intersection, critical driveways, and median openings, among other roadway elements, at appropriate scale according to the DEPARTMENT **CADD Manual**.

4.18.3 Preferred Alternative

The CONSULTANT will finalize the preferred alternative concept plan by incorporating comments received from the Public Hearing process as directed by the DEPARTMENT.

4.18.4 Typical Section Package

The CONSULTANT will prepare the Typical Section Package (excluding pavement design) in accordance with the **FDM**.

4.18.5 Design Exceptions and Design Variations

The CONSULTANT will prepare Design Exceptions and Design Variations Package for the preferred alternative for approval in accordance with the **FDM**.

4.19 TRANSPORTATION MANAGEMENT PLAN

The CONSULTANT will prepare a conceptual Transportation Management Plan in accordance with as **per Part 2, Chapter 3** of the **PD&E Manual**.

4.20 RISK MANAGEMENT

The DEPARTMENT Project Manager will coordinate with the Cost Risk Assessment (CRA) regional team and a representative from that team will lead the Risk Assessment for this Project. The CONSULTANT and key SUBCONSULTANTS may be asked to attend and participate in the Risk Assessment Workshop for this Project. The CONSULTANT will support the Risk Assessment Workshop by providing materials requested by the DEPARTMENT Project Manager to conduct the Workshop and associated

4.21 ENGINEERING ANALYSIS DOCUMENTATION

The CONSULTANT will prepare a Preliminary Engineering Report (PER) as per **Part 2, Chapter 3** of the **PD&E Manual**.

The CONSULTANT shall include sufficient back up information related to all computer programs and parameters used in the analyses to facilitate the review of the engineering documentation. The engineering documentation shall be neatly and logically presented. The final engineering analysis documentation prepared by the CONSULTANT shall be signed and sealed by a Florida-licensed professional engineer.

4.22 PLANNING CONSISTENCY

4.22.1 Transportation Plans

The CONSULTANT will coordinate with the DEPARTMENT to obtain and review transportation plans throughout the life of the Project for all modes of transportation including freight, transit, and non-motorized. The following plans or studies should be reviewed as appropriate:

- MPO's adopted Long Range Transportation Plan (LRTP) Cost Feasible and Needs Plans
- Local Government Transportation Improvement Plan (TIP)
- State Transportation Improvement Program (STIP)
- Local Government Comprehensive Plan (LGCP)

4.22.2 Planning Consistency Form

The CONSULTANT will assist the DEPARTMENT's finalization of Planning Requirements for Environmental Document approval in the appropriate form.

5.0 ENVIRONMENTAL ANALYSIS AND REPORTS

Tasks described within this section direct work efforts applicable to the environmental analysis and documentation for this Project. Prior to beginning environmental work, the CONSULTANT must review the ETDM Programming Screen Summary Report, summary degree of effect, resource agencies' comments, permits that may be required, and GIS information from the Environmental Screening Tool (EST). This review will support the CONSULTANT's ability to adequately assess the potential for Project alternatives to affect known environmental resource issues.

CONSULTANT activities to conduct and prepare environmental analysis and reports shall be done under the direction of the DEPARTMENT Project Manager. The CONSULTANT will collect pertinent environmental data, conduct analyses, and document the results of this analysis within technical reports or memoranda. The analyses and reporting will be performed and presented in accordance with the procedures in the **PD&E Manual**. The CONSULTANT will

analyze all Build Alternatives and the No Build Alternative with respect to impacts to natural, cultural, social and physical resources and document all analyses in the reports. Wherever appropriate the CONSULTANT will describe proposed measures to avoid, minimize, or mitigate project impacts on the environmental issues. Additionally, the CONSULTANT will summarize results of the environmental analysis in the Environmental Document. The CONSULTANT must verify and record in the Environmental Document any environmental resource that is identified as "No Involvement". The CONSULTANT will summarize in the Environmental Document the results of analysis of environmental resources that were completed as part of another study or performed by others concurrent with this project.

5.1 SOCIOCULTURAL EFFECTS

THE CONSULTANT will conduct a Sociocultural Effects (SCE) evaluation in accordance with **Part 2, Chapter 4** of the **PD&E Manual**. The CONSULTANT will document the results of the SCE Evaluation in the Environmental Document and in the Project file and / or complete a stand-alone SCE report if required. If no involvement for a particular issue is indicated, then standard statements to that effect from **Part 2, Chapter 4** of the **PD&E Manual** will be included in the Environmental Document.

5.1.1 Social

- **Community Cohesion:** The CONSULTANT will identify and assess potential Project impacts on physical barriers, traffic pattern changes, social pattern changes, and loss of connectivity to community features and facilities.
- **Special Community Designation:** The CONSULTANT will identify and assess potential Project impacts on schools, churches, parks, emergency facilities, social services, daycare facilities, retirement centers, community centers, and retail locations.
- **Safety / Emergency Response:** The CONSULTANT will identify and assess potential Project impacts on the creation of isolated areas; emergency response time changes; and location of police, fire, emergency medical services, healthcare facilities, and government offices.
- **Demographics:** The CONSULTANT will identify and assess potential Project impacts on minority, LEP persons, disabled persons, low-income populations, and/or special populations within the Project area.
- **Community Goals and Quality of Life:** The CONSULTANT will identify and assess potential Project impacts on social value changes and compatibility with community goals and vision.

5.1.2 Economic

- **Business and Employment:** The CONSULTANT will assess potential Project impacts to business and employment activity in the project area, including industries with special needs (e.g., freight distributor) or significance (e.g., regional employer), economic-oriented land use,

economic development plans, special designations, and community development priorities. Assessment will also include identification of changes to routes, access, parking, or visibility that could benefit or impair businesses, employment centers, community facilities, or population.

- **Property Values and Tax Base:** The CONSULTANT will assess potential Project impacts on the tax base, employment opportunities, and property values.

5.1.3 Land Use Changes

The CONSULTANT will evaluate the Project's consistency with the physical character of the area and applicable community plans.

5.1.4 Mobility

The CONSULTANT will evaluate potential Project impact on mobility and accessibility with regard to all transportation modes (i.e., pedestrian, bicycle, transit and vehicle) in the Study Area.

5.1.5 Aesthetics

The CONSULTANT will evaluate and summarize the Project's effect on viewshed and vista, community focal points, historic structures, landmarks, and community character in accordance with the **PD&E Manual**.

5.1.6 Relocation Potential

The CONSULTANT will identify residences, businesses, and institutional or community facilities that may require relocation to accommodate the Project. It is estimated that TBD parcels will require relocation. The CONSULTANT will obtain additional site-specific information needed to evaluate the effect of each Project alternative on the displacement of residences and businesses.

The CONSULTANT will collect the data and perform the analysis necessary to complete a Conceptual Stage Relocation Plan (CSRP) for the proposed alternatives according to **Chapter 9** of the **Right of Way Procedures Manual**.

5.2 CULTURAL RESOURCES

The CONSULTANT will prepare a Research Design and Survey Methodology for the project, to be submitted to the DEPARTMENT for approval prior to the initiation of field work. The CONSULTANT shall identify and map out the zones of probability for the Project Study Area, and identify any previously recorded resources. The Area of Potential Effect (APE) will be determined (including pond sites). The CONSULTANT will summarize each of the cultural resource issues in the Environmental Document. If noninvolvement for a particular issue is indicated, then a statement to that effect will be

included. The CONSULTANT will use a professional qualified under the provisions of **36 CFR 61** in compliance with the **National Historic Preservation Act of 1966 (Public Law 89-665**, as amended) and the implementing regulations (**36 CFR 800**), as well as with the provisions contained in **Chapter 267, Florida Statutes**, to perform all work in this task.

The CONSULTANT will assess the direct and indirect effects and will document the severity of the following items in the Environmental Document and Project file:

5.2.1 Archaeological and Historic Resources

The CONSULTANT will identify and analyze impacts to archaeological sites and historic resources within the Project's Area of Potential Effects (APE). The APE must include potential pond sites. The CONSULTANT will prepare a research design methodology and perform a Cultural Resources Assessment Survey in accordance with **Part 2, Chapter 8** of the **PD&E Manual**. All work will be documented and coordinated with appropriate agencies as per **Part 2, Chapter 8** of the **PD&E Manual**, and the DEPARTMENT's **Cultural Resource Management Handbook**. In addition, attendance at public meetings may be required. The CONSULTANT will review and address any resources issues or comments by the State Historic Preservation Office (SHPO) listed in the Programming Screen Summary Report.

The CONSULTANT will assist the DEPARTMENT in meetings by providing technical support in Section 106 Meetings, such as Cultural Resource Committee Meeting.

The CONSULTANT will prepare Cultural Resources Assessment Survey (CRAS) documentation detailing the results of the survey and assessments of resource significance, including a Florida Master Site File (FMSF) form. The Research Design and Survey Methodology and the Pond Site Technical Memo will be included in the CRAS appendix.

5.2.2 Recreational, Section 4(f)

- **Section 4(f) Determination of Applicability:** The CONSULTANT will complete the documentation and coordination required for a Section 4(f) Determination of Applicability in accordance with **Part 2, Chapter 7** of the **PD&E Manual**.
- **Section 4(f) "de minimis" Documentation:** The CONSULTANT will prepare Section 4(f) "de minimis" documentation in accordance with **Part 2, Chapter 7** of the **PD&E Manual**.
- **Section 4(f) Evaluation:** The CONSULTANT will complete the documentation for Section 4(f) requirements in accordance with **Part 2, Chapter 7** of the **PD&E Manual**.

5.3 NATURAL RESOURCES

The CONSULTANT will assess and summarize each of the natural resource issues in the Environmental Document. If no involvement for a particular issue is indicated, then a statement to that effect will be included.

The CONSULTANT will identify the natural resource evaluation area. The CONSULTANT will assess the direct and indirect effects and will document the severity of the following items in the Environmental Document and project file:

5.3.1 Wetlands

Wetlands and Surface Waters: The CONSULTANT will identify the type, quality, and function of wetlands, or reference previously completed documentation relevant to the Project. The CONSULTANT will establish Uniform Mitigation Assessment Method (UMAM) for representative wetlands in accordance with **Part 2, Chapter 9** of the **PD&E Manual**. The CONSULTANT will evaluate alternatives that avoid wetland impacts and, where unavoidable, identify practicable measures to minimize impacts. Any impact to wetlands requires development of a Conceptual Mitigation Plan. The CONSULTANT will document the results of a Wetlands Evaluation in the Natural Resources Evaluation (NRE) Report to document all coordination activities with resource agencies, wetland impact assessment, and mitigation analysis.

5.3.2 Essential Fish Habitat

The CONSULTANT will conduct field review, survey, and appropriate coordination with resource agencies to assess impacts to essential fish habitat (EFH) in accordance with **Part 2, Chapter 11** of the **PD&E Manual**. The CONSULTANT will prepare the EFH Assessment as a component of the NRE to document potential adverse effects to EFH and measures to address those effects.

5.3.3 Wildlife and Habitat

Analysis and Report: The CONSULTANT will perform research, field reviews, survey, and coordination necessary to determine Project involvement with and any potential impacts to federal and state protected, threatened or endangered species and their habitats. Additionally, the CONSULTANT will develop a study design (which will be approved by the DEPARTMENT) to evaluate the magnitude of Project involvement with wildlife and their habitat. If required, the CONSULTANT will prepare the Biological Assessment as a part of the NRE.

The CONSULTANT will assess project's potential impacts to wildlife and habitat in accordance with **Part 2, Chapter 16** of the **PD&E Manual**. The CONSULTANT will assist the DEPARTMENT in consultations, if required.

Conservation Measures and Mitigation Plan: The DEPARTMENT Project Manager will provide a description of the habitat conservation measures to be considered. The CONSULTANT will provide an analysis of wildlife and habitat conservation measures.

5.3.4 Natural Resource Evaluation Report

The CONSULTANT will document the results of the Wetlands and EFH, Wildlife and Habitat, evaluations in a Natural Resources Evaluation (NRE) report in accordance with **Part 2, Chapter 16** of the **PD&E Manual**.

5.3.5 Water Quality

The CONSULTANT will evaluate the data for and document water quality in the Water Quality Impact Evaluation (WQIE) Checklist in accordance with **Part 2, Chapter 11** of the **PD&E Manual**.

5.3.6 Special Designations

The CONSULTANT will evaluate the data for and document the following special designations if applicable: Outstanding Florida Waters, Wild and Scenic Rivers, Aquatic Preserves, Coastal Barrier Resource, and Scenic Highways, in accordance with **Part 2, Chapters 5, 10, 12, and 15** of the **PD&E Manual**, respectively.

5.3.7 Identify Permit Needs

The CONSULTANT will review the Programming Screen Summary Report and identify permits required for the project.

The CONSULTANT will perform activities that will inform and accelerate the permitting process, including activities to acquire permits during PD&E (as required by the DEPARTMENT).

5.3.8 Farmland

If applicable, the CONSULTANT will evaluate the data and document potential farmland impacts in accordance with **Part 2, Chapter 6** of the **PD&E Manual**.

5.4 PHYSICAL EFFECTS

The CONSULTANT will summarize each of the physical effect issues in the Environmental Document. If no involvement for a particular issue is indicated, then a statement to that effect will be included. The CONSULTANT will identify the physical effect evaluation area. The CONSULTANT will assess the direct and indirect effects and will document the severity of the following:

5.4.1 Noise

The CONSULTANT will perform the noise analysis, noise abatement evaluation, and assessment of construction noise and vibration in accordance with the **Part 2, Chapter 18** of the **PD&E Manual** and the current version of FDOT's Traffic Noise Modeling and Analysis Practitioner's Handbook. The CONSULTANT will attend a noise study methodology meeting with the DEPARTMENT prior to beginning analysis.

The CONSULTANT will document methodology and results of noise analysis and noise abatement evaluation in the Noise Study Report (NSR). The CONSULTANT will provide an electronic copy of the NSR, in PDF format, as well as all Traffic Noise Model (TNM) input/output files, and "readme" file that support the information documented in the report.

If the Project is determined to be a Type III project, the CONSULTANT will document that in the Project File.

5.4.2 Transit Noise and Vibration Analysis

The CONSULTANT will conduct a transit noise and vibration analysis as guided by **Part 1, Chapter 14** of the **PD&E Manual** and **Chapter 8** of the **FTA Transit Noise and Vibration Impact Assessment Handbook**.

5.4.3 Air Quality

The CONSULTANT will gather data, perform the air quality screening analysis, and prepare the Air Quality Technical Memorandum to document the results of the screening analysis in accordance with **Part 2, Chapter 19** of the **PD&E Manual**. Traffic data shall be prepared by the project's Traffic Engineer.

The CONSULTANT will coordinate air quality monitoring if the project fails the Screening Analysis.

5.4.4 Construction Impact Analysis

The CONSULTANT will evaluate and document the potential impacts of construction of the Project alternatives in accordance with **Part 2, Chapter 3** of the **PD&E Manual**.

5.4.5 Contamination

The CONSULTANT will gather data, review data, and investigate contamination issues within the limits of the project and identify potentially contaminated sites in accordance with **Part 2, Chapter 20** of the **PD&E Manual**.

The CONSULTANT will document data reviewed, findings, risk rating of potential contamination sites, and recommendation for additional assessment actions in the Contamination Screening Evaluation Report.

5.5 CUMULATIVE EFFECTS EVALUATION

The CONSULTANT will perform and document cumulative effects evaluation of each resource of concern identified based on context and in consultation with the DEPARTMENT as per the process outlined in the **Cumulative Effects Evaluation Handbook**. The cumulative effects evaluation should build upon information derived from the direct and indirect effects analyses.

5.6 PROJECT COMMITMENTS RECORD

The CONSULTANT will assist the DEPARTMENT in filling out **Form No. 700-011-35 Project Commitments Record (PCR)** to document project commitments in the Commitments section of the Environmental Document. DEPARTMENT **Procedure 700-011-035** will be used by the CONSULTANT for recording the project commitments. The CONSULTANT will forward the completed PCR form to the DEPARTMENT Project Manager.

6.0 ENVIRONMENTAL DOCUMENT

The CONSULTANT will assist the DEPARTMENT in completing the federal environmental document and all required attachments that may include the following: Type 1 Categorical Exclusion, Type 2 Categorical Exclusion, Environmental Assessment, Finding of No Significant Impact, Draft Environmental Impact Statement, and Final Environmental Impact Statement in accordance with **Part 1, Chapters 2, 5, 6, 7, 8, and 9** of the **PD&E Manual**.

7.0 METHOD OF COMPENSATION

Payment for the work accomplished will be in accordance with **Exhibit B** of this contract. The DEPARTMENT's Project Manager and the CONSULTANT will monitor the cumulative invoiced billings to ensure the reasonableness of the billings compared to the study schedule and the work accomplished and accepted by the DEPARTMENT. The DEPARTMENT Project Manager will decide whether work of sufficient quality and quantity has been accomplished by comparing the reported Scope of Services percent complete against actual work accomplished.

Payments will not be made that exceed the percentage of work identified in the approved payout curve and schedule provided. 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.